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# Mental health nursing and physical health care: a cross-sectional study of nurses' attitudes, practice and perceived training needs for the physical health care of people with severe mental illness

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## Abstract
Mental health nurses have a key role in improving the physical health of people with a serious mental illness, however there have been few studies of their attitudes or the extent of their involvement in this work. The aim of this study was to examine mental health nurses' attitudes to physical healthcare and explore associations with their practice and training.

A postal questionnaire survey including the Physical Health Attitude Scale for mental health nurses (PHASe) was used within a UK mental health trust. The 52% (n=585) of staff who responded reported varying levels of physical health practice; this most frequently involved providing dietary and exercise advice and less frequently included advice re cancer screening and smoking cessation. Having received post-registration physical healthcare training and working in in-patient settings was associated with greater reported involvement. More positive attitudes were also evident for nurses who had attended post-registration physical health training or had an additional adult/general nursing qualification.

Overall, the attitudes of mental health nurses towards physical health care appear positive and the willingness of nurses to take on these roles needs to be recognised. However there are areas where nurses in our sample were more ambivalent such as cancer screening and smoking cessation.

**KEY WORDS:** *attitudes, mental health nurses, physical health care, serious mental illness.*

## Background
We have been aware for many years that people who have a mental illness experience a number of health inequalities. People who have a serious mental illness (SMI) such as schizophrenia or bipolar disorder and those who have a common mental disorder such as depression or anxiety are at greater risk of a range of medical conditions than the general population (Brown et al. 2000; Mykletun et al. 2009; Haddad, 2009). The likelihood of coexisting long term conditions such as cardiovascular disease, type 2 diabetes, respiratory disease, metabolic syndrome and some cancers is elevated 2-3 fold among people with a mental illness compared to those who are mentally well (Leucht *et al*. 2007) and their life expectancy can be reduced by up to 17 years (Chang et al. 2011). Worryingly, this gap appears to be increasing (Hoang et al. 2011), suggesting that people with mental illness are not benefiting from advances in healthcare to the same extent as the general population.

The reasons for these health inequalities are complex and multifaceted: health behaviours such as tobacco smoking, poor diet and lack of exercise are more

common in patients with a mental illness; the medication we prescribe for patients contributes to increased metabolic risks (such as central obesity, dyslipidemia and glucose intolerance); and limitations in access, provision and utilisation of health services are also a factor in the poor health outcomes in people with SMI (Robson & Gray 2006). These lifestyle and service related factors interact with elements of the individual's social environment as well as psychosocial stressors and risk taking behaviours in contributing to the health inequalities experienced by the SMI population.

Whilst a central role in assessing and managing the physical health of people with SMI is taken by health professionals in primary care settings in the UK, specialist mental health inpatient and community care provides a critical window of opportunity for these activities (Miller 2011). Mental health nurses have a key role to play in providing more comprehensive and holistic care (Scott & Happell 2011); alongside the management of mental health issues, we have opportunities for problem recognition, supporting behaviour change and clinical management of physical health problems. However, adapting mental health nursing practice to the delivery of more integrated health care will require changes in education, practice, and the ethos of care. Hyland et al. (2003) explored physical health care attitudes and practice of 27 mental health case managers in Melbourne, Australia. Although the majority of case managers were involved in enquiring about common health behaviours, there was a general pessimistic attitude that anything positive could be done about improving some aspects of the physical health of patients with mental health difficulties. In a study of 168 mental health nurses in London, England, Nash (2005) focused on training needs in physical health care. The majority (71%) of nurses were involved in delivering physical health care, however almost all of them (96%) believed they needed more training. Howard and Gamble (2011) reported findings from a survey of the views and physical health care practice of 37 in-patient workers in London, England. There was overwhelming support for the role of the mental health nurse undertaking physical health checks such as measuring blood pressure and weighing patients, but less support for their role in physical health screening. The attitudes and confidence of nurses affect their practice and willingness to adopt new ways of working, and are likely to be important determinants of their involvement in this key part of their role.

## Materials and Methods

### Aims and hypothesis

The aim of this study is to describe the attitudes, confidence, clinical practice and perceived training needs among qualified mental health nurses in relation to the physical health care of people with severe and enduring mental illness. We hypothesised that nurses who held an additional qualification as adult (RGN/RN) nurses, were based in in-patient rather than community settings, and who had received training in physical health care would have more positive attitudes and greater confidence in this area of their practice.

