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## Abstract

*Purpose:* To examine the differences between characteristics of the work environment of nurses working in mental health and general acute inpatient nursing settings.

*Design:* Secondary analysis of data collected on 96 randomly selected medical and surgical (general) wards and six mental health wards in 24 public acute general hospitals across two Australian states between 2004 and 2006.

*Methods:* All nurses on the participating wards were asked to complete a survey that included the Practice Environment Scale of the Nursing Work Index (NWI-PES). Responses were received from 2556 nurses (76.3% response rate). Using the 5-domain structure reported by Lake (2002), comparisons were made between mental health and general nurses.

*Findings:* Across the entire sample of nurses, those working in mental health settings scored more highly in regard to nurse-doctor relationships and staffing adequacy. Nurses in general wards reported more participation in hospital affairs, stronger leadership, and the presence of more of the foundations of nursing quality care such as access to continued education. Differences between the groups on each of the domains was statistically significant at  $p \leq 0.05$  or greater, but not for the composite practice environment scale. A wide range of responses was seen when data were aggregated to the ward level.

*Conclusion:* The work environment of mental health nurses is different to their colleagues working in general settings. Specific areas of the mental health environment, such as participation in the hospital, leadership and the foundations of quality may be enhanced to improve nurses' job satisfaction and, potentially, other nurse and patient outcomes.

*Clinical Relevance:* Factors in the medical and surgical nursing practice environment have been established as significant influences on nurse and patient outcomes. It is important to understand the existence and potential impact of these factors in mental health inpatient settings.

*Keywords:* Work Environment, Hospital Nursing Staff, Psychiatric Nursing, Recruitment/retention

### *A Comparison of the Nursing Practice Environment in Mental Health & Medical-Surgical Settings*

Research has established that factors in the work or practice environment influence nurse and patient outcomes, particularly in medical and surgical ward settings (Aiken, Clarke, Sloane, Lake, & Cheney, 2008; Rafferty et al., 2007). The link between a positive work environment, nurse satisfaction and retention has been identified in a number of studies (Christmas, 2008; Cohen, Stuenkel, & Nguyen, 2009), while other research has found a relationship between the work environment and patient outcomes such as mortality, falls, medication errors and other adverse events (Aiken et al., 2008; Aiken, Sloane, & Sochalski, 1998; Aiken, Smith, & Lake, 1994).

Many environmental factors were first identified in United States hospitals that had reputations for good nursing care and were able to recruit and retain nurses during a period of severe staff shortages in the 1980s. These hospitals, referred to as *Magnet Hospitals*, were found to provide adequate, flexible staffing; strong career development through continuing education and promotion opportunities; and encouragement for nurses to practice their clinical expertise (Kramer & Hafner, 1989; McClure & Hinshaw, 2002).

The various versions of the Nursing Work Index (NWI) have been used by researchers to measure the factors in the work environment that support this professional nursing practice (Aiken & Patrician, 2000; Lake, 2002). This instrument provides a means of assessing the presence of those attributes which define a positive practice environment, such as professional autonomy, collaborative relationships with doctors, access to resources, nursing leadership and organizational support (Aiken & Patrician, 2000; Lake, 2002). Several recent studies have applied the practice environment scales of the nursing work index (NWI-PES; Lake, 2002; Lake & Friese, 2006; Middleton, Griffiths, Fernandez, & Smith, 2008).

Studies of these elements of the practice environment have usually focused on the medical and surgical setting (referred to collectively as *general wards* in this paper). Similar examinations of the acute mental health inpatient setting are rare. This study compared the factors of the practice environment as reported by nurses working in Australian general and mental health wards, using the domains of the NWI-PES.

#### *Literature Review*

The magnet hospital research identified nursing leadership, autonomy, participation and accountability as important organizational features (McClure & Hinshaw, 2002; McClure, Poulin, Sovie, & Wandelt, 1983). Subsequent to this initial research, more recent studies have linked various these and other characteristics of the

