In a perfect world
Emergency Department Screening and Brief Interventions for heavy and hazardous use of substances: A feasibility study

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Unitec Institute of Technology
Part of the requirement for the degree of Master of Applied Practice (Health Science) 2016
Declaration

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This Thesis entitled:

Emergency Department Screening and Brief Intervention for heavy and hazardous use of substances: A feasibility study

Is submitted in partial fulfillment for the requirements for the Unitec degree of Master of Applied Practice (Health Science).

CANDIDATE’S DECLARATION
I confirm that:

• This Thesis/Research Project represents my own work;
• The contribution of supervisors and others to this work was consistent with the Unitec Regulations and Policies.
• Research for this work has been conducted in accordance with the Unitec Research Ethics Committee Policy and Procedures, and has fulfilled any requirements set for this project by the Unitec Research Ethics Committee.
  Research Ethics Committee Approval Number: 14/NTB/195 (HDEC)

Candidate Signature: ...........................................Date: 27/04/2016

Student number: 1432063
Abstract

Screening and Brief Intervention (SBI) is an evidence based technique for reducing heavy and harmful consumption of alcohol and other drugs. There is significant evidence for both the efficacy and the effectiveness of SBI. SBI has been shown to be effective in emergency departments (EDs) in a variety of different countries. The feasibility of SBI in the ED, however, remains contentious and no studies have been done on this area in a New Zealand ED. For this feasibility study, eight experienced ED nurses attempted to provide SBI to as many of their patients as possible over a one month period, using the ASSIST-Lite screening tool (Ali, Meena, Eastwood, Richards, & Marsden, 2013). The patient’s charts were audited to see how many actually received the SBI. Of 390 eligible patients only 46 (41 screened plus five who declined) were given the opportunity to participate, equating to 11.79% of the patients who were in the care of the participating nurses. Thirteen of these patients screened positive and received a formal Brief Intervention, and another patient received information about Community Alcohol and Drug Services. There was an inverse correlation between the number of patients presenting to the ED and the average number of screenings undertaken by each nurse participant per day. Following the data collection period the nurse participants were interviewed about their experience. Semi-structured interviews with the nurse participants revealed three main themes: 1) the nurses attitudes towards SBI, 2) Working conditions, and 3) the ED environment. It was concluded that high patient numbers compared to the number of nursing staff in the ED currently precludes nurses from providing consistent SBI to all eligible patients in the ED, however, the benefits of SBI are recognised by them. With higher staffing levels, ED SBI may be feasible and of benefit to individuals, to the ED and to society.
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# Table of Contents

**Candidate’s Declaration** ........................................................................................................ ii

Abstract ........................................................................................................................................ iii

Acknowledgements ...................................................................................................................... iv

List of Tables ................................................................................................................................. viii

List of Figures ................................................................................................................................. ix

List of Appendices .......................................................................................................................... x

Chapter 1: Introduction .................................................................................................................. 1

  Substance Misuse ....................................................................................................................... 1

    Epidemiology and public health impact. ............................................................................... 2

    Health and substance misuse related inequalities. .............................................................. 3

  Screening and Brief Interventions ......................................................................................... 6

  Overview of the Literature ...................................................................................................... 7

    Electronic screening and brief interventions. ....................................................................... 10

    Screening and brief interventions and substance dependency. ....................................... 11

    The cost effectiveness of SBI. ............................................................................................ 12

  SBI in New Zealand. ................................................................................................................. 12

  SBI in the ED .......................................................................................................................... 14

    Search protocol ..................................................................................................................... 14

    The literature on SBI in the ED ......................................................................................... 15

Chapter 2: Methods .................................................................................................................... 24

  Methodology ........................................................................................................................... 24

  Study Design .......................................................................................................................... 24

  Screening Tool ....................................................................................................................... 26

  Ethical Approvals ................................................................................................................... 26

  Introduction to the Study Location ....................................................................................... 26
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff of the study location ED.</td>
<td>27</td>
</tr>
<tr>
<td>The Study Environment</td>
<td>27</td>
</tr>
<tr>
<td>Patient flow in the ED.</td>
<td>27</td>
</tr>
<tr>
<td>Procedures</td>
<td>28</td>
</tr>
<tr>
<td>Nurse participant training and procedures.</td>
<td>28</td>
</tr>
<tr>
<td>Data Collection</td>
<td>29</td>
</tr>
<tr>
<td>Quantitative Data Collection.</td>
<td>29</td>
</tr>
<tr>
<td>Qualitative Data Collection.</td>
<td>30</td>
</tr>
<tr>
<td>Participants</td>
<td>30</td>
</tr>
<tr>
<td>Nurse Participants</td>
<td>30</td>
</tr>
<tr>
<td>Patient Participants</td>
<td>31</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>34</td>
</tr>
<tr>
<td>Qualitative Data Analysis</td>
<td>34</td>
</tr>
<tr>
<td>Quantitative Analysis</td>
<td>37</td>
</tr>
<tr>
<td>Chapter 3: Quantitative Results</td>
<td>38</td>
</tr>
<tr>
<td>Chapter 4: Qualitative Results</td>
<td>43</td>
</tr>
<tr>
<td>Nurses attitudes towards SBI</td>
<td>43</td>
</tr>
<tr>
<td>Good for the patient</td>
<td>43</td>
</tr>
<tr>
<td>Good for society</td>
<td>44</td>
</tr>
<tr>
<td>Good for families</td>
<td>46</td>
</tr>
<tr>
<td>Good for the department</td>
<td>46</td>
</tr>
<tr>
<td>Good for the nurses</td>
<td>47</td>
</tr>
<tr>
<td>There may be resistance to an SBI programme from other nursing staff</td>
<td>48</td>
</tr>
<tr>
<td>Introducing Change</td>
<td>49</td>
</tr>
<tr>
<td>Resistance to Change</td>
<td>50</td>
</tr>
<tr>
<td>Working conditions: Barriers to administering SBI</td>
<td>52</td>
</tr>
</tbody>
</table>
List of Tables

Table 1. DSM 5 Criteria for Substance Use Disorder ................................................................. 2
Table 2. Studies removed from analysis ................................................................................ 144
Table 3. Appropriate areas of focus for feasibility studies ..... Error! Bookmark not defined. 54
Table 4. Age Range of the Patient Sample........................................................................... 32 42
Table 5. Initial codes ............................................................................................................ 35 54
Table 6. Final coding themes ............................................................................................... 35 64
Table 7. Reasons why patients were not eligible to participate ........................................... 38 7
Table 8. The areas of the ED in which patient participants were screened ................. 39 90
List of Figures

Figure 1. Stamp Provided for Nurse Participant Documentation.....................

Figure 2. Patients vs Screenings per day..............................................

Figure 3. Average number of screens per nurse plotted over time............................
List of Appendices

Appendix 1. Alcohol Use Disorders Identification Test. ........................................................ 887
Appendix 2. Alcohol, Smoking and Substance Involvement Screening Test .............................. 898
Appendix 3. The CAGE questions ........................................................................................... 943
Appendix 4. Alcohol Use Disorders Test shortened version (AUDIT C) ................................... 954
Appendix 5. Alcohol, Smoking and Substance Involvement Screening Test (ASSIST-Lite) .... 965
Appendix 6. SBI in ED Literature Review Table ...................................................................... 987
Appendix 7. Intention to Treat Graphs ................................................................................ 1098
Appendix 8. Modified-Single Alcohol Screening Question (M-SASQ) ..........Error! Bookmark not defined.
Appendix 9. Emergency Department Longsheet ................................................................. Error! Bookmark not defined.21
Appendix 10. Nurse Participant Questionairre ................................................................. Error! Bookmark not defined.65
Appendix 11. Patient Participant Information Form .............................................................. Error! Bookmark not defined.98
Appendix 12. Patient participant Consent Form ................................................................ Error! Bookmark not defined.240
Appendix 13. Detailed Quantitative Data Collection Notes ................................................... Error! Bookmark not defined.231
Appendix 14. Nurse Participant Consent Form ................................................................. Error! Bookmark not defined.254
Appendix 15. Nurse Participant Information Form .............................................................. Error! Bookmark not defined.276
Appendix 16. Glasgow Coma Scale ...................................................................................... Error! Bookmark not defined.29
Appendix 17. Table of ethnicity of patient participants ....................................................... Error! Bookmark not defined.310
Appendix 18. List of Number of Patients vs. Screenings Per Day ......................................... Error! Bookmark not defined.32
Chapter 1: Introduction

“Ultimately the question is not whether ED SBI should be done, but who should do it and how it should be implemented to be most efficient and effective” (Désy & Perhats, 2007).

Screening and Brief Intervention (SBI) is an evidence based technique used to initiate change for an unhealthy or risky behaviour such as substance misuse. It is a prevention approach typically carried out in healthcare settings and is designed to help at-risk individuals explore the discomfort that people often feel when they enjoy a behaviour, such as drinking alcohol, and yet recognise that it is bad for their health or causes them to have social problems. The aim of SBI is to have the individual recognise that their behaviour is causing them problems and motivate them to change the behaviour.

Substance Misuse

For the purposes of this study a substance is defined using the criteria for definition of a ‘drug’ in the New Zealand Drug Policy “Tobacco, alcohol, illegal drugs, and other drugs” (Ministerial Committee on Drug Policy, 2007). The definitions of tobacco and alcohol are self-explanatory. ‘Illegal drugs’ are those that are classified as controlled drugs under the Misuse of Drugs Act 1975, including some pharmaceuticals that can be used for psychoactive purposes. ‘Other drugs’ include medicines that are diverted from their proper purpose, restricted substances listed in the Misuse of Drugs Act, and products (e.g., volatile substances) that are manufactured and marketed for domestic or industrial purposes, but are capable of being used to achieve a psychoactive effect (Ministerial Committee on Drug Policy, 2007). The term ‘substance’ will be used here instead of the term ‘drug’ for reasons of clarity.

Substance use and misuse exists on a continuum, so definition of a substance use disorder can be contentious. The Diagnostic and Statistical Manual-5 (DSM-5) (American Psychiatric Association, 2013) recognises substance use disorders as spanning a variety of problems arising from substance use and covering 11 criteria (see table 1). Many people
with a diagnosable alcohol or drug use disorder may be unaware that they have a disorder (Institute of Medicine, 1990).

### Table 1

**DSM 5 Criteria for Substance Use Disorder**

<table>
<thead>
<tr>
<th>Number</th>
<th>DSM 5 Criteria for a Substance Use Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Taking the substance in larger amounts or for longer than the person meant to.</td>
</tr>
<tr>
<td>2</td>
<td>Wanting to cut down or stop but not managing to.</td>
</tr>
<tr>
<td>3</td>
<td>Spending a lot of time getting, using, or recovering from use of the substance.</td>
</tr>
<tr>
<td>4</td>
<td>Cravings and urges to use the substance.</td>
</tr>
<tr>
<td>5</td>
<td>Not managing to do what the person should at work, home or school because of substance use.</td>
</tr>
<tr>
<td>6</td>
<td>Continuing to use even when it causes problems in relationships.</td>
</tr>
<tr>
<td>7</td>
<td>Giving up important social, occupational or recreational activities due to substance use.</td>
</tr>
<tr>
<td>8</td>
<td>Using substances even when it puts the person in danger.</td>
</tr>
<tr>
<td>9</td>
<td>Continuing to use even in the knowledge that the person has a physical or psychological problem that may be caused or made worse by the substance.</td>
</tr>
<tr>
<td>10</td>
<td>Needing to use more of the substance to get the desired effect.</td>
</tr>
<tr>
<td>11</td>
<td>Development of withdrawal symptoms that can be relieved by taking more of the substance.</td>
</tr>
</tbody>
</table>

*Note: The severity of the disorder depends on how many of the symptoms are identified.*

(American Psychiatric Association, 2013)

Substance related harm is defined in the New Zealand Drug Policy (2007) as including death, illness, disease, mental health problems and injury. Harm may be chronic or acute. Social harm is also identified including violence, family breakdowns and child neglect. In addition, use of illegal drugs involves users in criminal activities.

**Epidemiology and public health impact.** Substance (alcohol and other drug) misuse is a significant contributor to mortality and morbidity globally (Rastegar, Kunins, Tetrault, Walley, & Gordon, 2013). The World Health Organisation estimates the global burden of
disease from alcohol and illicit drug use at 5.4% of the total burden of disease (World Health Organisation, 2014b). The harmful use of alcohol results in the death of 3.3 million people annually around the world and alcohol has a significant causal role in 60 different types of disease (World Health Organisation, 2014a). Illicit drug use is estimated to contribute to 200,000 deaths per year and the loss of 11.2 million disability adjusted life years. In addition, as many as one in eight illicit drug users will develop dependence (United Nations Office on Drugs and Crime, 2011), meaning a greater chance of experiencing harm and less chance of recovery for these people. People with dependence on a substance may be unable to stop using within their lifetimes regardless of how much insight they may develop, or how much help they may receive. It makes sense for health professionals to intervene to help to reduce heavy substance use before dependence occurs.

The effects of alcohol on public health in New Zealand are large. In 2007-2008 The New Zealand Alcohol and Drug Use Survey showed that 5.4% of total deaths in all New Zealanders aged less than 80 years old were attributed to alcohol consumption. Most of these deaths were caused by heavy alcohol consumption leading to road traffic injuries, intentional injury, liver disease, breast cancer, and stroke (Ministry of Health, 2010). Alcohol cost New Zealanders 28,403 disability adjusted life years in 2004, which was 6.5% of the total lost from all causes (Connor, Kydd, Shield, & Rehm, 2013).

The New Zealand Alcohol and Drug Use Survey also showed that the use of drugs other than alcohol is a substantial health problem in New Zealand. The New Zealand Alcohol and Drug Use Survey revealed that in 2007-2008 16.6% of all people in New Zealand aged 16-64 had used illicit drugs. Many people who had used illicit drugs reported harmful effects, which included dependency, physical and mental health problems and financial and social harm. Additionally, of these people who had used illicit drugs in the year 2007-2008, 34.5% had driven a car, and 18.5% had attended work whilst under the influence (Ministry of Health, 2010). Working or driving under the influence of illicit drugs increases the chances of other people being harmed as a result of the drug use.

**Health and substance misuse related inequalities.** Health inequalities for Māori are an ongoing issue in New Zealand, and reducing health inequality is an important goal under the New Zealand Health Strategy. Health statistics clearly show that Māori are disadvantaged compared to other New Zealanders when it comes to many indicators of health status, for example: Māori are also more likely than non-Māori to smoke cigarettes,
misuse substances, and be obese. Additionally, Māori are significantly more likely than non-Māori to be diagnosed with ischaemic heart disease, diabetes, high blood pressure and asthma (Ministry of Health, 2014). Health promotion activities such as SBI that are aimed at improving the health of people with substance use disorders, a category in which Māori are overrepresented, are well aligned with the goals of the New Zealand Health Strategy.

Compared to non-Māori, Māori have higher rates of unmet healthcare needs. Māori are more likely than non-Māori to report difficulty accessing primary care. Primary care is a person’s first and usual point of contact with the health system, in New Zealand this is usually the person’s General Practitioner (family doctor).

If people are not engaged with primary care services the ED may be the only place they receive their healthcare. Additionally the ED may be the only opportunity for them to receive health promotion services such as SBI, smoking cessation advice, and family violence screening. In the year 2013/2014 37% of Māori adults and 27% of Māori children had unmet needs for primary care (Ministry of Health, 2015).

The misuse of alcohol and other drugs causes significant harm to many people in New Zealand (Connor, 2013). Māori are more likely than non-Māori to be higher users of alcohol and other drugs, and to be harmed by substance use (Connor et al., 2013). For example, a recent (2015) survey found that amongst older adult Māori, 41.2% of all participants reported drinking at hazardous levels and binge drinking was reported by 19.6% of respondents, clearly demonstrating high levels of alcohol use amongst this sector of the population. An interesting finding from this survey was that those respondents with higher Māori cultural identification scores were significantly more likely to report binge drinking (Herbert & Stephens, 2015).

Another survey revealing heavy alcohol consumption amongst Māori was the 2013/2014 New Zealand Health Survey. This survey showed that 30.5% of Māori aged over 15 years old reported hazardous drinking in the preceding year, as defined by an AUDIT score of eight or above which means a very high level of alcohol consumption with a high chance of harm for the user (See Appendix 1 AUDIT) (Ministry of Health, 2014).

The 2013/2014 New Zealand Health Survey also revealed that people living in more deprived areas are approximately one and a half times more likely to engage in hazardous drinking than people living in non-deprived areas. Māori are significantly more likely to live in a deprived area than non-Māori, as defined in the 2013 New Zealand Index of Deprivation...
Atkinson, Salmond, & Crampton, 2014) which showed 23.5% of Māori living in the most deprived areas compared to 6.8% of non-Māori. Additionally Māori were more likely to be in prison than non-Māori and substance misuse has historically been high in the inmate population (Huriwai, 2002). Regardless of the reasons behind the high level of substance use in prisons, this is a factor that has increased the average level of substance use amongst the Māori population.

There are also many Pacific people living in New Zealand, particularly in the Auckland area, many of whom live in situations of financial hardship and/or high healthcare needs. There is considerable diversity of religion and culture of Pacific people living in New Zealand (Ellis & Collings, 1997) which makes it difficult to generalise when discussing this population. Many pacific people, particularly women, do not drink at all, however it is known that for Pacific people who do drink their drinking patterns are generally more harmful than the general population (Huakau et al., 2005). In the 2013/2014 New Zealand Health Survey, Pacific adults (over 15) had a 19.2% rate of hazardous drinking (AUDIT ≥8) but amongst past year drinkers the rate of hazardous drinking increased to 34.9% (Ministry of Health, 2014). This compares to 6.7% for Asian adults and 19.3% for European/Other adults.

The New Zealand Ministry of Health has made a commitment to improving the health status of disadvantaged people in New Zealand. Health promotion activities delivered in the ED may have the additional benefit of including many people who are more disadvantaged, for the simple reasons that ED care is free, does not require an appointment, and people can attend at any time of the day or night.

A key objective of the New Zealand Health Strategy (Ministry of Health, 2000) is to “minimise the harm caused by alcohol and illicit and other drug use to individuals and the community” (p.11). Additionally, two of the fundamental principles of the New Zealand Health Strategy are: 1) “Timely and equitable access for all New Zealanders to a comprehensive range of health and disability services, regardless of ability to pay” (p.7) and 2) “An improvement in the health status of those currently disadvantaged” (p.7). Providing initiatives (such as SBI) in the ED, where it can benefit those who cannot or will not access primary care, is one method of upholding those important principles.
Screening and Brief Interventions

Screening and Brief Intervention (SBI) is a process of asking individuals screening questions about substance use, and, if indicated, providing brief advice and counselling aimed at reducing substance use (McQueen, Howe, Allan, Mains, & Hardy, 2011). SBI usually takes place in a healthcare setting but has also been used in other places, such as universities and the military. SBI has been successfully administered by doctors, nurses, counsellors, research assistants and members of other professions (Mdege & Watson, 2013).

In the early days of SBI (around 35 years ago when the process was still being developed) interventions focused mostly on simply giving advice. Later, the effectiveness of motivational interviewing was shown (Mertens, Ward, Bresick, Broder, & Weisner, 2014), and this become a cornerstone of SBI. Currently, the majority of SBI programmes use motivational interviewing, which is a goal-oriented, person-centred counselling style for eliciting behaviour change by helping people to explore and resolve ambivalence (Wagner, Garbers, Lang, Borgert, & Fisher, 2016). In practical terms this means getting the person themselves to identify the “less good” things, or resulting harms, from using substances and compare them to the “good things” about using substances, and hence make up their own mind about the benefits of cutting down or stopping. People are often more receptive to this approach because it is not confrontational and leaves the person feeling empowered in making their own decisions.

The screening component uses a validated tool to ascertain which of the population may benefit from an intervention. A variety of screening tools are used across the literature. The most common of these are the Alcohol Use Disorders Test (AUDIT), Alcohol Smoking and Substance Involvement Test (ASSIST) and CAGE. There are also shortened versions of the AUDIT and ASSIST screening tools called, respectively, AUDIT-C and ASSIST-Lite. These screening tools are attached as appendices (see Appendix 1,2,3,4 and 5). As described in the literature, SBI may range from a single session, where information is provided, to five sessions or more, where motivational interviewing and counselling are administered. These techniques are aimed at giving the client additional skills to limit substance use, and/or referral to further treatment (i.e., Screening, Brief Intervention and Referral to Treatment - SBIRT).
Because there are many different ways of delivering SBI, for the purposes of this review, studies involving differing screening tools and brief interventions with or without referral are all considered. This has precedent in previous reviews of the subject (Kaner et al., 2007, 2009; McQueen et al., 2011). A substantial heterogeneity between trials is a common factor in any review of the subject because studies with identical screening tools, interventions, settings and populations are almost non-existent.

Differences in the types of screening tools and interventions used across studies may cause a variability in results. For example, there may be differences in effectiveness between single and multiple session brief interventions (McQueen et al., 2011; Mdege & Watson, 2013), and differences in the effectiveness depending on whom is delivering the intervention (Huibers, Beurskens, Bleijenberg, & Van Schayck, 2007). Interventions by their very nature are going to be somewhat different every time as therapeutic conversation flows between two individuals and this can make it difficult to evaluate brief interventions in the context of clinical trials (Carroll et al., 2000).

**Overview of the Literature**

Both efficacy (how it works in the research environment) and effectiveness (how it works in the “real world”) of SBI on reducing heavy and hazardous use of alcohol and drugs have been thoroughly researched over the past 35 years. Efficacy and effectiveness of SBI are both supported by substantial evidence (Ballestoras, Duffy, Querejeta, Arino, & Gonzalez-Pinto, 2004; Humeniuk et al., 2012; Whitlock, Polen, Green, Orleans, & Klein, 2004) clearly showing that SBI can reduce harmful substance use.

Research on SBI for alcohol in the primary care setting (i.e., the patient’s first point of entry into the healthcare system and the continuing focal point for all needed health care service) has been published since the 1980s. The screening tests administered were refined and with improved validity many clinical trials evaluated the efficacy and effectiveness of SBI in the 1980’s. The evidence gathered during those early days of SBI research showed SBI to reduce harmful alcohol use, at least in the short term, and indicated that SBI may be cost effective (Babor et al., 2007). Due to these findings, research investigating other substances began in the 1990s, as well as research in other settings, particularly hospital wards, EDs and universities.
Many studies have found evidence for the superiority of SBI over control conditions (patients receiving no SBI) for the reduction of harmful alcohol use in the short term (up to 12 months). For example, two important reviews examining randomised controlled trials, that together incorporate 35 studies and 11417 participants, demonstrate the short term superiority of SBI. Firstly, in a systematic review of 14 hospital-based studies, McQueen et al. (2011) found a significantly greater reduction in alcohol consumption compared to a control group at follow-up six and nine months later. These effects were not fully maintained at 12 months although the intervention (SBI) group still had a lower overall level of alcohol consumption than the control group (n.s). Additionally significantly fewer deaths occurred in the intervention group than in the control group at both six and 12 months. In terms of primary health care based studies, Kaner et al. (2007) also found positive effects of SBI up to 12 months.

Ockene and colleagues (2009) conducted one of the few controlled studies that looked at longer term (over 12 months) alcohol use following SBI. They followed up participants at six months, 12 months and four years. They found that the SBI group had significant reduction in drinking at six and 12 months compared to a control group, who were offered usual primary healthcare treatment. Importantly, at four years, reduced levels of alcohol intake compared to baseline for the SBI group were maintained (Ockene, Reed, & Reiff-Hekking, 2009). Interestingly Ockene and colleagues also found very heavy users of alcohol in the control group also reduced their drinking compared to baseline.

This phenomenon of reduced drinking amongst the heavier drinkers in control groups has often been found in studies on SBI. Some possible explanations postulated in the literature are 1) regression to the mean, 2) health, family, and social issues causing heavy alcohol consuming participants to reduce their drinking over time because drinking at this extreme level starts to have noticeable consequences, 3) the intervention effect of research procedures, and 4) participating in research may make participants more aware of how much they drink (J. Bernstein, Bernstein, & Heeren, 2010). Ockene et al. (2009) suggested that participants in their intervention group, who are the heaviest consumers of alcohol, would have on average eventually reduced their drinking on their own, even without SBI. The heaviest users of alcohol, however, amongst the SBI group accelerated their reduction of alcohol use compared to the control group. Therefore, at 48 months, the rates of reduction would be similar in in the intervention group and the control (usual care) group,
however, the intervention group would have a longer time with reduced use of alcohol and consequently greater reduction in health risk.

