

Changes in health promotion practice in hospitals across England: the National Health Promotion in Hospital Audit 2009 and 2011

Deborah J. Lee, Steven Knuckey, Gary A. Cook

Stockport NHS Foundation Trust, Stockport, UK

Address correspondence to: Deborah J. Lee, E-mail: deborah.lee@stockport.nhs.uk

ABSTRACT

Background There is increasing focus on hospitals to provide health promotion (HP) to patients who smoke, misuse alcohol, are obese or physically inactive, yet there is little published literature on assessment and HP in English hospitals.

Methods Thirty hospitals participated in national audits, both in 2009 and 2011, to assess HP in hospitalized patients. Random samples of 100 patients were selected per hospital per year.

Results Between the 2009 and 2011 audit, assessment rates increased for smoking (82 versus 86%; $P < 0.001$) and obesity (38 versus 53%; $P < 0.001$), alcohol assessments remained similar (71 versus 73%; $P = 0.123$) and physical activity assessments decreased (34 versus 28%; $P < 0.001$). Provision of HP was similar in both audits for smoking (22 versus 26%; $P = 0.17$), alcohol misuse (47 versus 44%; $P = 0.12$) and physical inactivity (43 versus 44%; $P = 0.865$), but fell for obesity (26 versus 14%; $P < 0.001$). Few hospitals met the standards for assessment and HP for each risk factor.

Conclusions Whilst patients are being assessed for most lifestyle risk factors, and despite an increased policy focus, there remains little evidence of HP practice in English hospitals. There is potential for health gain across England that could be exploited through wider provision of HP for hospitalized patients.

Keywords health promotion, health services, public health

Background

Health promotion (HP) is defined as ‘the process of enabling people to increase control over their health and its determinants, and thereby improve their health’.¹ In 2004, the World Health Organization published standards for health promotion in hospitals, recommending that all health organizations should have a policy for HP, ensure HP interventions are established in all patient pathways and systematically assess patients’ needs for HP interventions.² More recently, the Government’s strategy for public health in England emphasizes the responsibility of all healthcare organizations to deliver effective public health measures, helping the population lead healthier lifestyles,³ an approach further endorsed by the NHS Future Forum’s report aiming to ‘make every contact count’ (MECC).⁴

In England, an estimated 20% of adults smoke,⁵ 26% of men and 17% of women consume more alcohol than the recommended weekly amount,⁶ around 25% of adults are classified as obese,⁷ and 63% of men and 76% of women do not meet current national guidelines for physical activity.⁸ These lifestyle-related risk factors are causally associated with various medical problems worldwide, such as cardiovascular disease and several cancers,⁹ the burden of which falls most heavily upon those within the lowest socioeconomic status

Deborah J. Lee, Research and Projects Lead

Steven Knuckey, Public Health Intelligence, Evidence and Performance Manager, St. Helen’s Council

Gary A. Cook, Consultant Epidemiologist

groups.¹⁰ With emergency hospital admission rates positively correlated with measures of deprivation,¹¹ hospitals may be their first point of contact with a healthcare professional. By virtue of being hospitalized, the patient has healthcare needs (that may or may not be related to any current lifestyle issues) and as such may be receptive to improving their own health.¹² This opportunity means that frontline healthcare workers are in a key position to promote healthy lifestyles and contribute to public health goals directly.

Information is lacking in the literature on how well lifestyle factors are assessed in the English hospital setting and what happens subsequently to patients engaging in risky behaviours. A nine hospital audit across Greater Manchester in 2006 reported that 29% of hospital inpatients were smokers, 18% were harmful/hazardous drinkers, 30% were obese and 38% were physically inactive.¹³ Approximately 80% of inpatients were assessed for risk factors such as smoking and alcohol and <12% were assessed for obesity and physical activity. Other available research is often limited to single-site studies, offering little generalization.^{14,15} There is also a need to understand how hospital HP work is changing at a time when it is increasingly being encouraged in policy,³ but is also competing with heavy resource and financial pressures.

