

Embedding routine alcohol screening and brief interventions in a rural general hospital

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Abstract

Issues. Alcohol screening and brief intervention approaches (SBI) are strongly supported by evidence, but few health-care facilities have successfully introduced and sustained routine SBI. **Approach.** This paper describes the first 2 years of implementing SBI in an Australian rural general hospital. The SBI project aims were to universally screen presentations to Northeast Health Wangaratta (NHW), to provide brief interventions to people screening at medium risk of harm from drinking and enhanced referral for persons screening at high risk. **Key Findings.** In 2007 and 2008, the NHW SBI project conducted 11 079 screens for alcohol use disorders using the Alcohol Use Disorders Identification Screening Test screening tool. Eighty-five per cent of persons screened at low risk of alcohol-related problems, 11% at medium risk and 4% at high risk. **Implications.** Policy and planning bodies and hospital management's support and the appointment of a dedicated project worker are critical to successful SBI implementation. **Conclusion.** It is possible to establish a SBI service in a rural general hospital setting. The NHW SBI project broadened the focus from treatment of persons with severe dependency to detection, early intervention and prevention for the larger, more easily treated, cohort of persons drinking at hazardous/harmful but non-dependent levels. The challenge for any organisation is to maintain routine SBI deployment over the long term. [Fahy P, Croton G, Voogt S. Embedding routine alcohol screening and brief interventions in a rural general hospital. *Drug Alcohol Rev* 2011;30;47–54]

Key words: alcohol-related disorders, mass screening, general hospital, therapeutics, referral and consultation.

Issues

Alcohol use disorders (AUDs) are highly prevalent—in 2007 one in 10 Australians consumed alcohol at levels considered to be harmful in the long term, one in five at levels harmful in the short term [1]. Problematic drinking contributes significantly to social problems, physical and psychological illnesses, injury and death. The social cost of alcohol abuse to Australian society for 2004/2005 was estimated at \$15.3 billion [2]. In the 10 years 1996–2005, an estimated 32 696 Australians aged 15 years and older died from alcohol attributable injury and disease [3].

While health-care systems primarily target for treatment the relatively small cohort of persons who are alcohol dependant the bulk of costs and harms associated with AUDs are attributable to the large cohort drinking at hazardous and harmful levels but without meeting criteria for alcohol dependence. Treatment for

persons with established dependence tends to be high-input and less effective, whereas treatment for persons who drink at hazardous and harmful but non-dependant levels tends to be lower input and more effective [4].

Alcohol screening and brief intervention (SBI) approaches to address hazardous and harmful drinking in primary health-care settings are now strongly supported by evidence [4–6]. However, relatively few health-care facilities have successfully introduced sustained SBI [7]. This paper outlines the processes undertaken to, and initial findings from, embedding routine alcohol SBI into a rural general hospital setting in Victoria, Australia.

Background

Spectrum of persons with alcohol use disorders. Alcohol consumption ranges on a spectrum from abstinence to

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low risk drinking, to hazardous to harmful, to dependent drinking. Babor [8] defines:

- Hazardous use as a pattern of alcohol consumption carrying with it a risk of harmful consequences to the drinker's physical or mental health.
- Harmful use as a pattern of drinking that is already causing damage to health.
- Alcohol dependence as a cluster of cognitive, behavioural and physiological symptoms characterised by a sense of compulsion, loss of control, withdrawal and tolerance.

Alcohol use disorders in general hospitals. Alcohol has a causal relationship to over 60 types of disease and injury [9]. In the 10 years 1996–2005, an estimated 813 072 Australians were hospitalised for alcohol attributable injury and disease [3]. Of the 2004/2005 \$15.3 billion social costs to the Australian community caused by alcohol misuse \$3.1 billion was attributed to road accidents caused by alcohol [2].

People who have been misusing substances are overrepresented in the patient population of general hospitals, but the role of substance misuse is often ignored when it is not the presenting problem [10]. A 2002 study to establish the prevalence of substance misuse in the general hospital inpatient population [11] found that 14% of patients tested positive for alcohol misuse. Annually in Victoria, Australia there are 24 714 inpatient hospitalisations, over 8000 emergency department presentations, over 4700 ambulance attendances in metropolitan Melbourne, 759 alcohol-related deaths and 57 road deaths attributable to alcohol abuse [12].