SBI was initially developed as a tool to reduce harmful alcohol use. As research began to show that SBI was effective, researchers began looking at the applicability of SBI for misuse of other substances, specifically tobacco (outside the scope of this review) and other drugs. Screening tests were subsequently devised and validated to evaluate the use of drugs other than alcohol, such as illicit drugs and prescription drugs that are over used or used in a way that was not intended by the prescribing doctor.

To evaluate the usefulness of SBI to reduce illicit drug use, Humeniuk et al. (2012) used the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) to screen for, and follow up on, illicit drug use (i.e., cannabis, cocaine, amphetamine-type stimulants and opioids) in a sample of 731 primary healthcare participants in four countries. At three months they found that the intervention group had a significant reduction in all ASSIST measures of drug use compared to the control group.

The Humeniuk et al. study had certain factors that are worth noting. The large sample size, and the fact that it was done over four countries, both developed and developing, adds to the reliability of the findings. The fact that the ASSIST screen was comprehensively validated by the World Health Organisation (Newcombe, Humeniuk, & Ali, 2005) and used at both baseline and follow-up enhances the study. The three month follow-up showed promising results, but is too short to extrapolate longer term effects. Blinding was not possible because the research staff were the people administering the Brief Interventions.

In 2012, D’Onofrio and colleagues (D’Onofrio et al., 2012) conducted a randomised controlled trial of SBI on alcohol users in the ED. This study comprised of three groups, 1) an intervention group who received SBI, 2) a screening only group who received only screening and no intervention even if screening revealed high alcohol use (i.e., was positive), and 3) a no assessment group who received neither a screening tool nor a brief intervention. The reason the third ‘no screening and no intervention’ group was added was to test whether screening alone had an intervention effect, and hence reduced alcohol consumption even without any formal brief intervention. The finding was that screening only had no effect over no assessment. This study did show effectiveness for the SBI group that showed
greater reduction in mean number of drinks in the seven days preceding follow up at both six and 12 month follow ups than the other two groups.

The technique used to ascertain the quantity of alcohol consumed in the group that was not formally screened for alcohol consumption was by including questions about alcohol drinking spread throughout a general health questionnaire. The possibility exists that administering the general health questionnaire had an intervention effect, a possibility given weight by the findings of Hester and colleagues in their study of screening university students that elicited comments such as “I never added it up before” (p8) and “I never realised how much I was drinking” (p8) (Hester, Delaney, & Campbell, 2012).

In the United States a large SBI programme was started in 2003 and a subgroup analysis (i.e., an evaluation of treatment effects for a specific end point in subgroups of patients defined by baseline characteristics) looked at drug use outcomes based on data from 459,599 screens. Significant reductions in drug use were seen at the six month point (Madras et al., 2009).

It must be noted that almost all studies on SBI have used self-reporting as a measure of alcohol or drug (substance) use. Self-reporting may introduce a bias (Donohue, Hill, Azrin, Cross, & Strada, 2007) although the screening tools used are subjected to rigorous validation to minimise this sort of bias. The fact is that there is no easy, accurate biochemical test for drinking or drug use over time (Babor et al., 2007). Studies have been carried out, however, on the validity of self-reporting and found that this may account for only a small amount of variability in results (E. Bernstein & Bernstein, 2008; Searles, Helzer, Rose, & Badger, 2002).

**Electronic screening and brief interventions.** A barrier to the implementation of SBI is that the staff often do not have enough time to perform the SBI (Yarnall, Pollak, Østbye, Krause, & Michener, 2003). The use of technology is increasing in all facets of healthcare and computerised brief intervention has recently been developed and scrutinised. Studies show efficacy for Computerised Brief intervention for health behaviours, including substance misuse, compared to no intervention (Portnoy, Scott-Sheldon, Johnson, & Carey, 2008; Riper et al., 2011; Rooke, Thorsteinsson, Karpin, Copeland, & Allsop, 2010).

Schwartz et al., (2014) compared Computerised Brief intervention to person to person Brief intervention for drug use in primary care and found no significant difference between Computerised and person to person Brief intervention in outcome measures of
repeat ASSIST scores or laboratory analysis. It has been suggested that people may be more willing to discuss illicit drug use during Computerised Brief intervention than in person (Newman et al., 2002).

**Screening and brief interventions and substance dependency.** Despite compelling evidence for SBI for most users of alcohol and drugs across most demographics, outcomes are less clear when it comes to the effects of SBI on people with actual dependence (addiction) on substances. SBI was never designed as a treatment for dependency, and many trials have excluded people whose screening suggested dependence. In most SBI studies, however, people whose screen results suggest dependence are referred on to the appropriate agencies, and although their results are not included in the SBI data, it is possible that many of these patients also reduce their substance use or at least receive the best chance to do so.

A 2010 systematic review (Saitz, 2010) found no evidence for efficacy of SBI amongst the highest users of alcohol. Although this study set out to include 16 randomised controlled trials, in fact only two were able to be included in the analysis because the others all excluded some or all persons with very heavy use or dependence. In contrast, a pre-post test study done by Woodruff and colleagues (Woodruff, Eisenberg, McCabe, Clapp, & Hohman, 2013) found an increased effect of SBI on the highest users of alcohol and other drugs. The study by Woodruff and her colleagues contained a sample of 2436 people, not excluding the highest users, whereas the analysis by Saitz had a much smaller sample of only 199 people. The larger sample size of the study by Woodruff and colleagues means their findings may be more reliable than those of Saitz.

There is evidence to suggest that SBI is more effective on dependent people who are actively seeking help but less effective on dependent people who are not actively seeking help (Moyer, Finney, Swearingen, & Vergun, 2002). Patients may come to the ED seeking help at a time when they are in crisis about their substance use. Studies based in the ED show more effect from SBI on higher users of substances when compared to studies based in other settings (Madras et al., 2009). It has been postulated that this is because a typically painful and unpleasant visit to the ED may represent a time where patients are more receptive to suggestions about their substance use and more open to change (Woodruff et al., 2013).
Due to the different screening tests used and different measures of severity it is not possible to directly compare all the studies and give a definitive answer on whether SBI is useful for patients with dependence. There is, however, no evidence SBI increases use or causes any harm. The evidence suggests SBI may be of benefit to some substance dependant patients, especially when administered in the ED.

**The cost effectiveness of SBI.** SBI in the United States of America has been shown to reduce healthcare (Medicaid) costs. Significant cost savings were found in a controlled study of 1557 patients across nine EDs in a study looking at working age disabled people, including those referred with dependency (Estee, Wickizer, He, Shah, & Mancuso, 2010). The healthcare cost savings as a result of SBI compared to the cost of performing SBI have also been demonstrated in earlier studies (Fleming et al., 2000; Wutzke, Shiell, Gomel, & Conigrave, 2001) and more recently (T. Love, Hefford, & Ehrenberg, 2011).

Health care utilisation is an important aspect of economic evaluation of SBI, because if patients who receive SBI then improve their health and suffer from fewer accidents they will use fewer healthcare resources and save the healthcare system money. One analysis (D’Onofrio & Degutis, 2002) secondarily addressed this in a review of four studies based in EDs, and found that SBI reduced health care utilisation as defined by fewer ED/outpatient visits and hospitalisations. Havard, Shakeshaft and Sanson-Fisher (2008) conducted a meta-analysis and found that SBI halved the odds of an individual experiencing an alcohol related injury.

Across the literature estimates of the costs and outcomes of the SBI programmes differ greatly so that it is not currently possible to accurately predict specific cost savings (Cowell, Bray, Mills, & Hinde, 2010). It is, however, reasonable to conclude from the available literature that it is likely that SBI programmes will save money for any healthcare system in which they are provided.

**SBI in New Zealand.** The vast majority of studies on SBI have been done overseas. New Zealand has a different cultural and ethnic demographic, and a different healthcare system to those in the studies previously discussed.

Qualitative research in Australia has uncovered reluctance to screen in aboriginal health settings due to a lack of culturally appropriate referral options (Clifford, Shakeshaft, & Deans, 2012). New Zealand, however, does have Māori and Pacific focussed alcohol and drug treatment services, so with correct training and support there should be no reason...
outlined in the research so far for SBI to not occur in New Zealand with all patients, including Māori and Pacific people.

Response to SBI has been found to be consistent across racial groups in the United States ED setting (Woodruff et al., 2013). It has also been seen to be significant with a sample of Māori university students in New Zealand (Kypri et al., 2013). Given the fact that a very high loss to follow up is common in studies of this type it is of note that Kypri and colleagues (2013) had an 80% (control) and 78% (intervention) follow up rate. The reason for this unusually high follow-up rate is not known. What it does indicate is that SBI can be effective with Māori students, although it is possible that being in tertiary education made those Māori students more likely to engage in the SBI process (particularly in relation to research) than the Māori population in general. It is known that Māori overall are less likely to access primary health care than non-Māori (Ministry of Health, 2012), therefore, it may be that the ED is a good place to capture a population that may otherwise evade the health care provider (Bogenschutz et al., 2011).

In New Zealand’s largest hospital, a retrospective audit found no documentation of formal alcohol screening in the charts of trauma patients, in spite of the fact that many were in hospital as a result of alcohol related misadventure. Only 1.5% of patients had a documented intervention in the hospital (Hosking et al., 2007). The authors concluded that there was a missed opportunity for SBI, and recommended that further research should examine SBI in the New Zealand setting. A limitation of this paper is that informal screening and interventions or referral may have occurred and not been documented. A similar audit result from another major New Zealand hospital in 2012 (O’Brien, Leonard, & Deering, 2012) also showed very low levels of formal screening for substance use.

SBI was introduced in primary care settings in Whanganui, New Zealand, in 2010 and was found to be feasible because existing staff were able to perform the SBI as well as perform their other tasks (Gifford, Paton, Cvitanovic, McMenamin, & Newton, 2012). It is worth noting that in this study additional funding was provided for extra nurse and doctor assessment time because time constraints had often been cited as a primary challenge to the feasibility of SBI in real world settings.

There was significant evidence that web based SBI changed behaviour in a sample of students at Otago University (Kypri, Saunders, Williams, Cashell-Smith, & Herbison, 2008).
In a review of the NZ literature, Maynard and colleague (Maynard & Paton, 2012) recommended further research on SBI in other NZ settings, such as the ED.

In 2012 the Alcohol Advisory Council of New Zealand reported that 10 NZ Primary Healthcare Organisations were either introducing SBI or considering doing so, and that they encouraged the development and testing of SBI in the ED (Alcohol Advisory Council of New Zealand, 2012). The New Zealand Law Commission also supports the wider use of SBI (Law Commission, 2010). In 2005 the American College of Surgeons required that level one trauma centres in the USA have mechanisms to identify and intervene with problem drinkers (Zatzick et al., 2014). The increasing use of SBI in New Zealand means that it would be useful to have more studies on how feasible SBI is in the New Zealand environment.

**SBI in the ED**

**Search protocol.** A search was undertaken of the Science Direct database using the search terms “Screening and Brief Intervention” AND Emergency Department OR Emergency Room OR Trauma. The results were limited to the previous 10 years, journals, and medicine, dentistry, nursing, and health professions. The resulting 224 articles were then examined for relevance. Table 2 shows the reasons for the removal of 192 studies from the review:

<table>
<thead>
<tr>
<th>Reason for removal of study</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBI not main focus</td>
<td>87</td>
</tr>
<tr>
<td>Not in the ED</td>
<td>56</td>
</tr>
<tr>
<td>Paediatric population</td>
<td>5</td>
</tr>
<tr>
<td>Tobacco only</td>
<td>1</td>
</tr>
<tr>
<td>Not English language</td>
<td>2</td>
</tr>
<tr>
<td>Cost analysis only</td>
<td>2</td>
</tr>
<tr>
<td>Not alcohol or other drug</td>
<td>15</td>
</tr>
<tr>
<td>Commentary/programme/index</td>
<td>24</td>
</tr>
</tbody>
</table>

A total of 32 studies were retained. A further search was undertaken of the EBSCO health databases using the search terms “Screening and Brief Interventions” AND Emergency. Results were limited to Academic journals, past 10 years, English language, and Adult. Of
the resulting 75 articles, four were selected as not previously included and relevant as per the above criteria. In addition, two studies were suggested by a supervisor and added to give a total of 38 papers. Summaries of these papers are included as appendix 6.

**The literature on SBI in the ED.** The literature shows that SBI administered in the ED can reduce the incidence of future injury and ED visits, and decrease the amount and frequency of substance use among hazardous and at-risk substance users (Cherpitel & Ye, 2008; D’Onofrio et al., 2008, 2012; Désy, Howard, Perhats, & Li, 2010; Humeniuk et al., 2012; Woodruff et al., 2013). Evidence for the effectiveness of SBI in the ED is more limited than the evidence for effectiveness of SBI in primary care settings (G. D’Onofrio, 2002; Woodruff et al., 2013). The fast, frantic, often chaotic nature of almost every ED brings unique challenges to the provision of effective SBI. The main challenges identified in the literature are 1) time constraints (Armstrong & Barry, 2014; Désy & Perhats, 2007; Fahy, Croton, & Voogt, 2011; Mdege & Watson, 2013), 2) finances (Cherpitel & Ye, 2008; Cunningham et al., 2010), 3) privacy (Armstrong & Barry, 2014; Dent, Weiland, Phillips, & Lee, 2008) and 4) sometimes low ED staff motivation (Dent et al., 2008; Désy & Perhats, 2007). Front line ED staff can become unmotivated about providing SBI because they can become fatigued from dealing with substance misuse presentations (Fahy et al., 2011).

Recently some large and well-designed studies have been carried out in EDs overseas. In the United States, Woodruff et al. (2013) randomised 2436 individuals from the patients who had screened positive on the ASSIST in 12 EDs, and followed them up at six months. They found a statistically significant reduction in past 30 day prevalence of and days of use, respectively, for alcohol binging and illicit drug use for both the true longitudinal sample and the intention to treat sample. In accord with other research they found a greater effect on men. The enhanced effect of SBI on men is probably because the people who were primarily misusing alcohol were more likely to be male, as were users of both alcohol and drugs. Patients found to be misusing drugs alone, however, were almost equally male and female. The number of people misusing illicit drugs alone tends to be much smaller than the number of people misusing alcohol alone, or a combination of alcohol and illicit drugs, probably because of the prevalence of alcohol use in society. Samples of people who misuse substances, therefore, are often predominantly male.

The Woodruff et al. (2013) study, in common with many other studies following up ED patients, had a high loss to follow-up rate of 69% (1504) of the sample unable to be
contacted for follow-up. Intention to treat analysis was used, this means that baseline responses were carried over as follow-up values for those people who could not be contacted for follow-up. The missing sample was mostly a similar demographic to that remaining. There was, however, a slightly higher risk level screened initially in the people who could not be contacted for follow-up. This correlates with some of the other literature that suggests that existing SBI research may not be able to be generalised to people with higher use and dependency. The intention to treat analysis was reported as conservative because when the people who were not followed-up were removed altogether from the analysis, the positive results were far more striking (comparison of intention to treat sample and longitudinal sample are shown in Appendix 7).

A similar study from The InSight Project Research Group (2009) had a higher follow-up rate of 66% of the sample able to be contacted for follow-up. There were some methodological differences between the InSight study and the study done by Woodruff et al. (2013). The InSight study used a different screening tool (AUDIT for alcohol and DAST 10 for other drugs). It is of note that the InSight study incorporated ED as well as hospital wards and departments, and that the people lost to follow-up in the InSight study were more likely to be from the ED. It is possible that if the InSight study was done just in EDs the loss to follow-up between the two studies may have been similar.

The InSight (2009) study reported large decreases in alcohol use (almost 50%) and other drug use (60%) (Changes in past 30-day self-reported heavy alcohol use or any drug use). These results are striking given the similarity to the study by Woodruff et al., (2013) and more modest reductions reported there. One possible reason for the difference was that the InSight study did not collect data during the initial development period of the SBI services, so the service was fully mature, the providers well practiced, and systems properly in place, before data collection began. InSight study SBI providers were trained health professionals, whereas the Woodruff study used paraprofessional health educators. It is possible that the trained health professionals may have been more skilled gaining a rapport with the patients and at performing the SBI. It may be that the hospital studied in the InSight project provided an exceptionally high level of SBI services. Additionally, the use of the intention to treat analysis, combined with a higher follow-up rate, means that the differences from baseline to follow up may be expected to be greater in the InSight study, where more people were able to be followed up.
In an analysis of 76 alcohol SBI studies (30 primary care, 46 hospital based) Mdege and Watson (2013) found evidence of efficacy in both primary care and hospital studies. They found that the reductions in substance use were greater in the primary care based studies compared to the hospital based studies. Mdege and Watson suggested that the differences in results may relate to differences in study designs rather than a true difference in outcome. It is possible, however, that hospital based studies may select a different sample of people from primary care settings as not everyone has easy access to primary health care (Mills, Reid, & Vaithianathan, 2012; Teevale, Denny, Percival, & Fleming, 2013) and hospital based patients are likely to be more acutely unwell.

Mdege and Watson’s analysis found that hospital based studies were more likely to be associated with single session (as opposed to multiple session) brief interventions than primary care based studies. The more frequent use of single session brief interventions in the hospital setting is probably due to greater time constraints in the hospital, and may possibly be associated with reduced effectiveness of the brief intervention (Mdege & Watson, 2013). The hospital based studies also tended to enrol more alcohol dependent (addicted) people than the primary care studies, and the evidence was inconclusive for alcohol dependant people. The high proportion of alcohol dependent people in the hospital sample may possibly be one reason that the reductions in alcohol use were not as great as those seen in primary care based studies. Mdege and Watson (2013) also suggested that the implementation of the brief interventions may vary greatly from study to study and setting to setting. Not all of the studies in the analysis measured intervention fidelity, so this important aspect was often unknown. Even the theories behind the brief interventions differed with some studies using a ‘transtheoretical model of behaviour change’ (Prochaska, 1984) whilst the majority used motivational interviewing and some were even unstated. Mdege and Watson also highlighted the increased difficulty of delivering SBI to a patient in the more chaotic hospital environment as compared to primary care where there is usually a more orderly system with appointments and allocated time for each patient.

Cherpitel and Ye (2008) studied the association between the utilisation of different health services and peoples levels of substance use. They found that people with very high use of alcohol were twice as likely to use the ED as other people. People reporting greater than monthly illicit drug use were almost twice as likely to use the ED as those using illicit drugs less frequently or not at all. In spite of the evidence that heavy substance use leads to
additional ED presentations, a survey of ED directors found that although the majority are theoretically in favour of SBI, only a minority (15%) were providing formalised SBI services in their departments. The main reasons for not providing SBI were stated to be time and finances (Cunningham et al., 2010).

Practical issues with providing SBI in the ED setting were highlighted by Fahy et al. (2011) who described the first two years of setting up SBI in an Australian hospital. They concluded that the provision of SBI services in the studies hospital (inclusive of the ED) was feasible, although it is of note that funding was provided for a dedicated SBI worker, and the authors felt that this dedicated worker was essential. Initial uptake of SBI in the ED in that particular hospital was poor and the reasons cited for this reflect the other literature (i.e., time, chaos, and compassion fatigue). Tools used to counter the resistance in ED were appointing an ED staff “champion” for SBI, more intense input from the project manager, and funding for mobile computers to ease data entry. The authors felt that the successful implementation in hospital areas other than the ED eased the process of starting SBI in the more challenging ED environment. Successful ED implementation has also been shown in EDs in the United States (A. Love, Greenberg, Brice, & Weinstock, 2008).

A 2014 study (Armstrong & Barry, 2014) examined the implementation of SBI services into four EDs in Ireland. The authors found high levels (94%) of acceptance (agreeing to be screened) amongst the patient population with existing staff doing the screening (both nurses and liaison mental health staff). High study participation may have been helped by a publicity campaign and posters in the ED. All staff agreed that alcohol use is a problem for EDs and articulated the greatest challenge to both the provision of SBI and learning to provide the SBI as time constraints. Privacy was also stated to be a factor limiting the provision of SBI as the ED can be a chaotic environment with little physical privacy for discussing sensitive issues, as identified in earlier studies (Dent et al., 2008; Désy & Perhats, 2007). A single question screening tool was used called Modified-Single Alcohol Screening Question (Appendix 8) and this was found to be more acceptable to the staff than a tool with more questions than this one for time reasons.

One technique that has showed promise for increasing rates of screening for problematic substance use in the ED setting is that of screening people at the point of entry into the ED. In a 2015 study (Akin, Johnson, Seale, & Kuperminc, 2015) a three-question screen was added to the electronic triage questions. This led to 97% of presenting patients...
being screened, reflecting the similar results of an earlier study on the same screening technique (Johnson, Woychek, Vaughan, & Seale, 2013). In both studies, 22% of the patients screened positive for having substance use disorder. Akin et al. (2015) also had some success with getting the brief interventions to the patients, probably because they used additional staff specifically for the brief interventions. Even with additional staff whose sole job was to provide Brief Interventions, the fast paced nature of the ED meant that not all the patients who screened positive managed to get a Brief Intervention, and even more specialist staff were recommended. In an urban United States ED where SBI was introduced, successful integration of the SBI was achieved by having funding allocated for specific SBI workers to deliver the programme (D’Onofrio et al., 2012). Additionally, another implementation study found that they were unable to introduce SBI to an ED until a specific SBI worker was hired due to time constraints for existing staff (Mello, Smith, Baird, Nirenberg, & Dinwoodie, 2009).

In an attempt to alleviate the time constraints of clinical staff, different methods of getting SBI to patients have been trialled. Boudraux and colleagues (2015) trialled a telephone SBI both during ED visits and after the ED visit. They had a relatively low rate of acceptance with only 40% of the 125 eligible patients agreeing to participate, with a 58% overall rate of completing the SBI. Of the participating patients, some received the intervention during their time in the ED, and some received it after they had gone home. Patients whose consultation occurred during their ED visit were significantly more likely to complete the SBI that those who were contacted after the ED visit (90% vs 10%). This difference in completion rate was possibly because the ‘teachable moment’ passed when patients left the ED, this was also reflected in another study (Dent et al., 2008) where of 148 patients allocated to an appointment for Brief intervention after discharge from the ED, only 15 attended the appointment. One study, however, did find a reduction in AUDIT score and driving under the influence of alcohol amongst higher alcohol users as a result of post discharge telephone SBI (Mello, Longabaugh, Baird, Nirenberg, & Woolard, 2008). Of note this study only included patients who had been injured in motor vehicle crashes possibly enhancing their readiness to change. Patients who attribute the cause of their ED attendance to alcohol have been shown to have enhanced responsiveness to ED SBI (Walton et al., 2008).
Computer assisted screening in the ED has been shown to increase detection of people who drink at harmful levels compared to face to face screening in the ED (Lotfipour et al., 2013). It is possible that ED computerised screening reduces social acceptability bias, and has furthermore been shown to be acceptable to staff, not difficult for staff to use (Murphy, Bijur, Rosenbloom, Bernstein, & Gallagher, 2013) and effective (Vaca, Winn, Anderson, Kim, & Arcila, 2011). A New Zealand based study has suggested that text message based Brief interventions may be acceptable to patients (Kool, Smith, Raerino, & Ameratunga, 2014). A text based SBI programme has, therefore, been designed and effectiveness evaluation was pending at the time of writing (Sharpe et al., 2015). SBI delivered by telephone, computer, or text message has potential to be useful in time poor environments such as the ED.

