Does nurses' health affect their intention to remain in their current position?

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Aim To investigate and describe nurses' and midwives' physical health, rates of symptoms and disease, and to determine if these factors contribute to intention to leave.
Background The nursing and midwifery workforce is ageing yet little is known about their physical health or its relationship to intention to leave.
Methods An online survey of health and work-related assessments was distributed through the New South Wales Nurses and Midwives Association and professional contacts.
Results Nurses and midwives (*n* = 5041) reported good-very good health overall. With 22.2% intending to leave in the next 12 months, older age, better perceived health and job satisfaction, regional residence and not working shifts predicted no intention to leave while breathing problems predicted intention to leave.
Conclusions Study findings flag the importance of health as an influence on intention to leave. Alongside job satisfaction and shift-working, health presents opportunities for workplace initiatives to maintain nurses in the workforce.
Implications for nursing management Educators, managers and policy makers should heed the significant influence of health for retention of staff and consider what strategies may mitigate health risks for this workforce.

Keywords: health, intention to leave, job satisfaction nurse, midwife

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Introduction

Demand for nursing is rising globally alongside population ageing, longer life expectancies and the rise in non-communicable diseases and disability: these demands are increasingly unlikely to be met by current growth in nursing numbers (Campbell *et al.* 2013). One strategy to reduce the shortfall is to improve retention, which requires an understanding of why nurses and midwives leave. 'Intention to leave' is often used as a proxy for turnover as this strongly predicts actual departure (Derycke *et al.* 2010). Nurses' intention to leave their position has been shown to be affected by a wide range of factors (Chan *et al.* 2013).

Intrinsic or personal factors influencing nursing turnover include the individual's psychological and physical health status. Emotional responses related to burnout, stress and family conflicts (Flinkman *et al.* 2008), and physical conditions including muscularskeletal problems, fatigue and chronic disease, increase absenteeism that in turn can affect nurses' decision(s) to leave their employment (Stichler 2013, Daouk-Öyry *et al.* 2014). The health status of nurses (Hayes *et al.* 2006) and its impact on intention to leave, and thus workforce retention, is an area that is much understudied.

Background

Reports on the health status of the nursing and midwifery workforce have predominantly focused on consequences of the specific occupational issues attributed to these professions, such as manual handling, exposure to chemical and infectious agents, violent and distressing incidents and stressful situations (International Council of Nurses 2006). Other studies have sampled nurse populations to assess specific health-related issues, or reported findings from women where nursing boards were used for recruitment, for example the US Nurses' Health Study (http://www.nurseshealthstudy.org/). However, large studies of nurses and midwives as a workforce are rare and there has been minimal consideration of the rates of behavioural, lifestyle and chronic disease characteristics that dominate population health. While there are indications that health can exert significant influence upon the work ability and retention of staff (Camerino *et al.* 2006, Duffield *et al.* 2015a), which are important considerations for a workforce and its managers, there has been limited exploration of this in nursing or midwifery. Equally importantly, intention to leave results in the negative effects of staff turnover on team stability and the expense of staff replacement, estimated at, on average, $49 255 per full-time equivalent (FTE) in Australia (Duffield *et al.* 2015a,b Roche *et al.* 2014, 2015).

Nursing as an occupation is physically demanding. The nature of nursing work can place physical demands on the body that may reduce the capacity for a nurse to remain employed; 'lighter' workloads, flexible work schedules and ergonomic supports may be needed for older nurses (Tourangeau *et al.* 2010, Uthaman *et al.* 2016). However, the extent that health issues affect nurses' intention to leave employment or the profession is not known. European nurses with self-reported poor health raised concerns over their ability to continue working that in turn influenced their decision to remain employed (Laine *et al.* 2009); for Korean nurses with self-reported poor health, the intention to leave was dependent on the work environment (Cho *et al.* 2015).