### Design

We conducted a secondary analysis of cross-sectional data collected during the development and psychometric testing stages of the Physical Health Attitude Scale for Mental Health Nurses (PHASe) (Robson & Haddad 2012).

### Setting, participants and sample size

The methods used to develop the PHASe measure have been described in detail previously (Robson & Haddad 2012). This study is based on the postal questionnaire responses of the same convenience sample of 585 qualified mental health nurses

recruited from the workforce of a large National Health Service (NHS) Mental Health Trust in the UK.

**Measures**
The survey instrument was a standardised anonymised questionnaire that included the PHASe together with structured questions to elicit demographic, clinical, practice and training characteristics.

**PHASe**
The PHASe is a 28 item questionnaire, derived from a literature search, staff and service user focus groups, and principal component analysis of nurses' responses to the draft questionnaire. It is comprised of four subscales: (i) nurses' attitudes to involvement in physical health care (10 items); (ii) nurses' confidence in delivering physical health care (6 items); (iii) nurses' perceived barriers to physical health care delivery (7 items); (iv) nurses' attitudes to smoking (5 items). Items are scored on a scale of 1 to 5, where 1 = strongly disagree and 5 = strongly agree, with scoring reversed for negatively worded items, such that higher scores indicate more positive attitudes. The internal consistency of the scale is satisfactory: Cronbach's alpha for the total scale is 0.76, and between 0.86 and 0.61 for the subscales.

**Physical health care practice and training**
Nurses were also asked 14 questions about the frequency of their involvement in general and specific aspects of physical health care practice, and 7 questions about their perceived training needs. Questions about demographic and clinical variables included age, gender, smoking status, length of qualification and highest qualification. Participants were also questioned about whether they held an adult RGN/RN-Adult qualification, and attendance at any post registration physical health training courses, such as specialized short courses/study days.

**Procedure for collecting data**
Data were collected between 2006 and 2007. Prospective participants were identified by a NHS Mental Health Trust human resources records and were sent an information sheet, survey form and a stamped return envelope. Each survey form had a unique identification code to identify non-responders: these were sent a second copy after 8 weeks. Evidence based strategies to maximise survey response rates were used such as coloured paper and envelopes and addressing letters to individuals by name (McColl et al. 2001).

**Ethical considerations**
Ethical approval for this study was provided by the relevant local ethics committee. Study information was provided in a leaflet that was sent with the questionnaire to all study participants. Participation was on a voluntary basis with return of completed questionnaire taken as consent to participate. Responses were confidential with the questionnaire identification codes known only to the researchers; the coding key was destroyed after reminder questionnaires had been sent to staff who did not respond in the first round.

**Data analysis**
Descriptive statistics were used to describe the sample characteristics. Chi square and t-tests were used to identify associations amongst participant variables. Multiple regression analyses were used to further examine associations between attitudes and practice. All data were analysed using SPSS ((ver. 15; SPSS, Chicago, IL, USA).

**Results**

**Respondent characteristics**

Two rounds of postal questionnaires provided a 52% (585/1130) response rate. The demographic and clinical characteristics of the survey respondents (n=585) are presented in table 1 and in a previous paper (Robson & Haddad 2012). Participants had been qualified for an average of 13 years. The majority (62%) were female, and over two thirds (70%) worked in in-patient settings. The majority of staff (96%) had attended basic life support training in the previous two years; however only 20% had received any other post qualification training in physical health care in the previous 5 years (this included courses lasting between 1-5 days either run internally or provided by higher education providers). Staff working within in-patient settings were more likely to be male (41%) and qualified to degree level or higher (40%) compared to their colleagues in community settings, where 29% of respondents where male and 36% had a degree or higher qualification. Staff based in community settings were more likely to be employed at a higher grade, more likely to be smokers and were older.

