Summary
From March 2007 to April 2008 the Royal College of Nursing supported a project to improve services for people with alcohol-related problems by demonstrating and publicising the effectiveness of nursing interventions. The project team included representation from England, Northern Ireland, Wales and Scotland.
This article presents a framework that can be adapted and used by nurses to promote the development of specialist nursing services by health and social care commissioners and policy makers to improve care for people who misuse alcohol.

Author
Carolyn Mason is head of professional development, Royal College of Nursing Northern Ireland, Belfast.
Email: carolyn.mason@rcn.org.uk

Keywords
Alcohol misuse; Health education; Nursing interventions; Specialist alcohol services

A ONE-YEAR PROJECT was supported by the Royal College of Nursing (RCN) to demonstrate and publicise the effectiveness of nursing interventions, including a business case for service improvements to meet the needs of people with increased risk and high-risk drinking.

Five sites across the UK were selected: Edinburgh (Table 1), Liverpool (Table 2), Belfast (Table 3), London (Table 4) and Cardiff (Table 5). Intervention in the five sites was led by an alcohol specialist or liaison nurse, or nurse consultant. It was possible, through audit and/or research, to demonstrate positive outcomes in terms of increased attendance at follow-up appointments; reduction in ‘revolving door’ syndrome, where discharged patients present repeatedly at emergency departments; lower levels of alcohol consumption; reduced length of hospital stay; and improved understanding by hospital staff of substance-related disorders and treatments.

The original intention of the project was to draw up a minimum data set that would measure key indicators of activity and outcomes in each of the clinical sites. However, it became apparent that variations in terms of setting, structure, size and stage of development of the service, and type of target population would make this difficult. The project team therefore agreed to take a case study approach and describe in each site the service offered, target population, intervention and impact.

Alcohol-related harm
The World Health Organization (WHO 2008) ranks the UK eighth out of 193 countries for alcohol consumption. In the European Region, alcohol use has been identified as the third most important risk factor for disease burden, surpassed only by hypertension and tobacco use (WHO 2005). Worldwide, alcohol consumption causes 1.8 million deaths and 58.3 million disability-adjusted life years (DALYs), a measure of overall disease burden by combining death and disability (WHO 2004). Unintentional injuries account for about one third of the 1.8 million deaths, while psychiatric conditions account for close to 40% of the 58.3 million DALYs (WHO 2004).

The administrations governing England, Northern Ireland, Wales and Scotland have acknowledged the rising prevalence of alcohol consumption and binge drinking as a growing...
problem. In Wales, 19% of adults reported binge drinking on at least one day in the past week (Welsh Assembly Government 2007). In Northern Ireland the rate of excessive alcohol consumption is 48% in males and 35% in females (Department of Health, Social Services and Public Safety 2006). In England and Wales the annual cost of excessive drinking – in terms of alcohol-related damage to health, crime and disorder, and loss of productivity – is an estimated £20 billion per year (Prime Minister’s Strategy Unit 2004).

**Effects of alcohol misuse**

The WHO (1992) identified three categories of alcohol misuse:

1. Hazardous drinking – drinking above the recommended limits (21 units a week for men or 14 units a week for women) without current alcohol-related problems but incurring increased risk of harmful consequences.

2. Harmful drinking – a pattern of alcohol consumption that is already causing damage to health.

3. Dependent drinking – drinking associated with moderate or severe dependence.

### TABLE 1

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<th>Setting</th>
<th>Target population</th>
<th>Intervention</th>
<th>Impact</th>
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<tbody>
<tr>
<td>Major acute teaching hospital</td>
<td>All inpatients, outpatients and accident and emergency patients.</td>
<td>Team of two full-time charge nurses based in the department of psychological medicine. Mostly same-day referrals from all clinical areas and the multidisciplinary team. Activities include assessment, appropriate intervention and referral to a GP.</td>
<td>A 17% increase in inpatient referrals, from 467 to 564, between 2006 and 2007. Around 41% of inpatients received minimal intervention only. All were referred to a GP for follow up. A total of 284 of the referrals subsequently attended outpatient sessions. This represents a low non-attendance rate for an addiction service.</td>
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Contact Helene Leslie at helene.leslie@uhbt.scot.nhs.uk for more information