The nursing workforce is ageing, and this is accompanied by an increasing risk of development (or progression) of chronic disease (Stichler 2013). Chronic illness has the potential to reduce nurses' and midwives' capacity to work, affect their comfort and satisfaction with work and, consequently, their intention to leave. Increasing age has been linked with lower perceived work ability, in turn linked to a greater intention to leave among nurses across Europe (Camerino *et al.* 2006). The age of the nursing workforce is rising steadily across the developed world, with average ages of 44.6 years in Australia (Australian Institute of Health and Welfare 2013), 45.4 years in Canada (Canadian Institute for Health Information 2011) and 44.2 years in the USA (USBOL 2013). Poor self-rated health has been directly linked with intention to leave both the current job and the nursing profession (Lai *et al.* 2008).

There is limited research on health risks, rates of chronic disease and disease-related symptoms in the nursing and midwifery workforce. However, poor health has been reported by 58% of Greek and 60% of Lithuanian nurses (Pappas *et al.* 2005, Malinauskiene *et al.* 2011). Brazilian nurses have reported high rates (32%) of hypertension (de Souza Urbanetto *et al.* 2014), linked to higher body mass index (BMI). Overweight and obesity has been reported in at least two-thirds of nurses in the USA, UK, Australia, New Zealand and in Scotland (Bogossian *et al.* 2012, Kim *et al.* 2013, Kyle *et al.* 2016,). Concerns have also been raised about poor sleep quality, reported to affect, for example, 70% of Norwegian intensive care unit (ICU) nurses (Bjorvatn *et al.* 2012), with patient care errors significantly more likely from sleep-deprived nurses (Johnson *et al.* 2014).

Symptom type and severity may be key considerations for workforce retention. For example, pain has been commonly reported; in Estonia 69% and 84%, respectively, of nurses and midwives reported pain lasting longer than a day within the last month and year (Freimann *et al.* 2013); 68% of Taiwanese and 86% of Norwegian nurses reported pain within the previous 30 days and 12 months, respectively (Bjorvatn *et al.* 2012, Chiou *et al.* 2013). Our preliminary work found 15.5% had experienced moderate pain and 5.2% severe/very severe pain in the previous 4 weeks (Perry *et al.* 2015a). Other common

symptoms such as depression and inadequate sleep have been associated with higher likelihood of intention to leave (Lai *et al.* 2008, Chiang & Chang 2012).

This study is founded on the World Health Organisation (WHO) definition of a healthy workplace (Box 1; Burton 2010). To date, there is little acknowledgement of the potential contribution of personal physical health resources for the nursing and midwifery workforce, little information on their physical health and symptom load or how this may relate to intention to stay or leave the workforce. This study therefore investigates nurses' and midwives' physical health, rates of symptoms and disease, and seeks to determine if these factors contribute to intention to leave.

Methods

This cross-sectional study used an online questionnaire to collect data from nurses and midwives working in New South Wales (NSW), Australia. The study was approved by the relevant hospital and university Human Research Ethics Committees (LNR11/POWH/242; LR/2013000741) and the questionnaire was open between June 2014 and February 2015.

Sample

All nurses and midwives working in NSW were eligible to participate. Participants were recruited using multiple strategies, although the primary means was via emails to the membership of the New South Wales Nurses and Midwives Association (NSWNMA) – a professional association and trade union. The survey was also publicised through advertisements in trade journals, employment e-newsletters, professional

nursing and midwifery networks and social media. Three reminder emails were sent.

In 2014 there were 97 843 nurses and midwives registered in NSW (Nursing and Midwifery Board of Australia 2015), with Assistants in Nursing (AINs) estimated at 25% of the Australian nursing workforce (Duffield *et al.* 2014). It was impossible to gauge actual numbers invited given the diverse recruitment techniques, but with 5446 surveys submitted, and 405 (7.4%) excluded because of missing data or ineligibility, a total of 5041 responses were analysed.

Data collection

The questionnaire comprised: (1) demographic, (2) workforce and (3) general health and well-being characteristics. Well-established tools were employed where possible, selected or adapted from long-running, extensively validated national and international surveys such as the Nurses and Midwives e-Cohort Study (NMeS) (Turner *et al.* 2009), the Australian Longitudinal Study on Women's Health (ALSWH) (Brown *et al.* 1996) and the Australian Health Survey (Australian Bureau of Statistics 2011a). Sources of the main variables, with an indication of their psychometric properties, are set out in Table 1. The survey was pilot-tested in paper format with nurses and midwives (*n* = 381) in two acute hospitals in Sydney (Perry *et al.* 2015a,b) resulting in minor revisions.