**Table 1: Respondents demographic and clinical characteristics**

| Variable | *n* | % |
|---|---|---|
| Gender | | |
| Female | 365 | 62.2 |
| Male | 216 | 37.8 |
| Age | | |
| 20-30 | 72 | 12.7 |
| 31-40 | 189 | 33.3 |
| 41-50 | 182 | 32.1 |
| 50+ | 124 | 21.9 |
| Ethnicity | | |
| White | 244 | 55.8 |
| Black or Black British | 153 | 35.0 |
| Asian or Asian British | 29 | 6.6 |
| Mixed | 9 | 2.1 |
| Years qualified (mean, SD) | 13.3 | 9.9 |
| Clinical area | | |
| In patient | 397 | 69.9 |
| Community | 171 | 30.1 |
| Current smoker | 121 | 21.2 |
| Additional RGN qualification | 138 | 24.3 |
| Work with older adults | 109 | 19.2 |
| Physical health training in past 5 years | 120 | 20.5 |

**Current practice**

Respondents' practice was examined in a range of areas. Table 2 shows the extent of their clinical activity in relation to 14 practice questions. As can be seen, providing general support and information to clients such as ensuring registration with primary care and offering dietary and exercise advice, were reported as a relatively common part of standard practice. Only half of staff respondents reported their current practice frequently involved supporting clients to stop smoking; and less than half noted that they customarily provided support in areas such as giving contraceptive advice and ensuring regularly checking of eyesight.

**Table 2: Current practice: statements ranked by order of agreement**

| **Practice items** | Number of staff frequently involved (always/very often) | (%) |
|---|---|---|
| I always check if the clients I work with are registered with a GP | 510/576 | 88.5 |
| Giving clients advice on how to eat healthily is part of my current role | 500/577 | 86.7 |
| Assisting clients to attend to their personal hygiene is part of my current role | 479/577 | 83.0 |
| Monitoring clients blood-pressure is currently part of my role | 469/576 | 81.4 |
| Giving clients advice on the benefits of exercising regularly is part of my current role | 461/579 | 79.6 |
| Helping clients manage their weight is part of my current role | 460/578 | 79.6 |
| The clients I work with always have their general physical health assessed when they first come into contact with our service | 381/578 | 65.9 |
| Assessing clients' bowel habits is currently part of my role | 344/573 | 60.0 |
| Part of my current role is to test clients for glucose abnormalities (eg checking glucose in urine/checking a clients BM) | 349/582 | 60.0 |
| Clients I work with are weighed routinely throughout their contact with our service | 323/578 | 55.9 |
| Giving clients advice on dental health is part of my current practice | 319/581 | 54.9 |
| Helping clients to stop smoking is currently part of my role | 291/578 | 50.3 |
| Giving clients contraceptive advice is currently part of my role | 238/572 | 41.6 |
| Ensuring clients have their eyesight assessed regularly is part of my current role | 227/580 | 39.1 |

### Perceived training needs

Nurses were asked about their requirement for training across seven topic areas linked to physical health care. In excess of 80% of respondents reported they would most like training for the management of diabetes, cardiovascular health and nutrition, whilst training to assist discussions in smoking (69%) and reproductive health was least favoured (67%).

### Nurses' attitudes and confidence

Respondents' attitudes were measured with the 28 items of the PHASe (Robson & Haddad 2012). The extent of agreement with each item together with mean scores and standard deviations is shown in table 3. As noted previously, scoring was between 1 and 5, with 5 indicating strong agreement. Nurses were generally positive about their role in the physical care of people with SMI, particularly in relation to health promoting activity such as providing nutritional and cardiac health advice and assisting with weight management. However, they were less certain about involvement in sexual health promotion and ensuring dental, eye health checks and cancer screening took place. Respondents were most confident in technical skills such as taking blood pressure and resuscitation; and only a minority perceived their own workload or patients' motivation as barriers to physical healthcare. There was strong rejection of the use of cigarettes to achieve therapeutic goals and the majority of respondents felt that clients should be encouraged to stop smoking. However the majority of nurses (79%) did not believe clients should be banned from smoking on NHS premises, and almost a quarter believed smoking together with clients helps to build a therapeutic relationship.

