

## Implementing an effective intervention for problem drinkers on medical wards

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### Abstract

Many medical inpatients have alcohol related problems but evidence of the feasibility of instituting a brief intervention is incomplete. An alcohol counsellor trained nurses on five general medical wards to screen patients routinely for alcohol problems. She counselled appropriate patients using one or two counselling sessions. Efficacy of the counselling was assessed at interview six months following the admission. We found that 19.6% of male and 4.8% of female medical patients were drinking more than 50 units (U) or 33 drinks per week (male) or 35 U or 23 drinks per week (female). Counselling, with one or two sessions led to a reduction from a median of 74 U (49 drinks) per week at admission to 26 U (17 drinks) per week at six months follow-up. A second counselling session after discharge showed no advantage over a single one administered while the patient was in the ward. The barriers to developing a successful alcohol screening and counselling service in medical wards can be overcome provided there is also adequate support and training of the ward nursing staff. © 2003 Elsevier Inc. All rights reserved.

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### 1. Introduction

People who drink excessively are high utilizers of health services [1–3] and approximately 20% of male in-patients have alcohol-related problems [4–6]. This excessive drinking often goes unrecognized because doctors fail to take an adequate drinking history [7,8] in spite of recommendations that this should be routine [9]. This failure may result from the misapprehension that little can be done for patients with alcohol-related problems [10], even though there is plenty of evidence that brief interventions are successful in reducing alcohol consumption [11–20].

Repeated reports in UK and USA have called for more effective detection and treatment of alcohol problems in the general hospital [9,21–23] but physicians' use of screening and consultative services appears to have progressed little in 20 years [24]. It has been suggested that doctors do not detect alcohol problems partly through lack of knowledge and skills [25]. However, their failure to improve detection

and increase the low rate of referral for treatment may be explained more accurately by negative attitudes, including reluctance to infringe upon the integrity of the patient and pessimism about the efficacy of brief interventions for problem drinkers [10,26]. A recent report in UK has suggested the use of alcohol liaison nurses to improve the detection and treatment of alcohol related disorders in general hospitals [27]. This is appropriate as nurses lack confidence in dealing with people who have alcohol related problems yet reveal some enthusiasm for further training [28]. It is also in line with a more general move to recognize and use the skills of nurses to supplement and improve liaison services [29,30].

This project had three aims. First, we assessed whether we could establish a brief (single session) intervention delivered to medical inpatients with problem drinking by a nurse counselor in a general hospital [20] where no such service previously existed. Second, we also wished to assess whether two sessions of counselling would lead to greater improvement than one. Third, was it feasible to train nurses to detect alcohol problems routinely? The study used a "before and after" design. In the "before" (nonintervention) phase, patients were screened but not offered counselling to

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assess the extent of change in drinking over subsequent 6 months without counselling. In the “after” phases the participants were offered a single session of counselling (phase two) or two counselling sessions (phase three) and their drinking pattern 6 months later was compared to the “before” (nonintervention) phase.

The intervention was focused on people who have moderate alcohol problems, which largely go undetected in the general hospital, rather than people with severe physical illness known to be a result of excessive alcohol.

## 2. Methods

All consecutive admissions to five general medical wards of the Manchester Royal Infirmary, a busy teaching hospital serving a predominantly deprived inner city area, were eligible for entry to the study. Patients were included in the study if they consumed more than 50 U or 33 drinks (approx. 400 g alcohol) per week (men) or 35 U or 23 drinks (approx. 280 g alcohol) per week (for women). Patients were excluded if they had: 1) chronic physical problems related to alcohol (e.g., cirrhosis); 2) current or recent contact with an alcohol service; 3) a major psychiatric illness, detected by clinical interview; 4) been admitted followed deliberate self-harm; 5) or if they were not fluent in English; or 6) had no fixed abode.

We performed a three-phase study (Fig. 1). During **Phase 1** all eligible patients admitted to the relevant wards were screened to establish baseline data on alcohol consumption. Each patient was interviewed by the alcohol counselor, to determine the level of their recent alcohol consumption using a daily drinking diary [9]. This involves asking the patient in detail about their drinking over each day in the last week and recording the total amount [9]. The patients included in this phase did not receive any further intervention and were used as a comparison group for the later intervention phases. During this time, the alcohol counselor also commenced an alcohol awareness training program for nursing staff, which continued throughout the remaining phases.