The literature shows that effective SBI can be delivered in the ED by members of different professions such as nurses, researchers and doctors (Darker et al., 2012; Sullivan, Tetraault, Braithwaite, Turner, & Fiellin, 2011). Zatzick et al. (2014) found that the skill level of the individual providing the SBI influenced the effectiveness of the intervention. Another study suggested that SBI is more effective delivered by a clinician the patient is already familiar with (Huibers et al., 2007), possibly a factor in the more pronounced effectiveness of SBI in primary care where the patient is more likely to be familiar with their clinician (i.e., their family doctor or practice nurse). It is possible that both an individual clinician’s level of expertise and rapport with the patient may impact the effectiveness of the intervention. In the ED both the time available for staff training and the time available for building a rapport with the patient may be less than in primary care. Many of the programmes based in the United States of America have the SBI provided by “health coaches” or “health educators” in the ED (Kaiser & Karuntzos, 2015), which limits the extent to which findings from studies based in these settings are applicable to the New Zealand setting due to New Zealand hospital EDs not routinely employing health coaches or health educators.

It has been suggested that nurses are particularly suitable for providing SBI in hospital areas as they are present around the clock and interact with all the patients (Fahy et al., 2011). One study that found null effect for SBI over control (general health screening questionnaire) in the ED used young and relatively inexperienced research assistants to deliver the SBI and stated this as one of the limitations of the study (Daeppen et al., 2007). Additionally, the study included only patients presenting with minor injury, excluding more
serious injury and medical presenting complaints, factors which may have also impacted on the results. Darnell et al., (2015) found that existing ED staff (primarily nurses and social workers) who received a one day workshop in motivational interviewing provided a consistently higher standard of SBI compared to those staff who did not attend a workshop, even though all the staff still did not attain expert derived proficiency criteria in all areas. SBI administered by ED doctors and nurses has been found to be acceptable to most patients (Weiland, Dent, Phillips, & Lee, 2008).

The individual staff member performing the SBI is also a factor in the success of the SBI. A 2008 randomised controlled trial with allocation blinding examined alcohol SBI delivered by existing ED doctors and nurses (Dent et al., 2008). That study showed no additional effect of SBI over standard care at one and three month follow up. The study had 468 patients who were split into three groups with only 149 receiving Brief intervention in the ED, this small number of participants may limit the reliability of the findings. Interestingly, this study looked at the screening rates of individual staff and found they varied wildly with one staff member screening over 700 patients and others screening zero. The authors stated that there was no means of quality control for the screening and interventions administered. The authors noted that there was limited enthusiasm amongst staff for the project. Around the same time another study looked at ED nurses providing SBI (Désy & Perhats, 2007) and also found low levels staff motivation, although this improved with additional training of the nurses, backing up the finding in an Australian study that ED nurses who had not received formal training in SBI often lacked confidence in formally intervening with regard to alcohol misuse (Indig, Copeland, Conigrave, & Rotenko, 2009).

ED staff regularly witness tragic consequences of substance misuse and yet they can believe that it is futile to treat alcohol and other drug use in the ED (Désy et al., 2010) or can feel compassion fatigue when dealing with the issue of substance misuse (Armstrong & Barry, 2014). Because SBI is so dependent on skilled provision, low motivation or resistance amongst the staff who provide it can be seen to limit the effectiveness of an SBI programme. It has, however, been shown that low motivation and resistance amongst staff may be countered with the right training and marketing of the programme. Désy and colleagues (Désy et al., 2010) showed that ED nurses can provide effective SBI in spite of the challenges, leading to a 70% decrease in alcohol consumption (mean number of drinks per week) amongst their intervention group at 3 month follow-up. Additionally fewer patients in
the intervention group had repeat visits to the ED within the study duration. In a busy ED environment the screening part of the SBI may be more easily fitted into nursing workload than the more time consuming intervention component (Slain et al., 2014).

It has also been shown that patients at the higher end of the substance misuse spectrum are more likely to enter into a treatment programme if identified and referred in the ED (D’Onofrio & Degutis, 2010). Although controversial, there is also some evidence that SBI can have a significant effect on alcohol dependant patients when administered in the ED (Field & Caetano, 2010), although such people are often omitted from studies of ED SBI, so there is not enough evidence available to conclusively show effectiveness. It is, however, possible that the evidence in favour of ED SBI may be greater if patients with dependence were included in a greater number of studies. It has also been shown that patients who are contemplating change to their substance use habits at the time of SBI show a greater reduction in substance misuse at follow-up than patients who are not at that contemplation stage (Leontieva et al., 2005). Patients who are experiencing more negative consequences of substance use (higher users, ED visit) are perhaps more likely to be at the contemplation stage.

There are few studies on ED SBI that have found null effect. D’Onofrio et al. (2008) found a null effect for SBI that was provided by ED staff, over control, in a study of 494 ED patients. The same group of researchers, however, in 2012 (D’Onofrio et al., 2012) studied a larger sample of 889 patients and found a significant reduction in mean number of drinks in the past seven days from baseline to six and 12 months. They also found a significant reduction in reported driving under the influence of alcohol. Effectiveness in the ED has been reflected in the studies and reviews discussed, compared to the relatively small number of studies that have shown null effect.

In an attempt to understand the dynamics of the effects of SBI over time, one study (Gwaltney et al., 2011) examined daily drinking data using a timeline follow back. This was done to look for meaningful trends in the drinking patterns of a group of young adults who had received SBI. The patient participants were enrolled from a previous study on ED based alcohol SBI amongst young adults that had shown effectiveness (Monti et al., 2007). In the analysis it was seen that treatment group differences only emerged after a three month booster session, and prior to the six month follow-up. The results of this study suggested that perhaps the timing of data collection and follow-up has an influence on the results.
SBI has been shown to be effective in the ED setting although considerable challenges exist. Implementation studies have identified barriers to SBI as time, finances, privacy, compassion fatigue, staff motivation, and staff training. Processes that take less time are shown to be more acceptable to staff, and effective training is important for staff to be confident in providing SBI. ED SBI may have an enhanced effect on patients who are higher users of substances, or patients who are attending ED for a substance use related illness or mishap. SBI in the ED has been shown to be acceptable to the patient population and holds much promise as a public health initiative and for reducing demand on already overstretched ED resources.

The current study aims to investigate whether it is feasible for existing nursing staff to provide SBI in a New Zealand public hospital ED environment? The study objectives are for existing nursing staff to attempt to provide SBI to patients and for an audit and exploration of their actions, experiences, and opinions.
Chapter 2: Methods

Methodology

This subject of enquiry has been approached from a post positivist angle, seeking the causal explanations for why the intervention has been carried out or not whilst acknowledging that the truth must be discerned amidst possible bias, opinion, and mistake. In line with other studies that use the post positivist approach (Tracy, 2012) qualitative data from nurse participant interviews has been triangulated with numeric data from an audit of documentation in patient charts. Triangulation is done to enhance our understanding of what is occurring when nurses attempt to provide SBI in the ED.

Study Design

The study design is a mixed methods feasibility study. A feasibility study is important because it can give advance warning of where protocols may not be followed, if the proposed methods or instruments are not appropriate, or if local politics or problems may affect the process. (Van Teijlingen, Rennie, Hundley, & Graham, 2001). Bowen et al. (2009) discussed appropriate areas of focus for feasibility studies. The following relevant foci were identified:

Table 3  
**Appropriate areas of focus for feasibility studies**

<table>
<thead>
<tr>
<th>Area of focus</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practicality</td>
<td>“Explores the extent to which an intervention can be delivered when resources, time, commitment, or some combination thereof are constrained in some way.”</td>
</tr>
<tr>
<td>Acceptability</td>
<td>“This... looks at how the intended individual recipients- both targeted individuals and those involved in implementing programmes- react to the intervention.”</td>
</tr>
<tr>
<td>Integration</td>
<td>“This focus assesses the level of system change needed to integrate a new program or process into an existing infrastructure or program.”</td>
</tr>
<tr>
<td>Expansion</td>
<td>“This focus determines the potential success of an already-successful intervention with a different population or in a different setting.”</td>
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</tbody>
</table>
This study on the feasibility of nurses performing SBI on patients within a New Zealand ED is primarily focusing on the aspect of practicality, the “will it be done in the real world” aspect. Nursing educators speak of a “theory-practice gap” where what is taught in the classroom is not put into practice in the real world. The theory practice gap happens for a variety of reasons. It may be reasonable to contend that this difference between what ought to be done and what is really done must be considered when a new intervention is rolled out. It is one thing to decree that a thing must be done just so, and quite another to expect that it will in fact be done in that way. Green and Glasgow (2006) discuss the fact that within the health professions there is promotion of ‘evidence based practice’. This is despite the fact that the evidence comes most often from the artificial world of controlled efficacy trials and is limited by its relevance to actual practice situations, which means that this focus on internal validity can reduce external relevance. It may be reasonable to run a feasibility trial of ED SBI at this time because it is starting to be recommended by agencies such as the Law Commission and the Ministry of Health (Law Commission, 2010; Ministry of Health, 2010). It is sensible to consider the practicality of any proposed intervention.

This study includes aspects of acceptability and integration. The qualitative component examines how those implementing the SBI (the nurse participants) feel about the intervention, and also how the nurse participants feel that the SBI can slot into the nurses existing way of working with the patients and the multidisciplinary team.

For the purposes of clarity when describing this study, the term ‘patient participants’ means all patients who signed a consent form and agreed to participate in this study. The term ‘nurse participants’ means those eight nurses who signed consent forms and agreed to participate in this study as providers of SBI. ‘Patients’ are people who came to the ED seeking care, whether they are involved in the study or not, hence patients, once consented, were then referred to as patient participants.

The other major focus here is ‘expansion’. The literature has clearly shown SBI as a successful initiative in most settings, including many overseas EDs. There are, however, differences between EDs in terms of staff, resources, and procedures, especially in different countries. This New Zealand based feasibility study, therefore, may assist with evaluating how SBI can work or not work in New Zealand’s particular environment.
Screening Tool

One tool that has been used both clinically and in research studies is the Alcohol, Smoking and Substance Involvement Test (ASSIST), which reliably screens for a variety of substances (Humeniuk et al., 2012). While the ASSIST has been comprehensively validated by the World Health Organisation (Newcombe et al., 2005), it is time consuming, making it less appropriate for the ED. The ASSIST screen is attached as Appendix 2. An abbreviated version of the ASSIST has been developed and validated called the ASSIST-Lite (Ali et al., 2013), which was chosen for use in this study. ASSIST-Lite takes an average of around two minutes to complete. ASSIST-Lite is attached as appendix 5.

The ASSIST or ASSIST-Lite linked brief intervention is a short intervention lasting 3 to 15 minutes. The ASSIST or ASSIST-Lite screen determines a risk score that is used to give personalised feedback to clients by presenting them with the associated health problems relating to their level of risk. This allows the health worker to commence a discussion with the client in a non-confrontational manner. Motivational interviewing and counselling techniques are used to get the client thinking about their substance use and to support change (Humeniuk, Dennington, & Ali, 2008; Humeniuk, Henry-Edwards, Ali, Poznyak, & Monteiro, 2010).

Ethical Approvals

This study has been approved by the Health and Disability Ethics Committee (HDEC) approval number 14/NTB/195, registered with the Australian New Zealand Clinical Trials Registry, number 367224, and granted locality authorisation from Awhina Health campus of Waitemata District Health Board. Authorisation was also given by the Māori Research Advisor for Waitemata District Health Board.

Introduction to the Study Location

This study was conducted in ED of a public hospitals administered by a large District Health Board in New Zealand serving a population of around 580,000. This population is ethnically diverse with approximately 60% European/NZ, 18% Asian, 10% Māori, and 10% Pacific peoples and 2% other ethnicities.

The hospital provides medical beds, a surgical unit, maternity unit, a special care baby unit and a paediatrics service, as well as rehabilitation wards and mental health
services. In 2015, 13,153 patients attended the ED where this study took place. This ED, in the past decade, has undergone the most rapid expansion in terms of patient numbers of any hospital ED in Australasia. As a result of such a rapid increase in patient numbers, the ED is often very crowded and is currently under a process of physical expansion.

**Staff of the study location ED.** The ED where this study took place is staffed primarily by emergency medicine doctors and registered nurses. A total of 83 registered nurses, at the time of writing, were employed by the department and worked rostered shifts covering 24 hours with considerable variability of shifts per fortnight worked. Nurse shifts were either 8, 10, or 12 hours long. The majority of nurses were staff nurses who directly cared for the patients in their allocated area for the shift. Nurses were overseen by a Clinical Charge Nurse, and patients with high needs or complicated discharge needs were additionally seen by nurses in the role of Discharge Coordinator. There was also an advanced nursing role of Clinical Nurse Specialist whom diagnose and treat less complex patients under the supervision of the consultant doctor.

**The Study Environment**

**Patient flow in the ED.** Patients enter the ED via the front door or ambulance entrance. Patients are first seen by the Triage Nurse who decides on the physical disposition of the patient within the ED, and how long the patient can safely wait before being seen by the doctor. The process of sorting patients in this way is called triage (from French: to sort). Triage is done because the small number of doctors in the ED cannot see every patient immediately. Patients who are able to sit in a chair and whose condition is less urgent may be asked to sit in the waiting room and will get examined by the doctor or Clinical Nurse Specialist in the Consultation (Consults) Area. Adult patients who need a bed go to the Acutes Area. Children (under 15 years old) go to the Paediatric Area. Patients who need their hearts monitored go to the Monitored Area. Patients who require isolation or who are mentally unwell also go to separate rooms within the Monitored Area. Patients who are very unwell and need immediate life-saving attention go to one of the three Resuscitation (Resus) Rooms.

When the triage nurse first sees the patient she or he will enter the patient’s details into the computer and initiate the paperwork. The form on which the nurses write the
Feasibility of SBI in the ED

Assessment, vital signs, and treatments given in ED is called the “ED Longsheet” (Appendix 9) and this is used for the patients’ entire ED stay. Doctors write or type their notes on a separate sheet of paper. Clinical Nurse Specialists and Discharge Coordinators either document on the longsheet or on separate clinical notes paper. Clerical staff collect/update the patients contact and demographic details. If the patient is discharged from ED the notes are stored for five days in the department and then returned to the clinical records department. Patients who are admitted to the hospital have their notes move with them until they are discharged whereupon they are returned to the clinical records department.

Procedures

Nurse participant training and procedures. Eight experienced registered nurses who routinely work in the study location ED attended a single eight hour training day. During the day these nurses were introduced to the specifics of the study, and trained in the techniques of SBI by Dr David Newcombe, an expert in the field.

Désy and Perhats (2007) carried out an implementation study on SBI using existing nursing staff in EDs. The study was done over five sites and three of them were unable to implement SBI. Relevant reasons for this were identified so that those pitfalls may be able to be avoided in this study. One of the main barriers to SBI identified in the Désy and Perhats (2007) study was that only one staff nurse, with no former experience in SBI, was trained, and then this person then had to disseminate that training to others. As a result of this research, this current study has had Dr David Newcombe directly training all eight nurse participants. Nurse participants were also asked to fill out a questionnaire profiling their demographic and confidence in discussing alcohol and other drug issues with patients (Appendix 10).

The training day took place on February 17, 2015. The data collection month commenced at midnight that night (February 17, 2015) and continued uninterrupted until the end at midnight on March 17, 2015.

Patients were recruited by a nurse participant. The nurse participant explained to the patient about the study and offered them an information sheet (Appendix 11) and the opportunity to participate. Interested patients were provided with a written consent form (Appendix 12) and then the nurse participant attempted to do the SBI at some stage during the patient participants stay in the ED when and if time and circumstances allowed. If this
was not possible, due to whatever reason (i.e. workload, patient’s condition deteriorates, etc.), the nurses were asked to document this in the patients ED longsheet via a stamp (see Figure 1). The nurse participant was asked to then mark what occurred with regards to screening, risk profile, and intervention.

Figure 1.
Stamp Provided for Nurse Participant Documentation.

The data collection period was selected because it was contiguous to the training day whilst the learning was “fresh” and coincided with the summer season that historically sees a lower number of ED admissions than the winter season. This was planned to allow more time for the nurses to perform SBI. Additionally using a “quieter” month acknowledged the fact that the consent process adds to the overall time taken for the provision of SBI during the trial month. The duration of the data collection period was decided upon as one month. This duration has precedent in a study with similar methods that looked at elder neglect screening in the ED using existing nursing staff (Fulmer, Paveza, Abraham, & Fairchild, 2000).

Data Collection

This study involved the collection of two quite different streams of data: quantitative data from the auditing of the patient charts, and qualitative data from the interviews with the nurse participants. These will be discussed separately.

Quantitative Data Collection. Quantitative data was obtained from the electronic Patient Information Management System and Reporting Services. Details of all patients who were in the work areas of any nurse participant during the data collection month were recorded. The charts of these patients were audited for instances where any of the
components of SBI were done. For detailed notes on quantitative data collection please see Appendix 13.

**Qualitative Data Collection.** At the end of the data collection month, nurse participants were interviewed by the primary investigator at a place of their choosing. For one nurse this was in her home and for the other seven it was at work in the Whanau room or the back office before or after their shifts.

The interviewer asked the following five questions: 1) Tell me about how the trial month was for you? 2) Were there any factors that made it easier or harder for you to provide SBI? 3) Did you have any particular positive or negative experiences with SBI? Tell me about that. 4) Do you think we should provide SBI in this ED? 5) How do you think we could best provide SBI in the future?

Interviews were recorded on a Dictaphone. The primary investigator then transcribed the interviews and then emailed them (via District Health Board emails for security reasons) back to the participants for checking. Nurse participants were invited to add any additional thoughts, ideas, or corrections. The transcripts were then examined for themes. Themes will be discussed in the Qualitative Analysis and Results sections.

**Participants**

This study required two separate groups of participants; nurses and patients. These groups have different involvement in the study and will be discussed separately. The eight Registered Nurses who participated in the study will be referred to as “nurse participants” and patients who signed the consent form to participate in the study will be referred to as “patient participants”.

**Nurse Participants.** The nurse participants were trained in the techniques of SBI. The nurse participants were then responsible for providing the Patient Participant Information and Consent forms to eligible patients, and for performing SBI on patient participants during the data collection month.

Recruitment of nurse participants was via a note in the ED staff “communication book” outlining the purpose and methods of the study and inviting any registered nurses to volunteer. Nine nurses initially volunteered to participate but one was subsequently unable to attend the training day and hence ineligible to participate. The only exclusion criteria for
nurse participants was that they must have had at least two years of experience working in an ED environment.

This recruitment of volunteers for the nurse participant group, rather than a randomised or stratified selection was unavoidable. The researcher had no authority to require any participation from hospital staff. Additionally, as participants in research it was decided that the nurse participants needed to be able to give free consent to their participation.

The nurses represented a variety of roles within the department. There were two Discharge Co-ordinators, one Clinical Nurse Specialist, and five staff nurses. Ethnically the nurses are primarily New Zealand European (five), with one British nurse and two New Zealand Māori. This ethnic distribution does not accurately represent the department as a whole as there are a significant number of Asian nurses who are not represented in the participants. The gender mix reflects the predominantly female face of nursing with seven female and one male nurse.

Nurse participants were provided with a written information sheet, written consent form, and questionnaire. Following the training they were provided with certificates of participation and proficiency that they may put in their nursing portfolios. All nurse participants filled out the nurse participant questionnaire (Appendix 10) and signed their individual consent forms (Appendix 14). The nurse participant information sheet is also attached as Appendix 15. The nurse participants were identified by pseudonyms and all pseudonyms were female names to avoid identification of the male participant.

Patient Participants. This study took place in the waiting, Monitored and Acutes areas of the ED. Participants were a convenience sample of all patients between the ages of 18 and 80 who presented to these areas and did not fit the following general exclusion criteria: 1) Glasgow Coma Scale less than 15 (Glasgow Coma Scale attached as Appendix 16). 2) Unable to fully understand process. 3) Unable to give informed consent. 4) In resuscitation room. 5) Medically unstable or emotionally upset for any reason. Patients under the age of 18 years old did not participate in this research, as the tools to be used are not specific to adolescents.

Substance misuse can be a problem in the elderly population as well, particularly prescription medicine misuse, and SBI has been shown to reduce substance misuse and also reduce depression in elderly people (Schonfeld et al., 2010). The cut off age of 80 was
chosen because patients above that age who present to ED may have very high physical needs therefore allowing less time for the provision of SBI. Very elderly patients also have a higher chance of experiencing an adverse event in the ED (Martin-Sanchez, Fernandez, & Gil, 2013; Nolan, 2009), thus it was decided not to include this potentially more vulnerable group of patients.

Medical stability was a judgement of the nurse participants. If the nurse participant had any doubt he or she was to consult with the patients’ doctor, in fact this situation did not eventuate, all nurses were confident in selecting suitable patients. Some situations where a patient was not to be offered SBI were: 1) Uncontrolled chest pain, 2) Shortness of breath, 3) Uncontrolled bleeding, 4) Moderate or severe pain, and 5) Emotional distress. Mental health patients were only offered SBI if it was thought to be in the patients’ best interests by the mental health team who reviewed the patient.

The patient participants represented a variety of self-identified ethnicities, predominantly New Zealand European (43.90% of the 41 total patient participants) and New Zealand Māori (17%). Detailed ethnicity data for the patient participants is included as appendix 17. The patient participants were fairly evenly spread across age and gender demographics. The patient participants consisted of 171 (43.85%) male patients and 219 (56.15%) female patients. The age ranges were distributed as shown in Table 4.

Table 4
Age Range of the Patient Sample

<table>
<thead>
<tr>
<th>Age Range (years)</th>
<th>Number of Patient Participants</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-19</td>
<td>10</td>
<td>2.56</td>
</tr>
<tr>
<td>20-29</td>
<td>89</td>
<td>22.82</td>
</tr>
<tr>
<td>30-39</td>
<td>72</td>
<td>18.46</td>
</tr>
<tr>
<td>40-49</td>
<td>71</td>
<td>18.21</td>
</tr>
<tr>
<td>50-59</td>
<td>52</td>
<td>13.33</td>
</tr>
<tr>
<td>60-69</td>
<td>51</td>
<td>13.08</td>
</tr>
<tr>
<td>70-79</td>
<td>45</td>
<td>11.54</td>
</tr>
</tbody>
</table>
Flow chart of patient participant process

Total number of patients who presented to study location ED during data collection month

4671
↓

Total number of patients who were in the areas of work of any of the eight nurse participants during their shift. Only if the nurse participant was working in an area where data collection was deemed appropriate.

506
↓

Number of patients for whom the ED longsheet was available for data collection.

496
↓

Number of patients who fit eligibility criteria

390
↓

Number of patients who were given the opportunity to participate in the study.

46
↓

Number of patients who declined to participate.

5
↓

Number of patients who were screened

41

<table>
<thead>
<tr>
<th>Positive screenings</th>
<th>Negative screenings</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>27</td>
</tr>
</tbody>
</table>
Data Analysis

Qualitative Data Analysis. Qualitative data from the interviews with the nurse participants was subjected to an iterative thematic analysis. This approach was chosen because it allows for reflection upon existing literature and theories as well as the emerging data (Tracy, 2012). The use of the iterative approach is can be seen in the use of supporting literature and theories during the discussions of the individual themes in the following chapters.

The primary investigator, during the study period, was employed as a staff nurse in the study location, and was, hence, an “insider” which has certain advantages, such as a more in depth understanding of the study environment and participants. Because the nurse participants were also colleagues they may have been more candid during the interviews, and more committed to the project. To avoid any unethical behaviour it was decided that the primary investigator not be involved in any SBI in the ED during the data collection period. A disadvantage of being an insider is that some unique and pertinent facets of the ED nurse culture may not be noticed by someone who is immersed in it (Agar, 1994). Another disadvantage may be that close association with the nurse participants may have subtly altered their behaviour, for example one participant said:

*I wanted to do it (SBI) for a colleague, I wanted to do it for her, I wanted it to be successful for her (Georgia).*

The interviews were transcribed by the primary investigator then emailed to the nurse participant for checking as a measure to increase internal validity. The nurse participants were all satisfied that the transcriptions were accurate. The transcriptions were then read through multiple times and coded. Initially several codes were identified. Table 5 shows these initial codes.
These initial codes were then considered, reduced, and consolidated into the three themes that emerged most frequently in all of the nurse participant interviews and were also considered to be relevant to the purposes of this study.

Discussion of these themes with nurse participant Katya revealed that she also felt these themes articulated the essence of what she had wanted to convey in her interview. Sandelowski (1993) contends that in qualitative research the emerged themes can be such a concoction and abstraction of many participants experiences that one participant may not recognise their own contribution and as such this member checking may actually threaten
qualitative rigor. In this case, however, the participant doing the member checking felt that her experience was portrayed. Themes were discussed also with a qualitative research expert.