**Table 3: Responses to PHASe items and subscales ranked by extent of agreement**

| PHASe subscale items | Number in agreement | % | Mean | (sd) |
|---|---|---|---|---|
| **1] nurses' attitudes to involvement in physical health care** | | | | |
| Giving nutritional advice to clients should be part of a mental health nurses role | 478/579 | 82.6 | 4.00 | 0.83 |
| Helping clients manage their weight should be part of the mental health nurses role | 460/582 | 79.0 | 3.89 | 0.79 |
| Giving advice on how to prevent heart disease should be part of the mental health nurses role | 433/574 | 75.5 | 3.82 | 0.79 |
| Mental health nurses should educate female clients about the importance of breast self-examination | 349/570 | 61.2 | 3.60 | 0.98 |
| Mental health nurses should educate male clients about the importance of testicular self examination | 340/573 | 59.3 | 3.58 | 0.95 |
| Mental health nurses should provide clients with contraceptive advice | 338/570 | 59.3 | 3.48 | 1.04 |
| Ensuring clients have their eyes regularly checked by an optician should be part of the mental health nurses role | 341/581 | 58.7 | 3.50 | 0.99 |
| Ensuring clients are registered with a dentist should be part of the mental health nurses role | 317/577 | 54.9 | 3.41 | 1.05 |
| It should not be the mental health nurse role to check with a client if they have had cancer screening checks (i.e. cervical smear /mammogram | 131/572 | 22.9 | 2.70 | 1.56 |
| It should not be the role of the mental health nurse to provide advice about exercise to clients | 69/579 | 11.9 | 2.12 | 0.96 |
| **2] nurses' confidence in delivering physical health care** | | | | |
| I am confident that I can measure a clients blood-pressure accurately | 561/576 | 97.4 | 4.55 | 0.63 |
| I am confident that I could resuscitate a client who had a cardiac arrest | 420/575 | 73.0 | 3.83 | 0.92 |
| I am confident in assessing signs and symptoms of hypoglycaemia | 390/578 | 67.4 | 3.67 | 0.92 |
| I am confident that I know which psychotropic drugs increase the risk that a client may experience cardiac problems | 382/576 | 66.3 | 3.68 | 0.93 |
| I am confident in assessing signs and symptoms of hyperglycaemia | 366/578 | 63.3 | 3.61 | 0.95 |
| I am confident that I know which psychotropic medication may cause damage to the eyes | 191/580 | 32.9 | 2.96 | 1.03 |
| **3] nurses' perceived barriers to physical health care delivery** | | | | |
| It is difficult to get clients to follow healthy-eating advice | 258/577 | 44.7 | 3.12 | 0.99 |
| It is difficult to get clients to follow advice on how to manage their weight | 250/581 | 43.0 | 3.06 | 1.02 |
| Clients are not motivated to exercise | 183/575 | 31.8 | 2.77 | 1.06 |
| Informing clients about the possible effects medication may have on their physical health will increase non-adherence | 125/577 | 21.7 | 2.50 | 1.08 |
| My workload prevents me doing any physical health promotion with clients | 112/580 | 19.3 | 2.29 | 1.06 |
| Clients with serious mental health problems are not interested in improving their physical health | 92/580 | 15.8 | 2.18 | 1.09 |
| Clients' physical health worries are mostly due to their mental illness | 79/578 | 13.5 | 2.17 | 1.0 |
| **4] nurses' attitudes to smoking** | | | | |
| Staff should be banned from smoking on all Healthcare premises | 327/580 | 56.5 | 3.47 | 1.44 |
| Staff and clients smoking together helps to build a therapeutic relationship | 132/579 | 22.9 | 2.43 | 1.20 |
| Clients should be banned from smoking on all healthcare premises | 121/579 | 20.9 | 2.56 | 1.22 |
| Clients should not be encouraged to give up smoking, as they have enough to cope with | 49/578 | 8.5 | 2.06 | 0.94 |
| Clients should be given cigarettes to help achieve therapeutic goals | 44/580 | 7.6 | 1.90 | 0.99 |

The values of the 4 PHASe subscales are reported in table 4. The mean scores are the sum of each attitude item scored between 1-5, with scoring reversed for negatively worded items, such that higher scores indicate more positive attitudes. The corrected means provide a comparable score by dividing the summary data by the number of items. Overall, the nurses responding to this survey held positive attitudes, with confidence in care delivery (subscale 2) and agreement that physical health care was a key part of their role (subscale 1), showing slightly higher ratings than those items related to perceived barriers (subscale 3) and smoking (subscale 4).