Screening and brief intervention responses. Screening and brief intervention responses to hazardous and harmful drinking have been in development and the subject of substantial research since the early 1980s. The World Health Organisation (WHO) Collaborative Project on Detection and Management of Alcohol-Related Problems in Primary Health Care commenced in 1982. Phase I of the WHO project delivered the Alcohol Use Disorders Identification Screening Test (AUDIT) [13]. Phase 2 trialled SBI approaches in primary care [14]. Phase 3 focused on encouraging general practitioners to incorporate SBI approaches into their routine practice [15]. Phase 4 of the project attempted country-wide strategies for implementing early identification and brief intervention in primary health care [16].

A common theme in the 12 nations who reported on Phase 4 [7] was the difficulty in engaging primary health-care practitioners in SBI approaches and in gaining Government support to further evaluate the

cost benefits of SBI approaches. A recent Cochrane review of brief interventions for heavy alcohol users admitted to general hospital wards [17] found a trend towards consuming less alcohol per week at 6 months in those who received brief interventions. A recent randomised controlled trial of the effects of brief interventions among heavy drinkers in a general hospital setting concluded that brief interventions delivered in hospital offer simple means of helping heavy drinkers to reduce their alcohol consumption [18].

In 2003 the USA's Federal Substance Abuse and Mental Health Services Administration (SAMHSA) granted \$108 million to implement Screening, Brief Intervention, Referral and Treatment (SBIRT). By early 2007 SBIRT programs had been established in 17 US states and nearly half a million patients had been screened.

In Australia, there are numerous recommendations that SBI approaches should be routine practice in general practice as well as general and emergency hospital wards [19]. Despite considerable interest in the potential of SBI approaches, a body of research [20] and the development of a range of resources to assist SBI implementation, routine SBI approaches remain rare in Australian primary health care [19,20].

Approach

Planning and implementation

Northeast Health Wangaratta (NHW) is a rural health service in Victoria, Australia, part of the Hume Region of the Victorian Department of Health (DoH). The main hospital campus, situated in the Rural City of Wangaratta, has 212 inpatient beds. NHW services 28 townships beyond the rural city boundary with a catchment of 90 000 persons and a geographic area of 42 923 km².

In 2006 Hume Region DoH provided funds to pilot a regional hospital-based SBI pilot project. A project officer was recruited in a 0.5 capacity in August 2006. The major aims of the project were to screen elective and non-elective presentations to NHW, to provide brief interventions for those screening positive for hazardous drinking and enhanced referral for persons where screening was indicative of possible dependence.

Nursing staff were chosen as the principle group to be trained to deliver SBIs due to their around the clock presence. Training packages were designed for delivery in two 30 min blocks. Package one focused on AUD prevalence, harms and screening skills. Package two addressed the skills, knowledge and attitudes required to deliver effective brief interventions for drinkers at medium risk and referral pathways for persons screening at high risk. Further education packages were

Table 1. NHW SBI Project AUDIT cut-off scores, risk categories (adapted from Babor and Higgins-Biddle [8]) and recommended responses

| AUDIT cut-off scores | Babor's risk zone | Babor's categories | NHW risk categories | Recommended response |
|----------------------|-------------------|--------------------------------|---------------------|--|
| 0–7 | 1 | Low | Low | |
| 8–15 | 2 | Hazardous | Medium | Brief intervention |
| 16–19 | 3 | Harmful drinking or dependence | High | Brief intervention |
| 20–40 | 4 | Possible dependence | | Attempt referral to specialist alcohol treatment service |

AUDIT, Alcohol Use Disorders Identification Screening Test; NHW, Northeast Health Wangaratta; SBI, screening and brief intervention.

tailored for senior clinical staff from nominated clinical units with the aim of higher level endorsement for the project. All training attempted to address stigma and to engender staff enthusiasm around the benefits of deploying early intervention and prevention strategies.