Predictor variables

Demographic and workforce variables
Data were collected to characterise the sample including by age, gender, highest educational qualification, ethnicity and carer commitments outside of work using previously-employed formats from the Australian Census (Australian Bureau of Statistics 2011a, b). Workforce variables included work role, setting, contract (full/part time, casual, pool or other), hours and shifts worked, workplace location, injuries and abuse.

Health and wellbeing
Health and wellbeing was assessed in relation to general health, disease diagnoses and symptoms, hospital admissions and sick days. The Short Form 12-Item Health Survey version 2 measured health-related quality of life (SF-12 v2®) (Ware *et al.* 1996, Gandek *et al.* 1998a, Roelen *et al.* 2014). Participants were asked if they had been diagnosed with any of a number of chronic diseases; experienced any of a list of

Table 1
Survey variables, sources and reported psychometric assessments

Topic	Item	Source	Original validity/reliability (as available)
Remoteness of location	What is your current workplace location (e.g. name of town or suburb)?	Australian Bureau of Statistics (2014)	No detail available; an Australian standard classification
Work setting	Please specify the work setting of your current main employment	Nurses and Midwives e-Cohort Study (Turner *et al.* 2009)	No detail available
Years worked as RN/RM	Years worked as RN/RM/EN/AIN	(Duffield *et al.* 2009, 2011)	No detail available
Carer status	Outside of your employment, do you provide regular care, help or assistance to family members or others because of a disability, a long-term illness, or age-related problems?	2011 Australian Census (Australian Bureau of Statistics 2011b)	No detail available
Shift work	Which shift do you currently work?	Developed for this study	Face validity and piloted (Perry *et al.* 2015a,b)
Job satisfaction	Overall, I am satisfied with my current job	Used in the Canadian National Survey of the Work and Health of Nurses (Shields & Wilkins 2006)	No detail available
Intention to leave	Do you have plans to leave your current job?	(Roche *et al.* 2015)	No detail available
Work injury	In the past 12 months at work have you: Slipped, tripped or fallen to the floor Broken any bones Injured your back Needlestick injury Chemical exposure Repetitive motion injury None of the above? Other? Please specify:	Australian Longitudinal Study on Women's Health (2009a, 2011)	No detail available but piloted
Work abuse	In the past 12 months at work, have you experienced: Emotional/verbal abuse by patient Emotional/verbal abuse by colleague Physical abuse by patient Physical abuse by colleague None of the above? Other? Please specify:	Nurses' ratings of their health & professional work environments (Tucker *et al.* 2010)	No detail available
Sick days	How many sick days have you taken in the past 12 months?	Developed for this study	Face validity and piloted (Perry *et al.* 2015a,b)
Hospital	Have you been admitted to hospital in past 12 months?	Australian Longitudinal Study on Women's Health (1996)	Piloted, see http://www.alswh.org.au/images/content/pdf/other_reports/148_caring_and_service_use_report.pdf
Health problems, diagnosis and symptom questions	Have you ever been diagnosed with: diabetes, etc.? In the past 12 months have you had any of the following health problems: allergies, etc.?	Australian Longitudinal Study on Women's Health (2009b, 2013)	No detail available but piloted
Body pain	How much bodily pain have you had in the past 4 weeks?	SF-36®: http://www.sf-36.org/demos/SF-8.html and ALSWH	Extensively detailed (McHorney *et al.* 1994, Ware *et al.* 1994, Gandek *et al.* 1998b). Reliability Test–Retest – Cronbach's alpha: PCS = 0.92; MCS = 0.91
General self- rated health	In general, would you say your health is…	SF 12 version 2® (Ware *et al.* 1996)	See SF-36, as above. Test–Retest Reliability of SF12: PCS = 0.89; MCS = 0.76
Sleep	Did you have any of these sleeping problems in the past 2 weeks? etc.	Insomnia Severity Index (Morin *et al.* 2011)	Item total correlations from 0.32 to 0.71, with a mean of 0.56 at pre-treatment, 0.58 ± 0.79, with a mean of 0.69 at post-treatment; and 0.46 ± 0.90, with a mean of 0.72 at follow-up. The internal reliability coefficients remained very stable from 0.76 at baseline to 0.78 at follow-up (Bastien *et al.* 2001)