The National Health Promotion in Hospitals Audit was developed by the Clinical Effectiveness Unit at Stockport NHS Foundation Trust to evaluate how these risk factors were addressed in English hospitals against pre-set standards. The national audits that took place in 2009¹⁶ and 2011¹⁷ aimed to investigate the current level of assessment of smoking, alcohol misuse, obesity and physical inactivity in English hospitals and what proportions of these patients were offered or received HP. Whilst the overall findings of these audits have been published elsewhere,^{16,17} this paper reports on completion of the audit cycle amongst 30 hospitals. We compare the differences in levels of assessment and HP over that time period within those hospitals that participated in both national audits (2009 and 2011).

Methods

Participation

All acute trusts in England ($n = 167$), were invited to participate in the National Health Promotion in Hospitals Audits via written and telephone invitation. Fifty-three acute hospitals agreed to participate in 2009 and 55 in 2011, corresponding to nearly a third of the 167 acute trusts in England. Amongst these, 30 hospitals participated in both the 2009 and 2011 audits and are used in this comparative analysis.

Sampling

The audit required a random sample of 100 hospital inpatients. For the 2009 audit, selected patients were discharged between 5 January and 30 January 2009, and for the 2011 audit, patients were discharged between 1 March and 31 March 2011 (both inclusive). The inclusion criteria for selected patients were admitted for at least 1 day; discharged alive from either a medical or surgical ward and aged 17 years or older. The exclusion criteria included day cases, outpatients, patients who were neither surgical nor medical (e.g. maternity or rehabilitation patients) and patients with terminal illnesses.

Standards

The standards (Table 1), based on findings from a previous regional audit,¹³ were reaffirmed by the national steering group and were the same for both audits. These realistic (rather than ideal) standards were set for the proportion of all patients assessed for each lifestyle factor (e.g. proportion of all patients asked about smoking status) and the proportion of patients with a risk factor given HP (e.g. the proportion of obese patients who were given HP for achieving a healthy weight). HP included verbal advice, written advice and referral to an HP specialist or service.

Data

The case note audit methodology was the same for both audits; an audit proforma was developed based on the standards. A public website (www.nhphaudit.org) was created in 2008 and provided a secure login area for local trust staff to enter data and to access their summary reports via a secure database. All patients were given a unique identifier at each trust site, therefore no identifiable information was entered on the NHPHA website.

All participating hospitals were required to undertake repeat audits on 10 case notes randomly selected by the website for verification. This was done by a different auditor to compare inter-rater reliability.

Table 1 List of standards for both the 2009 and 2011 audits

<i>Risk factor</i>	<i>Assessment standard</i>	<i>HP standard</i>
Smoking	100% of patients	35% of smokers
Alcohol misuse	95% of patients	50% of hazardous/harmful drinkers
Obesity	45% of patients	45% of obese patients
Physical inactivity	35% of patients	45% of physically inactive patients

Data were downloaded from the online database, coded and analysed in SPSS (version 20).

Results

Patient demographics

A total of 30 hospitals participated in both national audits: 17 hospitals from the north of England, 3 from the midlands and 10 from the south (see Supplementary data, Figure S1). The case notes of 3000 and 2952 patients were audited in 2009 and 2011, respectively (3 hospitals in 2011 did not identify all 100 cases). The age and gender demographics of the two samples were statistically similar (see Table 2). Patients' median length of stay in hospital fell from 4 days in 2009 to 3 days in 2011 and was found to have a significantly different distribution ($P < 0.001$).

For the 2009 and 2011 case note data, the agreement between the original auditor and the independent verifier was high, averaging over 90% across key indicators and measured by Cohen's kappa co-efficient ($\kappa = 0.33$ – 1.00 and $\kappa = 0.53$ – 1.00 for 2009 and 2011, respectively), suggesting that the audited data are reliable. The main findings for each of the following risk factors are summarized in Fig. 1 and Table 3.