Showing reliability and validity in qualitative research can be controversial. Guba and Lincoln (1981) contend that differences in knowledge between the quantitative and qualitative paradigms mean that different criteria are required to ensure rigor. Guba and Lincoln (1985), as cited by Morse et al., (2002) suggested the term “trustworthiness” for qualitative rigor and propose it as an umbrella term for concepts of credibility, transferability, dependability and confirmability in the qualitative research paradigm. Morse (2002), however, argue that the terms reliability and validity are appropriate for use in qualitative research as means of providing rigor through processes of verification.

The emergence of the final themes was a result of repetitive checking of the interview data. The theme of being very busy with work in the ED was universal and pervasive. The experiences of the primary researcher as an experienced ED nurse (11 years in the study location ED) let to an expectation that this theme would emerge. It was necessary, therefore, to closely examine the data and clarify with participants, to ensure that confirmation bias was not at work. Confirmation bias is the tendency people have to favour evidence that supports their pre-existing beliefs or hypotheses and giving less weight to alternative explanations.

Some initial themes were interesting, but had limited relevance to the purpose of this study which was to assess feasibility. For example: The theme of “you can’t tell who is going to screen positive” was widely articulated, but it was decided not to continue working on this theme due to limited relevance and also the fact that it did not change the actions of the nurse participants. There are clear links, furthermore, between the nurses not being able to predict which patients will screen positive and the first theme of SBI being a good thing for everyone because potential health problem is being identified and intervened in prior to it becoming overtly apparent.

The fact that the majority of the nurse participants expressed concern that other nursing staff may be reluctant to do SBI had not been expected. Prevalence of themes was determined using guidelines from Braun and Clarke (2006), it was decided to use the number of interviews each theme appeared in as a measure of prevalence. The theme of “other ED nurses might not want to do SBI” appeared in five out of the eight interviews. The
remaining three themes appeared in every one of the eight interviews. A semantic approach was taken to this thematic analysis where the selected group of themes from the data were subjected to detailed analysis, as opposed to a less complex analysis of the entire data set (Braun & Clarke, 2006).

**Quantitative Analysis.** It was decided to analyse the qualitative data prior to collection of the quantitative data for two reasons. Firstly it was pragmatic as the quantitative data collection was going to take a long time, and secondly, it meant that knowledge of quantitative results would not have any influence on how the qualitative data was viewed. Numeric data was analysed for correlations using SPSS software and graphs were produced using Excel.
Chapter 3: Quantitative Results

There were 506 patients in the nurse participants’ areas of work who were able to be screened during the data collection month. For ten patients the necessary information was unavailable because the ED longsheet was missing or not able to be provided by clinical records. This left 496 patients for whom data from the relevant ED visit was collected, however, not all of these patients were eligible to participate in the data collection. Table 7 outlines the reasons for the exclusion of a further 106 patients.

Table 7
Reasons why patients were not eligible to participate

<table>
<thead>
<tr>
<th>Reason for Exclusion</th>
<th>Number of patient participants excluded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>13</td>
</tr>
<tr>
<td>Language or communication difficulty</td>
<td>10</td>
</tr>
<tr>
<td>Psychiatric presentation</td>
<td>10</td>
</tr>
<tr>
<td>Confusion</td>
<td>10</td>
</tr>
<tr>
<td>Intoxication</td>
<td>9</td>
</tr>
<tr>
<td>Too unwell</td>
<td>9</td>
</tr>
<tr>
<td>Emotional Distress</td>
<td>7</td>
</tr>
<tr>
<td>Active chest pain</td>
<td>6</td>
</tr>
<tr>
<td>Palliative</td>
<td>6</td>
</tr>
<tr>
<td>Patient discharged themselves against medical advice prior to screening</td>
<td>5</td>
</tr>
<tr>
<td>Moved from the area or care of nurse participant prior to screening</td>
<td>5</td>
</tr>
<tr>
<td>No privacy available or police with the patient</td>
<td>3</td>
</tr>
<tr>
<td>Shortness of Breath</td>
<td>3</td>
</tr>
<tr>
<td>Seizure or post-ictal (recovering from seizure)</td>
<td>3</td>
</tr>
<tr>
<td>Pain plus nausea and or vomiting</td>
<td>3</td>
</tr>
<tr>
<td>Intellectual disability</td>
<td>2</td>
</tr>
<tr>
<td>Active Bleeding</td>
<td>1</td>
</tr>
<tr>
<td>Outside of age eligibility, included in error</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>106</td>
</tr>
</tbody>
</table>
Three-hundred and ninety patients remained in the pool of eligible patients. Of the 390 eligible patients, only 46 (11.79%) were given the opportunity to participate. Of these, five patients declined, leaving 41 patient participants (10.51% of the eligible 390 patients) who were formally screened using the ASSIST-Lite tool. Of the 41 patients participants who were screened, 27 (65.85%) screened negative and 14 (34.15%) screened positive. Out of the 14 patients who screened positive, 13 of these received a formal Brief intervention, and one patient received information about Community Alcohol and Drug Services, but the reason for this is not known.

There were a range of areas within the ED in which the nurse participants were able to offer patients the opportunity to participate in the study. Table 8 shows the number of patient participants who were screened in each area.

Table 8

The areas of the ED in which patient participants were screened

<table>
<thead>
<tr>
<th>Area within the ED</th>
<th>Number of Screenings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consults</td>
<td>17 (41.46%)</td>
</tr>
<tr>
<td>Acutes</td>
<td>12 (29.27%)</td>
</tr>
<tr>
<td>Monitored</td>
<td>4 (9.76%)</td>
</tr>
<tr>
<td>Unknown (screened by Discharge Coordinator)</td>
<td>8 (19.51%)</td>
</tr>
</tbody>
</table>

Data collected from the nurse participants for their years of ED experience and their self-rated confidence in discussing alcohol and other drug issues with patients are shown in Table 9.
### Table 9

*Number of patient participants screened by each nurse participant during the trial month.*

<table>
<thead>
<tr>
<th>Nurse Participant pseudonym and role</th>
<th>Nurse Participants years of ED experience</th>
<th>Self-rated confidence*</th>
<th>Number of Patient Participants Screened</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honor, Clinical Nurse Specialist</td>
<td>6-10</td>
<td>4</td>
<td>10 (24.39%)</td>
</tr>
<tr>
<td>Georgia, Discharge Coordinator</td>
<td>6-10</td>
<td>6</td>
<td>7 (17.07%)</td>
</tr>
<tr>
<td>Eva, Discharge Coordinator</td>
<td>6-10</td>
<td>5</td>
<td>3 (7.32%)</td>
</tr>
<tr>
<td>Ange, Registered Nurse</td>
<td>11-15</td>
<td>7</td>
<td>4 (9.76%)</td>
</tr>
<tr>
<td>Anna, Registered Nurse</td>
<td>6-10</td>
<td>5</td>
<td>3 (7.32%)</td>
</tr>
<tr>
<td>Katya, Registered Nurse</td>
<td>6-10</td>
<td>6</td>
<td>2 (4.88%)</td>
</tr>
<tr>
<td>Lexi, Registered Nurse</td>
<td>2-5</td>
<td>8</td>
<td>12 (29.27%)</td>
</tr>
<tr>
<td>Marie, Registered Nurse</td>
<td>2-5</td>
<td>4</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

*The confidence scale ranged from 1 = not at all confident to 10 = very confident. The Nurse Questionnaire is attached as Appendix 7.

A correlation between years of experience and self-rated confidence was run and did not meet significance, \( r = .118, p = .781 \), however, there was a notable outlier in the data, whereby Lexi was not experienced in ED but very confident. This was explained by Lexi having substantial previous experience in a health-related alcohol and drug field. When removed from the analysis, the correlation did become significant in the expected direction, \( r = .783, p = .037 \).

A second correlation was run on years of experience and number of screens. Again, the analysis did not meet significance, \( r = -.154, p = .716 \). Lexi, again, was a notable outlier, but the removal of this data did not affect the result of the correlation, \( r = .326, p = .475 \). A third correlation between self-rated confidence and number of screens also did not meet significance, \( r = .424, p = .295 \).

Over the course of the data collection month the total number of patients presenting in each 24 hours ranged between 123 and 190. There was also a variability in the number of nurse participants who had shifts on each day. A correlation between the number of patients in the ED and the average number of screenings that were performed by each nurse participant per day was run. The analysis met significance, \( r = -.427, p = .037 \). The correlation is presented in Figure 2.
Scatter plot of the number of patients in the study location ED per day and the average number of screenings done per nurse participant each day.

This correlation shows that as the number of patients presenting to the ED increased, the average number of screens done by each nurse participant decreased. The more “busy” the department was, therefore, the fewer screens were performed.

The average number of screens performed by each nurse participant on each day were also plotted by time to see if there was a change in the frequency of screening over the course of the data collection month. The average number of screenings per nurse was higher at the beginning of the data collection month. Figure 3 shows screens per nurse plotted over time. The gaps in the graph are those days when no nurse participants were at work, and hence, no data is available for those days.
During the first two days of the data collection month, contiguous to the training day, the average number of screens per nurse participant was greater than at any other time during the data collection month.

The rate of patients declining to participate was 10.87% (five out of 46 patients). Two of these patients were approached to participate during the night shift and two during the late afternoon shift. For the other patient the time of day is unknown. The patient participants who declined to be screened were fairly evenly distributed by age and gender. Three out of the five patients who declined identified their ethnicity as New Zealand Māori.
Chapter 4: Qualitative Results

“In a perfect world”

Nurses attitudes towards SBI

The nurse participants were unanimous in their opinions that SBI was a good thing for the patients, for the department, for the nurses, and for society. Although all the nurse participants expressed reservations about the feasibility of SBI in such a busy department (as discussed in the next section), they all said that they thought SBI is important and should be done in the ED if we were to offer the best standard of care. One of the corporate values of Waitemata District Health Board is “better, best, brilliant” and the nurse participants all expressed their eagerness to provide that level of care, however, they felt they were limited by the available resources.

Good for the patient. The benefits of SBI in reducing substance consumption in people with heavy or harmful use of substances is already well documented (see Chapter 1). The nurse participants all identified benefits of SBI for patients. The following are some examples:

I found it was really beneficial for 4 or 5 of the patients I talked to. I was able to give them interventions... I felt really positive when people were so honest and open about the use of a particular drug. And not only that, I learned as well. I had a man that was taking P daily, he had children, I really admired his honesty and that was such a positive experience for me. He took information and those questions just might, screening him, just might have let him know that there were some services out there for him...I had a lady who openly admitted she was an alcoholic and overdosing on drugs and things and I was able to help them with detox at home, giving them information, which was incredibly important to me (Georgia).

It makes people stop and think about how much they’re drinking, whether that’s actually affecting their lifestyle. I think particularly young people who are very much “university culture”, and people who think nothing of binge drinking all weekend and then trying to function all week. It’s sort of become the normal sort
of behaviour... but I think that everyone normalises that when it’s not, um, you know, it has effects. And I think it’s quite good because you give them the information about how much they are drinking, and are they driving, and is it affecting their lifestyle (Eva).

You can offer someone some advice in a nice way that empowers the person to be their own change. That’s a really good thing (Lexi).

Some of the nurse participants also identified the fact that patients may not have received any health services related to substance consumption before. As previously discussed many people with a substance use disorder may not be aware of this fact (Institute of Medicine, 1990). If no one ever asks them in the health setting, the substance use may cause many health and social problems before the person even realises that the substance consumption is a contributing factor. The longer a person continues to use substances heavily, the greater harm they may do to their health and those around them.

For some people it might be the first time that anyone’s ever said really anything within the health setting with regards to their alcohol drug use et cetera (Anna).

If we could integrate it somehow into ED then I think that would be really good, because I think a lot of people don’t even talk to anyone or get the option to talk to anyone else about it (substance use) (Marie).

I actually quite enjoyed it (SBI), like all screening it gives you a good chance to educate people as well, so it sort of opened a door to an area where we don’t often ask those questions, it was a good chance to do that (Ange).

**Good for society.** Alcohol consumption is widely accepted throughout New Zealand society, and the misuse of drugs is not uncommon. The harmful effects, however, of substance misuse on individuals, families and communities are far-reaching and contribute significantly to ill-health, injury and violence in New Zealand (Huriwai, 2002).
The links between substance abuse and domestic violence are well known (Afifi, Henriksen, Asmundson, & Sareen, 2012), as is the link between heavy alcohol use by pregnant women and Foetal Alcohol Spectrum Disorders (Esper & Furtado, 2014), with long term and often harmful effects on the child and family. Substance misuse may be a contributing factor in many cases of child abuse and neglect (Diderich, Pannebakker, Dechesne, Buitendijk, & Oudesluys-Murphy, 2015), and this has been seen to continue through generations.

In the ED, staff see the results of violence and neglect on a daily basis, and often feel powerless to help. Providing SBI services may be one way of assisting people living with, and perpetuating, dysfunctional social situations. During the interviews nurse participants identified substance misuse as an issue in New Zealand society:

Yes (we should do SBI) I think it’s a much bigger social problem than people realise. I see a lot of the top end of abuse of drugs and alcohol in my job, so if we can capture some of these people before it gets to that point and then may be able to intervene and, yeah, show the issues that are happening for those people. I think it should be routine, I think. I know people are wary of another screening, but actually this is probably more important than some of the other stuff we do (Eva).

I do think we have a huge culture of drug and alcohol concerns in New Zealand, and yes I do think there should be some sort of screening... I think there’s a definite need for it (Georgia).

It’s as important as the smoking cessation really for the health of the country (Honor).

I think it (SBI) is something we should bring into ED, and hopefully make the norm in all EDs (Marie).
**Good for families.** Some of the nurse participants identified times when the screening process opened up the topic of substance use and patients had an opportunity to discuss substance use within their families and learn about available support services:

> The first lady I approached didn’t have any issues, but she said “Oh this is great, I wish you could do this with my husband” and I said “well, you know, do you want to take the stuff home?” she said “yeah, I’d love to” she obviously had concerns because she launched into this story of how she was concerned about him drinking after work and its becoming more often, and so we had a bit of a heart-to-heart about that (Honor).

> There were a couple of people when I screened them they actually took home information for partners or for family members so they... didn’t come back positive but they were like “Oh my God, my husband needs this” and would take the information (Katya).

**Good for the department.** Dealing with the results of substance misuse takes up a lot of time in the ED (Cherpitel & Ye, 2008). Patients who present in states of intoxication are often uncooperative or have a reduced level of consciousness which means more resources need to be diverted to their care. A lot of time is also taken up dealing with violence or accidents that have occurred as a result of substance use.

Heavy substance use, particularly dependence, may cause people to neglect their health and not engage with primary healthcare providers so that they end up using the ED for healthcare needs, and these healthcare needs can be significant. Another negative consequence of substance use can be child neglect, which leads to children ending up in the ED very unwell due to not having previously received timely and appropriate medical care (King, Farst, Jaeger, Onukwube, & Robbins, 2015). It was identified that reducing substance use could reduce presentations to the ED. For example:

> You know the amount of time that drug and alcohol use uses up within an ED department...It’s more time initially but in the long run it might decrease
presentations which means better time use later on, so the benefits probably do, you know, the pros and cons probably do balance in the end (Katya).

**Good for the nurses.** The majority of nurses are committed to ongoing professional improvement. The desire to provide the best care for the patients was universal within the nurse participant group. The nurse participants were overwhelmingly positive about learning new knowledge and skills that had the potential to enhance their ability to provide best patient care. Some of the nurses did recognise that the benefits of SBI were not only for the patients, there was some benefit also to the nurse participants. For example:

*The ideas, the central tenants of motivational interviewing is like ‘roll with resistance’ and I think that is an effective communication strategy. I think that is more of a justification of why we should go forward, because it has flow-on effects in terms of being better communicators or at least practicing that…it will enhance peoples practice in a holistic manner... I felt this was an interesting opportunity to do this sort of intervention, I felt that it was an interesting challenge... I find this stuff, for me personally, I find it interesting... (It) was a challenge to be part of a change to the betterment (Lexi).*

*I think it gave us, it gave me anyway, a lot of insight into addictions et cetera and I think it was of huge benefit for us to have undergone the training (Anna).*

*That felt good just to be able to help further (Katya).*

*I think you absolutely should (implement SBI in the ED) I think that staff in the ED, my personal opinion is, that while we need to be able to do good resuscitations and all that sort of stuff, I think the therapeutic aspect of ED nursing is maybe traditionally not there, and I think that using that stuff (SBI) and formalising that is a good thing, so being able to do an alcohol screen for someone, or any sort of screen, and follow that up with a Brief intervention, I think that it could be a very important part of the ED holistic approach to things... all nursing staff should
have education about SBI... I think that would have a flow on effect to other parts of their nursing practice (Lexi).

The many, well researched, benefits of SBI have been previously discussed (see chapter one). The nurses recognised the benefits and how the benefits applied not only to the patient but also to the hospital and to society. The nurse participants all believed that SBI would be a good and beneficial thing to implement if resources allowed.

“You can’t just shove it down people’s throats”

There may be resistance to an SBI programme from other nursing staff

The majority of the nurse participants expressed the opinion that some other nursing staff in the ED might be resistant to an SBI programme. Nurses providing SBI within the ED represents a change to the nurses’ current way of working because it is adding a new task, and hence adding to the time taken with each patient in a time-poor environment. Although the nurse participants all saw the value in providing SBI in the ED, their recognition of the practical issues led five out of the eight nurse participants to voice concerns about potential future participation from other nursing staff. For example:

Knowing the staff in ED... I think people will see it as “Oh, this is just another thing we have to do” and when you’re clinically so busy that that’s another 10 minutes to do it. I don’t think people will do it, like, even if they’re trained, I don’t think they will. It’s like the screening for family violence, people don’t do it ‘cause they don’t want to have to deal with a positive response, people just don’t do it. Or they do it on the obvious ones, the ones where they think ... it’s not going to be an issue... because they don’t want to have to deal with a positive response. I don’t know that it’s totally laziness, but I think it’s one more thing that we have to do when you’ve got three corridor patients waiting for assessments who’ve been there for half an hour (Katya).
You will probably get some people (nurses) who don’t want to participate and don’t want to be involved (Honor).

I suppose there’s got to be a level of volunteering to it because you’re probably not going to be getting many people (nurses) keen to do that (Lexi).

I don’t know how it would go down with the others (nurses) because there are so many other things that we screen for (Ange).

I think in terms of making every nurse swallow this (SBI), I think there are going to be some who are more keen than others (Lexi).

**Introducing Change.** It can be a challenge to implement meaningful changes that will be sustained in practice. This was identified by nurse participants with comments such as:

I can just see these sort of things get lost along the way sometimes (Anna).

How often it would get done, I don’t know (Ange).

I have to harp back to (my experience with the screening for) family violence; some people will, some people won’t, not all people want to do it (Georgia).

Lewin (1951) described a theory of change in which any behaviour in a psychological field depends only on the psychological field at that time. Hence if you can describe the psychological field in which the person exists you can understand the person’s behaviour (the old saying “before you judge me, walk a mile in my shoes”).

According to Lewin, group-carried changes work better than individual changes. Nurse planners work to effect group change by influencing an aggregate of individuals, as individuals (Tiffany, Constance, Lutjens, Louette, & Johnson, 1997). The feeling articulated by all nurse participants that other nurses may not be keen on the implementation of the SBI is pertinent, and any change planners in this respect must anticipate and plan for the
fact that some of the nursing workforce may exist in a psychological field where this change is difficult (Maccoby, Newcomb, & Hartley, 1958).

Tiffany et al. (1997) contend that nurse planners can either work to diminish the group standard against change, increase the value of the group standard toward change, or both, or they can work to increase or decrease the level of the standard. The group standard is the forces that are made up of the values of the members of the group, that then persuade group members to conform. Experiences become values, values become group standards and standards become power fields that exert pressure toward conformity (Tiffany et al., 1997). As one of the nurse participants articulated:

> I felt if I was to say ‘have you done your screening’ and they said ‘no, it’s a waste of fucking time’ then I think it would be harder for me to do it because I would be in a sense doing it in the face of peoples dislike (Lexi).

Fortunately Lewin’s experiments indicate that it is easier to change individuals who are formed into a group than to change individuals separately. Lewin speaks of forces that drive towards or away from change, and restraining forces that are barriers to that locomotion, in this case we have the driving forces of wanting to provide the best care and wanting to be an optimal practitioner driving toward change, and the forces of being very busy with the current work restraining from any change that may be perceived as increasing workload. There is a need for analysis of the force field in which the participants act in order for changes to be effectively planned. Other forces may be at work that have not been identified in this study.

**Resistance to Change.** Nurses are often spoken of as being resistant to change, and it has been suggested that they may respond to practice changes as a threat to their comfort and confidence (Holbeche, 2006; Neptune, 2013). In historical terms, the task of nursing the sick was originally done by members of the religious orders, and on the battlefields. Nursing as a profession was thus “born in the church, bred in the army”, and as such carries with it a long tradition of meticulously following protocols and orders. In this day and age, nurses no longer unquestioningly follow orders, but where an innovation is evidence based and in the interests of the patients, most nurses will endeavour to follow instructions.
Nursing has recently seen many changes, new technologies, new roles, and are adapting as individuals and as a profession all the time. It may be reasonable to contend that most nurses are not in fact resistant to change and that this is perhaps a point of view that has had its day. With the right presentation, change can be welcomed as positively affecting practice and empowering staff (Neptune, 2013).

Based on Lewin’s work, Melat-Ziegler (2005) discussed three factors that can motivate staff toward change: 1) Confirmation of the fact that the desired or optimum job is not being accomplished (a major health problem is going unaddressed most of the time), 2) confirmation of lack of attainment (staff are not trained in SBI or motivational interviewing), and 3) confirmation of a lack of growth or motivation (staff communication skills in the field of substance use may need maturation). Research has identified that in some older nurses feelings of personal accomplishment may be low, and that this is a main cause of burnout in these nurses (Potter, 2006). Hence, learning a new skill set, such as SBI and motivational interviewing, may actually be protective against burnout in this subset of nurses.

Recognition of motivational factors is essential to “unfreeze” the status quo and move toward change. After moving through the change, there is a stage of “refreezing” where behaviours are reinforced and made part of the new status quo.

The literature around implementation of SBI into hospital settings identified the usefulness of an individual or group of individuals to champion the SBI programmes. This matches up with the concept of a “change agent” (Melat-Ziegler, 2005) who drives the change and acts as a support person during the change and during refreezing. One nurse participant recognised the value of a change agent from her previous work with introducing screening for family violence:

*I think a resource group would be quite good just to help train the trainers or train new staff. Once again, I’m harping back to family violence, but that is what helps. When the new ones (nurses) come in we get them a little introductory thing going, we do a little introductory talk* (Georgia).

It has been shown that the degree to which a staff member feels that their values coincide with the values of their employing organisation is proportional to that employee’s degree of commitment to the organisation and individual job satisfaction (Newton, Teo,
Pick, Yeung, & Salamonson, 2013) and may impact how the employee views organisational changes. The introduction of a new screening and communication tool is a relatively minor change compared to some other changes seen in the ED recently, such as the advent of Clinical Nurse Specialists and electronic prescribing (e-prescribing). It has, however, been shown that nursing is a high stress occupation with workload being the primary stressor and administrative tasks (this could include screening) being a significant component of the stressful workload (Lim et al., 2010). Literature around stress identifies that perceived control, autonomy, and flexibility are factors that can buffer the employee against the impacts of stress as a result of changes in the workplace (Newton et al., 2013; Parker, Laurie, Newton, & Jimmieson, 2014).

Change to the work of the nurses in the ED requires a careful analysis of the status quo, the driving and restraining forces, and the nurse’s values. The change agents must work with the nursing staff to promote the change as an enhancement to their practice and of palpable benefit to the patients and the department. Nurses need to be able to feel autonomous and flexible when it comes to performing SBI so that they feel empowered as practitioners providing best possible care, and to minimise the stress burden of a change that increases the workload (at least in the short term) and thus has potential to increase the stress levels of an already stressed workforce.