**Table 4: Phase subscale mean scores**

| Subscale of the PHASe | Mean (sd) | Corrected mean (sd) |
|---|---|---|
| 1] nurses' attitudes to involvement in physical health care (10 items) | 36.5 (6.4) | 3.7 (0.64) |
| 2] nurses' confidence in delivering physical health care (6 items) | 22.3 (3.6) | 3.7 (0.60) |
| 3] nurses' perceived barriers to physical health care delivery (7 items) | 23.9 (4.3) | 3.4 (0.61) |
| 4] nurses' attitudes to smoking (5 items) | 17.6 (3.7) | 3.5 (0.74) |
| Total attitude scale (28 items) | 100 (10.5) | 3.6 (0.37) |

**Associations between respondent characteristics and attitudes and practice**

Bivariate analyses were conducted to ascertain whether prior post-registration physical health training was linked to attitude subscale scores, or physical healthcare practice. Unadjusted analyses showed that both specific post-registered physical health training or an additional registered adult nurse training (RGN/RN-Adult) were significantly linked to positive ratings of the PHASe subscale. Additional RGN qualification was associated with higher ratings on subscales 2, 3, and 4, and the total PHASe scale with these differences statistically significant only for subscales 2 (mean difference =1.803 (95% CI: 1.18 to 2.43), t=5.671, df=254, P<0.001),and 4 (mean difference =0.82 (95% CI: 0.25 to 1.38), t=2.83, df=560, p=0.005). Prior training in physical healthcare was similarly associated with more positive attitudes: for the total scale and subscales 1, 2 and 4; the differences were significant for subscales 1 (mean difference =1.34 (95% CI: 0.17 to 2.67) t=1.99, df=545, p=0.047) and 2 (mean difference =1.05 (95% CI: 0.32 to 1. 78) t=2.83, df=561, p=0.005).

Bivariate analyses were also conducted to ascertain whether prior physical health training was linked to physical healthcare practice. Association between the summary practice score and prior training in the past 5 years was also significant (mean difference= 4.18, 95% CI 2.54 to 5.82, t=5.01 df=540 p<0.001). No significant association was evident for additional RGN training.

Attitudes of staff differed significantly according to smoking status. Non-smokers were more likely to have positive attitudes to promoting smoking cessation than their smoking colleagues (mean difference= 2.51, 95% CI: 1.79 to 3.22, t=6.88 df=565, P<0.001).

## Multivariate Regression Analyses

### Predictors of physical healthcare practice

To investigate potential predictors of physical health care practice amongst our sample we conducted multivariate regression analyses, with summary measures of reported practice as the dependant variable and attitudes subscales and respondent characteristics as covariates. Analysis including potential demographic and attitude predictors provided a model involving two attitude subscales (1 & 2), together with age, work grade, work setting and having received some post-registered physical health training in the past 5 years. This model (table 5) was statistically significant, and accounted for 44% (adjusted R square) of the variability in the measure of physical healthcare involvement: $F_{6,497}$=66.42, P<0.001.

**Table 5: Predictors of involvement in physical health care practice: regression model**

| Model | Unstandardized coefficients (a) | | Standardized coefficients (a) | | |
|---|---|---|---|---|---|
| | B | SE | β | t | Sig. |
| (Constant) | 22.101 | 2.482 | | | |
| 1. Nurses' attitudes to involvement in physical health care | 0.540 | 0.043 | 0.436 | 12.598 | 0.000 |
| 2. Nurses' confidence in delivering physical health care | 0.568 | 0.077 | 0.257 | 7.356 | 0.000 |
| Received physical health training in past 5 years | 2.179 | 0.653 | 0.113 | 3.339 | 0.000 |
| Nurses working in inpatient/community† | -2.591 | 0.618 - | -0.151 | -4.195 | 0.000 |
| Grades D and E compared with higher‡ | -2.891 | 0.578 | -0.179 | -5.004 | 0.000 |
| Age >40§ | 1.046 | 0.533 | 0.067 | 1.964 | 0.050 |

Dependent variable: total practice 14 items.
†Greater involvement in physical health care associated with inpatient setting.
‡Greater involvement in physical health care associated with lower grades.
§Greater involvement in physical health care associated with older age (>40).
SE, standard error.