Unpublished data is available from the Royal Infirmary of Edinburgh

### TABLE 2

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<thead>
<tr>
<th>Setting</th>
<th>Target population</th>
<th>Intervention</th>
<th>Impact</th>
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<tr>
<td>Hospital trust (Phase 1).</td>
<td>Hospital inpatients and accident and emergency patients.</td>
<td>Hospital-based service with one alcohol specialist nurse to respond to alcohol-related referrals throughout the hospital and deliver a training programme for nurses.</td>
<td>Reduced length of hospital stay. Reduced necessity for hospital attendance and admission. Accident and emergency attendance reduced. Hospital admissions reduced. Decrease in alcohol consumption. Around 96% of patients said they had benefited from the intervention and 99% of patients said that they would prefer to speak to a nurse than a doctor. Monthly alcohol awareness training sessions demonstrate positive effects on knowledge, skills and competence.</td>
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<tr>
<td>Hospital and community (Phase 2).</td>
<td>Hospital inpatients, accident and emergency patients and users of primary care clinics.</td>
<td>Hospital-based service along with primary care clinics in GP surgeries and an outpatient clinic providing follow up, and taking acute and community referrals. Assessment and treatment for emergency cases within 24 hours.</td>
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Contact Lynn Owen at lynn.o@liverpool.ac.uk or lynn.o@liv.ac.uk for more information

Unpublished data is available from the alcohol services lifestyle team in Liverpool
Misuse of alcohol is a health and social issue. Those at risk of harm include chronic heavy drinkers, adults drinking at levels of increased and high risk at home, and children and young adults. Concern has been raised over high levels of drinking among affluent, middle class people drinking at home. It has been reported that in England a quarter of such men and women drink a hazardous amount of alcohol frequently (North West Public Health Observatory 2008).

There is a causal relationship between alcohol consumption and more than 60 types of disease and injury. Worldwide, alcohol is estimated to cause about 20-30% of oesophageal cancer, liver cancer and cirrhosis of the liver, homicide, epilepsy and motor vehicle accidents (WHO 2004). Males who misuse alcohol are twice as likely to have a stroke and females are four times more likely to have a stroke (Department of Health, Home Office, Department for Education and Skills, Department for Culture Media and Sport 2007). Furthermore, psychiatric morbidity, including clinical depression, is closely connected with heavy drinking (Health Education Authority 1997) and up to 1,000 suicides in England a year are thought to be linked to alcohol misuse (Prime Minister's Strategy Unit 2004).

Reports suggest that around half of all violent crimes in England (1.2 million violent incidents) involve alcohol misuse (Prime Minister's Strategy Unit 2004) and 17% of road deaths are the result of excessive alcohol consumption (Department of Health, Home Office, Department for Education and Skills, Department for Culture Media and Sport 2007). Alcohol misuse may also result in harm to others from, for example, domestic violence, abuse, crime and disorder, assault and social nuisance (Prime Minister’s Strategy Unit 2004).

Policy on alcohol across the UK

England, Northern Ireland, Wales and Scotland have undertaken needs assessments and produced country-specific strategies on alcohol. Common recommendations include joint action across government departments and multidisciplinary co-ordinated approaches to prevention and treatment (Prime Minister’s Strategy Unit 2004, Department of Health, Social Services and Public Safety 2006, Welsh Assembly Government 2008, Scottish Government 2009). Nurses are identified as having a major role to play in all four countries’ strategies.

The cost of alcohol misuse

Alcohol represents a significant source of employment and revenue through duty paid on alcohol sales. However, this is heavily outweighed by the cost of alcohol misuse to the UK economy, which has been estimated at around £20 billion a year in England and Wales (Prime Minister’s Strategy Unit 2004). It has been suggested that the health service in the UK accrues costs of £3 billion as a result of alcohol misuse (Williamson Consulting 2007).

In an inner city general hospital in Liverpool, one third of admissions to intensive treatment units were related to alcohol (Pirmohamed et al 2000). Furthermore, hospital admissions linked to alcohol have more than doubled in England since 1995 (NHS Information Centre for Health and Social Care 2008). Alcohol was the main or secondary cause of 207,788 NHS admissions in England in 2006/07, along with a 20% rise in the number of GP prescriptions for treating alcohol dependency in the past four years (NHS Information Centre for Health and Social Care 2008). The Welsh Assembly Government (2008) indicated that 15% of all hospital admissions in Wales were the result of alcohol intoxication. The figure is higher, however, for admissions to emergency departments. Up to 70% of all such admissions to emergency departments at peak times resulted from alcohol misuse (Prime Minister’s Strategy Unit 2004).

Nursing interventions

Nursing interventions in Edinburgh, Liverpool, Belfast, London and Cardiff are presented in Tables 1-5 respectively. These interventions range from relatively focused, acute sector screening and intervention in Belfast, Edinburgh, London and Cardiff to a hospital and community-based service in Liverpool. In each case there is clear evidence of demand for specialist alcohol nursing services and associated activity relating to nursing interventions, with a general trend towards increased activity by the alcohol specialist nurses in the project. In most instances there is evidence, through audit or a mixture of audit and research, of effectiveness and positive outcomes of nursing interventions.