“We are too busy fighting fires”

Working conditions: Barriers to administering SBI

The nurse participants all repeatedly stated that time to do the SBI was a crucial element in whether or not it was done. The number of patients that each nurse was looking after, the unpredictable nature of ED work with fluctuating workloads, and the opinion that the department was understaffed were strongly identified. Work the ED was often very busy, changeable and unpredictable. Exposure to death and violence are regular occurrences and contribute to the stressful environment of EDs. Other stressors on ED staff include access block and overcrowding (Potter, 2006). A hospital access block, in this context, is where the ward beds are all full and hence patients from the ED, who are to be admitted, cannot move out of the ED because there is nowhere for them to go. ED Nurses
spend a large part of their working day involved in intense interactions with people, and the nature of the work is also physically demanding. Research has strongly linked the heavy workload in ED with burnout, fatigue, and reduced ability to cope with stress amongst nursing staff (Potter, 2006).

SBI is a health promotion activity, and an activity that adds to the time taken for a nurse to care for an ED patient. A recent study, based in Jordan, found that the majority of nurses in ED do not associate health promotion with their practice, hold some negative attitudes and devote more time to clinical tasks than health promotion, which is seen as a second priority (Shoqirat, 2014). Shoqirat (2014) states that of the literature around the nurses’ role in health promotion a major theme that emerges is that health promotion is hindered by lack of time and lack of resources. The nurses in this study, however did recognise alcohol and drug related health promotion activities as part of their job. During the training day the nurse participants were asked “What do you see is your role in the management of alcohol and drug use in the Emergency Care patients you see?” Of the eight nurse participants, all saw their role as both SBI and referral on to alcohol and drug services. Two of the nurse participants additionally identified educating patients about substances as a part of their role.

Workload. “The efficient use of nurses’ time and energy is critical to the functioning of hospitals”. This statement by the Institute of Medicine (2011), in a report regarding the future of nursing, articulates the importance of carefully considering any additional tasks (such as SBI) for nurses. This same report recommends that more nursing time should be spent in direct patient care which should improve patient outcomes and improve cost effectiveness of nursing care (Institute of Medicine, 2011). Screening and health promotion activities, such as SBI, are instances of direct contact between the nurse and the patient as recommended by this report. Furthermore, studies have shown that when nurses’ workload increases the work becomes more task-oriented, leaving less time for interpersonal communication and the “caring” side of nursing (Al-Kandari & Thomas, 2009).

*I had good intentions and was feeling really positive about doing it and it was something I was really interested in, however, I think it just ultimately it just came down to staffing and busyness in the department which made it difficult for it to be feasible to undertake it really* (Marie).
I think busyness (makes it harder to do SBI). I think if it’s busy, you know, you’re fighting fires rather than trying to do screening, it’s the same with all our screening, isn’t it, it gets put on the back burner because you’re busy trying to actually deal with people’s illness (Eva).

It was difficult actually. I wanted to do it, I very much wanted to ask as many people as I could but I found it hard to find the time (Honor).

When it gets busy we do a thing, like, care rationing, we think ‘what’s priority?’ and doing an intervention about someone’s social wellbeing and, ah, betterment, I think doesn’t take so much of a priority (Lexi).

Patient workload made it quite difficult… just having the time to do it (SBI) I think was the biggest obstacle for myself (Katya).

There were times when the department was, realistically, it was often quite busy and it was so busy that sometimes you didn’t necessarily have the time to undertake the screening (Anna).

(The) Acutes (area) often was so flat out that I found it difficult to be able to do (SBI)...It (SBI) would be good but there are time restraints, so how effective it would be, I’m not sure, it’s like all our screenings here I bet statistics are high then they drop off depending on busyness (Ange).

**Quantity and quality of staffing.** Staffing issues were identified by all of the nurse participants as an important factor in whether or not they had time to perform SBI. Specifically they identified times where the department was short of nurses in absolute terms, or the frequent instances in which nurses are called in from other areas, such as the medical wards, to cover ED nurse shifts. Nurses who are called in from other departments are often not familiar with ED work or processes and may work more slowly and/or require
supervision and/or be unable to do routine ED work such as intravenous cannulation and standing order medications.

Research has shown that having more senior and experienced nurses results in improved patient outcomes (Hinno, Partanen, & Vehviläinen-Julkunen, 2012). Nursing staff numbers are not the only factor. Research has identified that improved senior doctor staffing and reduced access block in the hospital improved ED performance (Thornton & Hazell, 2008). It is clearly shown, therefore, that the staffing levels of nurses and doctors, both in the ED and elsewhere in the hospital, are important factors in patients getting the best possible quality of care, and for ED nurses to have the time to address issues such as screening and health promotion that may otherwise be overlooked in a busy ED.

I think with good staffing, if there was good staffing... because we had nurses from the wards over that month quite a bit as well so that made it difficult, and I think if that (staffing) was good ... then I think it would be feasible, yeah... I remember a couple of times I was working with a ward nurse and that made it difficult because of the staffing... I think if we had full staffing it would definitely make a difference because you know you are going to have time with that patient and just be able to focus on what you have to do there... I think if we’ve got good staffing it could definitely be part of their assessment when they come in (Marie).

If we GOT MORE STAFF... (Appeal to politicians for more funding) then I don’t think it (SBI) would be a problem. If we had an appropriate amount of staff for the size of the department so you could do everything you wanted to do and provide gold standard care for everybody I’d say “yeah, great, let’s put it (SBI) in there” but reality is we don’t have enough staff for the patients we have at the moment (Katya).

Unpredictability. Nursing is a high stress occupation (Lim, Bogossian, & Ahern, 2010), and nowhere is that more true than in the ED where things may change in a heartbeat. Nurses must be constantly alert to the changing condition of their patients and also poised for action as new patients arrive. In the ED nurses do not have a set workload or number of
patients they care for, instead they have to adapt and time manage to accommodate however many patients arrive. To make things even more complicated, patients tend to arrive in “clumps” rather than in a steady stream meaning that at times the nurses have to be able to very quickly prioritise which new, unwell patient is the most critical, and, therefore, who must be seen first.

The unpredictable nature of ED work means that nurses may be reluctant to settle down to an activity such as a brief intervention because they don’t want to be caught up when a large number of patients present at the same time. Even if an ED is “quiet” it may become very busy in a matter of minutes. Nurses expressed the unpredictability of ED work:

*I think just the nature of ED (makes it harder to do SBI) because you don’t know who’s going to walk in the door, it just depends on the acuity and number of patients (Marie).*

*Working in ED is really fast at times and we get pretty chaotic (Georgia).*

*You don’t know what’s going to come in the door (Lexi).*

The nurses in this study all expressed the opinion that the ED was often too busy to make SBI feasible. During times when patient numbers were lower nurses found they were able to perform SBI, although often the times when the department is quietest is on the night shift around 0400 where the majority of the patients who are well and sober enough to receive SBI just want to sleep. Issues around staffing would need to be resolved for SBI to be consistently applied during the day and evening shifts.

“We need time and space to form an Emergency Department Friendship”

**The ED environment: Logistical difficulties**

The ED environment can be chaotic and overcrowded. Patient beds often line the corridors because cubicles are not available. Cubicles have a curtain rather than a door, so even within the cubicle, privacy is not absolute. When the ED is busy, nurses have less time
to spend with each patient and hence have less of an opportunity to develop a rapport with patients.

**Privacy.** Most of the nurses identified that there is a lack of physical privacy in the ED and that they felt that speaking about substance misuse should be done in private:

*Having patients in the corridors, you didn’t have the privacy to do it appropriately* (Katya).

*Privacy was an issue* (Honor).

*I wouldn’t have screened anyone in the corridor, because it’s personal stuff... I think you need a quiet environment* (Eva).

Moving a patient to a more private area for the purposes of doing SBI increases the workload on the nurses. The nurse participants all commented on their heavy workload, and that they could not cope with significant additions to this without additional staffing. The study location ED is undergoing a process of physical expansion which will hopefully see more cubicles and greater privacy for the patients in August 2016. Privacy, however, will still be a pertinent issue because patient numbers are predicted to continue to increase with Auckland’s growing and ageing population and may soon overwhelm the new department. Additionally, there will still be the issue of the not-sound-proof curtain, and patients being accompanied by other people that they may not wish to disclose substance use in front of.

Many patients will disclose the use of illegal drugs, and by definition involvement in criminal activity, to nurses and doctors because they know that health professionals are obliged to keep the information confidential. If, however, the patient is in a location where they perceive that they may be overheard by someone else they may be unwilling to disclose. There are often police officers in the department and their very presence may stifle disclosures. It would be interesting also to know how fear of a referral to Child Youth and Family affects the disclosure behaviour of parents. Whether it is reasonable or not, many parents are fearful of having their children removed if they admit to having personal problems (Dew et al., 2007). A grounded theory study of women disclosing domestic violence in the ED concluded that nurses can facilitate disclosure by doing assessments in a
private setting and by limiting the number of people the patient has to discuss the issue with (Catallo, Jack, Ciliska, & MacMillan, 2013).

Rapport. Part of the art of nursing is swiftly gaining a rapport with a patient so that patients feel they can speak about personal topics, and be comfortable with having the nurse doing physical examinations and cares. The fast paced ED environment can make it more difficult to gain a rapport with patients than in most other healthcare settings. Some of the nurse participants, therefore, felt that spending less time with patients made it harder to do SBI. Nurse participants felt that substance use could be a personal and difficult thing for people to speak about, especially if it is causing them problems.

For that type of screening you need to have a little bit of a lead in... the people who declined to take part in the study were people who I didn’t have any rapport with... you need to have a bit of lead in time to that (SBI), a bit of quiet rapport with the person to make it effective (Eva).

I just sort of couldn’t be “quick quick” which is what we tend to do in ED, is really do things quick, get the information, well it was a little more of a sensitive issue for some people... I found it was easier when I had already seen to their (the patient’s) needs and got them sort of settled down and we’ve built a friendship, well, and Emergency Department friendship, or a partnership (Georgia).

An interesting qualitative study looked at the communication of doctors in the ED and found that at busy times rapport and comprehension are often sacrificed for efficiency (Dean & Oetzel, 2014). Although during busy times nurses may be observed to do the same thing, nurses are more likely to be spending periods of time with the patient doing procedures such as inserting an intravenous cannula or cleaning a wound and these times allow some “chatting” and building of an “Emergency Department friendship”. Chatting or small talk in the nursing context is done not only to put the patient at ease, but also and almost always with a therapeutic agenda. The nurse is developing the therapeutic relationship with the patient and finding clues about what is going on in that patient’s life that may be impacting their health (physical or mental) status, and seeking opportunities to gently provide health education and promotion.
In spite of the challenges to the provision of SBI in the ED, the nurse participants also shared stories about how openly many patient participants spoke about substance use.

*People were all very forthcoming... they were very receptive to it* (Honor).

*Generally people were happy to talk about their own situations, we’re professionals... I thought people wouldn’t accept it because of the consent and that it’s a research project, I felt they may be suspicious about it, but actually people were quite open about it* (Lexi).

*He (patient) was cool with it, yep, yeah, he was really honest, he was really open about it (substance use)* (Katya).

*When it was explained properly (SBI) they (patients) were more than happy to do the screening* (Ange).

*Those (screenings) that I did (the patients) were really open to it, I think (they) generally sort of accepted, were quite accepting of it* (Anna).

The willingness of most patients to discuss substance use with the nurse participants portrays one of the privileges afforded to nurses in their work, nurses can get to know their patients on a deep emotional level and be privy to information that is not often shared. With this privilege comes responsibility to protect the patients’ privacy and dignity and also to provide support and assistance. Becoming proficient in SBI allows a nurse to enhance his or her responsiveness to patients who disclose substance use.

**The placement and roles of the nurses.** ED nurses do not have set areas of work or set shifts. There is considerable variability to the work of an ED nurse from day to day, and this was recognised as a challenge to the provision of SBI. Some issues identified by nurse participants were:

*I had a couple of shifts out the back as what we deemed the Resource Nurse, which was really hard because you didn’t have a patient rapport so, you know,*
you’d just have to walk up to someone you didn’t know and ask if they wanted to do it. Because you didn’t know them as well, I felt that was a bit more of an obstacle (Katya).

On night shift, that was the opportunity I did have, and people (patients) are even more tired on nights so not interested in doing it (SBI) (Marie).

Having people who were orientating to the hospital so I had to sort of teach them, which took away what would have been my spare time when I could have gone and done it (SBI). That was frustrating (Katya).

That was the problem with going places in the department where I wasn’t doing it, oh, Triage, because you can’t do it at Triage, and then having to come back and trying to re-get back into that rhythm, which was hard, yeah, like not doing it every day (Katya).

Nurse participants often identified some of the areas of the department as more suitable for the provision of SBI than others. The Consults area where patients from the main Waiting Room are seen was particularly identified as suitable, probably because these patients generally have less urgent conditions.

Consults was great ‘cause you could do that, you could take that bit more time (Katya).

I think Consults would have been the area where it would have been the most feasible, because you see so many people come through out there, and I think also you just have a bit more of an opportunity. People are generally a bit more well and feeling a bit better when they are there (Marie).

Some nurses felt that the provision of SBI could be best done by the Discharge Coordinators. For example:
The Discharge Coordinators, I bet, would have had a high incidence of screening (Ange).

It (SBI) could come, maybe, under the umbrella of the Discharge Coordinators (Anna).

I think people in the Discharge Coordinating role, I think it’s probably something they can do because they’re used to going in, seeing people, and building a relationship with them quickly. But also discharge planning is what they do, and I sort of see this as a step of discharge planning (Katya).

The Discharge Coordinators, however, also faced challenges with the provision of SBI unique to their mode of working. They expressed these challenges:

A lot of the patients that we were dealing with, or certainly me as Discharge Coordinator, was that they either didn’t fit the criteria because they were over 80, or they just had such complex things going on that trying to do another screening tool on top of that, I found, was just really difficult (Eva).

Oh, we do have more time, but I think... its better with the person that you’ve already built a relationship with (Eva).

It was a little easier if I’d done the assessment and introduced myself, as opposed to just going up out of the blue to a person I hadn’t worked with, although I did do that in a lot of cases, I found it a little intrusive (Georgia).

The Discharge Coordinators were not averse to being involved in an SBI programme but did not think it should be solely their job:

I don’t think it’s just a discharge thing, no, I think it (screening) could easily be done by anybody, but the follow up could be us, if they were having difficulty with it (Eva).
The literature around SBI, as previously discussed, shows clearly that it can be effectively done by members of many different professions and many studies showed effectiveness where the SBI was done by research staff or by people with the sole job of providing SBI. It may be that effective SBI can be done in the absence of a particular rapport, but that it makes nurses uncomfortable to do this, probably because they are acutely sensitive to the patient’s discomfort.

In 2002 a qualitative study examined the experiences of Danish GPs providing SBI for alcohol use during their consultations (Beich, Gannik, & Malterud, 2002). Some of the findings were surprising. Doctors felt SBI interfered with gaining a rapport with their patients, particularly middle aged and older patients. Some doctors felt that counselling on alcohol use implied an unwanted moral dimension. An example of how intrusive one doctor found delivering SBI was in this evocative comment: “To me, just asking everybody about their drinking habits is in part comparable to if I had to do a rectal examination on all patients that came to see me” (p.4, anonymous doctor as cited in Beich et al. 2002).

It is of note, however, that the study did not define the training (if any) these doctors received on SBI. Some of the doctor’s comments imply that they were not adequately prepared for the task, including their statements that they felt that screening was a clinically insensitive way of finding alcohol problems when the evidence shows otherwise. They also stated that they lacked the right communication skills for the task, indicating a lack of appropriate training.

Nurse participants in this current study, importantly, did not report a single incidence of any patient being offended or upset by being offered the opportunity to participate in this research. They also did not report any instances of SBI interfering with rapport. Nurse participants did report that some of the patients who declined were suspected of having substance abuse problems, but all nurse participants respected the patient’s choice to decline.

_I had two people decline who I had a strong suspicion that they needed some intervention (Eva)._
The only real negative was just not being able to get to some of the people who needed it the most (Katya).

Many of the nurse participants felt uncomfortable providing SBI to patients they had not gained a rapport with. Overcrowding in the ED limited the ability of the nurse participants to provide SBI. No nurse participants reported any negative reactions from patients when offered SBI, although some patients declined who may have benefited from SBI.
Chapter 5: Discussion

This study generated two different sets of results: quantitative and qualitative. These two data streams allow the opportunity to triangulate the results and get a feeling for whether what the nurse participants have said matches up with what actually occurred. The quantitative results supported the nurse participant’s statements that the busy nature of the ED precluded large scale provision of SBI during the data collection month. From the qualitative results it became clear that all the nurse participants felt strongly that their workload was too heavy and staffing too inadequate to allow them to do SBI as often as they would have liked to. The quantitative results supported this contention.

Many patients did not get an opportunity to participate in this study. Of the 390 patients who were deemed eligible to participate, only 46 (number screened plus number who declined) were given the opportunity to participate, equating to 11.79% of the patients who were in the care of the participating nurses. Although some patients would not have been given the opportunity to participate due to privacy concerns or some other reason, the nurse participants were unanimous that the primary reason so many patients were not screened was due to a lack of time.

The inverse correlation between the number of patients in the ED per day and the average number of screenings done by each nurse participant met significance. This finding further supports the statements of the nurse participants that workload was the main limiting factor on the number of screens performed.

Almost a third of the screened patients were positive for harmful use of alcohol and or other drugs. This concurs with other research, both from New Zealand and overseas, and suggests that substance abuse is an important issue for patients presenting to the study location ED, and an issue that urgently needs to be properly addressed. The qualitative results also identified that the nurse participants considered substance misuse to be a major social issue in New Zealand and for many of the patients who present to the ED.

All patients who screened positive were documented as having received some form of acknowledgement and assistance, either a Brief intervention or referral to Community Alcohol and Drug Services. In the nurse participant interviews, it was acknowledged that
some nurse participants did not like to lead a patient to disclose harmful substance use and then not follow that up. For example:

*There is no point in screening people if you’re not going to do anything with the information. There’s no point. None at all. You would leave the patient feeling like ‘you’ve asked me this, and I’ve revealed that to you, what are you going to do about it or what information are you going to give me?’ And they might not ever disclose again (Eva).*

The nurse participant’s drive to render assistance to the patients may possibly be a limiting factor on the number of screens they are able to do, because they may have time to do a screening but see that time will not be available to do an intervention if necessary, and hence, be reluctant to initiate the process. This reluctance may be alleviated by training more people in the techniques of SBI so that if one nurse is not able to do the intervention she or he may ask a colleague to help out. A problem that may then be encountered, however, is of a nurse doing an intervention with a patient they may have no rapport with. Increased staffing levels may be a solution to this issue.

Most of the nurse participants felt that it was important to have a certain degree of rapport with a patient before discussing a sensitive issue such as substance use. The evidence, as discussed in Chapter 1, shows that SBI can be successfully done by people who have not been previously involved in the patient’s care. No studies, however, have looked specifically at rapport between patient and nurse, and how this relates to the effectiveness of SBI. This would be an interesting area for future study.

Patients were able to be screened in many different areas of the ED. Of the 41 patient participants, 17 (41.46%) were documented to have been screened in the Consultation Area (Consults), done either by the Consults Nurse or the Clinical Nurse Specialist working in that area. Twelve patient participants (29.27%) were documented to have been screened in the Acutes Area. Only four patient participants (9.76%) were documented to have been screened in the Monitored Area, possibly indicating that this is a more difficult place to do SBI. This may be because of the high number of patients ineligible due to having active chest pain or being very unwell. Although more research would be needed, it seems that the
Consults area is where screening is most likely to happen, followed by the Acutes area. It may make sense to focus future efforts to disseminate SBI in those areas only.

When looking at the different areas of the ED, and the rates of screening in each area, it is important to note that Discharge Coordinators see patients throughout the ED and do not necessarily document what area of the department the patient was in when they were seen. The two Discharge Coordinators screened 10 patient participants between them. In eight of these instances the location of where the screening took place was not identified.

There was variation in the number of patients screened by each nurse participant. It had seemed reasonable to think that more experienced, or more confident, nurses would screen more patients. The results, however, did not show any particular correlation between years of ED nursing experience or confidence and screening rates. It should be noted, however, that the sample size is very small.

A possible confounding variable in the relation between the number of screens and the number of years of experience of each nurse participant is that more experienced nurses may have had a greater workload in terms of supervising or training more junior staff, co-ordinating an area, or caring for more unstable patients. Greater workload has been identified as a probable limiting factor on the number of screens performed.

The average number of patients screened per nurse were higher at the beginning of the data collection period, especially the first two days after the training day. This suggests that perhaps the nurse participants’ levels of enthusiasm and motivation around SBI may be an influence on the number of screenings that they do. This has relevance to any future dissemination efforts. Generating enthusiasm amongst the nursing staff for an SBI programme, and sustaining that enthusiasm, may be an important factor in implementing a meaningful and lasting programme.

An additional interesting finding was that the greatest number of screens were done by Lexi (12 screens) who was a very confident person with a background in the Alcohol and Other Drug field. In spite of being relatively young and inexperienced in the ED (age 29, 2-5 years in ED), Lexi had a lot of enthusiasm and motivation when it came to performing SBI. It would be interesting, in future research, to ask nurse participants to rate their enthusiasm for SBI and to measure how this variable correlates with number of screens carried out.

The role of the nurse participants in the ED was also considered in how this might influence the number of screens they carried out. During the interviews with the nurse
participants, it was suggested that the Discharge Coordinators might be able to screen more patients than the other nurse participants. The results, however, did not show that the Discharge Coordinators screened more patients overall than the other nurse participants, and did not support the idea that SBI might be more feasible for the Discharge Coordinators to perform.

Another consideration was that Clinical Nurse Specialists may be able to screen more patients than the other nurse participants. Because the nurse participant group included only one Clinical Nurse Specialist (Honor) it is impossible to generate meaningful results for this speculation. The participating Clinical Nurse Specialist did have the second highest level of screening, in spite of having a low baseline confidence score. Honor screened 10 patients, however she did four out of her 10 screenings on “floor shifts” (working as a staff nurse rather than as a Clinical Nurse Specialist). Honor worked much fewer floor shifts than Clinical Nurse Specialist shifts during the data collection month, hence this study does not provide evidence that it is easier or more feasible for Clinical Nurse Specialists to perform SBI than staff nurses.

A limitation of this study is that the eligibility status of patients was not always clearly documented. Although nurses were instructed to record eligibility status for every patient they cared for, this did not always happen, and was possibly due to the busy nature of most shifts. For most patients, the ED longsheet recorded reasons why the patient would or would not have been eligible. Some patients who have been included as eligible may in fact not have been eligible, because the nurse participants did not always document a reason for eligibility status.

The rate of patients declining to participate was 10.87% (five out of 46 patients). Although the small sample size of patients involved make it impossible to identify patterns, it may be that where the patient was approached during the night they may have declined for reasons of tiredness. It is, furthermore, possible that the screening tool or consent process could have been made more culturally appropriate or more appealing for Māori patients. For this study it had been decided to follow the lead of a previous study on SBI dealing specifically with Māori students, which did not use Māori specific tools or feedback to avoid framing alcohol misuse in terms of a deficit model (Kypri et al., 2013). More research would have to be done to draw meaningful conclusions about the reasons some patients declined to participate. A further limitation of this study is the possibility that more
patients may have declined than the reported number. Nurse participants may have not documented a decline in the longsheet or on the consent form, in which case it was not possible for the data to be collected.

Although the rate of declines seems high, it is notable that no nurse participant revealed encountering any anger or verbal abuse from any patient when offered the opportunity to participate. The ED is an environment where patients verbally abusing nursing staff is an extremely common occurrence. This may suggest that the patients who attended the ED during the data collection month did not find it inappropriate to be offered SBI. During the data collection month it was not considered to be in the best interests of staff or patients to offer SBI to any patient who was emotionally distressed, which included acting in a manner that was aggressive or abusive. If every patient had been offered SBI with no regard to their emotional state, the rate of declines may have been higher and nurses may have been subjected to anger or abuse.

The qualitative results showed that the nurse participants all felt that SBI was beneficial for patients, families and society. Reducing substance use may prevent some ED presentations and nurse participants were positive about SBI for the patients and for their own professional development.