hospital organization to nurse and patient outcomes. These influential factors include staffing levels (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002); workload (Duffield, Roche, O'Brien-Pallas, Diers et al., 2009; Duffield et al., 2007; O'Brien-Pallas et al., 2004); skill mix (the proportion of registered nurses; Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002); the value placed on nursing in the organization (Kramer, Schmalenberg, & Maguire, 2004); the degree to which nurses are involved in staff development (Kramer & Schmalenberg, 2004); relationships between nurses and colleagues (McGillis-Hall & Doran, 2004); nursing leadership and support (Bakker, Demerouti, & Verbeke, 2004; Upenieks, 2003); and patient turnover (Duffield, Diers, Aisbett, & Roche, 2009; Unruh & Fottler, 2006). Outcomes that have been associated with these factors include nurses' job satisfaction, turnover and vacancy rates (Rafferty et al., 2007; Upenieks, 2003; Van Bogaert, Clarke, Vermeyen, Meulemans, & Van de Heyning, 2009); patient length of stay and negative outcomes (Cho, Ketefian, Barkauskas, & Smith, 2003; McCloskey & Diers, 2005; Needleman et al., 2002); adverse events (Aiken et al., 2008; Aiken et al., 1998; Clarke, 2007); and aggression towards nurses (Roche, Diers, Duffield, & Catling-Paull, In Press).

Overall, this body of research indicates that positive general nursing work environments link to better outcomes for nurses and patients. In the mental health literature such extensive research has not been undertaken, although a number of these elements have been discussed. In a comparison of nurses in psychiatry and general wards in the United States, Hanrahan and Aiken (2008) noted that psychiatric nurses evaluated their work environments more negatively than their colleagues, also reporting lower quality of care and higher rates of adverse events. In Australia, a lack of control over nursing practice has been identified as a significant stressor for mental health nurses (White & Roche, 2006) and there is also the suggestion that mental health services remain somewhat separate from the organizational structures of the acute care general hospitals to which they are attached (Mental Health Council of Australia, 2005), which is a potential impediment to effective leadership and participation in the governance of the hospital by mental health nurses.

Specific factors of the practice environment that have been found to consistently link to better outcomes in general settings include positive collegial relationships between doctors and nurses; strong nursing leadership; adequate access to education and professional development; participation of nurses in the operation of the organization; and sufficient staffing and resources (Aiken et al., 2008; Lake, 2002; Lake & Friese, 2006). An

examination of each of these aspects of the work environment highlights their importance in both general and mental health settings.

*Nurse-Doctor Relationships.* An effective working partnership between the nurse and doctor is an important component of a positive work environment (McClure et al., 1983). Together with the other organizational elements of the environment this factor has been consistently identified in international general nursing research as a significant influence on outcomes (Aiken et al., 2008; Gunnarsdóttir, Clarke, Rafferty, & Nutbeam, 2007; Van Bogaert et al., 2009). This relationship is most commonly referred to as *collegial*, which reflects the collaborative nature of the relationship and implies nursing autonomy and status in the organization (Laschinger & Leiter, 2006).

Both patient and nurse outcomes have been associated with collegial relationships between nurses and doctors. In combination with other work environment characteristics, poor collegial relationships have been linked to higher rates of patient mortality and complications in intensive care units (Knaus, Draper, Wagner, & Zimmerman, 1986), and across general hospitals (Aiken et al., 2008; Friese, Lake, Aiken, Silber, & Sochalski, 2008). A study of 284 general nurses in the United States established strong associations between collegial relationships, nurses' job satisfaction and stress (Manojlovich, 2005). In Australian research, an association was identified between nurse-doctor relationships and nurses' job satisfaction and reported experience of threats of violence (Duffield, Roche, O'Brien-Pallas, Catling-Paull, & King, 2009; Roche et al., In Press). Finally, a survey of general nurses in New Zealand ( $N=225$ ) found that positive nurse-doctor relationships were correlated with higher levels of social functioning, vitality and mental health (Budge, Carryer, & Wood, 2003).

A broader view of collegial relationships may be applied to mental health where practice is often multidisciplinary (Grigg, 2001; Rosen, 2001; Rosen & Callaly, 2005). Similar to nurse-doctor relationships, a link between effective participation in the multidisciplinary care team and patient outcomes in mental health has been identified. A longitudinal study of mental health patients ( $N=1638$ ) and care teams in 16 Veterans Affairs hospitals found significant improvements in functional status for patients where the team had broad participation in planning and care delivery (Alexander et al., 2005). In Australia, multidisciplinary approaches were found to be effective in reducing the seclusion and restraint of mental health patients (Gaskin, Elsom, & Happell, 2007) and the nurse-doctor relationship in Australian community mental health has been linked to the influence nurses have in decisions about patient treatment (Elsom, Happell, & Manias, 2007). Mental health nurses have also reported

that multidisciplinary teamwork is an important influence on their job satisfaction (Cleary, Walter, & Hunt, 2005; White & Roche, 2006).