AIN, assistant in nursing; EN, enrolled nurse; RM, registered midwife; RN, registered nurse. PCS, physical component scores; MCS, mental component scores.

Table 2
Comparison of sociodemographic and work characteristics by intention to leave within 12 months

Characteristic	Intend to leave (n = 1113)	No intention to leave (n = 3907)	P-value
Age, mean (SD)	48.3 (11.1)	46.6 (12.5)	<0.001‡
Female gender, n (%)	954 (89.2)	3453 (91.9)	0.056§
Provide regular care, n (%)	350 (31.5)	1206 (30.9)	0.701§
Post-graduate qualification,* n (%)	448 (40.2)	1549 (39.0)	0.828§
Current role			
Foundational (RN, RM, EN, CNS, CMS), n (%)	809 (72.6)	2735 (70.0)	0.005§
Advanced practice (NP, CNC, MP, CMC), n (%)	59 (5.3)	321 (8.2)	
Domain specific (educator, manager, researcher), n (%)	160 (14.5)	609 (15.6)	
Assistant in nursing, n (%)	63 (5.7)	188 (4.8)	
Current work location			
Metropolitan, n (%)	742 (66.7)	2559 (65.5)	0.005§
Inner regional:, n (%)	263 (23.6)	1087 (27.8)	
Outer regional, remote and very remote, n (%)	86 (7.7)	228 (5.8)	
Current work setting			
Hospital, n (%)	663 (59.7)	2336 (59.8)	0.014§
Community, general practice and outpatient, n (%)	174 (15.6)	717 (18.3)	
Residential aged care; rehab/disability, n (%)	180 (16.2)	503 (12.9)	
Other, n (%)	96 (8.6)	351 (9.0)	
Shift worker (not days only), n (%)	611 (54.9)	2055 (51.8)	0.088§
Job satisfaction,† mean (SD)	2.98 (1.1)	2.0 (0.8)	<0.001‡
Any workplace injury and abuse, n (%)	381 (34.2)	1060 (27.1)	<0.001§

*Certificate, Diploma, Masters, PhD; RN, registered nurse; RM, registered midwife; EN, enrolled nurse; CNS, clinical nurse specialist; CMS, clinical midwife specialist; NP, nurse practitioner; CNC, clinical nurse consultant; MP, midwife practitioner; CMC, clinical midwife consultant
†Scored 1–5; lower score = greater satisfaction.
‡*t*-test.
§Chi-square test.

common symptoms or had any hospital admissions in the previous year (Brown *et al.* 1996).

Participants' perceptions of their current sleep pattern, and the nature, severity and impact of any insomnia were measured with the Insomnia Severity Index (Bastien *et al.* 2001, Morin *et al.* 2011). Intensity of bodily pain was evaluated using a six-point rating scale of 'no' to 'very severe' pain, with pain frequency scored on a four-point rating from 'never' to 'often', during the past 4 weeks (Ware *et al.* 1994, Brown *et al.* 1996).

Outcome variable

Intention to leave was sought with the question 'Do you have plans to leave your current job?' in the next 6 or 12 months (Duffield *et al.* 2014).