All general hospital inpatient units were considered for inclusion in the project. A universal (all persons above 16 years) rather than targeted screening methodology was adopted because the project was addressing an unknown population. AUDIT was selected as the screening tool because of its validity and utility [13,21,22].

In order to simplify clinician's decisions, a model of three risk categories—low (AUDIT score 0–7), medium (AUDIT score 8–15) and high risk (AUDIT score 16–40)—was adapted from the risk categories suggested by Babor and Higgins-Biddle [8] as being indicative of low risk, hazardous, harmful or dependant levels of drinking. All persons at medium risk (AUDIT score of 8–15) were to receive a brief intervention. Those screened as high risk (AUDIT score of 16–40) were directed to local specialist alcohol treatment services (see Table 1).

Initially nursing staff were trained in delivering brief interventions around the 'FRAMES' acronym (Feedback, Responsibility, Advice, Menu of options, Empathy, Self-efficacy); however, their feedback was that it was too difficult to reliably adhere to that structure in demanding ward environments. In response a one-page client feedback resource was developed for staff to work through with clients with high AUDIT scores. Key components of this resource are listed in Table 2. This was complemented by a 'take-home' information booklet that provided further information about alcohol use problems and a menu of options for responding to alcohol-related problems. Nursing staff fed back that this was a viable approach to deliver Brief Interventions.

The project was initiated in areas with planned patient through-put and then broadened to busier hos-

Table 2. Key components of the one-page client feedback brief interventions resource

- The resource
- Sought client's permission to feedback re the results of their AUDIT screen
- Listed in ascending order the harms associated with regular excessive alcohol use
- Provided feedback based on AUDIT score about the client's risk of experiencing these harms
- Provided advice to people with a high AUDIT score that either cutting down or stopping drinking alcohol may reduce the likelihood of these harms happening to them
- Placed the onus of responsibility for any change upon the client

AUDIT, Alcohol Use Disorders Identification Screening Test.

pital areas. NHW Accident and Emergency Department (A & ED) commenced SBI 4 months after the initial pilot sites. The initial uptake of SBI in A & ED was poor. Reasons postulated for the lower uptake in A & ED included the volatility of the workload, staff fatigue with dealing with alcohol-affected presentations and staff orientation to dealing only with the most immediate presenting problems. Strategies deployed to address these barriers included tailored education sessions, more intense input from the project officer, the appointment of an A & ED staff 'SBI champion' and obtaining funding for mobile computer terminals to reduce the burden of data entry.

Key findings

Screening

In 2007 and 2008, the NHW SBI project conducted 11 079 AUDIT screenings. Of those 9412 (85%) screened at low risk of alcohol-related problems, 1191 (11%) scored at medium risk and 476 (4%) screened at high risk. Fifteen per cent of those screened were in the medium to high-risk range (see Table 3).

Table 3. 2007–2008 NHW Alcohol AUDIT screens

| Risk level | 16–25 years | 26–35 years | 36–45 years | 46–55 years | 56–65 years | 66–75 years | 76–85 years | 86–95 years | Totals |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Females screened 2007/2008 whole of hospital | | | | | | | | | |
| Low | 336 (74%) | 515 (87%) | 661 (89%) | 917 (92%) | 975 (97%) | 1010 (97%) | 733 (98%) | 248 (99%) | 5 395 (92%) |
| Medium | 90 (20%) | 61 (10%) | 65 (9%) | 56 (6%) | 19 (2%) | 23 (2%) | 15 (2%) | 0 (0%) | 329 (6%) |
| High | 28 (6%) | 18 (3%) | 15 (2%) | 25 (2%) | 12 (1%) | 4 (<1%) | 2 (<1%) | 1 (<1%) | 105 (2%) |
| Totals | 454 | 594 | 741 | 998 | 1006 | 1037 | 750 | 249 | 5 829 |
| Males screened 2007/2008 whole of hospital | | | | | | | | | |
| Low | 160 (40%) | 267 (64%) | 453 (69%) | 565 (71%) | 751 (80%) | 958 (84%) | 678 (94%) | 185 (98%) | 4 017 (77%) |
| Medium | 166 (42%) | 111 (26%) | 150 (23%) | 102 (13%) | 137 (15%) | 158 (14%) | 36 (5%) | 2 (1%) | 862 (16%) |
| High | 73 (18%) | 41 (10%) | 50 (8%) | 129 (16%) | 44 (5%) | 24 (2%) | 9 (1%) | 1 (<1%) | 371 (7%) |
| Totals | 399 | 419 | 653 | 796 | 932 | 1140 | 723 | 188 | 5 250 |
| Males & females screened 2007/2008 whole of hospital | | | | | | | | | |
| Low | 496 (58%) | 782 (77%) | 1114 (80%) | 1482 (83%) | 1726 (89%) | 1968 (90%) | 1411 (96%) | 433 (99%) | 9 412 (85%) |
| Medium | 256 (30%) | 172 (17%) | 215 (15%) | 158 (9%) | 156 (8%) | 181 (9%) | 51 (3%) | 2 (<1%) | 1 191 (11%) |
| High | 101 (12%) | 59 (6%) | 65 (5%) | 154 (8%) | 56 (3%) | 28 (1%) | 11 (1%) | 2 (<1%) | 476 (4%) |
| Totals | 853 | 1013 | 1394 | 1794 | 1938 | 2177 | 1473 | 437 | 11 079 |