### Predictors of positive attitudes

We conducted further regression analyses to examine the relationship between participant characteristics and attitudes identified by the PHASe total score and subscale scores. No model including participant characteristics was statistically significant in relation to the total 28 item PHASe measure.

For nurses' attitudes to involvement in physical health care (subscale 1), a model in which education at degree level or above (β=0.127) and prior physical health training (β=0.093) were the statistically significant predictor variables provided weak explanatory power (adjusted r square square = 0.038, $F_{8,506}$=2.459, P<0.013). Confidence in physical healthcare practice (subscale 2) was significantly related to 4 variables, noted in order of predictive strength: RGN qualification (β=0.226), working in an in-patient setting (β=0.125), male gender (β=0.119), having received prior physical health training (β=0.09). This model also had weak explanatory power (adjusted r square = 0.079; $F_{8,517}$=6.509, P<0.001). Perception of obstacles to engagement in physical healthcare (subscale 3) was more strongly associated with participant factors. The regression model provided explanation of 10% of variance ($F_{8,514}$=8.143, P<0.001), and the significant covariates were: higher grade (β=0.210),

non-smoking status (β=0.105), education to degree or higher level (β=0.092). Nurses' attitudes to smoking (subscale 4) was explained by a model in which the smoking status of nurses was the only significant predictor variable (β=0.280). The model accounted for 9% of the variance ($F_{8,526}$=6.378, P<0.001).

**Discussion**

To our knowledge this is the first study to report on the attitudes of mental health nurses towards physical health care of people with SMI using a validated measurement tool. Our sample included the whole nursing workforce of a large Mental Health Trust in the UK. The characteristics of the sample are comparable to national data reported in NHS workforce census of qualified mental health nurses in hospital and community settings (NHS Information Centre 2011). This sample was slightly younger: 13% were aged under 30 years, compared with 10% in the corresponding NHS workforce, and 65% were between 30 and 50 years (62% for NHS), with a slightly lower proportion of female nurses (62% compared to 69%), and non-white ethnicity was more common in this London-based sample - 44% compared with 22% in the NHS mental health nurse workforce.

Mental health nurses' attitudes and practice regarding physical health care of patients with SMI have received modest attention. Elements of the attitudes and practice of our nurse respondents are consistent with findings of Howard and Gamble (2011) and Hyland et al. (2003) whilst some differ. Although respondents in all three studies reported similar high levels of involvement in providing dietary and activity advice, our sample reported a lesser contribution to the management of diabetes, smoking cessation and sexual health advice than those in Howard and Gamble's study (2011) In our study, as well as Howard and Gamble (2011) and Hyland et al. (2003), checking if female patients had attended cancer screening checks (mammograms and cervical screening) was perceived not to be a common role for nurses. People with SMI are at an increased risk of some cancers and have worse cancer outcomes (Howard et al. 2010), and there is a reduced uptake of cancer screening, particularly in women with psychosis (Werneke et al. 2006). One way of possibly increasing the uptake of cancer screening and therefore improving early detection rates is to extend nurses skills to work collaboratively with patients to educate and address any issues regarding ambivalence or reluctance to attend the screening appointments and any follow up care.

Ensuring patients have regular eye and dental health check-ups is another area where our respondents appear to be less concerned with compared to other areas of health. Howard and Gamble (2011) also reported similar findings. Patients with SMI have difficulty in maintaining good oral and eye health due to their mental health symptoms and because a number of psychotropic medications impact on dental and ophthalmological health (Robson & Gray 2006). People with SMI have fewer dental check--ups compared to general population samples (McCreadie et al. 2004) and have higher rates of tooth decay and have 3.4 higher odds of loosing all their teeth compared to mentally healthy people (Kisely et al. 2011). Visual impairment is under recognised and undertreated in patients with SMI (Punokollu & Phlean 2006) and it has been recommended that mental health in-patient and community teams play more of a role in ensuring patients attend to these important elements of their health.