Smoking

In 2011, 86% ($n = 2535$) of all patients were assessed for smoking, a significant increase on the number of patients assessed in 2009 (82%; $n = 2452$; $P < 0.001$). Five hospitals showed a significant increase in assessment rates, with one hospital showing a 40% increase. However, no hospitals met the 100% assessment standard in 2011 compared with one in 2009. Where assessed, the proportion of current smokers did not change, being 24% of assessed patients in 2009 and 25% in 2011 ($P = 0.698$). Twenty-five per cent of smokers were given some form of HP in 2011 ($n = 159$), which is not

significantly different from the 22% of smoking patients in the 2009 audit ($n = 131$; $P = 0.179$). A total of seven hospitals met the 35% HP standard in 2011 compared with nine hospitals in 2009.

Alcohol misuse

Overall, 73% of patients in the 2011 audit were assessed for misuse of alcohol ($n = 2150$), which is not significantly different from the 71% assessed in 2009 ($n = 2131$; $P = 0.123$). Six hospitals showed significant increases in their assessment rate between 2009 and 2011, the largest being 48%. However, no hospitals met the 95% assessment standard in 2011 compared with one hospital in 2009. Where assessed, the rate of harmful/hazardous drinkers (measured using validated tools AUDIT-C, AUDIT, FAST, PAT) was less in 2011 than 2009 (10 and 13%, respectively; $P < 0.05$). Of which, 41% of hazardous/harmful drinkers were found to have evidence of receiving HP in 2011 compared with 47% in 2009, though the difference is not significant ($P = 0.120$). Twelve hospitals in 2011 met the 50% HP standard compared with 14 in 2009.

Obesity

Overall 53% of patients in the 2011 audit were assessed for obesity ($n = 1550$), notably above the 45% standard, representing a significant increase of 15% ($n = 1128$; $P < 0.001$). Fifteen hospitals showed a significant increase in the assessment rate for obesity and 19 hospitals met the 45% assessment standard in 2011, compared with 12 in 2009. A total of 19% of patients assessed for obesity were found to be obese (with a body mass index of 30 or higher) in 2011 and 22% in 2009 ($P = 0.130$). Fourteen per cent of obese patients were given HP in 2011 ($n = 41$), significantly less than the 26% in the 2009 audit ($n = 64$; $P < 0.001$). Only two hospitals met the 45% standard for HP for obese patients in 2011 compared with four in 2009.

Physical inactivity

Twenty-eight per cent of all patients in the audit had their physical activity history recorded in 2011, a statistically significant fall from 34% in 2009 ($P < 0.001$). Six hospitals showed a significant increase in assessment for physical inactivity; however, 13 hospitals showed a significant decrease between 2009 and 2011. Nine hospitals met the 35% assessment standard for physical inactivity in 2011 compared with 13 in 2009. Evidence of inactivity was defined as where the patient was identified as requiring HP, and 21% of assessed patients were considered inactive in 2009 and 13% in 2011 ($P < 0.001$). A total of 44% of physically inactive patients were

Table 2 Comparison of patient demographics between the 2009 and 2011 audit

Patient demographic	2009 audit ($n = 3000$)	2011 audit ($n = 2952$)	P value
Age in years, mean (SD)	62.3 (19.7)	61.8 (20.1)	$P = 0.271$
Male, n (%)	1439 (48.0)	1430 (48.4)	
Female, n (%)	1561 (52.0)	1522 (51.6)	$P = 0.714$
Length of stay in days, median (range)	4 (364)	3 (145)	$P < 0.0001$
General medicine, n (%)	1904 (63.5)	1781 (60.3)	$P = 0.13$
General surgery, n (%)	1096 (36.5)	1171 (39.7)	