In **Phase 2**, all patients admitted to the same wards were screened in the same way using a drinking diary. This was performed either by the ward nurses or the alcohol counselor, who ensured that all patients were screened. All patients who reported levels of alcohol consumption over 50/35 U (33/23 drinks per week) received one session of counselling from the alcohol counselor during their stay on the medical ward.

In **Phase 3**, screening was only performed by the ward nurses who administered the drinking diary as a routine part of the admission procedure. Patients who reported excessive drinking (greater than 50/35 U [33/23 drinks per week]) were referred to the alcohol counselor, who offered *two* sessions of counselling. The first session took place during the index admission and the second a month later at home.

### 2.1. Screening

The screening interviews, whether conducted by the alcohol counselor or nursing staff, estimated alcohol consumption using a drinking diary, which was completed by the patient in conjunction with the nurse. The number of drinks consumed per week was converted to units using a standard checklist. The aim of this interview was to identify all men drinking more than 50 U (33 drinks) of alcohol per week and all women drinking more than 35 U (23 drinks) per week.

### 2.2. Counselling

Each session of counselling lasted approximately one hour. It was based on the stages of change model [31]. The counselling session was supplemented by patients being given written information; this was specially prepared for the project but was based on that used by Chick et al. [20]. The written information included ways of coping with craving, cutting down drinking, the stages of change model, quantity of alcohol and recommended safe drinking limits.

### 2.3. Evaluation

Evaluation of the level of drinking was made at the first assessment by the alcohol counselor. At follow-up, six months later, all patients were re-assessed at home by an independent research assistant who was blind to the results of the initial assessment. She interviewed the patients to determine their alcohol consumption using a drinking diary method identical to that used at the initial assessment.

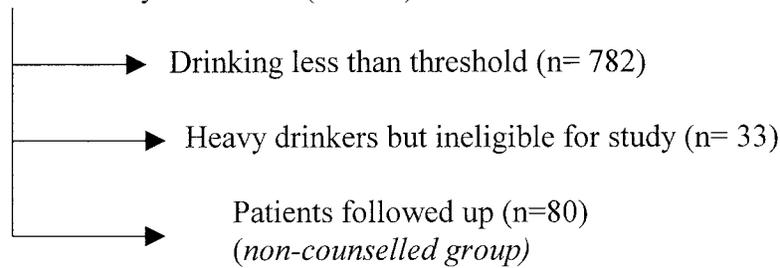
*The educational program* for nursing staff comprised informal and formal teaching. The former involved the alcohol counselor being present frequently on the wards where she could provide advice, support and specific teaching on alcohol related problems and their detection. Shortly after informal teaching had commenced staff were invited to attend more formal teaching with the alcohol counselor. This comprised either group teaching or one-to-one sessions, arranged at times convenient to ward staff. It consisted of one hour intensive ward based teaching session on alcohol awareness with the aim of:

- Increasing nurses' understanding of the importance of screening all patients for alcohol problems.
- Recording accurately an alcohol history using the drinking diary and converting amounts to units/ drinks per week.
- Increasing clinical skills in responding to someone with a drink problem.
- Gaining knowledge of specialist alcohol services which are available.

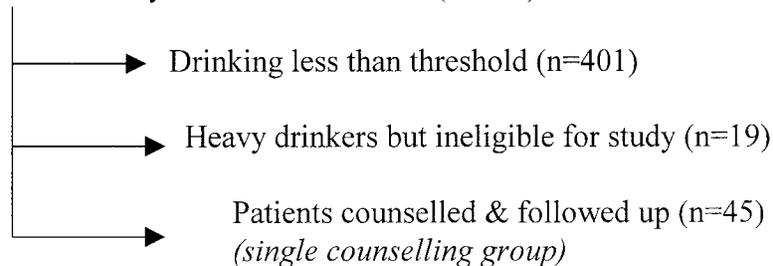
All nurses were able to gain support and advice from the

**Phase 1 Screening but no intervention**

All patients screened by counsellor (n= 895)

**Phase 2 Screening with one session of counselling**

All patients screened by counsellor or nurses (n=465)



During phases 1 & 2 together: 1360 patients were screened, 177 (13%) were heavy drinkers but 52 of these were ineligible for the study