Non-bracketed figures = total clients screened; bracketed italicised figures = percentage of that age screened as low, medium or high risk. AUDIT, Alcohol Use Disorders Identification Screening Test; NHW, Northeast Health Wāngaratta.

In descending order the gender/age cohorts at highest risk of screening positive for medium risk of an AUD were:

- Males 16–25 (42%)
- Males 26–35 (26%)
- Males 36–45 (23%)
- Females 16–25 (20%)
- Males 56–65 (15%)

The gender/age cohorts at highest risk of screening positive for high risk of an AUD were:

- Males 16–25 (18%)
- Males 46–55 (16%)
- Males 26–35 (10%)
- Males 36–45 (8%)
- Females 16–25 (6%)

The gender/age cohorts at highest risk of screening positive for either medium or high risk of an AUD were:

- Males 16–25 (60%)
- Males 26–35 (36%)
- Males 36–45 (31%)
- Males 46–55 (29%)
- Females 16–25 (26%)

Tables 4 and 5 provide a breakdown of screening results by location—general hospital or A & ED. The consistently higher rates of both medium and high-risk screens in the A & ED contrasts with a finding in a recent systematic review of hospital alcohol screening studies [23] which, in the studies reviewed, identified that the prevalence of positive alcohol screens using self report tools was evenly distributed across A & ED and ward settings. The higher prevalence rates in A & ED in the NHW project underscore the priority of achieving SBI in A & ED settings despite the multiple barriers to implementing SBI in such a setting.

Brief interventions

Brief interventions were delivered to the majority of patients who screened at medium risk. A 2008, 4 month ‘snapshot’ of the uptake of brief interventions, conducted in four inpatient wards and A & ED, found that:

- In the over 26-year-old cohorts 80% accepted a brief intervention.
- In the 16- to 25-year-old cohort only 20% accepted a brief intervention.

The low percentages of people in the 16- to 25-year cohorts willing to accept a brief intervention contrasts

with their risk status and warrants attention to developing more effective strategies to engage younger people in brief interventions in hospital settings.

Referrals to specialist alcohol treatment services

Referrals to specialist alcohol treatment services—for those screened at high risk—were offered, but were up to the client to take up. Referrals were tracked in the period October 2007 to May 2009—over a third (92, 38%) of the 243 patients at high risk of alcohol-related harm accepted a referral card with contact information for a local specialist alcohol treatment service [24]. Options for more effective referral process are being considered.

Implications

The NHW project has been recognised as an example of innovative practice [25] and has demonstrated that it is possible to develop a comprehensive SBI program in an Australian rural general hospital setting. Given the challenges of implementation, uptake and sustainability, the following section briefly identifies the factors that appear to have mediated towards successful SBI implementation at NHW.

What worked?