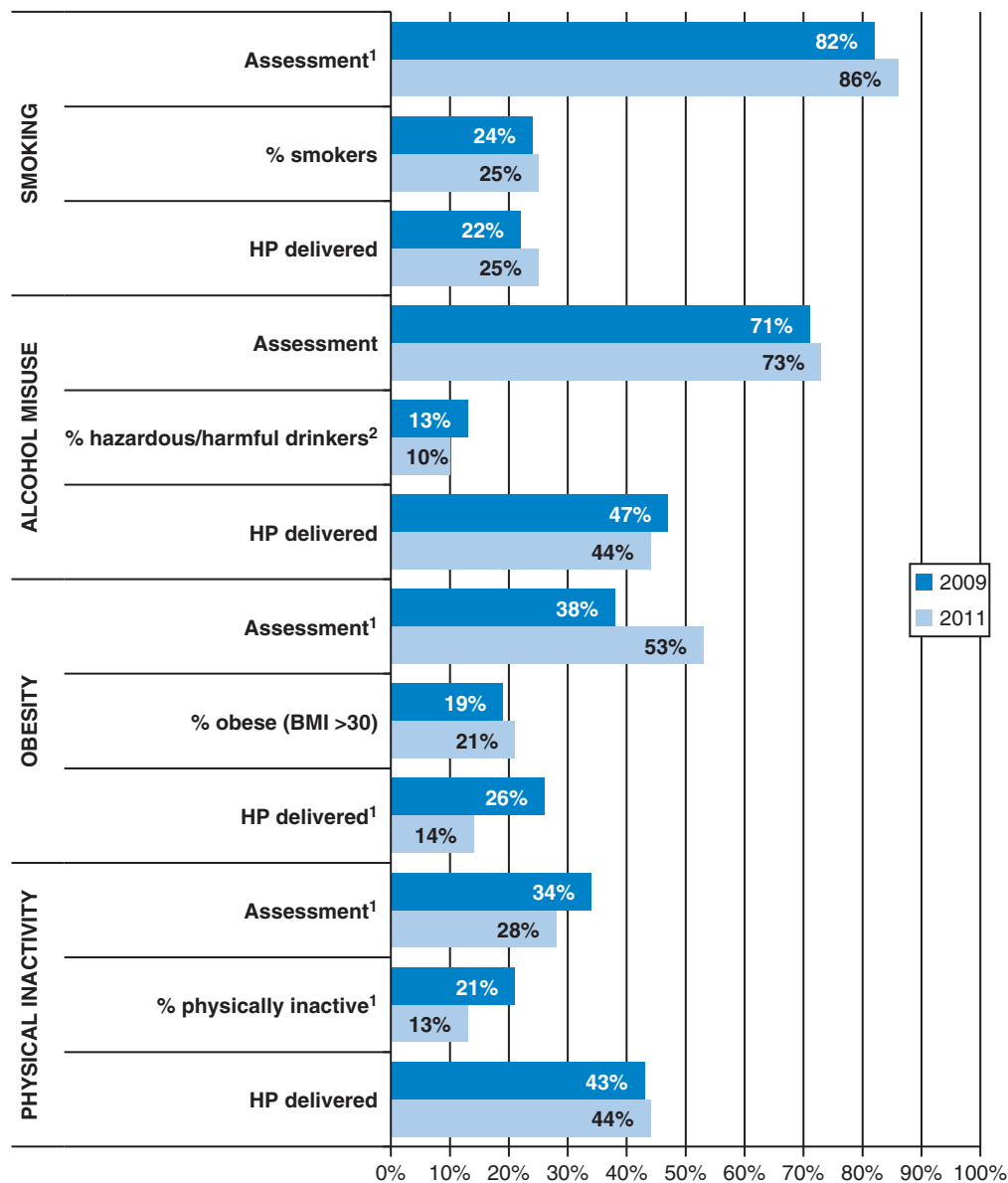


Fig. 1 Relative assessment, evidence and health promotion delivery for each lifestyle risk factor in 2009 and 2011. ¹Significant at a level of 0.001; ²Significant at a level of 0.05.

given HP in 2011 ($n = 47$) and represented a small number compared with the other lifestyle factors, but was similar to the 2009 results in the same hospitals (43%; $n = 91$; $P = 0.905$). Furthermore, 12 hospitals met the standard for HP in both audits.

Discussion

Main findings of this study

Between 2009 and 2011, patient assessment for smoking and obesity has significantly improved in the participating

hospitals (+4% and +15% respectively), whilst assessments for alcohol misuse remain unchanged, and there is a significant decrease in assessments for physical inactivity (−6%). Amongst those assessed, evidence of smoking and obesity remained at similar levels between 2009 and 2011, whereas evidence for alcohol misuse and physical inactivity showed a significant reduction. Across the two audits, differences in the proportion of patients given some form of HP fell significantly for obesity only (−13%).

