

**A survey of the prevalence of smoking and smoking cessation advice
received by inpatients in a large teaching hospital in Ireland**

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Abstract

Background: The adverse effects of smoking are well documented and it is crucial that this modifiable risk factor is addressed routinely. Professional advice can be effective at reducing smoking amongst patients, yet it is not clear if all hospital in-patient smokers receive advice to quit.

Aims: To explore smoking prevalence amongst hospital in-patients and smoking cessation advice given by health professionals in a large university teaching hospital.

Methods: Interviews were carried out over two weeks in February 2011 with all eligible in-patients in Beaumont Hospital.

Results: Of the 205 patients who completed the survey, 61% stated they had been asked about smoking by a healthcare professional in the past year. Only 44% of current/recent smokers stated they had received smoking cessation advice from a health professional within the same timeframe.

Conclusions: Interventions to increase rates of healthcare professional-provided smoking cessation advice are urgently needed.

Keywords: Smoking; Tobacco use cessation; Hospitals, Teaching; Lung Diseases, Obstructive/prevention & control

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Introduction

The many adverse effects of smoking are well documented and smoking impacts on such conditions as respiratory diseases (e.g. lung cancer), cardiovascular disease or low neonatal birth weight [1]. As such it is crucial that this modifiable risk factor is adequately addressed in the routine care of patients. However, there is little data on the current prevalence of smoking amongst hospital in-patients in Ireland, other than one study from 2001 which showed a smoking prevalence of 32% (n=151) [2]. This is somewhat higher than international studies (on average 20% of in-patients) [3,4].

Healthcare professional advice to quit smoking has been shown to be effective at reducing the levels of smoking amongst patients [5,6,7], particularly if followed up with further support [8,9]. Hospitalised patient populations may be highly receptive to such advice, for example one large study revealed as many as 75% of cardiac in-patient smokers are prepared to quit [10]. Therefore, this opportunity while patients are under the care of medical teams should be used to help initiate this important risk factor control, especially as even brief advice may be effective [11].

Previous data shows that a considerable number of in-patient smokers may not be receiving advice to quit from the health professionals responsible for their care [12-14]. **For example, one Canadian study** showed that only 59% of smokers were advised to quit during hospitalisation [12], while a recent German study found that only 39% of smoking in-patients recalled being advised to quit [13]. In Ireland, the national Survey of Lifestyles, Attitudes and

1 Nutrition (SLÁN) 2007 survey found that only 38% of smokers in the general
2 population had been advised to quit smoking during a visit to their general
3 practitioner, suggesting that there is ample room for improvement [14].
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9 However, the current levels of smoking in hospitalised patients, and to what
10 extent these patients receive recommended cessation advice, is unknown.
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13 We therefore aimed to explore smoking in hospital in-patients and smoking
14 cessation advice given by health professionals in a large university teaching
15 hospital.
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21 **Methods**

22 Participants and setting

23 All eligible in-patients in Beaumont hospital were surveyed over a 2 week
24 period from the **8th to the 21st of** February 2011. Patients were excluded if
25 they were under 18 years of age, were unable to complete the interview (e.g.
26 due to patients being very fatigued), unable to provide consent, unable to
27 speak English, comatose or cognitively impaired (according to staff advice), or
28 were infected with a resistant **transmissible** organism (eg: Methicillin-
29 Resistant Staphylococcus Aureus or Vancomycin Resistant Enterococci
30 positive). Eligibility of patients was assessed by the ward managers in each
31 ward who advised which patients could be approached.
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51 Procedure

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54 **The study was given ethical approval by Beaumont Hospital Ethics**
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56 **(Medical Research) Committee.** Eligible patients were informed of the
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1 study and its purpose, and provided written informed consent. They were
2 then interviewed by one of the researchers (CB, AA). Interviews lasted
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4 around 10 minutes.
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9 **Smoking status was defined as per Table 1:**
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24 Analysis

25 Data were analysed using descriptive and inferential statistics. Student's t-
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27 test, logistic regression and χ^2 analyses were used to assess differences
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29 between groups as appropriate.
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36 **Results**