Statistical analyses

Data were entered into the Statistical Package for the Social Sciences (SPSS version 22.0 IBM, USA) for analyses. Missing values were imputed by the overall mean where there were multiple item surveys and less than 20% missing; other missing values were treated on a case-by-case basis. Comparisons between nurses

Table 3
Comparison of health characteristics by intention to leave in 12 months

Characteristic	Intend to leave (n = 1113)	No intention to leave (n = 3907)	P-value
General health (1 = excellent), mean (SD)	2.6 (1.0)	2.5 (0.9)	<0.001*
Sickness			
Sick days: mean (SD)	6.9 (18.6)	5.0 (9.2)	<0.001*
Hospitalised, n (%)	208 (18.7)	633 (16.2)	0.048†
Most prevalent diagnosed diseases			
Arthritis, n (%)	141 (12.7)	500 (12.8)	0.478†
Hypertension, n (%)	209 (18.8)	652 (16.7)	0.105†
Depression, n (%)	245 (22.0)	803 (20.5)	0.296†
Asthma, n (%)	180 (16.2)	573 (14.7)	0.216†
Anxiety, n (%)	201 (18.1)	511 (13.1)	<0.001†
Symptoms			
Pain ≥ moderate intensity, n (%)	407 (36.6)	1270 (32.6)	0.014†
Most prevalent symptoms in last 12 months			
Back pain, n (%)	545 (49.0)	1797 (46.0)	0.043†
Severe tiredness, n (%)	569 (51.1)	1640 (42.0)	<0.001†
Stiff joints, n (%)	458 (41.1)	1536 (39.3)	0.282†
Headaches, n (%)	460 (41.3)	1509 (38.6)	0.055†
Allergies/hay fever/sinusitis, n (%)	391 (35.1)	1311 (33.6)	0.173†
Indigestion, n (%)	309 (27.8)	906 (23.2)	0.002†
Depression, n (%)	260 (23.4)	647 (16.6)	<0.001†
Breathing problems, n (%)	121 (10.9)	299 (7.6)	0.001†
Sleep experience, mean (SD)	9.1 (6.00)	7.5 (5.5)	<0.001*

t-test.
†Chi-square test.

and midwives who did or did not intend to leave in the next 12 months were conducted using chi-squared for categorical data and *t*-test for continuous data. Where data achieved small numbers in multiple categories, categories were collapsed. For example, remoteness area, calculated from town/suburb name, was collapsed from five to three categories (ASGS 2011), pain intensity was collapsed from six to three categories, and nurse/midwife practitioner was combined with the advanced practice category).

Independent predictors of intention to leave within 12 months were determined using backward-stepwise logistic regression modelling. Variables entered into the model were selected based on the literature and statistical significance in preliminary analyses (see Tables 2 and 3).

Results

Sample characteristics

Most respondents were female (88.5%), with a mean age of 48.0 years (SD 11.5, range 18–78 years) (Table 2). The majority (70.6%) were foundational (front-line staff) nurses or midwives, worked shifts (53.1%) in metropolitan areas (65.8%), in a hospital setting (59.7%). Almost one-third (31%) identified as family carers.

Health

Overall, nurses and midwives perceived their health as 'good' to 'very good' (mean 2.5, SD 0.95), taking a median of three sick days per year [interquartile range (IQR) 1–6], with 16.8% reporting hospital admission in the previous year (Table 3). With 64.9% reporting at least one chronic disease, their most prevalent diagnoses included depression (22.0%), hypertension (17.2%) and asthma (15.0%). On average, respondents reported mean of 3.4 (SD 2.7) different symptom types sometimes or often. The most commonly reported symptoms included back pain (46.6%), severe tiredness (43.9%) and stiff joints (39.2%). Bodily pain and sleep issues were common, with pain occurring at a moderate intensity or more in 33.4% and mean insomnia score of 7.8 (SD 5.7).

Intention to leave

In total, 1113 (22.2%) participants indicated that they intended to leave their job in the next 12 months. Those who intended to leave were significantly younger

$[t(\text{df}4445) = 4.113; P < 0.001)$, more often in a front-line clinical role $[\chi^2(\text{df}1) = 2.697; P = 0.005]$, more often worked in residential aged care, rehabilitation or disability $[\chi^2(\text{df}3) = 10.664; P < 0.014]$, reported less job satisfaction $[t(\text{df}5006) = 30.113; P < 0.001]$ and had experienced workplace injury or abuse $[\chi^2(\text{df}1) = 21.343; P < 0.001]$ in the previous 12 months. Those who worked in inner regional (i.e. not in metropolitan or rural/remote) areas were less likely to intend to leave $[\chi^2(\text{df}2) = 10.750; P < 0.005]$ (Table 2).