Few hospitals met the set standards in both the 2009 and 2011 audits. Only the assessment of obesity showed an

Table 3 Number of hospitals meeting the set standards for assessment and HP

Risk factor	Standard	2009 audit (n = 30)			Increase/decrease between audits	2011 audit (n = 30)		
		No. of hospitals meeting standard	Min (%)	Max (%)		No. of hospitals meeting standard	Min (%)	Max (%)
Smoking	100% of patients assessed	1	48	100	↓	0	65	96
	35% of smokers given HP	9	0	100	↓	7	0	63
Alcohol	95% of patients assessed	1	38	100	↓	0	45	94
	50% of harmful/hazardous drinkers given HP	14	0	91	↓	12	0	100
Obesity	45% of patients assessed	12	2	100	↑	19	10	99
	45% of obese patients given HP	4	0	96	↓	2	0	50
Physical inactivity	35% of patients assessed	13	3	100	↓	9	1	97
	45% of physically inactive patients given HP	12	0	100	↔	12	0	100

increase in the number of hospitals achieving the standard from 12 in 2009 to 19 in 2011. Albeit encouraging, the increase in assessments for obesity has not led to an improvement in levels of HP for obese patients. Furthermore, the number of hospitals meeting all the remaining standards decreased between the audits (Table 3).

It appears that the overall acknowledgement of lifestyle risk factors through assessment in hospital is improving, but the practice of actually acting upon the identification of a risk factor through HP remains low. Therefore, the majority of patients who are identified as having any of the four risk factors are not receiving any form of HP even though this might have been simply brief verbal advice or written information. For example, 75% of smokers in hospital do not appear to receive any offer of help to address their lifestyle. Similar levels are reported for the three other risk factors.

What is already known on this topic?

Hospitalized patients view hospital as an appropriate place for the delivery of HP.^{12,18} However, qualitative and observation studies of HP practice in healthcare settings have highlighted that HP is not seen as a priority and potential opportunities to deliver HP are often missed, with nurses reporting a lack of support and being torn between disease-orientated tasks, routine work and promoting health.^{19,20} In other literature, heavy workloads, individual patient condition, lack of empowerment, training, skills, time, resources and a ward culture lacking HP are all barriers to HP reported by nurses.²¹ This may shed some light on the reasons why hospitals seem to perform poorly in the delivery of HP to patients.

Comparable research is generally lacking in the area of assessment and HP for lifestyle risk factors, and none, to our knowledge, compare performance over time. However, our findings show that proportions of assessments are higher and levels of HP are similar to findings elsewhere.^{13–15} Furthermore, the proportions of patients identified as smokers is higher than the national population estimates,⁵ yet the proportions for the remaining risk factors is lower, particularly for alcohol misuse and physical inactivity.^{6,7,8} This would suggest that there are a large number of patients who have risk factors are not being assessed and therefore not receiving the support they need to change their lifestyles.

The effectiveness of brief interventions in hospital settings have also been questioned in practice and there is evidence suggesting that delivering one-off brief interventions in the acute setting has no effect on smoking cessation, but more intensive interventions with multiple contact and follow-up are effective.²² Whilst this suggests that simple advice giving has little effect in practice, it does highlight the importance of brief interventions with hospital patients to encourage them to link in with support services offering more intensive behaviour change support. However, more research is needed regarding the effectiveness of hospital intervention for the other risk factors.

What this study adds

To our knowledge, this is the largest audit of HP practice in secondary care within the UK¹⁷ and provides valuable and unique information on how HP in hospitals is changing. It also gives the most recent picture of the level of assessment and HP offered to inpatients for smoking, alcohol misuse,

obesity and physical inactivity in a sizable minority of hospitals across England, and provides insight into the proportion of patients with lifestyle risk factors, which is likely to be useful in behavioural intervention service planning.