- Central bodies (Hume DoH and NHW Executive) support, enthusiasm and targeted funding were crucial in the establishment and maintenance of the project.
- Recruitment of a dedicated project worker.
- That the project worker was a registered general nurse with established credibility and familiarity with all NHW clinical areas.
- Successful initial implementation in areas with more predictable clinical loads served as a template and springboard for implementation in more challenging clinical areas.

Benefits of the project

Evaluation at a client outcomes level requires substantial investment and was outside the scope of this project. It is clear that a substantial percentage of persons who presented to NHW received AUD screening, that people with elevated risk received brief interventions and referral was attempted for people with high risk of AUDs.

An independent evaluation of the project [24] found that 79% of nurses involved with SBI delivery perceived that the project had improved the situation for clients with alcohol problems. The evaluation found that the

Table 4. 2007–2008 NHW Alcohol AUDIT screens—general hospital and A & ED subsets

| Risk level | 16–25 years | | 26–35 years | | 36–45 years | | 46–55 years | | 56–65 years | | 66–75 years | | 76–85 years | | 86–95 years | | Totals |
|-------------------------|------------------|-----------|------------------|-----------|------------------|-----------|------------------|-----------|------------------|-----------|------------------|-----------|------------------|-----------|------------------|-----------|------------|
| | General hospital | A & ED | |
| Females screened | | | | | | | | | | | | | | | | | |
| 2007/2008 | | | | | | | | | | | | | | | | | |
| Low | 223 (74%) | 113 (73%) | 452 (90%) | 63 (67%) | 539 (89%) | 122 (88%) | 790 (93%) | 127 (84%) | 882 (97%) | 93 (88%) | 910 (97%) | 100 (94%) | 587 (98%) | 146 (95%) | 161 (100%) | 87 (98%) | 5395 (92%) |
| Medium | 62 (21%) | 28 (18%) | 34 (7%) | 27 (29%) | 53 (9%) | 12 (9%) | 45 (5%) | 11 (7%) | 14 (2%) | 5 (5%) | 19 (2%) | 4 (4%) | 9 (2%) | 6 (4%) | 0 (0%) | 0 (0%) | 329 (6%) |
| High | 15 (5%) | 13 (9%) | 14 (3%) | 4 (4%) | 11 (2%) | 4 (3%) | 11 (2%) | 14 (9%) | 5 (1%) | 7 (7%) | 2 (1%) | 2 (2%) | 0 (0%) | 2 (1%) | 0 (0%) | 1 (2%) | 105 (2%) |
| Totals | 300 | 154 | 500 | 94 | 603 | 138 | 846 | 152 | 901 | 105 | 931 | 106 | 596 | 154 | 161 | 88 | 5 829 |
| Males screened | | | | | | | | | | | | | | | | | |
| 2007/2008 | | | | | | | | | | | | | | | | | |
| Low | 87 (41%) | 73 (40%) | 197 (72%) | 70 (49%) | 317 (72%) | 136 (63%) | 411 (81%) | 154 (54%) | 575 (82%) | 176 (77%) | 782 (88%) | 176 (69%) | 519 (95%) | 159 (89%) | 135 (98%) | 50 (99%) | 4017 (77%) |
| Medium | 97 (45%) | 69 (37%) | 63 (23%) | 48 (33%) | 98 (23%) | 52 (24%) | 53 (10%) | 49 (17%) | 105 (15%) | 32 (14%) | 92 (11%) | 66 (26%) | 24 (4%) | 12 (7%) | 2 (2%) | 0 (0%) | 862 (16%) |
| High | 30 (14%) | 43 (23%) | 15 (5%) | 26 (18%) | 23 (5%) | 27 (13%) | 47 (9%) | 82 (29%) | 24 (3%) | 20 (9%) | 11 (1%) | 13 (5%) | 2 (1%) | 7 (4%) | 0 (0%) | 1 (1%) | 371 (7%) |
| Totals | 214 | 185 | 275 | 144 | 438 | 215 | 511 | 285 | 704 | 228 | 885 | 255 | 545 | 178 | 137 | 51 | 5 250 |
| females screened | | | | | | | | | | | | | | | | | |
| 2007/2008 | | | | | | | | | | | | | | | | | |
| Low | 310 (60%) | 186 (55%) | 649 (84%) | 133 (56%) | 856 (82%) | 258 (73%) | 1201 (89%) | 281 (64%) | 1457 (90%) | 269 (81%) | 1692 (93%) | 276 (76%) | 1106 (96%) | 305 (92%) | 296 (99%) | 137 (98%) | 9412 (85%) |
| Medium | 159 (31%) | 97 (28%) | 97 (12%) | 75 (31%) | 151 (15%) | 64 (18%) | 98 (7%) | 60 (14%) | 119 (8%) | 37 (11%) | 111 (6%) | 70 (19%) | 33 (3%) | 18 (5%) | 2 (1%) | 0 (0%) | 1191 (11%) |
| High | 45 (9%) | 56 (17%) | 29 (4%) | 30 (13%) | 34 (3%) | 31 (9%) | 58 (4%) | 96 (22%) | 29 (2%) | 27 (8%) | 13 (1%) | 15 (5%) | 2 (1%) | 9 (3%) | 0 (0%) | 2 (2%) | 476 (4%) |
| To Totals | 514 | 339 | 775 | 238 | 1041 | 353 | 1357 | 437 | 1605 | 333 | 1816 | 361 | 1141 | 332 | 298 | 139 | 11 079 |