Implementation issues identified were time, staffing, the unpredictability of ED work, and the pace of the ED. Most healthcare systems in the developed world are experiencing increasing demand in the face of stretched resources (Wong, Gott, Frey, & Jull, 2014) and the study location ED is no exception. ED nurses are there to provide a service first and foremost to those that need life-saving care (Schimanski & Hedgecock, 2009) and in extremis other activities, such as screening, will take a backseat to life support measures. A recent New Zealand based study on ED nurses administration of analgesia to patients experiencing pain showed that the main barriers were if they were also caring for a patient who was acutely unwell, lack of time, and heavy workload (Pretorius, Searle, & Marshall, 2015). The nature of the ED means workload can be unpredictable and the environment can seem chaotic. An additional factor that put time pressure on ED staff in New Zealand is the six hour ED target. In May 2009, the New Zealand government announced a policy designed to improve the quality of ED care by reducing the length of time patients spend in the ED. The Shorter Stays in ED Target aims to have 95% of patients admitted, discharged or transferred from an ED within six hours (Jones, Harper, et al., 2012). This policy is based on
observational studies from overseas showing that overcrowding and long waits in the ED have been associated with increased mortality and morbidity (S. Bernstein et al., 2009). However some research does not show overall improved patient outcomes from shorter ED stays (Jones & Schimanski, 2010). For this reason a New Zealand based study is ongoing (at time of writing) to assess the impact of the six hour ED target on patient outcomes (Jones, Chalmers, et al., 2012).

It was also identified that some nurses in the ED may resist the implementation of SBI, it is suggested that this may be countered by close attention to change theorem and the presentation of an SBI programme.

Difficulties within the ED environment included issues of privacy, location and rapport. Some of those issues may be difficult to resolve but additional staffing may allow more time for nursing staff to counter those issues, i.e., moving patients to a more private area, or gaining a rapport through increased patient contact time. Newer approaches to SBI such as screening at triage and computerised or text SBI may have potential to be useful in the ED environment in the future.

During the data collection month relatively low numbers of patients were given the opportunity to receive SBI. The number of patients screened by each nurse participant was inversely proportional to the number of patients presenting to the ED each day. Nurse participants were unanimous in stating that the greatest limiting factors on the number of screenings they performed were workload and staffing. Of the patients who did receive screening and screened positive, all received some sort of follow up. No particular factors were identified as being significantly predictive of an individual nurse’s success at providing SBI. The hypothesis that the role of the nurse may influence the number of screens they are able to perform was not supported.

In conclusion, this study has demonstrated that SBI delivered in New Zealand public hospital EDs has great potential to enhance the wellbeing of the local population. If issues of nurse workload and staffing were addressed, ED SBI may be feasible.

Recommendations

It is recommended that hospital frontline staffing numbers be increased to allow for introduction of an SBI programme, this applied particularly to ED nursing staff. SBI should be introduced with full input from the frontline staff. SBI should be introduced in the Consults
and Acutes areas, with a corresponding increase in staffing during busy times. Consideration should be given to increasing Discharge Co-ordinator and Clinical Nurse Specialist numbers during busy times to allow for health promotion activities including SBI.
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List of Appendices

Appendix 1. Alcohol Use Disorders Identification Test ........................................................ 887
Appendix 2. Alcohol, Smoking and Substance Involvement Screening Test ....................... 898
Appendix 3. The CAGE questions ........................................................................................... 943
Appendix 4. Alcohol Use Disorders Test shortened version (AUDIT C) ................................. 954
Appendix 5. Alcohol, Smoking and Substance Involvement Screening Test (ASSIST-Lite) .... 965
Appendix 6. SBI in ED Literature Review Table ...................................................................... 987
Appendix 7. Intention to Treat Graphs ................................................................................ 1098
Appendix 8. Modified-Single Alcohol Screening Question (M-SASQ) ..............Error! Bookmark not defined.
Appendix 9. Emergency Department Longsheet ......................................Error! Bookmark not defined.
Appendix 10. Nurse Participant Questionaire ...........................................Error! Bookmark not defined.
Appendix 11. Patient Participant Information Form ...........................................Error! Bookmark not defined.
Appendix 12. Patient participant Consent Form ...........................................Error! Bookmark not defined.
Appendix 13 Detailed Quantitative Data Collection Notes .Error! Bookmark not defined.
Appendix 14. Nurse Participant Consent Form ...........................................Error! Bookmark not defined.
Appendix 15. Nurse Participant Information Form ...........................................Error! Bookmark not defined.
Appendix 16. Glasgow Coma Scale .................................................................Error! Bookmark not defined.
Appendix 17. Table of ethnicity of patient participants ......Error! Bookmark not defined.
Appendix 18. List of Number of Patients vs. Screenings Per Day ..............Error! Bookmark not defined.
Appendix 1.

Alcohol Use Disorders Identification Test.

### Box 4

**The Alcohol Use Disorders Identification Test: Interview Version**

Read questions as written. Record answers carefully. Begin the AUDIT by saying: “Now I am going to ask you some questions about your use of alcoholic beverages during this past year.” Explain what is meant by “alcoholic beverages” by using local examples of beer, wine, vodka, etc. Code answers in terms of “standard drinks.” Place the correct answer number in the box at the right.

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How often do you have a drink containing alcohol?</td>
<td>Never (Skip to Qs 9-10)</td>
</tr>
<tr>
<td></td>
<td>1. Monthly or less</td>
</tr>
<tr>
<td></td>
<td>2. 2 to 4 times a month</td>
</tr>
<tr>
<td></td>
<td>3. 2 to 3 times a week</td>
</tr>
<tr>
<td></td>
<td>4. 4 or more times a week</td>
</tr>
<tr>
<td>2. How many drinks containing alcohol do you have on a typical day when you are drinking?</td>
<td>(a) 1 or 2</td>
</tr>
<tr>
<td></td>
<td>(b) 3 or 4</td>
</tr>
<tr>
<td></td>
<td>(c) 5 or 6</td>
</tr>
<tr>
<td></td>
<td>(d) 7, 8, or 9</td>
</tr>
<tr>
<td></td>
<td>(e) 10 or more</td>
</tr>
<tr>
<td>3. How often do you have six or more drinks on one occasion?</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>1. Less than monthly</td>
</tr>
<tr>
<td></td>
<td>2. Monthly</td>
</tr>
<tr>
<td></td>
<td>3. Weekly</td>
</tr>
<tr>
<td></td>
<td>4. Daily or almost daily</td>
</tr>
<tr>
<td>Skip to Questions 9 and 10 if Total Score for Questions 2 and 3 = 0</td>
<td></td>
</tr>
<tr>
<td>4. How often during the last year have you found that you were not able to stop drinking once you had started?</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>1. Less than monthly</td>
</tr>
<tr>
<td></td>
<td>2. Monthly</td>
</tr>
<tr>
<td></td>
<td>3. Weekly</td>
</tr>
<tr>
<td></td>
<td>4. Daily or almost daily</td>
</tr>
<tr>
<td>5. How often during the last year have you failed to do what was normally expected from you because of drinking?</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>1. Less than monthly</td>
</tr>
<tr>
<td></td>
<td>2. Monthly</td>
</tr>
<tr>
<td></td>
<td>3. Weekly</td>
</tr>
<tr>
<td></td>
<td>4. Daily or almost daily</td>
</tr>
<tr>
<td>6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>1. Less than monthly</td>
</tr>
<tr>
<td></td>
<td>2. Monthly</td>
</tr>
<tr>
<td></td>
<td>3. Weekly</td>
</tr>
<tr>
<td></td>
<td>4. Daily or almost daily</td>
</tr>
<tr>
<td>7. How often during the last year have you had a feeling of guilt or remorse after drinking?</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>1. Less than monthly</td>
</tr>
<tr>
<td></td>
<td>2. Monthly</td>
</tr>
<tr>
<td></td>
<td>3. Weekly</td>
</tr>
<tr>
<td></td>
<td>4. Daily or almost daily</td>
</tr>
<tr>
<td>8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?</td>
<td>Never</td>
</tr>
<tr>
<td></td>
<td>1. Less than monthly</td>
</tr>
<tr>
<td></td>
<td>2. Monthly</td>
</tr>
<tr>
<td></td>
<td>3. Weekly</td>
</tr>
<tr>
<td></td>
<td>4. Daily or almost daily</td>
</tr>
<tr>
<td>9. Have you or someone else been injured as a result of your drinking?</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>2. Yes, but not in the last year</td>
</tr>
<tr>
<td></td>
<td>4. Yes, during the last year</td>
</tr>
<tr>
<td>10. Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>2. Yes, but not in the last year</td>
</tr>
<tr>
<td></td>
<td>4. Yes, during the last year</td>
</tr>
</tbody>
</table>

If total is greater than recommended cut-off, consult User’s Manual.

(Babor, Higgins-Biddle, Saunders, & Monteiro, 2001)
Appendix 2.

Alcohol, Smoking and Substance Involvement Screening Test

A. WHO - ASSIST V3.0

**INTRODUCTION** *(Please read to patient)*

Thank you for agreeing to take part in this brief interview about alcohol, tobacco products and other drugs. I am going to ask you some questions about your experience of using these substances across your lifetime and in the past three months. These substances can be smoked, swallowed, snorted, inhaled, injected or taken in the form of pills (show drug card).

Some of the substances listed may be prescribed by a doctor (like amphetamines, sedatives, pain medications). For this interview, we will not record medications that are used as prescribed by your doctor. However, if you have taken such medications for reasons other than prescription, or taken them more frequently or at higher doses than prescribed, please let me know. While we are also interested in knowing about your use of various illicit drugs, please be assured that information on such use will be treated as strictly confidential.

**NOTE: Before asking questions, give ASSIST Response Card to patient**

Question 1
*(If completing follow-up please cross check the patient’s answers with the answers given for Q1 at baseline. Any differences on this question should be queried)*

<table>
<thead>
<tr>
<th>Substance Description</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>b. Alcoholic beverages (beer, wine, spirits, etc.)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>c. Cannabis (marijuana, pot, grass, hash, etc.)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>d. Cocaine (coca, crack, etc.)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>g. Sedatives or Sleeping Pills (Vallium, Serepax, Rohypnol, etc.)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>i. Opioids (heroin, morphine, methadone, codeine, etc.)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>j. Other - specify</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Probes if all answers are negative:
*“Not even when you were in school?* 

*If “No” to all items, stop interview. 

*If “Yes” to any of these items, ask Question 2 for each substance ever used.*
### Question 2

In the past three months, how often have you used the substances you mentioned (FIRST DRUG, SECOND DRUG, ETC)?

<table>
<thead>
<tr>
<th>Substance</th>
<th>Never</th>
<th>Once or Twice</th>
<th>Monthly</th>
<th>Weekly</th>
<th>Daily or Almost Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>b. Alcoholic beverages (beer, wine, spirits, etc.)</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>c. Cannabis (marijuana, pot, grass, hash, etc.)</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>d. Cocaine (coke, crack, etc.)</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>g. Sedatives or Sleeping Pills (Valium, Serpax, Rohypnol, etc.)</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>i. Opioids (heroin, morphine, methadone, codeine, etc.)</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>j. Other - specify:</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

If "Never" to all items in Question 2, skip to Question 6.

If any substances in Question 2 were used in the previous three months, continue with Questions 3, 4 & 5 for each substance used.

### Question 3

During the past three months, how often have you had a strong desire or urge to use (FIRST DRUG, SECOND DRUG, ETC)?

<table>
<thead>
<tr>
<th>Substance</th>
<th>Never</th>
<th>Once or Twice</th>
<th>Monthly</th>
<th>Weekly</th>
<th>Daily or Almost Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>b. Alcoholic beverages (beer, wine, spirits, etc.)</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>c. Cannabis (marijuana, pot, grass, hash, etc.)</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>d. Cocaine (coke, crack, etc.)</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>g. Sedatives or Sleeping Pills (Valium, Serpax, Rohypnol, etc.)</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>i. Opioids (heroin, morphine, methadone, codeine, etc.)</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>j. Other - specify:</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
**Question 4**

During the **past three months**, how often has your use of *(FIRST DRUG, SECOND DRUG, ETC.)* led to health, social, legal or financial problems?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once or Twice</th>
<th>Monthly</th>
<th>Weekly</th>
<th>Daily or Almost Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>b. Alcoholic beverages (beer, wine, spirits, etc.)</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>c. Cannabis (marijuana, pot, grass, hash, etc.)</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>d. Cocaine (coke, crack, etc.)</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>i. Opioids (heroin, morphine, methadone, codeine, etc.)</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>j. Other - specify:</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

**Question 5**

During the **past three months**, how often have you failed to do what was normally expected of you because of your use of *(FIRST DRUG, SECOND DRUG, ETC.)*?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Once or Twice</th>
<th>Monthly</th>
<th>Weekly</th>
<th>Daily or Almost Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Tobacco products</td>
<td>. . . . . . . . . . . . .</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>b. Alcoholic beverages (beer, wine, spirits, etc.)</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>c. Cannabis (marijuana, pot, grass, hash, etc.)</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>d. Cocaine (coke, crack, etc.)</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, etc.)</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>i. Opioids (heroin, morphine, methadone, codeine, etc.)</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>j. Other - specify:</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>
### Question 6

<table>
<thead>
<tr>
<th>Substance</th>
<th>Never</th>
<th>Past 3 Months</th>
<th>Past 6 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>b. Alcoholic beverages (beer, wine, spirits, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>c. Cannabis (marijuana, pot, grass, hash, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>d. Cocaine (coke, crack, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>f. Inhalants (nitrous oxide, petrol, paint thinner, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>g. Sedatives or Sleeping Pills (Valium, Sedrepax, Rohypnol, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>i. Opioids (heroin, morphine, methadone, codeine, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>j. Other - specify</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

### Question 7

<table>
<thead>
<tr>
<th>Substance</th>
<th>Never</th>
<th>Past 3 Months</th>
<th>Past 6 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>b. Alcoholic beverages (beer, wine, spirits, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>c. Cannabis (marijuana, pot, grass, hash, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>d. Cocaine (coke, crack, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>e. Amphetamine type stimulants (speed, diet pills, ecstasy, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>f. Inhalants (nitrous oxide, petrol, paint thinner, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>g. Sedatives or Sleeping Pills (Valium, Sedrepax, Rohypnol, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>h. Hallucinogens (LSD, acid, mushrooms, PCP, Special K, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>i. Opioids (heroin, morphine, methadone, codeine, etc.)</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>j. Other - specify</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>
### Question 8

<table>
<thead>
<tr>
<th>Have you ever used any drug by injection? (NON-MEDICAL USE ONLY)</th>
<th>No/Never</th>
<th>Yes, in the past 3 months</th>
<th>Yes, but not in the past 3 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**IMPORTANT NOTE:**

Patients who have injected drugs in the last 3 months should be asked about their pattern of injecting during this period, to determine their risk levels and the best course of intervention.

**Pattern of Injecting**

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Intervention Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once weekly or less or Fewer than 3 days in a row</td>
<td>Brief Intervention including &quot;risks associated with injecting&quot; card</td>
</tr>
<tr>
<td>More than once per week or 3 or more days in a row</td>
<td>Further assessment and more intensive treatment*</td>
</tr>
</tbody>
</table>

**How to Calculate a Specific Substance Involvement Score:**

For each substance (labelled a. to j.) add up the scores received for questions 2 through 7 inclusive. Do not include the results from either Q1 or Q8 in this score. For example, a score for cannabis would be calculated as: Q2c + Q3c + Q4c + Q5c + Q6c + Q7c

Note that Q5 for tobacco is not coded, and is calculated as: Q2a + Q3a + Q4a + Q6a + Q7a

**The Type of Intervention is Determined by the Patient’s Specific Substance Involvement Score**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Record Specific Subscore</th>
<th>No Intervention</th>
<th>Receive Brief Intervention</th>
<th>More Intensive Treatment *</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. tobacco</td>
<td>0 - 3</td>
<td>4 - 26</td>
<td>27+</td>
<td></td>
</tr>
<tr>
<td>b. alcohol</td>
<td>0 - 10</td>
<td>11 - 26</td>
<td>27+</td>
<td></td>
</tr>
<tr>
<td>c. cannabis</td>
<td>0 - 3</td>
<td>4 - 26</td>
<td>27+</td>
<td></td>
</tr>
<tr>
<td>d. cocaine</td>
<td>0 - 3</td>
<td>4 - 26</td>
<td>27+</td>
<td></td>
</tr>
<tr>
<td>e. amphetamine</td>
<td>0 - 3</td>
<td>4 - 26</td>
<td>27+</td>
<td></td>
</tr>
<tr>
<td>f. inhalants</td>
<td>0 - 3</td>
<td>4 - 26</td>
<td>27+</td>
<td></td>
</tr>
<tr>
<td>g. sedatives</td>
<td>0 - 3</td>
<td>4 - 26</td>
<td>27+</td>
<td></td>
</tr>
<tr>
<td>h. hallucinogens</td>
<td>0 - 3</td>
<td>4 - 26</td>
<td>27+</td>
<td></td>
</tr>
<tr>
<td>i. opioids</td>
<td>0 - 3</td>
<td>4 - 26</td>
<td>27+</td>
<td></td>
</tr>
<tr>
<td>j. other drugs</td>
<td>0 - 3</td>
<td>4 - 26</td>
<td>27+</td>
<td></td>
</tr>
</tbody>
</table>

*Further assessment and more Intensive treatment may be provided by the health professional(s) within your primary care setting, or, by a specialist drug and alcohol treatment service when available.

(Humeniuk et al., 2010)
Appendix 3.

The CAGE questions

The CAGE questionnaire, the name of which is an acronym of its four questions, is a widely used screening test for problem drinking and potential alcohol problems. Two "yes" responses indicate that the possibility of alcoholism should be investigated further.

The questionnaire asks the following questions:

1. Have you ever felt you needed to Cut down on your drinking?
2. Have people Annoyed you by criticizing your drinking?
3. Have you ever felt Guilty about drinking?
4. Have you ever felt you needed a drink first thing in the morning (Eye-opener) to steady your nerves or to get rid of a hangover?

The CAGE questionnaire has been validated for use in identifying excessive alcohol consumption, with one study determining that CAGE test scores ≥2 had a specificity of 76% and a sensitivity of 93% for the identification of excessive drinking and a specificity of 77% and a sensitivity of 91% for the identification of dependence on alcohol.

(Ewing, 1984)
Appendix 4.

Alcohol Use Disorders Test shortened version (AUDIT C)

This is one unit of alcohol...

...and each of these is more than one unit

### AUDIT – C

<table>
<thead>
<tr>
<th>Questions</th>
<th>Scoring system</th>
<th>Your score</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you have a drink containing alcohol?</td>
<td>Never</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Monthly or less</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2 - 4 times per month</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2 - 3 times per week</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4+ times per week</td>
<td>4</td>
</tr>
<tr>
<td>How many units of alcohol do you drink on a typical day when you are drinking?</td>
<td>1 - 2</td>
<td>5 - 6</td>
</tr>
<tr>
<td></td>
<td>7 - 9</td>
<td>10+</td>
</tr>
<tr>
<td>How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?</td>
<td>Never</td>
<td>Less than monthly</td>
</tr>
<tr>
<td></td>
<td>Monthly</td>
<td>Weekly</td>
</tr>
<tr>
<td></td>
<td>Daily or almost daily</td>
<td></td>
</tr>
</tbody>
</table>

**Scoring:**

A total of 5+ indicates increasing or higher risk drinking.

An overall total score of 5 or above is AUDIT-C positive.

/Public Health England, 2013/
Appendix 5.

Alcohol, Smoking and Substance Involvement Screening Test (ASSIST-Lite)

**Instructions**: These questions ask about psychoactive substances in the **PAST 3 MONTHS ONLY**

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes [1]</th>
<th>No [0]</th>
<th>Cut-off = 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Did you smoke a cigarette containing tobacco?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1a Did you usually smoke more than 10 cigarettes each day?</td>
<td>Yes [1]</td>
<td>No [0]</td>
<td></td>
</tr>
<tr>
<td>1b Did you usually smoke within 30 minutes after waking?</td>
<td>Yes [1]</td>
<td>No [0]</td>
<td>Tobacco score: _ [0–3]</td>
</tr>
<tr>
<td>2 Did you have a drink containing alcohol?</td>
<td>Yes [1]</td>
<td>No [0]</td>
<td>&gt; No: Skip to Q3</td>
</tr>
<tr>
<td>2a On any occasion, did you drink more than 4 standard drinks of alcohol?:</td>
<td>Yes [1]</td>
<td>No [0]</td>
<td></td>
</tr>
<tr>
<td>2b Have you tried and failed to control, cut down or stop drinking?</td>
<td>Yes [1]</td>
<td>No [0]</td>
<td></td>
</tr>
<tr>
<td>2c Has anyone expressed concern about your drinking?</td>
<td>Yes [1]</td>
<td>No [0]</td>
<td>Alcohol score: _ [0–4]</td>
</tr>
<tr>
<td><em>1 standard drink is about 1 small glass of wine, or one can of medium strength beer, or one single shot of spirits</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Did you use cannabis?</td>
<td>Yes [1]</td>
<td>No [0]</td>
<td>&gt; No: Skip to Q4</td>
</tr>
<tr>
<td>3a Have you had a strong desire or urge to use cannabis at least once a week or more often?</td>
<td>Yes [1]</td>
<td>No [0]</td>
<td></td>
</tr>
<tr>
<td>3b Has anyone expressed concern about your use of cannabis?</td>
<td>Yes [1]</td>
<td>No [0]</td>
<td>Cannabis score: _ [0–3]</td>
</tr>
<tr>
<td><em>Cut-off = 2</em></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### FEASIBILITY OF SBI IN THE ED

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Cut-off</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Did you use an amphetamine-type stimulant, or cocaine, or a stimulant medication not as prescribed?</td>
<td>Yes [1] No [0]</td>
<td>&gt; No: Skip to Q5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4a</td>
<td>Did you use a stimulant at least once each week or more often?</td>
<td>Yes [1] No [0]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4b</td>
<td>Has anyone expressed concern about your use of a stimulant?</td>
<td>Yes [1] No [0]</td>
<td>Stimulant score: _ [0–3]</td>
<td>Cut-off = 2</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Did you use a sedative or sleeping medication not as prescribed?</td>
<td>Yes [1] No [0]</td>
<td>&gt; No: Skip to Q6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5a</td>
<td>Have you had a strong desire or urge to use a sedative or sleeping medication at least once a week or more often?</td>
<td>Yes [1] No [0]</td>
<td>Sedative score: _ [0–3]</td>
<td>Cut-off = 2</td>
<td></td>
</tr>
<tr>
<td>5b</td>
<td>Has anyone expressed concern about your use of a sedative or sleeping medication?</td>
<td>Yes [1] No [0]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Did you use a street opioid (e.g. heroin), or an opioid-containing medication not as prescribed?</td>
<td>Yes [1] No [0]</td>
<td>&gt; No: Skip to Q7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6a</td>
<td>Have you tried and failed to control, cut down or stop using an opioid?</td>
<td>Yes [1] No [0]</td>
<td>Opioid score: _ [0–3]</td>
<td>Cut-off = 2</td>
<td></td>
</tr>
<tr>
<td>6b</td>
<td>Has anyone expressed concern about your use of an opioid?</td>
<td>Yes [1] No [0]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Did you use any other psychoactive altering substance?</td>
<td></td>
<td>Not scored – but prompts further assessment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note that this is the Australian national guideline shown as an example.

Source: (Ali et al., 2013)
### Appendix 6.