*Nursing Leadership.* Strong nursing leadership at the ward and organizational level has been identified in general nursing research as a significant predictor of positive outcomes for nurses and patients (Aiken et al., 2008; Laschinger & Leiter, 2006; Leiter & Laschinger, 2006). It is seen as enabling clinical nurse autonomy and best practice through clear management structures and nursing representation (Schmalenberg & Kramer, 2008). Strong leadership can be reflected in the participation of nurses in governance, policy decisions other career and professional development opportunities (Lake, 2002).

Effective nursing leadership and the empowerment of nurses within the organization have been associated with higher job satisfaction (Laschinger, Finegan, Shamian, & Wilk, 2004; McGillis-Hall et al., 2001). This has been further linked to retention, as high leadership scores on the NWI-PES were linked to reduced intention amongst nurses to leave their current job (Duffield, Roche, O'Brien-Pallas, Catling-Paull et al., 2009). Similarly, Cohen et al. (2009) found that RNs who reported higher levels of support from their supervisors were less likely to leave their position than were RNs who reported lower levels.

Other research has highlighted the importance of leadership through the ability of leaders to influence other aspects of the work environment, such as staffing, skill mix and enhanced participation in the organization (Laschinger & Leiter, 2006). That study of the nursing workforce in Canada ( $N=8597$ ) identified a strong relationship between effective leadership and adequate staffing, sufficient resources, and a nursing (as opposed to medical) model of care.

Although little research has been undertaken into nursing leadership in mental health, there has been discussion of the issues of effective clinical and organizational leadership in Australia (Mental Health Council of Australia, 2005). In particular, limited leadership support for nurses in mental health services has been noted in government reports nationally (Senate Community Affairs References Committee, 2002) and in New South Wales (NSW; Legislative Council Select Committee, 2002). This factor has been suggested to make it difficult for nurses in mental health to influence policy and practice issues at the organizational level and has been interpreted as a consequence of incomplete integration of mental health services into acute care general hospitals (Mental Health Council of Australia, 2005).

*Foundations for Quality Nursing Care.* Nursing leadership may also be evident in the establishment of basic organizational supports identified in the magnet hospital and subsequent studies (Aiken et al., 2008). These elements, defined by items in the NWI-PES, include the availability of continued education for nurses, preceptors for new staff, access to clinically competent colleagues, the expectation of a high standard of care and a nursing model of service provision (Lake, 2002). They provide support to nurses in their role as it empowers them to consult competent colleagues, develop their skills, and undertake autonomous care. It also imparts a clear understanding that nursing has a voice in the organization (Lake, 2002).

The presence of these foundations for quality nursing care, in combination with other work environment characteristics, have been found in the United States to be associated with lower patient mortality, higher nurse job satisfaction, lower burnout and higher quality of care (Aiken et al., 2008; Armstrong, Laschinger, & Wong, 2009). In Finland, the organizational expectation of high standards of nursing care was linked to decreased nurse stress, increased job satisfaction, fewer adverse events for patients and nurses, and improved patient satisfaction (Tervo-Heikkinen, Partanen, Aalto, & Vehviläinen-Julkunen, 2008). Overall, both patient and nurse outcomes in general nursing settings are improved in organizations that provide professional development for nurses and that encourage high standards of nursing within a nursing model of care.

In mental health, this factor has not been specifically explored, although elements such as the provision of preceptors to new staff and continued education have been examined in Australia. Of note, a survey of 601 nurses working in mental health settings undertaken by White and Roche (2006) found that access to continued education was a particularly difficult process and significant stressor. In contrast, the provision of preceptorship to new staff appears to be widespread, and has been linked to improved job satisfaction, particularly when the preceptors themselves receive support in the role (Charleston & Happell, 2004; Hayman-White, Happell, & Charleston, 2007).

*Participation in Hospital Affairs.* Linked to the earlier discussion of nursing leadership is the participation of nurses in the affairs of the hospital. It has been suggested in magnet hospital research that the positioning of an accessible nurse leader in the senior management structure of the organization gives nursing sufficient power to influence policy decisions or act on issues relevant to nurses (McClure & Hinshaw, 2002). Nurses in New Zealand suggested that effective leadership provided clarity and direction at both the ward and organizational level (Hansen, Carryer, & Budge, 2007). Similarly, Laschinger, Finegan and Wilk (2009) found an association



between nursing leadership, workplace conditions and nurses' commitment to the organization across 217 hospital wards. Research in Belgium linked aspects of leadership, the foundations of quality nursing and participation in hospital affairs to improved quality of care and greater perceived personal accomplishment at work (Van Bogaert et al., 2009).