37 Response rate

38 Of 500 inpatients who were potential participants, 266 (53%) were ineligible.
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40 Ineligible patients were more likely to be older (67.6 years v 60.8 years, $t=4.12$
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42 $p<0.001$), but no difference was observed for sex ($\chi^2=1.30$, $p=0.253$).
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51 Of the remaining 234 patients who were approached about the study, 29
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53 (12%) refused to participate. Patients who refused were more likely to be
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55 older (OR=1.03, 95% CI 1.01-1.06, $p=0.013$), but no sex differences were
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57 seen (data not shown).
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2 Sample profile
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4 The profile of the current sample is shown in Table 2:
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9 Insert Table 2 about here
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16 When compared to non-smokers, current smokers were younger and more
17 likely to have had secondary rather than just primary education, **and there**
18 **was a marginally lower prevalence of smokers who had private health**
19 **insurance**, but no other differences were found. The largest sample of
20 patients was from the neurology wards at 19% of the total surveyed
21 population, while approximately 15% were on each the cardiology, general
22 surgical, oncology and renal/urology wards. The remainder of patients were
23 distributed across general medical, geriatrics, respiratory, orthopaedic,
24 haematology, ear/nose/throat and intensive care wards. **The percentage of**
25 **eligible patients in each ward specialty varied from 72% (34 of 47**
26 **patients) in the oncology wards down to 17% (6 of 35 patients) on the**
27 **respiratory wards and 0% (0 of 9 patients) in the ICU.**
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48 Smoking and attitudes to cessation advice and quitting
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51 Current smokers, former **(including recent former)** smokers and non-
52 smokers comprised 21% **(43 patients)**, 35% **(72 patients)** and 44% **(90**
53 **patients)** of the sample respectively. Of the **43** current smokers, 70% **(30)**
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1 reported smoking every day, while 33% (14) reported trying not to smoke
2 while in hospital.
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7 All 205 participants were asked whether they had been asked about smoking
8 by a healthcare professional in the past year, and 61% (143) reported that
9 they had. Smokers were asked whether they had received smoking cessation
10 advice from a health professional within the past year, and whether they
11 would like such advice while in hospital. Of the 52 responses from current or
12 recent smokers, 23 (44%) stated that they had received such advice, whereas
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22 **17 (40%) of the current smokers responded** that they would like advice.
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24 **There were no differences reported in levels of advice received by**
25 **education or working status (data not shown).**
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31 Regarding quit attempts, **19 (45%) current smokers** stated that they had
32 stopped smoking for one day or longer in the past year because they were
33 trying to quit smoking.
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41 **Smokers** were also asked about their attitudes towards quitting (Table 3):
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48 Insert Table 3 about here
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1 Overall, these results show a positive attitude towards quitting, with only the
2 statement on the difficulties in handling stress not being endorsed by the
3 majority of participants.
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9 **Discussion**

10 Our study showed a **patient-reported** smoking prevalence of 21% in an in-
11 patient population. This is lower than the 32% prevalence found by a
12 previous Irish in-patient study in 2001 [2]. The SLÁN 2007 survey
13 demonstrated a 29% smoking prevalence across the adult general population
14 [14]. **In our study, patient-reported rates** for those aged 46-54 years were
15 25% and aged 65 and over were 14%. This suggests the smoking profile of
16 the typically older in-patient profile here, as seen in an Irish hospital, was
17 perhaps not too dissimilar to the older Irish population. The figure is also quite
18 similar to the smoking prevalence reported in international studies of in-patient
19 groups [3,4,15]. **That smokers were marginally less likely to have private**
20 **health insurance is also in line with current national data on smoking**
21 **trends [14], albeit the numbers are small and should be interpreted with**
22 **caution.**
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46 Asking patients about smoking should be routine during any consultation, yet
47 only **125 (61%) of the 205** patients in our study recalled being asked about
48 smoking in the past year. This compares unfavourably to the 90% of
49 inpatients who reported being asked about smoking in a German study [13].
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51 Furthermore, smokers should always be advised to quit. However, despite
52 patients' positive attitudes towards smoking cessation advice, patients did not
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1 typically receive such advice. Indeed, just under half of smokers stated that
2 they had received cessation advice while in hospital. Compared to previous
3 studies, the 44% rate of cessation advice **reported by** smokers during their
4 hospitalisation that we found was markedly lower than that found by Senior
5 [12] but is similar to the percentage of in-patient smokers advised to quit
6 smoking by hospital physicians in Germany [13] and by smokers in the
7 general population by their general practitioners found by the SLAN 2007
8 survey [14].
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22 While this rate of cessation advice is very low, it can perhaps be partially
23 explained by the fact that only 2 out of every 5 smokers stated that they would
24 like to receive such advice while they are in hospital. This occurred despite
25 smokers having overall positive attitudes towards smoking cessation advice
26 and quitting. These results perhaps contrast to previous findings on why
27 doctors do not always discuss smoking with patients, for example one study
28 showed that professionals assume that patients are not motivated to quit [16].
29 Other reasons have also been proposed, such a lack of time and training
30 [13,17]. **Future research should investigate which of these aspects are**
31 **the most important barriers towards giving cessation advice in an Irish**
32 **setting.**
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51 Our study has a number of limitations. Results are based on patient reporting,
52 and are thus subject to the recollections and biases of each individual, **and**
53 **therefore they may be inaccurate and not demonstrate the actual rate of**
54 **advice and questioning. Selection bias was minimal as all in-patients,**
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regardless of ward specialty or reason for hospitalisation, were considered eligible until further consultation with ward managers. Unfortunately, we are unable to quantify potential bias that may have occurred during declaration of ineligibility by ward managers. For example, low numbers of recruited respiratory patients may indicate that such bias did occur. No validation of smoking status such as measurement of expired carbon monoxide [3] was carried out. We surveyed less than half of the patient population; this large number of excluded patients, which were more likely to be older, suggests that the sample is not representative of the hospital population. However, of those eligible, there was a high response rate, and these patients are those who would probably be targeted by smoking cessation interventions in everyday clinical practice.