Twenty one percent of our respondents reported they were current smokers; the same as prevalence rates in the general population in the UK (Health and Social Care Information Centre 2010), higher than prevalence rates reported in a random sample of mental health nurses in Australia (16%, n =45/289) (Dwyer et al. 2011) but less than the 26% (124/476) reported by Stubbs et al. (2004) in a sample of mental health nurses in Birmingham, UK. Respondents in our sample who were current

smokers had more permissive attitudes about patients smoking than those who were non-smokers. This is consistent with the findings from studies that have looked specifically at the attitudes of mental health staff regarding smoking. Dwyer et al. (2011), Stubbs et al. (2004), Praveen et al. (2009) and Ractchen et al. (2009) all report that mental health staff who smoke are less likely to support smoke-free legislation and more likely to believe that helping patients stop smoking should not be part of their role. Smoking cessation in SMI is a key public heath priority and nurses can be effective in helping patients to stops smoking (Rice & Stead 2008). The mounting evidence that nurses who smoke have more negative attitudes towards smoking cessation suggests that the design, delivery and evaluation of smoking cessation training for mental health nurses should take into account the smoking status of trainees.

Our a priori hypothesis that having received post registration training in physical health-care in the previous 5 years or having a dual nursing qualification is associated with more frequent physical healthcare practice, more positive attitudes and higher rates of confidence was confirmed. Regression analysis indicated that nurses' attitudes and confidence together with prior training were strongly associated with involvement in physical healthcare. Previous studies have found nurse post-registration training is associated with changes in knowledge, attitudes (Munro et al 2007), and measures of clinical practice (Huh et al. 2012, Moniz-Cook et al. 2008). However, caution is needed in interpreting our results as the cross-sectional design cannot elicit whether additional post registration training in physical health assists the development of more positive attitudes, confidence and enhanced practice, or conversely whether existing positive attitudes and confidence are motivating factors for nurses partaking in such training. Only a minority of mental health nurses who responded to our survey had received training in the previous 5 years (20.5%) which was similar to the finding of Howard and Gamble (25%), though less than the 55% (n=97/168) of respondents reported by Nash (2005). Our finding is not unique to mental health nursing: Gray et al. (1999) surveyed a random sample of practice nurses in the UK finding that 70% had not received any post-registration mental health training in the previous 5 years, whilst a UK-wide survey of school nurses identified that 46% had not completed any specific post-registration training for the mental health aspects of their role (Haddad et al. 2010).

Having a dual qualification (that is a mental health nursing and adult nursing qualification RGN/RN-Adult) did not have an effect on general attitudes of nurses in this study, but it did influence confidence in providing physical health care and attitudes about smoking. These findings might indicate that a mental health nursing qualification on its own (as is delivered in the UK) may not equip nurses with the confidence to care for the physical health care needs of people with SMI.

Potential limitations of the study include the representativeness of the sample, and hence the generalisability of findings to the wider population. A response rate of 52% is low but common for surveys of mental health nurses (Baker et al. 2005). A low response rate can introduce bias, especially if those staff returning questionnaires differ from those who do return them. The generalisability of findings may be influenced by collecting data from one mental health trust, however, as we noted earlier, the age and gender distribution characteristics of our sample are comparable to that of the NHS mental health nurse workforce. The cross-sectional design of this study limits inferences about causality, though the associations identified may be useful in generating hypotheses for future research. Further use of the PHASe and associated practice questions on samples in different settings is recommended to increase our understanding of how the mental health nursing workforce perceives their role in this important area of healthcare. The attitudes of mental health nurses

have the potential to affect the outcome of care and are an appropriate target of future research and training initiatives. Any future delivery and evaluation of pre- and post-registration mental health nurse training needs to target areas of health care that are perceived to be less important by mental health nurses, such as cancer screening, smoking cessation, sexual, dental and eye health.

**Conclusions**

The findings of this survey indicate that the attitudes of mental health nurses towards physical health care of people with SMI are generally positive and that there appears a willingness among nurses to take on these roles. Although mental health nurses report frequent involvement and confidence in monitoring and assisting in general areas such as diet and exercise, they appear more ambivalent about issues such as cancer screening, and smoking cessation, and less confident in their ability to provide support and advice about the adverse effects of medications or in relation to dental, ophthalmological, reproductive and sexual health. Our findings support the notion that specific training is linked to positive attitudes and engagement in practice, however prospective and controlled study designs are needed to clarify causal direction and extent of effects.

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