#### SBI in ED Literature Review Table

<table>
<thead>
<tr>
<th>Authors, year</th>
<th>Objectives/substance</th>
<th>methods/Design</th>
<th>main findings</th>
<th>screening tool</th>
<th>sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic ED SBIRT Research Collaborative, 2007</td>
<td>determine the impact of a SBIRT program in reducing alcohol consumption among ED patients. ED provider initiated SBIRT. Alcohol.</td>
<td>Quasiexperimental comparison group design. 3 mth F/U.</td>
<td>intervention group: 3.25 fewer drinks per week than control. Max drinks per occasion 3/4 drink less. Thirty-seven percent of those who received the intervention reported they no longer exceeded low-risk drinking limits compared with 19% of the control group</td>
<td>National Alcohol Screening Day screening form adapted for emergency medicine</td>
<td>1132 enrolled, 581 control, 551 intervention, 699 followed up</td>
</tr>
<tr>
<td>Akin, Johnson, Seale, Kuperminc. 2014</td>
<td>This study uses data from an ED-based SBIRT program to examine the relationship between screen-positive rate, ED patient flow, and SBIRT service delivery</td>
<td>Data derived from weekly reports from one hospital’s electronic record. Measures included time and day of entry, screen result, and if the patient was reached by SBIRT specialists.</td>
<td>56% of screen-positive patients received SBIRT. 5% of patients offered SBIRT refused. Day and time of entry had a significant interaction effect on the reached rate (F12,14166 =3.48, P b .001). Although patient volume was lowest between 11 PM and 7 AM, screen-positive rates were highest during this period, particularly on weekends; and patients were least likely to be reached during these periods.</td>
<td>3 item screening tool</td>
<td>67137</td>
</tr>
<tr>
<td>Armstrong, Barry. 2014.</td>
<td>Assess feasibility of SBI. Alcohol.</td>
<td>Feasibility study.</td>
<td>94% of people agreed to be screened. 36% required BI. 9% required specialist referral.</td>
<td>M-SASQ Modified Single Alcohol Screening Question (Q 3 from AUDIT)</td>
<td>944</td>
</tr>
<tr>
<td>Authors, year</td>
<td>Objectives/substance</td>
<td>methods/Design</td>
<td>main findings</td>
<td>screening tool</td>
<td>sample</td>
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</tr>
<tr>
<td>Boudraux, Haskins, Harralson, Bernstein. 2015.</td>
<td>Examines the feasibility of a new Remote Brief Intervention and Referral to Treatment (R-BIRT) model (telehealth). Alcohol and other drug.</td>
<td>Exploratory Study. 1 &amp; 3 mth F/U.</td>
<td>Acceptance rate of 40%. Feedback and satisfaction ratings were generally positive. Completion rates were 58% overall, with patients enrolled into a model wherein the consultation occurred during the ED visit, as opposed to after the visit, much more likely to complete a consultation, 90% vs. 10%.</td>
<td>Identified by treating clinician as drinking above low risk limits.</td>
<td>50</td>
</tr>
<tr>
<td>Cherpitel, Korcha, Moscalewicz, Swiatkiewicz, Ye, Bond. 2010.</td>
<td>12 mth outcomes of an SBI study. Screen only compared to assessment and intervention patients. Alcohol.</td>
<td>RCT. 12 mth FU.</td>
<td>No difference was found at 12 months in at-risk drinking as the primary outcome variable with all 3 groups showing a significant reduction. Intervention group reduced drinking days per week and drinks per occasion.</td>
<td>RAPS 4. Rapid Alcohol Problems Screen.</td>
<td>1913</td>
</tr>
<tr>
<td>Woodruff, Eisenberg, McCabe, Clapp, Hohman. 2013.</td>
<td>Assess the effect of the California SBIRT service program (i.e., CASBIRT) on 6 substance-use outcomes (past-month prevalence and number of days of binge drinking, illegal drug use, and marijuana use). Alcohol and other drug.</td>
<td>Single group pre post. 6 mth F/U.</td>
<td>Reductions in all 6 drug-and alcohol-use outcomes. Men (versus women), those at relatively higher risk status (versus lower risk), and those with only one substance of misuse (versus both alcohol and illicit drug misuse) tended to show more positive change.</td>
<td>ASSIST</td>
<td>2436</td>
</tr>
<tr>
<td>Authors, year</td>
<td>Objectives/substance</td>
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<tr>
<td>The InSight Project Research Group</td>
<td>addresses alcohol and drug use for patients admitted over a 39-month period to a single hospital where SBIRT services are standard. Alcohol and other drug.</td>
<td>A sample of consenting patients who were positive and received services was followed up at 6 mths. Using an intent-to-treat (ITT) protocol.</td>
<td>Drug use and heavy alcohol use were found to decrease substantially from admission to follow-up. This finding holds good for all levels of drug or alcohol misuse severity, with the highest severity patients showing the largest decreases</td>
<td>AUDIT and DAST 10.</td>
<td>59760</td>
</tr>
<tr>
<td>Mdege, Watson. 2013.</td>
<td>Systematic Review of studies on SBI. To see if there are differences between primary care and hospital based studies that could explain observed differences in effectiveness. Alcohol.</td>
<td>Systematic Review.</td>
<td>The following factors were statistically significant predictors of study setting: number of sessions, exclusion of very heavy/dependent drinkers and gender composition of study samples.</td>
<td>Various.</td>
<td>76 studies.</td>
</tr>
<tr>
<td>Fahy, Croton, Voogt. 2011.</td>
<td>Describes the first 2 yrs of implementing SBI in an Australian rural hospital. SBI project aims were to screen all presentations, to provide BIs to people screening at medium risk of harm from drinking and enhanced referral for persons screening at high risk. Alcohol.</td>
<td>Universal SBI was trialled for 2 years and the implementation discussed.</td>
<td>In 2007 and 2008 85% of presentations screened at low risk of alcohol-related problems, 11% at medium risk and 4% at high risk. Policy and planning bodies and hospital management’s support and the appointment of a dedicated project worker are critical to successful SBI implementation</td>
<td>AUDIT</td>
<td>11076</td>
</tr>
<tr>
<td>Authors, year</td>
<td>Objectives/substance</td>
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</tr>
<tr>
<td>Cherpitel, Ye. 2008.</td>
<td>To assess the association between health service utilisation and alcohol/drug misuse in the general population. Alcohol and other drug.</td>
<td>The prevalence and predictive value of alcohol misuse and drug use on ER and primary care use was analyzed on respondents from the 2005 National Alcohol Survey.</td>
<td>ED users were more likely to be positive for problem drinking and greater than monthly illicit drug use compared to non-ED users. Problem drinkers were twice as likely, and those reporting greater than monthly drug use were almost twice as likely to report ER use.</td>
<td>Results of National Alcohol Survey.</td>
<td>6919</td>
</tr>
<tr>
<td>Cunningham, Harrison, McKay, Mello, Sochor, Shandro, Walton, D'Onofrio. 2010.</td>
<td>To describe SBI practices in Eds and characterize ED directors' attitudes and perceived barriers associated with these practices among injured patients in the ED. Alcohol.</td>
<td>ED directors were surveyed about current alcohol screening and intervention practices in the ED, as well as knowledge, attitudes, and perceived barriers to these practices.</td>
<td>65% Support screening. 70% support intervention. 15% have formal SBI in their ED. Biggest barriers are time and finances.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Authors, year</td>
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<tr>
<td>Daippen, Gaume, Brady, Yersin, Calmes, Givel, Gmel. 2007.</td>
<td>To evaluate the effectiveness of BI in reducing alcohol use among hazardous drinkers treated in the ED after an injury and whether assessment of alcohol use without BI is sufficient to reduce hazardous drinking. Alcohol.</td>
<td>RCT. 12 mth FU.</td>
<td>10-15-minute BAI does not decrease alcohol use and health resource utilization in hazardous drinkers treated in the ED, and demonstrates that commonly found decreases in hazardous alcohol use in control groups may not be attributable to screening.</td>
<td>men aged under 65 years who drank &gt; 14 drinks per week or five drinks on a single occasion in the past 30 days, or men aged over 65 years and women who drank &gt; seven drinks per week or four drinks on a single occasion in past 30 days. Then AUDIT.</td>
<td>5136</td>
</tr>
<tr>
<td>Darnell, Dunn, Atkins, Ingraham, Zatzick. 2015.</td>
<td>See if trauma center providers can be trained to provide higher quality counseling using MI as part of brief interventions for alcohol and whether MI skills can be maintained over time. Alcohol.</td>
<td>Secondary analysis of a 20-hospital, cluster-randomized implementation trial focusing on practical issues of training and supervising alcohol SBI providers in MI.</td>
<td>Routine trauma center providers who receive MI training can deliver higher quality counseling in alcohol brief interventions, but may not, however, attain previously derived proficiency standards.</td>
<td>N/A</td>
<td>40 providers.</td>
</tr>
<tr>
<td>Dent, Weiland, Philips, Lee. 2008.</td>
<td>To evaluate the feasibility and efficacy of routine opportunistic SBI by ED staff. Alcohol.</td>
<td>Blinded RCT. 12 mth F/U.</td>
<td>BI nor MI was better than SC in reducing high-risk alcohol consumption. Uptake of opportunistic screening by ED staff was poor, as was patient compliance with off-site counselling.</td>
<td>Paddington Alcohol Test.</td>
<td>468</td>
</tr>
<tr>
<td>Authors, year</td>
<td>Objectives/substance</td>
<td>methods/Design</td>
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<tr>
<td>Desy, Perhats. 2008</td>
<td>examine ED nurse training needs and identify both barriers to, and enablers of, SBIRT in the ED. Alcohol.</td>
<td>Site coordinators were surveyed at the midpoint and end of the 6-month implementation study period. Patient data from each facility was collected.</td>
<td>The SBIRT process can be conducted successfully by emergency nurses. However, substantial operational barriers to widespread routine implementation exist</td>
<td>NIAAA, CAGE.</td>
<td>2 ED's.</td>
</tr>
<tr>
<td>Desy, Howard, Perhats, Li. 2010</td>
<td>To find out if patients who get SBI from nurses in ED have reduced alcohol consumption and alcohol related injuries. Alcohol.</td>
<td>Quasiexperimental. Intervention group received BI and referral. Using medical and driving history records, subjects' alcohol consumption, alcohol-related traffic incidents, repeat injuries, and repeat ED visits were compared between groups. 3 mth F/U.</td>
<td>Alcohol consumption decreased by 70% in the intervention group compared to 20% in the usual care group. Drinking frequency also decreased in both groups. Fewer patients from the intervention group (20%) had recurring ED visits</td>
<td>NIAAA, CAGE.</td>
<td>91</td>
</tr>
<tr>
<td>D'Onofrio, Degutis. 2010</td>
<td>Evaluate the effects of an ED SBI programme.</td>
<td>Descriptive program evaluation.</td>
<td>SBI was successfully integrated into a US urban ED when given funding for SBI workers.</td>
<td>NIAAA, CAGE.</td>
<td>N/A</td>
</tr>
<tr>
<td>Authors, year</td>
<td>Objectives/substance</td>
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</tr>
<tr>
<td>D'onofrio, Fiellin, Pantalon, Charwarski, Owens, Degutis, Busch, Bernstein, O'connor. 2012.</td>
<td>If ED practitioner-performed SBI reduces alcohol consumption compared with standard care; and the impact of research assessments on drinking outcomes using a standard care-no-assessment group.</td>
<td>Patients randomised to receive standard care, screening only, or SBI with or without telephone booster. Randomised clinical trial.</td>
<td>Reduction in mean number of drinks in the past 7 days from baseline to 6 and 12 months was significantly greater in the BI with booster and BI groups.</td>
<td>NIAAA.</td>
<td>889</td>
</tr>
<tr>
<td>D'Onofrio, Pantalon, Degutis, Fiellin, Busch, Chawarski, Owens, O'Connor. 2008.</td>
<td>To determine the efficacy of ED practitioner-performed BI for hazardous/harmful drinkers in reducing alcohol consumption and negative consequences in ED.</td>
<td>Randomised Clinical Trial. 6 &amp; 12 mth F/U.</td>
<td>No difference in efficacy between emergency practitioner-performed BI and Discharge Instructions</td>
<td>NIAAA.</td>
<td>494</td>
</tr>
<tr>
<td>Field, Caetano. 2010.</td>
<td>To evaluate the effectiveness of MI in reducing alcohol dependant status.</td>
<td>RCT comparing effectiveness of MI between dependant and non dependant patients.</td>
<td>BMI is more beneficial among patients with alcohol dependence who screen positive for an alcohol-related injury.</td>
<td>DSM 4 criteria.</td>
<td>1336</td>
</tr>
<tr>
<td>Gwaltney, Magill, Barnett, Apodaca, Colby, Monti. 2011.</td>
<td>To find out when the effects of SBI in the ED emerge and decline. Alcohol.</td>
<td>Used daily alcohol consumption data from a calendar-assisted interview (Timeline Followback) to examine the timing and course of SBI treatment effects.</td>
<td>There were no treatment effects in the time between the initial intervention session and a 3-month booster session. Significant effects emerged after the 3-month booster.</td>
<td>AUDIT.</td>
<td>198</td>
</tr>
<tr>
<td>Authors, year</td>
<td>Objectives/substance</td>
<td>methods/Design</td>
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</tr>
<tr>
<td>Indig, Copeland, Conigrave, Rotenko. 2009.</td>
<td>Examine ED staff attitudes and beliefs about alcohol-related ED presentations in order to recommend improved detection and brief intervention strategies.</td>
<td>Survey conducted at two inner-Sydney hospital Eds.</td>
<td>many staff lack the confidence or sense of clinical responsibility to fully and appropriately manage ED patients with alcohol-related problems. ED staff appear to require additional training, resources and support to enhance their management of patients with alcohol-related problems.</td>
<td>N/A</td>
<td>78</td>
</tr>
<tr>
<td>Johnson, Woychek, Vaughan, Seale. 2013.</td>
<td>Describe the results of integrating brief substance abuse screens into an urban ED's triage process.</td>
<td>3 single item screening questions were programmed into the electronic triage tool used in the ED.</td>
<td>97% screening obtained.</td>
<td>3 questions at triage.</td>
<td>151597</td>
</tr>
<tr>
<td>Kaiser, Karuntzos. 2015.</td>
<td>To provide information about workflow in different medical care settings involving SBI. Alcohol and other drugs.</td>
<td>Observational timing and descriptive analysis of workflow processes. Qualitative.</td>
<td>Analyses suggest limited variation in the overall workflow processes across settings.</td>
<td>N/A</td>
<td>59 practitioners. 21 sites.</td>
</tr>
<tr>
<td>Leontieva, Horn, Haque, Helmkamp, Ehrlich, Williams. 2005.</td>
<td>Is baseline readiness to change (pre-contemplation, contemplation, preparation, and action stages) predictive of change in drinking after ED SBI. Alcohol.</td>
<td>SBI and 3 mth follow up. Results compared to baseline stages of change. Retrospective.</td>
<td>Compared with pre-contemplation patients, those in the contemplation stage were nearly twice as likely to reduce their alcohol-related harm and those in the preparation stage were more than twice as likely to reduce their dependency symptoms</td>
<td>AUDIT.</td>
<td></td>
</tr>
<tr>
<td>Authors, year</td>
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<tr>
<td>Lotfipour, Howard, Roumani, Hoonponsimano nt, Chakravarthi, Anderson, Weiss, Cisneros, Dykzeul. 2013.</td>
<td>Assess effectiveness of computerised screening compared to screening by the triage nurse in ED. Alcohol.</td>
<td>Retrospective review of database.</td>
<td>Computerised screening detected significantly more at risk drinkers.</td>
<td>AUDIT.</td>
<td>5835</td>
</tr>
<tr>
<td>Love, Greenberg, Brice, Weinstock. 2008.</td>
<td>Implement an effective SBI programme for ED. Alcohol.</td>
<td>Prospective cohort pilot study. 6 mth F/U.</td>
<td>Implementation was successful. Decrease in drinks per week and per occasion.</td>
<td>CAGE.</td>
<td>251</td>
</tr>
<tr>
<td>Mello, Smith, Baird, Nirenberg, Dinwoodie. 2009.</td>
<td>Develop, implement, and evaluate the adoption of a model of SBI that would be integrated into a community hospital ED. Alcohol.</td>
<td>Implementation study over 1 yr.</td>
<td>Implementation was successful but many barriers existed.</td>
<td>AUDIT.</td>
<td></td>
</tr>
<tr>
<td>Mello, Longabaugh, Baird, Nirenberg, Woolard. 2008.</td>
<td>Evaluate effectiveness of telephone delivered BI for motor vehicle crash injured patients after ED discharge. Alcohol.</td>
<td>RCT. 3 mth F/U.</td>
<td>Patients with higher AUDIT scores reduced drinking and alcohol impaired driving.</td>
<td>AUDIT.</td>
<td>285</td>
</tr>
<tr>
<td>Monti, Barnett, Colby, Gwaltney, Spirito, Rohsenow, Woolard. 2007.</td>
<td>Establish Efficacy of ED SBI with young adults. Alcohol.</td>
<td>2 group RCT. 6 &amp; 12 mth F/U.</td>
<td>Twice as many MI participants reliably reduced their volume of alcohol consumption from baseline to 12 mths.</td>
<td>AUDIT.</td>
<td>198</td>
</tr>
<tr>
<td>Authors, year</td>
<td>Objectives/substance</td>
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</tr>
<tr>
<td>Murphy, Bijur, Rosenbloom, Bernstein, Gallagher. 2013.</td>
<td>Assess feasibility of implementing computerised SBI in an ED. Alcohol.</td>
<td>Feasibility study.</td>
<td>Accurately provided alcohol risk education to patients 100% of the time. Acceptable to staff and patients.</td>
<td></td>
<td>517</td>
</tr>
<tr>
<td>Slain, Rickard-Aasen, Pringle, Hegde, Shang, Johnjulio, Venkat. 2014.</td>
<td>Study including SBI into nursing workflow. Alcohol and other drug.</td>
<td>Retrospective, observational cohort analysis.</td>
<td>Screening and e documentation were feasible but BI more challenging.</td>
<td></td>
<td>47693</td>
</tr>
<tr>
<td>Walton, Goldstein, Chermack, McCammon, Cunningham, Barry, Blow. 2008.</td>
<td>Examines moderators of outcomes among ED patients who participated in a RCT of a BI. Alcohol.</td>
<td>Regression models examined interaction between intervention and moderator variables; stage of change, self-efficacy, acute alcohol use, attribution of injury to alcohol.</td>
<td>Individuals who attributed their injury to alcohol and received advice had significantly lower levels of average weekly alcohol consumption and less frequent heavy drinking from baseline to 12-month follow-up</td>
<td></td>
<td>575</td>
</tr>
<tr>
<td>Weiland, Dent, Phillips, Lee. 2008.</td>
<td>Evaluate ED staff and patient attitudes to SBI in the ED.</td>
<td>Qualitative. Structured and Semi structured interviews.</td>
<td>ED SBI is acceptable to most patients and staff.</td>
<td></td>
<td>69 patients. 15 staff.</td>
</tr>
<tr>
<td>Authors, year</td>
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</tr>
<tr>
<td>Zatzick, Donovan, Jurkovich, Gentilello, Dunn, Russo, Wang, Zatzick, Love, McFadden, Rivara. 2014.</td>
<td>Determine if US ED intervention targeting both providers and patients would lead to higher-quality SBI compared with no implementation enhancements. Alcohol.</td>
<td>Cluster randomised trial. 6 &amp; 12 mth F/U.</td>
<td>ED providers can be trained to deliver higher-quality SBI than untrained providers, which is associated with modest reductions in alcohol use problems.</td>
<td>AUDIT.</td>
<td>878</td>
</tr>
<tr>
<td>Kool, Smith, Raerino, Ameratunga. 2014.</td>
<td>To explore the acceptability, appeal, and appropriateness of delivering BI via text message.</td>
<td>Mixed methods survey, semi structured interviews, purposively sampled group of trauma patients.</td>
<td>Patients recognise the potential benefits and have given feedback to inform development of an intervention. A majority of patients interviewed would enrol in a text BI service.</td>
<td>Alcohol Advisory Council of NZ guidelines.</td>
<td>30</td>
</tr>
<tr>
<td>Sharpe, Shepherd, Kool, Whittaker, Nosa, Dorey, Galea, Reid, Ameratunga. 2015.</td>
<td>To pre test and refine content of a text message BI prior to evaluation by RCT.</td>
<td>In depth interviews with trauma patients and consultation with Māori and Pacific groups.</td>
<td>Factors identified as important were: reducing the complexity of message content and structure; increasing the interactive functionality of the text message programme; ensuring an empowering tone to text messages; and optimising the appropriateness and relevance of text messages for Māori and Pacific.</td>
<td></td>
<td>15 patients</td>
</tr>
</tbody>
</table>
Appendix 7

Intention to Treat Graphs

Two graphs demonstrating differences between intention to treat and longitudinal analysis in study by Woodruffe et al., (2013)

**p<0.01
***p<0.001
(Woodruff et al., 2013)
Appendix 8.

Modified-Single Alcohol Screening Question (M-SASQ)

TO BE COMPLETED BY CLINICAL STAFF

Screening procedure
For the following question - 1 standard drink = 1 unit of alcohol, an indication of standard drinks is provided in the diagram below.

One Standard Drink is

- Half pint of regular beer, lager or cider
- 1 small glass of wine
- 1 single measure of spirits
- 1 small glass of sherry
- 1 single measure of aperitifs

The following quantities of alcohol contain more than 1 standard drink

- Pint of Regular Beer/Lager/Cider
- Pint of Premium Beer/Lager/Cider
- Alcopop or can/bottle of Regular Lager
- Can of Premium Lager or Strong Beer
- Can of Super Strength Lager
- Glass of Wine (175ml)
- Bottle of Wine

Please place a cross in the relevant box.

MEN: How often do you have EIGHT or more standard drinks on one occasion?
WOMEN: How often do you have SIX or more standard drinks on one occasion?

Never □  Less than monthly □  Monthly □  Weekly □  Daily or almost daily □

Scoring the M-SASQ

If the patient's response is 'Monthly', 'Weekly' or 'Daily or almost daily' the score is M-SASQ positive.

If their response is 'Never' or 'Less than monthly' the score is M-SASQ negative.

Please indicate the result of the screening procedure by placing a cross in the appropriate box below.

Positive □  Negative □

If the result is negative thank the patient, terminate the interview and store the survey securely, to be collected by research staff.

If the result is positive explain the study to the patient, provide an information sheet and request written consent.

Is the patient willing to provide written informed consent? Yes □  No □

If yes continue with the consent details overleaf.

If no terminate the interview and store the survey securely, to be collected by research staff. Remember to provide the patient with a Patient Information Leaflet.

Participant ID: □□□□□□□□  PHC M SASQ NONT 12MAR08
(office use only) □□□□□□□□  4745194307

(Public Health England, 2013)
Appendix 9.