**Phase 3 Two session of counselling**

No formal screening; each patient was asked at admission by nurses re drinking level and those above threshold referred to counsellor

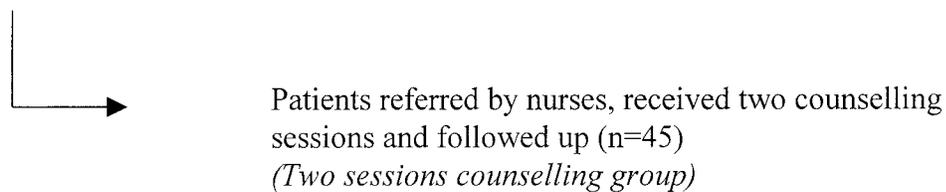


Fig. 1. Recruitment during 3 phases of the study.

alcohol counselor who was easily accessible and maintained a daily presence on the wards.

**2.4. Statistical analysis**

The number of units/drinks per week for those patients seen at both initial and follow-up evaluations were compared using the Wilcoxon test for patients within each phase.

The study received ethical permission from Central Manchester Health Authority. (ref. CM/96/053) Each patient signed a consent form for explanation of the study.

**3. Results****3.1. Patients screened and counselled**

During phases one and two of the study, 1360 consecutive in-patients were available and physically well enough to be interviewed by the alcohol counselor. Of these, 177 (13%) were drinking above the 50/35 U (33/23 drinks per week) cut-off. For male patients the proportion was 148/757 (19.6%) and for females it was 29/603 (4.8%). Of the 177 patients, 52 did not meet the eligibility criteria for the counselling study, most usually because they had chronic

Table 1  
Shows the number of subjects drinking above these limits who were recruited and completed each phase and the reasons for non-completion

	Number recruited	Number assessed at follow-up	Reasons for non-completion
Non-intervention group	80	61 (76%)	8 died 3 refused 8 changed address
One session of counselling	45	37 (82%)	1 died 6 refused 1 changed address
Two sessions of counselling	45	35 (78%)	1 died 8 refused 1 change of address

physical illness related to alcohol, they had been admitted following deliberate self harm or they lived outside the area, making follow-up impossible. All the remaining 125 patients agreed to enter the study. Of these, 80 were in Phase 1 (nonintervention group) and 45 were in the Phase 2 (single counselling session). In Phase 3, 45 patients were detected by nurses to be drinking above the cut-off and were referred to the alcohol counselor (Fig. 1).

The three groups of patients recruited during Phases 1, 2, and 3 were comparable in terms of sex ratio; 73(91%), 39 (87%) and 39 (87%) were men in the 3 groups respectively ( $P = .64$ ). The mean (SD) ages of the 3 groups were similar: 52.8 (16.6) years, 48.8 (14.9) and 56.5 (12.9), ( $P = .061$ ). The proportion of each group from lower socio-economic groups was similar: 45 (66%), 25 (66%) and 29 (64%) ( $P = .98$ ). The mean number of units (SD) per week consumed prior to hospital admission were comparable (Phase 1: 113 (sd = 142) U = 75 drinks per week, Phase 2: 134 (sd = 133) U = 89 drinks per week, Phase 3: 99 (sd = 93.7) U = 66 drinks per week ( $P = .43$ ).

The 133 patients successfully followed up were drinking 100 (sd = 71) units [67 drink per week]; the 37 not followed up were drinking 120 (sd = 141) units [80 drinks per week]. This difference was not significantly different ( $P = .42$ ). There were no significant differences between the patients followed up and those not followed-up in terms of age [mean = 53.4 years (sd = 14.7) & 49.2 years (sd = 18.1) respectively,  $P = .15$ ] or sex [10% v 18% of each were male ( $P = .18$ )].

Table 1 shows the number of patients recruited to each phase of the study and the fact that, in total, 78% of patients were successfully re-assessed at follow-up. The reasons for not being interviewed at follow-up were refusal (10%), death (6%) and changed address (6%) (Table 1). Table 2 compares baseline and follow-up alcohol consumption expressed as median units/ drinks per week. It can be seen that following counselling there was 63–68% reduction in reported alcohol consumption in the counseled groups compared to a 7% reduction in the comparison, nonintervention group.