Overall, our results show that there is a significant shortcoming in addressing the issue of smoking while patients are in contact with the healthcare services. The results herein suggest that interventions to increase rates of healthcare professional-provided smoking cessation advice are urgently needed. **Such advice would probably best come from dedicated smoking cessation staff, to ensure that all smokers receive at least brief advice on cessation. Future research should implement interventions to increase rates of smoking cessation advice given to patients, and then audit their effectiveness.**

Conflict of interest

None.

Table 1: definitions of smoking status used in the present study

Current smokers	Non-smokers		
	Recent smokers	Ex-smokers	Non-smokers
<p>-patients who have smoked at least 100 cigarettes in their life -patients who are currently regularly smoking -smoking may include use of cigarettes, cigars, pipes,</p>	<p>-patients who have smoked at least 100 cigarettes in their lives and have stopped smoking completely in the past 12 months -these patients were asked the same question addressed to current smokers regarding being advised to quit by a healthcare professional in the past 12 months</p>	<p>-patients who have smoked at least 100 cigarettes in their lives and have stopped smoking completely more than 12 months ago</p>	<p>-patients who have never in their lives smoked a minimum of 100 cigarettes and who are not smoking regularly at the time of the study</p>

Table 2: Sample description by current smoking status

	Non-smokers (n=162)	Current Smokers (n=43)	Odds ratio (χ^2)	95% CI (df)	p-value
Age, mean (SD)	62.4 (18.7)	55.0 (16.6)	0.98	0.97-0.997	0.022*
Men (%)	96 (59%)	24 (56%)	0.89	0.45-1.76	0.738
Private insurance	65 (40%)	11 (26%)	0.51	0.24-1.09	0.083
Education					
Primary (ref)	62 (38%)	9 (21%)	-	-	-
Secondary	45 (28%)	22 (51%)	3.31	1.39-7.88	0.007**
Tertiary	55 (34%)	12 (28%)	1.45	0.56-3.71	0.435
Employment status					
Working (ref)	45 (28%)	14 (33%)	-	-	-
Unemployed	34 (21%)	12 (28%)	1.10	0.45-2.68	0.830
Retired	83 (51%)	17 (39%)	0.66	0.30-1.48	0.317
Marital status					
Single (ref)	32 (20%)	10 (23%)	-	-	-
Married	86 (53%)	19 (44%)	0.71	0.30-1.68	0.433
Separated	44 (27%)	14 (33%)	1.02	0.40-2.58	0.970
Primary diagnosis/ward specialty					
Neurology	31 (19.1%)	8 (18.6%)	$\chi^2 = 6.236$	df=8	0.621
Renal/	24 (14.8%)	6 (14.0%)			
Urology	23 (14.2%)	5 (11.6%)			
Cardiology	23 (14.2%)	8 (18.6%)			
Oncology					
General	22 (13.6%)	6(14. 0%)			
Surgical					
General	10 (6.2%)	2 (4.7%)			
Medical					
Geriatric	7 (4.3%)	2 (4.7%)			
Respiratory	2 (1.2%)	3 (7.0%)			
Other	20 (12.3%)	3 (7.0%)			
Length of hospital stay in days (median, interquartile range)	8. 5 (4-27)	7 (3-14)			
Emergency admissions	63 (39%)	15 (35%)	0.84	0.42-1.70	0.545

*p<0.05, **p<0.01

Table 3: Attitudes towards quitting

	Yes	No	Unsure
Your health would improve in the short term	27 (57%)	16 (34%)	4 (9%)
Your health would benefit in the long term	34(72%)	9 (19%)	4 (9%)
You would put on weight	24 (51%)	20 (43%)	3 (6%)
It would be harder to handle stress in your life	18 (38%)	23 (49%)	6 (13%)
You would feel you had done something worthwhile	37 (79%)	9 (19%)	1 (2%)

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