Emergency Department Longsheet

<table>
<thead>
<tr>
<th>Patient Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMPORARY TRIAGE LABEL</td>
</tr>
<tr>
<td>UPDATED PATIENT LABEL</td>
</tr>
</tbody>
</table>

**Emergency Department Longsheet**

### Adult ED / ADU Assessment

<table>
<thead>
<tr>
<th>Date:</th>
<th>Time:</th>
<th>Name:</th>
<th>Sign:</th>
</tr>
</thead>
</table>

#### TRIAGE PRESENTATION

<table>
<thead>
<tr>
<th>TRIAGE CODE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airway</td>
<td>No Patient or immediate death</td>
<td>In Risk of Sudden death</td>
<td>Patient</td>
<td>Patient</td>
<td>Patient</td>
</tr>
<tr>
<td>Breathing</td>
<td>Excessive Extremity pain</td>
<td>Severe Words only</td>
<td>Moderate Short sentences</td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Circulation</td>
<td>Tachycardia &lt; 80 or &gt; 100</td>
<td>Tachypnea</td>
<td>Rapid or of 150 or 150</td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Disability  (GCS)</td>
<td>GCS 9 or 10</td>
<td>9-13</td>
<td>13-15</td>
<td>16-15</td>
<td>16-15</td>
</tr>
<tr>
<td>Pain Score</td>
<td>Severe</td>
<td>7-10</td>
<td>Moderate 4-6</td>
<td>Mild</td>
<td>None</td>
</tr>
<tr>
<td>Neurovascular</td>
<td>Severe</td>
<td>4-6</td>
<td>Moderate</td>
<td>Ill</td>
<td>Ill</td>
</tr>
<tr>
<td>Eye and vision</td>
<td>Chemosis or papilledema</td>
<td>Sudden visual loss</td>
<td>Normal</td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Mental Health</td>
<td>Wernicke's encephalopathy</td>
<td>Agitated</td>
<td>Agitated</td>
<td>Agitated</td>
<td>Agitated</td>
</tr>
</tbody>
</table>

Best Care Bundle initiated:

- **MRO Screen**: Admitted or worked in overseas Healthcare facility in last 6 m → Screen and Isolate
- **Infection Alert**: MRSA, ESBL, VRE → Red, Green
- **Infectious Contacts**: None
- **Isolation**: Airborne, Droplet, Contact, None
- **Wristband applied**: Values: Patient, Family, Safe, Labelled property bag

Issue Date: August 2013
**History and Examination**

**Past Medical History**
- Asthma
- Cardiac
- COPD
- Diabetes Type 1
- Diabetes Type 2
- Epilepsy
- Hypertension
- Pacemaker
- Psychiatric
- Renal
- Stroke / TIA
- On Warfarin
- Nil or note

**Allergies:**
- Nil Known

**Sensitivities:**

**Medications**
- See Pharmacy Yellow card
- See GP Letter
- None

**Social History**

**NOK Contact:**
- Relationship:

**Phone:**
- Notified
- Yes
- No

**Smoking:**
- Smoker
- Non-smoker
- Offered:
  - NRT
  - Patch
  - Lozenges
  - Declined

**SFV:**
- Screen:
  - Yes
  - No
  - D
- Referred:
  - Yes
  - No
  - Our Pt:
  - Yes
  - No

**Procedures**

<table>
<thead>
<tr>
<th>Type</th>
<th>Date / Time</th>
<th>Site</th>
<th>Size</th>
<th>Sign</th>
<th>Bloods sent to lab</th>
<th>Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV Cannula</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>O &amp; H</td>
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<td>Culture</td>
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<td>Coag</td>
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<td>Urine collect</td>
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<td></td>
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<td>Catheter</td>
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<td>MSU</td>
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<td>Urine test</td>
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<td>NAD</td>
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<td></td>
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<td>Leucocytes</td>
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<td>Nitrites</td>
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<td>Protein</td>
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<td></td>
<td></td>
<td>Ketones</td>
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<td></td>
<td></td>
<td>Glucose</td>
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<td></td>
<td></td>
<td>Blood</td>
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<td></td>
<td></td>
<td>HCG</td>
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<td></td>
<td></td>
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<tr>
<td>Other</td>
<td></td>
<td>X-ray</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>EGG</td>
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</tbody>
</table>

**Other:**

*Issue Date: August 2013*
FEASIBILITY OF SBI IN THE ED

First Name: ___________________ Gender: ___________________
Surname: ___________________

AFFIX PATIENT LABEL HERE
Date of Birth: ___________________ NHI#: ___________________
Ward/Clinic: ___________________ Consultant: ___________________

Risk Assessment and Interventions

- Falls
  - Red wristband
  - Soothe
  - Physiotherapy referral
  - No risk
  - Pain
  - Unsteady
  - Hx of falls
  - Walking aid
  - Bed rails
- Moving & Handling
  - Hesit
  - Assist
  - Supervise
  - Independent
  - HABI card completed
- Delirium
  - Normal
  - Risk of harm
  - Watch around
  - Independent
  - Orientation to TPP done
- Pressure
  - Age > 70
  - $ mobility
  - Full skin check
  - Requires taping
  - Poor skin integrity
  - Pressure Injury present
  - Skin clean and dry
- Other interventions
  - Family informed
  - 15/60
  - Call bell accessible
  - Visible bed space

Date / Time

Comments

Sign

Discharge / Transfer Checklist

- Self Discharge
- Transfer
- Destination
- Discharge letter
- Prescription
- Instructions
- Follow up
- Referred sent

Transit: [ ] RN [ ] Dr Name: ___________________

[ ] Luer removed

Discharge Time: ___________________

Issue Date: August 2013
### NEWS Score

<table>
<thead>
<tr>
<th>Level</th>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-18</td>
<td>Low</td>
</tr>
<tr>
<td>1</td>
<td>19-24</td>
<td>Moderate</td>
</tr>
<tr>
<td>2</td>
<td>25-29</td>
<td>High</td>
</tr>
<tr>
<td>3</td>
<td>30+</td>
<td>Extreme</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever or chills</td>
</tr>
</tbody>
</table>
| 25% or more)

### Initial Observations

- **BP**: 120/80 mm Hg
- **Heart Rate**: 80 bpm
- **Resp Rate**: 12 breaths per minute
- **Temp**: 37.2°C
- **Glucose**: 80 mg/dL
- **O2 Sat**: 98%

### Pain Score

- **NEWS Score**: 1
- **Pain Score**: 2
- **O2 Sat**: 98%
- **Cardiac Rhythm**: Normal
- **Glucose**: 80 mg/dL

### Pupil Scale (mm)

- **Right Eye**: 4 mm
- **Left Eye**: 4 mm

### Motor Response

- **Eyes**: Open
- **Motor**: Normal
- **GCS**: 15

### Neurological Assessment

- **Arms**: Right: 5/5, Left: 5/5
- **Legs**: Right: 5/5, Left: 5/5

### Additional Observations

- **No Response** 1
- **Severe weakness** 3
- **Mild weakness** 2
- **Normal power** 4

### Initial Assessment

- **Consultant**
- **Date of Birth**: 12/03/1980
- **NH#**: 1234567890

---

**Trol**

**Issue Date:** August 2013
Appendix 10.

Nurse Questionnaire

Study of the feasibility of the Implementation of ASSIST-Lite linked Alcohol and Drug Screening and Brief Intervention into Emergency Department Practice Baseline and Demographics Questionnaire

Instructions  This is a self-completed questionnaire.

- Please answer all questions. Do not leave blank spaces.
- Please tick the circles.
- Please write numbers in the boxes.
- Please write long answers on the lines provided. If you require more room please continue on a separate piece of paper.

1. Assessment Details
Date of Assessment

| | | b 0 1 5 |

day month year

2. Participant Details
Date of Birth

| | | | |

Sex
Male ○ Female ○

Self-identified Ethnicity?
New Zealand Māori ○
New Zealand European ○
Filipino ○
Indian ○
Cook Island Māori ○
Tongan ○
Samoan ○
Chinese ○
Fijian ○
Other, Please specify

____________________
3. Employment
Approximately how long have you worked in an Emergency Department?
- [ ] Less than 2 years
- [ ] 2-5 years
- [ ] 6-10 years
- [ ] 11-15 years
- [ ] More than 16 years

What is your current position?
- [ ] Discharge Co-ordinator
- [ ] Clinical Nurse Specialist
- [ ] Charge Nurse
- [ ] Registered Nurse Level 2
- [ ] Registered Nurse Level 3
- [ ] Registered Nurse Level 4

4. Screening and brief interventions
What do you see is your role in the management of alcohol and drug use in the Emergency Care patients you see?
- [ ] I don’t believe I have a role
- [ ] Screening for alcohol and drug use
- [ ] Screening and interventions for alcohol and drug use
- [ ] Referral onto alcohol & drug services
- [ ] I don’t see alcohol and drug use as relevant
- [ ] Other (please specify) ______________

Generally how confident do you feel about addressing the issue of alcohol and drug use with your patients? Please place a mark on the line that best represents how confident you feel.

Not at all confident                      Very Confident
__________________________________________

General Comments:
Do you think that screening and brief interventions should become part of routine clinical practice in the Emergency Department (*tick one only*)

Yes  No

Why?

General Comments:

---

Thank you for answering these questions
Once completed, please hand this questionnaire back to the researcher.
Appendix 8.

Patient participant information form

Information for patient Participants

Research Project Title

Emergency Department Screening and Brief Intervention for Heavy and Hazardous Use of Substances: A feasibility study

Synopsis of project

Heavy use of alcohol and/or other drugs is a major health problem in New Zealand. Screening and Brief Intervention (SBI) is a method of identifying people with heavy use of alcohol/drugs and providing those people with a single brief counseling session lasting between 3 and 15 minutes.

SBI has been shown by research over the past 30 years to reduce some peoples drug/alcohol use for up to one year, which can mean improved health and reduced visits to the Emergency Department.

What we are doing

During this month, we are asking all patients between ages 18 and 80 if they would like to participate in research to see if we are able to provide SBI to patients in the Emergency Department.

What it will mean for you

Participation in this project involves filling out a screening questionnaire about alcohol/drug use. If, as a result of these questions, you may be putting your health at risk by use of alcohol or drugs, you will receive the counselling session and offered information about Community Alcohol and Drug Services. There is no obligation to follow up with any other services including this hospital. If the screening questions show that you are not at risk there is no
further action. If you do not use alcohol or drugs we would still like you to fill out the screening questionnaire because it is also useful for us to find out how many patients do not use alcohol or drugs.

Any information you provide about specific alcohol and/or drug use will not be recorded in your notes. What will be recorded in the notes is whether or not you received a screening and if the screening showed that you might be at risk of alcohol/drug related harm, and if you received an intervention. All information you provide will be kept confidential unless you state an intention to seriously harm yourself or another person in which case a registered nurse is obliged to tell someone else (usually your doctor). Any information that may be given about any use of illegal drugs is **strictly confidential** and will not be given to anyone else under any circumstances. The screening form will be returned to you following the screening.

If you feel too unwell to participate in the research, or don’t want to for any reason at all please just tell the nurse. This is perfectly OK.

If you agree to participate, you will be asked to sign a consent form. This does not stop you from changing your mind if you wish to withdraw from the project. However, because of our schedule, any withdrawals must be done within 2 weeks after we have interviewed you.

Your name and information that may identify you will be kept completely confidential. All information collected from you will be stored on a password protected file and only you, the researcher and two supervisors will have access to this information.

If you require Māori cultural support talk to your Whanāu in the first instance. Alternatively you may contact the administrator for He Kamaka Waiora (Māori Health Team) by telephoning 09 486 8324 ext. 2324.

Please contact me if you need more information about the project. At any time if you have any concerns about the research project you can contact my supervisor:

My supervisor is Dr Lucy Patston, phone 815 4321 ext. 8404 or email lpatston@unitec.ac.nz

For further information or questions please contact the researcher
Kylie Travers RN
021596885
Kylie.Travers@waitematadhb.govt.nz
Appendix 9.

Patient participant consent form

Participant Consent Form

Emergency Department Screening and Brief Intervention for Heavy and Hazardous Use of Substances: A feasibility study

I have had the research project explained to me and I have read and understand the information sheet given to me.

I understand that I don't have to be part of this research project should I chose not to participate and may withdraw at any time prior to the completion of the research project.

I understand that everything I say is confidential and none of the information I give will identify me and that the only persons who will know what I have said will be the registered nurse, the researcher and her supervisor. I also understand that some of the information that I give (whether or not I receive an intervention, where I was in the ED, and which nurse was looking after me) will be stored securely on a computer at Unitec for a period of 5 years.

I understand that I can see the finished research document.

I have had time to consider everything and I give my consent to be a part of this project.

Participant Name: …………………………………………………………………….......

Participant Signature: ………………………….. Date: ……………………………

Project Researcher: ……………………………. Date: ……………………………

HDEC number 14/NTB/195
Appendix 13.

Detailed Quantitative Data Collection Notes

During the data collection month the primary investigator went into the ED on a daily basis. The electronic Patient Information Management System was accessed to develop a list of all the patients who had attended the ED on each preceding day. Also accessed was the ED Daily Staffing List, which is a list that records the area of the department where each nurse was working and at what times.

It was decided to look at the times each of the participant nurses were working and then electronically access the ED record for every patient who was in the department during the hours of work of any of the five staff nurse participants. The details of any patients seen by the one Clinical Nurse Specialist and two Discharge Coordinators had to be collected differently due to their different ways of working. From the electronic record the primary investigator identified any patients whose age was within eligibility range, and who were in the work area of any nurse participant. Patients were excluded if they had arrived in the nurse participant’s area of work within 15 minutes of the end of the nurse participant’s shift, because there would be very little possibility of the nurse participant having time to do SBI. The details of all patients thus identified were entered into a password protected excel spreadsheet.

The next thing to be accessed was the ED “five day box” which is a row of boxes where the charts of all patients who are discharged from the ED within the past five days are temporarily stored. The names and National Health Index numbers of the patients on the spreadsheet who had been discharged from ED (as opposed to being admitted to a ward or another hospital) were matched up with their charts in the five day box. The charts were then examined to see if they had been eligible for SBI and if any of the components of the SBI had been done. The results of this audit were also recorded on the excel spreadsheet. At the end of the data collection month it was realised that data had not been collected for the patients who were already in the nurses areas when they started their shift. Due to the possibility that this could be a significant number, it was decided to go back and include these patients. The primary investigator, therefore, accessed the Patient Information Management System to examine the ED record of every patient who had been in the department for the six hours preceding the start of every shift of every participating staff
nurse. Details were recorded for all the patients who were still in a nurse participant’s area of work for at least 15 minutes after the start of the nurse participant’s shift. One exception was the 2:30 pm – 11 pm afternoon shift, for which it was decided to only include patients who were still in a nurse participant’s area of work at 3:15 pm. The reason for this exception is because even though the shift officially starts at 2:30 pm nurses take afternoon tea break prior to starting work, then have handover, and may not actually start patient care activities until 3pm.

The reason for the decision to examine the records of patients who had been in the nurse participants areas of work for the six hours preceding the start of the nurse participant’s shift, is the Ministry of Health six hour target for patients to be in and out of ED. Any patient who is in ED for longer than six hours is recorded in a “Breach Report” by the charge nurses on every shift. The next task, therefore, was to access the Breach Report and check whether any of the patients who were in the ED for more than six hours were in any of the nurse participant’s areas of work during their shifts. Details of these patients were also recorded.

For the one nurse participant who was a Clinical Nurse Specialist data was collected differently. It was decided to access Reporting Services on the DHB intranet and produce a report where it was shown which patients were seen by which individual doctor or Clinical Nurse Specialist. From there it was possible to generate a report of all the patients that the participating Clinical Nurse Specialist had seen during the data collection month. Details of these patients were exported to an excel spreadsheet. Following this, it was necessary to then access every patients ED record on the Patient Information Management System and remove all those patients who fell outside of age or area eligibility criteria.

Two of the nurse participants are Discharge Coordinators and they keep their own record of all the patients they see. Access to the Discharge Co-ordinator list was arranged, and the same procedure thereafter followed as for the Clinical Nurse Specialist list. Next an additional Excel spreadsheet (password protected) was created of the National Health Index numbers of all the patients on the initial Excel spreadsheet for whom the ED longsheet had not been sighted and audited. This second spreadsheet was forwarded to the Clinical Records Department at North Shore Hospital as per prior arrangement.

The records were gradually pulled by clinical records staff over a period of seven months. Every patients ED long sheet was checked by the primary investigator to record if the
patient was eligible, and if any of the components of SBI took place. This analysis has generated descriptive numerical data about the frequency of the SBI components, the numbers of eligible versus ineligible patients, and allows for a description of the sample in terms of gender, age, and ethnicity.

Nurses were requested to indicate on the ED longsheet if a patient was ineligible for medical reasons. The data of patients who were deemed to be ineligible for medical reasons was then not included in eligible patients data. To speed up this process a stamp was provided with an eligibility tick box. In many cases, especially on busy shifts, the charts contained no SBI documentation. For those charts with no SBI documentation, the primary investigator read through the chart to see if there was a documented reason for the patient to be obviously ineligible. Some real examples are: “still in pain 10/10 post 20mg IV morphine” “moved to resus due to bleeding” and “angry about waiting time, self-discharged, security involved”. Patient records were then cross checked with the names of patients who had filled in consent forms. Any patient who had consented was considered to be eligible. Any patient who had no documented reason not to be screened was considered to be eligible.
Appendix 14.

Nurse Participant Consent form

Feasibility study of ASSIST-Lite linked Alcohol and Drug Screening and Brief Intervention in Emergency Department Practice

Participant Consent Form

Researcher: Kylie Travers RN. Supervisors: Dr Lucy Patston, Dr David Newcombe, Dr Elizabeth Niven.

- I have participated in training day with Dr David Newcombe and have been assessed as competent in SBI.
- I have had the opportunity to discuss this study with Kylie Travers and I am satisfied with the answers I have been given.
- I understand that taking part in this study is voluntary (my choice), and that I may withdraw from the study at any time, and this will in no way affect my employment with Emergency department, WDHB.
- I have had time to consider whether to take part in the study.
- I know who to contact if I have any questions about the study.
- I understand that I will be asked to take part in an initial educational session on how to deliver screening and brief intervention to patients. Following this I will be asked to deliver screening and brief intervention for alcohol and drug use to patients over a period of 1 month.
- Once this 1 month period is over I understand that I will be interviewed by a researcher. I understand that notes will be taken during the interview and that the interview will also be audio taped and then transcribed.
- I understand that I can ask to make changes to the transcription by the end of June 2015.
- I understand that the information recorded during the interview is confidential and that no material that could identify me will be used in any reports on this study.
- I understand that no information identifying me in any way will be reported back to the organisation I work for.
- I agree that anything I say during the interview may be quoted or cited in
presentations, reports or publications arising from this research. Such quotations will be anonymous, with any potentially identifying details removed or changed.

- I understand that the audio tapes from my interview will be destroyed at the end of September 2015 and that my questionnaire, transcripts and interview notes will be stored securely with this consent form for 10 years at Unitec, and will only be accessible to the researcher’s team and will be destroyed at the expiry of the tenth year. I understand that the information will not be kept for use in any future research projects.

- I wish to receive a copy of the results of this study. 

I ____________________________ (full name) hereby consent to take part in this study.

Date: __________________________

Signature: _______________________

Contact phone number(s) for participant: __________________________

Full names of researchers: Kylie Travers
Supervisors: Dr David Newcombe, Dr Lucy Patston, Dr Elizabeth Niven

Contact phone number for researchers: Kylie Travers 021596885

Project explained by: Kylie Travers

Project role: Researcher

Approved by the New Zealand Health and Disability Ethics Committee 14/NTB/195
Appendix 15.

Information form for nurse participants

Research Project Title

Emergency Department Screening and Brief Intervention for Heavy and Hazardous Use of Substances: A feasibility study

This is study is the research component of a Masters in applied Practice thesis project.

Synopsis of project

Heavy use of alcohol and/or other drugs is a major health problem in New Zealand. Screening and Brief Intervention (SBI) is a method of identifying people with heavy use of alcohol/drugs and providing those people with a single brief counseling session lasting between 3 and 15 minutes.

SBI has been shown by research over the past 30 years to reduce some peoples drug/alcohol use, which can mean improved health and reduced visits to the Emergency Department.

The aim of the study is to assess if it is feasible for nursing staff in Waitakere Hospital to provide SBI to patients.

What we are doing

SBI provision will be trialed for one month.

What it will mean for you

Participation in this study involves attending a 4 hour SBI training session that will form part of an 8 hour study day scheduled for February 17 2015. After this study day you will be asked to give written consent to your participation in the study.
The trial of SBI will run for one month; March 2015. During this month you will be asked to provide a 1 page written ASSIST-Lite Screening form to any eligible patients you are looking after. If any patients screening shows them to be at risk of harmful substance use you may offer and provide a Brief Intervention.

It must be emphasized that SBI is only to be provided if there is time to do so without compromising your usual patient care work.

You will also be responsible for providing the patient with the Patient Information Sheet, answering any queries, and obtaining written consent.

Patient eligibility will be discussed in detail at the study day but in general we hope to provide the opportunity to participate to all patients aged 18 to 80 in the waiting room, acutes and monitored areas. Exclusion criteria will include moderate or severe pain, emotional or physical distress, chest pain and shortness of breath.

Before the trial month you will be asked to fill in a short questionnaire about your demographics and your attitudes to SBI. After the trial month at a time and place convenient to you, you will be interviewed about your experiences with SBI. The interview will be recorded and transcribed but you will not be quoted in any way that could identify you. You will be given the opportunity to view and edit your transcript.

If you agree to participate, you will be asked to sign a consent form. This does not stop you from changing your mind if you wish to withdraw from the project. However, because of our schedule, any withdrawals must be done within 2 weeks after we have interviewed you.

Your name and information that may identify you will be kept completely confidential. All information collected from you will be stored on a password protected file and only you, the researcher and two supervisors will have access to this information.

Please contact me if you need more information about the project. At any time if you have any concerns about the research project you can contact my supervisor:

My supervisor is Dr Lucy Patston, phone 815 4321 ext. 8404 or email lpatston@unitec.ac.nz
For further information or questions please contact the researcher
Kylie Travers RN
021596885
Kylie.Travers@waitematadhb.govt.nz

If you want to talk to someone who isn’t involved with the study, you can
contact an independent health and disability advocate on:

Phone: 0800 555 050
Fax: 0800 2 SUPPORT (0800 2787 7678)
Email: advocacy@hdc.org.nz

For Maori support please contact:

He Kamaka Waiora (Māori Health Team)
09 486 8324 ext. 2324.

You can also contact the health and disability ethics committee (HDEC) that
approved this study on:

   Phone: 0800 4 ETHICS
   Email: hdecs@moh.govt.nz

HDEC number 14/NTB/195
Appendix 16.

Glasgow Coma Scale

Eye Opening Response
- Spontaneous--open with blinking at baseline 4 points
- To verbal stimuli, command, speech 3 points
- To pain only (not applied to face) 2 points
- No response 1 point

Verbal Response
- Oriented 5 points
- Confused conversation, but able to answer questions 4 points
- Inappropriate words 3 points
- Incomprehensible speech 2 points
- No response 1 point

Motor Response
- Obey commands for movement 6 points
- Purposeful movement to painful stimulus 5 points
- Withdraws in response to pain 4 points
- Flexion in response to pain (decorticate posturing) 3 points
- Extension response in response to pain (decerebrate posturing) 2 points
- No response 1 point

Source: (Teasdale & Jennett, 1974)
Appendix 10.

Table of ethnicity of patient participants

Ethnicities of Patient Participants

<table>
<thead>
<tr>
<th>Self-Identified Ethnicity*</th>
<th>Number of Patient Participants</th>
<th>Positive Screens</th>
<th>Negative Screens</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Zealand European/Pakeha</td>
<td>18</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Other European</td>
<td>8</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>New Zealand Māori</td>
<td>7</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Other Asian</td>
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<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Not Stated</td>
<td>2</td>
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<td>1</td>
</tr>
<tr>
<td>Niuean</td>
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<td>1</td>
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<tr>
<td>Samoan</td>
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<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Cook Island Māori</td>
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<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Other Pacific</td>
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<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total Pacific People</td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

*As recorded on the National Health Index system.

Ethnicity data showed the patient participants to be predominantly New Zealand European/Pakeha (43.90% of the 41 total patient participants). Amongst the New Zealand European/Pakeha patient participants one third (33.33%) screened positive for harmful substance use. New Zealand Māori made up 17% of the patient participants, with five out of seven (71.43%) screening positive for harmful substance use. Pacific people were just 9.76% (four out of 41) of the sample, and of them one person screened positive for harmful substance use. The small numbers involved do limit the reliability of these findings but they do suggest that substance misuse may be a considerable problem for the New Zealand European/Pakeha and New Zealand Māori people who attend Waitakere ED. It is of note that people who identified as of New Zealand ethnicities (New Zealand European/Pakeha or New Zealand Māori) were almost twice as likely to screen positive (40% positive screens) as people who identified non-New Zealand ethnicities (Pacific, Asian, and Other European) who had a positive screening rate of 21%. This result must be interpreted with caution, however, because when ethnicity data is collected by clinical records staff, there is no
category for people of Asian or Pacific background who identify as New Zealanders. The only category for New Zealand ethnicities are New Zealand European or New Zealand Māori, hence, a person who identifies as a New Zealander but not as Māori or European will have to choose another category. This means that some Pacific and Asian people who may be born in New Zealand and/or identify as New Zealanders are included in the Asian and Pacific categories.
### Appendix 18.

#### Table of the patients’ vs screenings per day

*Number of patients presenting to ED on each day and the number of screens and the number of nurses having a shift each day*

<table>
<thead>
<tr>
<th>Date</th>
<th>Total number of patients seen in ED in 24 hours</th>
<th>Number of screens</th>
<th>Number of nurse participants in the ED</th>
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<td>138</td>
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<td>19/02/2015</td>
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<td>2</td>
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</table>
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Full name of author: __Kylie A Travers__________

Full title of thesis:

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Department of ___Health Sciences

Degree: __MAP______________________ Year of presentation ____2016_______

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