#### 4. Discussion

This study has shown that we could establish successfully a brief intervention, delivered by a nurse alcohol counselor to medical inpatients, and that it was effective in reducing alcohol consumption six months later. The counselling led to a very considerable reduction of alcohol consumption, similar to that shown by Chick et al., who showed a reduction from 69 to 32 U (46 to 21 drinks) per week [20]; this is comparable to that achieved by counselling in primary care [13,14,18]. The counselling service was warranted as the level of problem drinking in our study was very similar to that of previous reports [4,5,20].

We had no formal way of assessing the efficacy of nurse screening but Phases 2 and 3 were of similar duration and the number of patients referred for counselling was similar. We think, therefore, that the nurses were screening effectively during Phase 3 even when the counselor was not involved in the screening process. She was available for immediate counselling during this phase.

We found no additional benefit from two sessions as opposed to one. This is probably because of the great reduction of alcohol consumption achieved with a single session of counselling; it may not be possible to improve on this result with a second counselling session. The magnitude of the reduction reported in this and previous studies reflect the fact that people with problem drinking who are inpatients in a medical ward are much more likely to be seriously contemplating changing their drinking habits than comparable people in the general population [32–34].

The alcohol counselor who set up this service had to

Table 2  
Base line and follow-up alcohol consumption for each phase (median and inter-quartile range). Statistical significance was assessed using the Wilcoxon test

	Units per week at admission		Units/Week at follow-up		Significance (p)
	Median	IQR	Median	IQR	
Phase 1 (non-intervention group) n = 80	68.5 (45 drinks)	52–105	64 (43 drinks)	46–109	0.648
Phase 2 (1 session counselling) n = 45	78 (52 drinks)	54–171	29 (19 drinks)	15–49	<0.001
Phase 3 (2 sessions counselling) n = 45	70 (46 drinks)	55–109	22 (15 drinks)	3–46	<0.001

IQR = interquartile range

work hard to overcome negative or skeptical attitudes among some of the nursing staff. She managed this through persistence and persuasion and being available on the wards to talk to staff and counsel patients immediately when required. The fact that the alcohol counselor was herself a nurse aided her acceptance by ward staff. The whole project benefited from support of senior nursing staff, who regarded this as an important development of the nurses' skills and knowledge. They supported the routine recording of weekly alcohol consumption in the nursing records. Medical staff offered encouragement but very few additional demands were made on them. The difficulties experienced by some nursing staff in asking patients about their alcohol consumption, even when this was apparently unrelated to the reason for their admission, were overcome as this became a routine part of the nurses' admission assessment.

A potential weakness of the study is that assessments of alcohol consumption were based on subjects' own estimate, using the drinking diary, rather than  $\gamma$ -glutamyltranspeptidase (GGT) [20]. In the previous study GGT supported subjects' estimates of their own consumption [20]. In this study we believe the latter measure was reasonably accurate. Estimation of alcohol intake involved a day by day estimation of alcohol consumption over the previous week. An identical procedure was used at the follow-up assessment, which was conducted by a research worker not the alcohol counselor. Incorporating a laboratory marker of alcohol consumption was beyond the scope of the study and could have interfered with the high response rate to the counselling.

The intervention was acceptable to the majority of patients as shown by the low refusal rate – this also testifies to the skills of the counselor. The follow-up rate of 76% was also high given the nature of the population; it probably reflects that fact that the participants had welcomed the intervention and realized its potential benefits.

Our study was not large enough to assess whether the intervention led to a reduction in subsequent medical admissions or A&E attendances. However it is well documented that increased alcohol consumption is associated with significant increases in healthcare utilization [1–3] and reduction of alcohol consumption leads to reduced healthcare utilization [18,19]. Our study excluded those with chronic physical problems due to alcohol and our findings cannot be generalized to this population. Brief interventions are known to be less effective for dependent drinkers than nondependent heavy drinkers; brief interventions are not an alternative to specialist services for those with more severe alcohol problems.

We conclude that brief alcohol counselling for medical inpatients who drink excessively is an effective treatment that can be widely implemented if nurses are trained as alcohol counselors and services like this are established on medical wards. Failure to do so misses an important opportunity to intervene when heavy drinkers appear to be particularly receptive to advice about reducing alcohol con-

sumption. It requires, however, that we make a "change in culture in secondary care-moving beyond treating presenting alcohol-related diseases to tackling the underlying alcohol-related problem and assume a wider role in health promotion" [21].

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