The most popular intervention across these UK sample sites was the Paddington Assessment Tool (PAT). The PAT involves enquiring about the patient’s reason for attendance before asking five questions: Do you drink alcohol? What is the most you will drink in any one day? How often do you drink? Do you feel your attendance at accident and emergency is related to alcohol? Would you be willing to see the alcohol nurse specialist? Accompanying guidance assists with taking the patient’s history, identifying clinical signs of acute alcohol use, and action to be taken if the patient is unable to take the PAT, for example as a result of collapse. Any emergency doctor or nurse can
follow the PAT with brief advice, and then offer a 20-minute session with the alcohol nurse specialist (Touquet and Brown 2009). The PAT is designed for selective use with adult patients where there is a suspicion of alcohol misuse. Any male drinking more than eight units of alcohol in any one session at least once a week, or any female drinking more than six units of alcohol in any one session at least once a week, is judged to be PAT positive. Additionally, a person who believes that his or her attendance at an emergency department could be related to alcohol is identified as PAT positive. The test takes less than a minute and it has high sensitivity and specificity (Hodgson et al 2003).

In most of the sample sites, the alcohol nursing services are located in hospital premises and take referrals from hospital patients. Target populations range from relatively focused hospital inpatient populations and emergency patients, to wider hospital populations including outpatients, admission wards and paediatric emergency units. The alcohol services lifestyle team in Liverpool is distinct in that it is nurse consultant led, located in a primary care trust, and takes both acute and community referrals (Table 2). Tables 1-5 outline how each service in each sample site works.

### Effectiveness of nursing interventions

A randomised controlled trial among patients attending the emergency department at St Mary’s Hospital in London assessed the effectiveness of giving patients who were PAT positive an information leaflet, or an information leaflet plus an appointment with an alcohol health worker (Table 4). Crawford et al (2004) concluded that: ‘Opportunistic identification and referral for alcohol misuse in an emergency department is feasible, associated with lower levels of alcohol consumption over the following six months, and

### TABLE 3

**Alcohol liaison nurse at the Mater Hospital, Belfast**

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<tr>
<th>Setting</th>
<th>Target population</th>
<th>Intervention</th>
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<tbody>
<tr>
<td>Acute teaching hospital with 263 beds serving a population of 200,000 patients.</td>
<td>Hospital inpatients and accident and emergency department attendees.</td>
<td>Hospital-based service. One alcohol liaison nurse (band 7) takes referrals from all clinical areas and the multidisciplinary team, and carries out screening, assessment and treatment with referrals to GPs and the community addiction team.</td>
<td>February 2005 to February 2006: 1,009 bed days saved resulting in a saving of £237,115.  84 bed days per month saved.  February 2005 to February 2006: mean length of stay reduced from seven to 4.7 days.</td>
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Contact Gary Doherty at garyp.doherty@belfasttrust.hscni.net for more information
Unpublished data available from the Mater Hospital, Belfast

### TABLE 4

**Alcohol liaison specialist at St Mary’s Hospital, London**

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<thead>
<tr>
<th>Setting</th>
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<th>Intervention</th>
<th>Impact</th>
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<tbody>
<tr>
<td>Acute teaching hospital serving a population of 450,000</td>
<td>Accident and emergency (A&amp;E) patients, admission ward patients, paediatric A&amp;E patients.</td>
<td>1,000 plus referrals a year. A hospital-based service with one alcohol nurse specialist (band 7). Coverage: A&amp;E, paediatric A&amp;E and ward liaison. Patients receive an information leaflet and an appointment with the alcohol nurse specialist as the key intervention.</td>
<td>Increased attendance for alcohol health worker follow-up appointments (most patients now seen while in hospital).  Reduced re-attendance at the A&amp;E department.  Lower levels of alcohol consumption over the following six months (Crawford et al 2004).  Cost effective strategy (Barrett et al 2006).  Revision of the Paddington Assessment tool to the Paddington Alcohol Test 2009 (Touquet and Brown 2009).</td>
</tr>
</tbody>
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Contact Adrian Brown at ade.brown@nhs.net for more information
The first two impacts are unpublished data available from St Mary’s Hospital, London
reduces re-attendance at the department. Short-term reductions in alcohol consumption associated with referral for brief intervention of alcohol misuse benefit patients and reduce demand for accident and emergency department services. Alcohol consumption at St Mary’s Hospital, London, remained lower in the experimental group after 12 months. However, the findings are complicated by the fact that there was also a (smaller) fall in alcohol consumption among the control group that had received the leaflet but were not referred to the alcohol health worker.