Non-bracketed figures = total clients screened; bracketed italicised figures = percentage of that age & site cohort screened as low, medium or high risk. A & ED, Accident and Emergency Department; AUDIT, Alcohol Use Disorders Identification Screening Test. NHW, Northeast Health Wanganatta.

Table 5. Percentages of medium and high risk general hospital and A & ED presentations for clients under 75 years

| Cohort | Risk level | General hospital (%) | A & ED (%) |
|-----------------|-------------|----------------------|------------|
| Females | Medium risk | 5.5 | 11.6 |
| | High risk | 1.4 | 5.8 |
| Males | Medium risk | 16.7 | 24 |
| | High risk | 4.9 | 16 |
| Males & females | Medium risk | 10.3 | 19.5 |
| | High risk | 2.9 | 12.3 |

A & ED, Accident and Emergency Department.

project had a high level of success in piloting screening, in training and supporting staff in delivering SBI and in ensuring staff were comfortable and competent in appropriately referring clients to Alcohol and Other Drug (AOD) services who screen positive for alcohol dependence.

Sustainability

A dedicated project worker is a minimum requirement to successfully establish SBI practices and also necessary for SBI delivery to be sustained over time. Critical worker activities include advocacy for the initiative and serving as a clinical role model providing professional support and expertise. Staff ownership and 'buy-in' also appear crucial to sustainability.

The project has developed significant momentum and to some extent is now 'built in' to the NHW service system. Whether this is sustainable, in the absence of a dedicated worker, remains to be seen.

Conclusion

The NHW project has demonstrated that it is possible to establish a SBI service in a rural general hospital setting. Through the SBI project NHW service delivery has demonstrated a shift in focus in two significant areas. First, from conceptualising AUDs as only relevant to persons who are substantially dependent to also include the much larger, more easily treatable, cohort of clients who are drinking at hazardous/harmful but non-dependent levels. Second, a conceptual shift from responding to acute health disorders to incorporate a prevention, early intervention focus on detecting and responding to less-apparent AUDs. This shift in focus from chronic to acute harms has better informed clinical staff in their understanding of AUD presentations and the potential of evidence-based interventions.

Appointment of a dedicated project worker with established credibility and familiarity with the organisation mediates strongly towards successful implementation of such a project. The project evaluation [24]

concluded that a dedicated project worker was a necessary element for SBI project success. Similarly, the appointment of a SBI champion was critical to improving rates of SBI delivery in A & ED.

Further work is needed both around developing effective referral pathways to specialist AOD services for clients screening at high risk of alcohol-related harm and in engaging younger persons in accepting a brief intervention. Implementing SBI in high throughput areas, such as A & ED, remains a challenge. For services intent on introducing SBI procedures thought should be given to commencing SBI in areas with more predictable work loads, such as day surgery. The challenge for any organisation is to maintain routine SBI deployment over the long term.

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