Compared with those who did not intend to leave their job, those intending to leave reported significantly poorer general health $[t(\text{df}5010) = 4.48; P < 0.001)$, took more sick days $[t(\text{df}5017) = 4.765; P < 0.001)$ and were more likely to have been hospitalised in the previous 12 months $[\chi^2(\text{df}1) = 3.908; P = 0.048)$. They were more often diagnosed with anxiety $[\chi^2(\text{df}1) = 17.652; P < 0.001]$, were more likely to have experienced moderate-severe bodily pain $[\chi^2(\text{df}1) = 6.227; P = 0.014]$, back pain $[\chi^2(\text{df}1) = 2.552; P = 0.043]$, severe tiredness $[\chi^2(\text{df}1) = 29.414; P < 0.001]$, indigestion $[\chi^2(\text{df}1) = 9.877; P = 0.002]$, depression $[\chi^2(\text{df}1) = 27.060; P < 0.001]$, breathing difficulties $([\chi^2(\text{df}1) = 11.705; P = 0.001)$ and worse sleep $[t(\text{df}4171) = 7.938; P < 0.001)$ (Table 3).

Predicting intention to leave

With other variables accounted for, logistic regression modelling revealed that older nurses and midwives were less likely to intend to leave within 12 months, with every 5 years of age reducing the odds of leaving by

Table 4

Significant predictors of intention to leave at 12 months

Predictor	Odds ratio	95% CI	P-value
Age (5-year increase)	0.92	0.89, 0.96	<0.001
Carer			
No	1.0		
Yes	0.78	0.66, 0.91	0.002
Location			
Metropolitan	1.0		
Inner regional	0.76	0.63, 0.91	0.004
Outer regional, remote	1.29	0.95, 1.74	0.102
Shift work			
Yes	1.0		
No	0.77	0.65, 0.90	0.001
Job satisfaction (1 unit increase)	2.64	2.43, 2.86	<0.001
Breathing problems			
No	1.0		
Yes	1.34	1.08, 1.76	0.031
General health (1 unit increase)	0.92	0.84, 0.99	0.047

CI, confidence interval.
Model statistics: $\chi^2 = 593.62$, df = 23, *n* = 3696, *P* < 0.001.

more than 7% [odds ratio (OR) 0.924, 95% confidence interval (CI) 0.892, 0.957]. They were also less likely to intend to leave if they worked in inner regional areas (OR 0.760, 95% CI 0.631, 0.915) than in metropolitan and rural/remote areas; if they did not work shifts (OR 0.76, 95% CI 0.65, 0.90) and if they reported better job satisfaction (OR 2.64, 95% CI 2.43, 2.86). Two health factors were also predictive of intention to leave: those who reported breathing problems were at least 34% more likely to intend to leave (OR 1.34, 95% CI 1.03, 1.76) whereas nurses and midwives with better general health were less likely to intend to leave (OR 0.92, 95% CI 0.84, 0.99) (Table 4).

Discussion

Nurses and midwives who intended to leave their jobs within 12 months differed significantly from those not intending to leave by age, family carer responsibilities, work setting and location, but also according to position, experience of workplace abuse and job satisfaction. These factors were mostly unsurprising. However, this study also showed significant differences by health, with those intending to leave reporting poorer general health, more sick days and hospitalisations, more diagnoses of anxiety and more pain, tiredness, indigestion, depression, breathing and sleep problems.