Limitations of this study

There are a number of potential limitations. For example, although 30 acute hospitals participated in both audits, the majority were based within the North of England ($n = 17$) and the findings may not be truly representative of a national picture. There is also a potential limitation in that those trusts who participated twice in the national audits may be expected to have more interest in HP and therefore carry out more assessments and interventions. However, further analyses have shown that whilst significant differences were found between those hospitals who chose to repeat the audit and those that did not, neither appeared to be more or less likely to have an interest in HP overall. Furthermore, data for the 2009 audit were collected from January, a time when people embark on making changes to their lifestyles. Whereas data for the 2011 audit were collected from March and this may explain some of the decrease in the number of patients receiving further support through the decline of the 'New Year' effect.

As with all case note audits, the results presented here rely on accurate and consistent recording of data between hospitals. The sample was limited in size (100 cases) and is also limited to a subset of all patients who attend hospital in whatever capacity. We have used the term 'health promotion' (HP) throughout this paper to represent documented evidence of the provision of verbal or written advice given and the offer of or referral to a lifestyle support service. It can be difficult to establish from patient case notes whether 'Health Promotion' *per se* or brief intervention had actually occurred and this needs to be born in mind when interpreting the findings. It may also be that interventions were conducted but not recorded. Furthermore, the proportions given are where the HP interventions were conducted and recorded, and they are not a proportion of all patients in the sample. Although data were collected on patient diagnosis, it was impossible to present any meaningful analysis by condition due to the sheer variability and small numbers in patient conditions. For example, there may have been a tendency to not assess patients who do not appear obviously overweight or those who have an alcohol liver disease-related admission. This may also explain the differences between the proportions of patients with lifestyle risk factors in our findings compared with national estimates. In addition, a variety of different assessment tools were used; for example, to assess alcohol misuse leading to potential differences in judgements or measures regarding increasing or higher level drinking levels.

Also it was not always clear how trusts had assessed physical inactivity and therefore the results for this lifestyle factor are less certain than for the other three.

Conclusion

The increasing focus on MECC means that HP is seen as a vital part of hospital healthcare provision.⁴ The White Paper³ was published in between the two audits and this recent drive to encourage hospitals to undertake more HP may be having a positive effect, at least in terms of assessments for smoking and obesity. This is particularly encouraging since hospitals in England are under significant pressure in terms of rising patient numbers and falling finances. However the fall in the proportion of obese patients receiving HP is discouraging. This area needs to be improved upon, since there is little point assessing these patients if they are not offered support to improve their own health. Furthermore, the standards for assessment and HP are not being met for the majority of risk factors. There remains a great opportunity for hospitals to contribute to health improvement by encouraging healthy lifestyles behaviour amongst patients who are either not assessed presently, or not given any HP.

The next challenge is to ensure that this upward trend in assessments continues, and hospitals are supported to either provide additional HP input, or direct patients to a service that meets their needs and preferences. To do this, hospitals must adopt HP ideals as core values within the organization, and front-line staff should be trained and empowered with the skills and confidence to deliver HP effectively to patients.

Ultimately though, to improve population health and reduce future healthcare burden, patients need to make actual lifestyle changes, and further research and outcome data in this area are to be welcomed.

Supplementary data

Supplementary data are available at the *Journal of Public Health* online.

Acknowledgements

We would like to thank Dr Charlotte Haynes, Katherine Lewis, Deborah Kenyon, Helen Brown and all members of the steering group for their contribution to the design, delivery, administration and evaluation of both NPHH audits. We would also like to thank all participating hospitals for contributing to the audit.

Funding

This National Audit was supported by a grant from the Department of Health.