Taken together, the five case studies in this project demonstrate that nursing services in the UK for people with alcohol-related problems have achieved:

- Reduced length of hospital stay.
- Reduced re-attendance at emergency departments.
- Positive effects on nurses’ knowledge, skills and competence following monthly alcohol awareness training sessions.
- Increased attendance at follow-up appointments.
- Lower levels of alcohol consumption over the six months following identification and referral in the emergency department.
- Reduced necessity for hospital attendance and admission.

The results from the St Mary’s Hospital study (Crawford et al 2004) (Table 4) suggest that the brief intervention can also result in direct cost savings. This conclusion was strengthened by follow-up research, which found that referral to alcohol health workers for the management of alcohol misuse among individuals presenting to the emergency department was a cost effective strategy in comparison with standard care (Barrett et al 2006).

The introduction of the single alcohol liaison nurse at band 7 in the Mater Hospital, Belfast, between February 2005 and February 2006 resulted in a saving of 1,009 bed days, which represents a saving of £237,115 (Table 3). This equates to 84 bed days per month saved, and a monthly saving of £19,740.

In isolation from the case studies, evidence has emerged from a detailed evaluation of indicative cost savings resulting from the introduction of two alcohol liaison nurses covering three hospital emergency departments in the Western Board in

**TABLE 5**

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<th>Setting</th>
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| Large inner city teaching hospital with 1,000 beds and an emergency unit seeing approximately 120,000 cases annually, plus one district general hospital with 480 beds. | Hospital inpatients in both hospitals and the emergency unit. Patients from hepatology or hepatitis C outpatient clinics.                                                                                       | One full-time nurse (band 7) conducting specialist assessments, onward referral and liaison with specialist substance use services, mental health services, voluntary organisations, local authority, criminal justice, primary care and homeless services. Training and education for staff in medicine, surgery, pain management, trauma and orthopaedics, neurosciences and the emergency unit. | 400 referrals in the first 12 months. Generally monthly increase in referrals.  
Around 25% of patients referred to specialist addiction services including counselling services, health organisations and residential rehabilitation.  
Other patients engaged with mental health services, homelessness and criminal justice organisations.  
Other patients received brief interventions, health advice and GP support.  
After six months, 96% attendance at hepatology or hepatitis C outpatient clinics.  
Evaluation of training programme demonstrates increased clinical knowledge and competence, and improved understanding of substance-related disorders and treatments. |

Contact Louise Poley at Louise.Poley@CardiffandVale.wales.nhs.uk for more information
Unpublished data available from the University Hospital of Wales and Llandough Hospital, Cardiff
Northern Ireland (Williamson Consulting 2007). The nurses used an intervention based on the Paddington initiative. There were an estimated 2,414 fewer attendances over the nine month period. At a cost of £100 per emergency attendance, this equates to a saving of £241,400. The approximate cost of the project over nine months was £53,000. This suggests a cost benefit ratio of 4.5:1 (Williamson Consulting 2007).

Conclusion

The aim of the RCN’s one-year project was to improve services for people who misuse alcohol by demonstrating the positive effect of specialist alcohol nursing services. Commissioners and policy makers need to be persuaded of the benefits of this type of service. It was agreed that an appropriate starting point would be the development of a business case to demonstrate efficiency and productivity of nursing interventions.

It was not possible in this project to draw up a common data set that could be used as a template for ongoing UK-wide audit, because services were organised differently in each clinical setting. This raises questions about how to find indicators for tracking any new nursing service to compare how it is working and its impact in different areas, whether across a hospital or across regions or countries. A future challenge is to build in a suggested minimum data set at the outset of any new clinical initiative.

Before producing a case for any service development, it is important to gauge the preferred approach of the recipient. Business cases often contain a few key references at the end (not indicated in any way in the text) and sometimes no references at all. Most likely, policy makers, commissioners and senior trust managers will want figures, costs and outcome measures that present the case within two or three pages.

It is likely that individuals who misuse alcohol will have their needs met most effectively by nurses who are aware of the problem, who know how to identify people who may be misusing alcohol, and who are able to refer these people for appropriate advice and support. This explains the emphasis in the case studies on training and education by specialist nurses for others. In future this is likely to involve direct face-to-face education, online awareness raising and training, or any other successful method that supports nurses in providing a proper service for this growing group of patients.

It is hoped that the information in this article will provide a framework for nurses, ideally in collaboration with patient groups and representatives, to use in support of nurse-led alcohol services. It may also have wider applicability to other specialist nursing services.

References