This is the first study to focus on the health of the Australian nursing and midwifery workforce, showing that it exerts a significant independent effect on intention to leave and hence on workforce turnover. This is an important indicator nationally, as the profile of study participants was similar to that of the national Australian nursing and midwifery workforce, with mean ages of 48.0 years for study respondents *vs.* 44.6 years for Australian nurses and midwives, 88.5% *vs.* 89.8% female, 59.7% *vs.* 62.6% working in a hospital setting (Australian Institute of Health and Welfare 2013) and 65.8% *vs.* 68.4% located in metropolitan locations (Australian Bureau of Statistics 2013). The health status of the nursing and midwifery workforce broadly reflected that of the Australian population, although only 50.6% reported very good to excellent health compared with 55.1% of the population (Australian Bureau of Statistics 2012). Similar prevalence was seen in high rates of mental health diagnoses (e.g. 22% for depression *vs.* 22.3% of females aged 16–85 years in the previous 12 months (Australian Bureau of Statistics 2007) and chronic diseases (for example, 17.2% reported hypertension compared with 21.5% of Australians aged 18 years and over with measured high blood pressure) (Australian Bureau of Statistics 2013). The prevalence of asthma, however, was notably higher at 15.0% compared with 10.2% (Australian Bureau of Statistics 2013) and, with the significance of breathing difficulties for intention to leave, this warrants further examination.

Overall, findings are similar to data reported internationally, for example, of poorer self-reported health (Pappas *et al.* 2005, Malinauskiene *et al.* 2011), obesity (Bogossian *et al.* 2012, Kyle *et al.* 2016), pain and inadequate sleep (Bjorvatn *et al.* 2012, Chiou *et al.* 2013). However, societal assumptions about links between increasing age with increasing ill-health and reduced employment intention (Australian Public Service Commission 2011–2012) were not confirmed in this nursing workforce, where ageing predicted less likelihood of intention to leave. Older nurses and midwives, with their accumulated years of knowledge and experience, are likely to be well aware of job demands and opportunities within nursing and to take steps to move into positions where requirements do not exceed what their health allows (Duffield *et al.* 2015a). In a predominantly female workforce, cultural expectations and life-stage considerations including childbearing may have had some effect (Liu *et al.* 2012). Younger nurses and midwives may be more or less likely to express an intention to leave for reasons that may relate to social and cultural expectations of women, including childbearing, childcare and caregiver responsibilities. They may also wish to move from a job that is unsatisfying or includes shift work, or is a specialty or role that does not match their career aspirations (Flinkman *et al.* 2008, Shacklock & Brunetto 2012, Heinen *et al.* 2013). Younger nurses and midwives expressing an intention to leave their current job may indicate positive choices for longer-term career advancement, although this also has implications for their current workplace. Differential effects shown in relation to geographical location may, at least in part, reflect the greater workplace choices afforded by cities.

Strengths and limitations

The influence of job satisfaction in relation to intention to leave has been consistently recognised, and it is a strength of this study that it confirms what is already known (De Milt *et al.* 2011, Heinen *et al.* 2013). However, a limitation is the inability to calculate a survey response rate, given there is no way to know how many NSW nurses and midwives were alerted to or had access to this electronic survey. Electronic surveys are attended by well-recognised potential bias to response as well as reliance upon self-report data. Nonetheless,

the size and representative nature of the sample are strengths, as is the use of well-established, validated instruments allowing comparison with the Australian population and other workforces.

Conclusions

Age and health status proved significant influences on future employment intentions in this study of over 5000 nurses and midwives. Fewer nurses and midwives than the population in general rated their health as optimal, and the concern is that, as they age, their health is likely to decline. As an international priority, staff health needs to be aligned with the public health priorities for patients and the general population: increasing exercise, improving diet, reducing obesity, smoking and excessive drinking.

Implications for nursing management

Employers should invest in strategies to keep their workforce healthy, such as facilities for healthy eating and exercise, health maintenance and wellness programmes, which can be offset against the cost of staff replacement. Employers need to give serious consideration to matching roles to nurses' and midwives' physical and health abilities, to continue to make use of their years of knowledge and expertise. As these occupations are acknowledged as physically and emotionally demanding (exacerbated by shift work), this is particularly important for front-line staff. Educators, managers and policy makers should take heed of the significant influence of health for staff retention and move proactively to safeguard their health to maintain staff of this workforce for the future.

Source of funding

Ethical approval

South Eastern Sydney HREC: LNR11/POWH/242; University of Technology Sydney: LR/2013000741

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