References

- World Health Organisation. The Bangkok Charter for health promotion in a globalized world. 2005. http://www.who.int/healthpromotion/conferences/6gchp/bangkok_charter/en/ (2 October 2013, date last accessed).
- World Health Organisation. Standards for health promotion in hospitals. 2004. http://www.euro.who.int/__data/assets/pdf_file/0006/99762/e82490.pdf (18 April 2013, date last accessed).
- Department of Health. White Paper: healthy lives, healthy people: our strategy for public health in England, 2010. <https://www.gov.uk/government/publications/healthy-lives-healthy-people-our-strategy-for-public-health-in-england> (2 October 2013, date last accessed).
- NHS future forum second summary report—second phase. 2012. <http://healthandcare.dh.gov.uk/forum-report> (18 April 2013, date last accessed).
- NHS Information Centre. Statistics on smoking: England. 2012. <https://catalogue.ic.nhs.uk/publications/public-health/smoking/smok-eng-2012/smok-eng-2012-rep.pdf> (22 April 2013, date last accessed).
- NHS Information Centre. Statistics on alcohol: England. 2012. <https://catalogue.ic.nhs.uk/publications/public-health/alcohol/alco-eng-2012/alco-eng-2012-rep.pdf> (22 April 2013, date last accessed).
- NHS Information Centre. Statistics on obesity, physical activity and diet: England. 2013. <https://catalogue.ic.nhs.uk/publications/public-health/obesity/obes-phys-acti-diet-eng-2013/obes-phys-acti-diet-eng-2013-rep.pdf> (22 April 2013, date last accessed).
- NHS Information Centre. Health survey for England—2008: physical activity and fitness. Health and Social Care Information Centre, 2009. <https://catalogue.ic.nhs.uk/publications/public-health/surveys/health-surv-phys-acti-fitn-eng-2008/health-surv-phys-acti-fitn-eng-2008-rep-v2.pdf> (22 April 2013, date last accessed).
- World Health Organisation. Global status report on noncommunicable diseases 2010. 2011. http://www.who.int/nmh/publications/ncd_report2010/en/ (18 April 2013, date last accessed).
- Wanless D. Securing good health for the whole population. Final Report. London: HM Treasury, 2004.
- Reid FDA, Cook DG, Majeed A. Explaining variation in hospital admission rates between general practices: cross sectional study. *Br Med J* 1999;**319**:98–103.
- McBride A. Health promotion in the acute hospital setting: the receptivity of adult in-patients. *Patient Educ Couns* 2004;**54**:73–8.
- Haynes CL, Cook GA. An audit of health education services within UK hospitals. *J Eval Clin Pract* 2009;**15**:704–12.
- Freund M, Campbell E, Paul C *et al*. Smoking care provision in hospitals. *Nicotine Tob Res* 2008;**10**(5):757–74.
- Murray R, Leonardi-Bee J, Marsh J *et al*. Smoking status ascertainment and interventions in acute medical patients. *Clin Med* 2012;**12**(1):59–62.
- Haynes CL, Lewis K. National Health Promotion in Hospitals Audit. Final Report. Acute and Specialist Trusts, 2010. http://stockportrtdi.files.wordpress.com/2013/01/nhpha_web.pdf (18 April 2013, date last accessed).
- Knuckey S, Lewis K, Cook G. National Health Promotion in Hospitals Audit. Final Report. Acute and Specialist Trusts, 2012. <http://stockportrtdi.files.wordpress.com/2013/01/nhph-audit-report-2012-final.pdf> (18 April 2013, date last accessed).
- Haynes CL. Health promotion services for lifestyle development within a UK hospital: patient experience and views. *BMC Public Health* 2008;**8**:284.
- Wilhelmsson S, Lindberg M. Health promotion: facilitators and barriers perceived by district nurses. *Int J Nurs Pract* 2009;**15**(3):156–63.
- Casey D. Findings from non-participant observational data concerning health promoting nursing practice in the acute hospital setting focusing on generalist nurses. *J Clin Nurs* 2007;**16**(3):580–92.
- Casey D. Nurse's perceptions, understandings and experience of health promotion. *J Clin Nurs* 2006;**16**:1039–49.
- Myers K, McRobbie H, Hajek P. Smoking cessation interventions in acute and maternity services: review of effectiveness. Report to National Institute for Health and Clinical Excellence, 2012. <http://www.nice.org.uk/nicemedia/live/14306/65877/65877.pdf> (2 December 2013, date last accessed).