The concept of participation in hospital affairs has not been studied in mental health. However, the issue of the involvement of mental health staff in the governance of general hospitals has been raised in submissions to the Australian *Not for Service* inquiry (Mental Health Council of Australia, 2005). These reports suggest that, in mental health services attached to general acute hospitals, opportunities for career development are less open to nurses in mental health and that general administration is less responsive to concerns of mental health staff. In addition, participation in policy making may be linked to a nursing-focused model of care that facilitates interactions with patients (Cleary & Edwards, 1999), the core of mental health nursing practice.

*Staffing and Resources.* In addition to the four environmental characteristics described above, a number of reviews have emphasized the influence of staffing and skill mix on nurse and patient outcomes in the general nursing work setting. A meta-analysis of 28 studies (Kane, Shamliyan, Mueller, Duval, & Wilt, 2007) found a high degree of consistency in the relationships between staffing and skill mix, nurse outcomes such as job satisfaction and burnout, and patient outcomes such as mortality and adverse events. Similarly, a systematic review of 22 large studies identified a clear relationship between nurse staffing, skill mix and patient outcomes (Lankshear, Sheldon, & Maynard, 2005). Dall and colleagues (2009) concluded that increased nursing staffing levels were linked to decreased rates of a wide range of negative outcomes for patients, along with shorter lengths of stay.

Several studies in mental health settings have suggested similar relationships. Aronson (2005), in a study of all staff in 39 private psychiatric facilities in the United States ( $N = 3024$ ), found that nurses were generally less satisfied with their job than mental health professionals in other disciplines, and that this was related to staffing as well as other organizational factors such as management support and supervision. Similarly, a systematic review of research relating to stress management interventions for mental health nurses in the United Kingdom found that in addition to support and resources, low staffing was a significant source of stress and decreased job satisfaction (Edwards & Burnard, 2003).

It has been noted in much of this research that these environmental factors are interactive. An example of this interaction comes from the New Zealand public hospital system, where during the 1990s there was major

healthcare reform. This reform removed nurses from senior and management positions in hospitals and the government, replacing many with generic business administrators (Coney, 1996). There was a concurrent overall decrease in nurse staffing, although with an increase in the proportion of registered nurse hours. Analysis of administrative data collected during this period indicated that reduced staffing and the disrupted work environment for nurses was associated with significant increases in a range of negative patient outcomes despite the richer skill mix (McCloskey & Diers, 2005).

### *Method*

The present report is a secondary analysis of data collected in two studies of medical and surgical wards (Duffield, Roche, O'Brien-Pallas, Diers et al., 2009; Duffield et al., 2007) together with data from a study of mental health wards not reported previously. Data were collected on 96 randomly selected medical and surgical wards in 21 public general acute hospitals across two Australian states and on six mental health wards attached to general acute hospitals in one state between 2004 and 2006. A medical/surgical unit could have been exclusively medical or surgical or a combination of both. Emergency departments, intensive care units, pediatric and obstetric wards were excluded. Ethics approval was gained from the University, participating health services and respective state Health Departments (21 committees in total).

All nurses working on the selected wards in all locations were asked to complete a Nurse Survey. Nurses included in the studies were Registered Nurses (RN), Enrolled Nurses (EN; similar to LVN/LPN in the United States) and Assistants in Nursing (AIN; similar to Patient Care Assistants). Data collection procedures in all studies were similar, with nurses able to complete the survey anonymously and return via a secure data collection box or reply-paid post. A combined response rate of 76.3% was achieved (2556 of 3348 potential consenting respondents).

*Instruments.* A number of instruments were used in the studies, although only the NWI-PES domains and common demographic variables are reported here. The Nurse Survey included the 49-item Revised Nursing Work Index (NWI-R; Aiken et al., 2001; Estabrooks et al., 2002; Sochalski, Estabrooks, & Humphrey, 1999), which shared 28 items (Table 1) with the NWI-PES as described by Lake (2002). Demographic items were included on surveys in all studies and a range of additional variables were captured in the studies of medical and surgical wards. The study of mental health wards added the Mental Health Problems Perception Questionnaire (Lauder, Reynolds, Reilly, & Angus, 2000).

*The Practice Environment Scale of the Nursing Work Index.* The Nursing Work Index was originally developed from the reported characteristics of the practice environments of magnet hospitals and a review of literature on work values and job satisfaction (Kramer & Hafner, 1989). The instrument was revised during the 1990s and renamed the Revised Nursing Work Index (Aiken & Patrician, 2000). Subscales were derived to measure three organizational characteristics attributed in the literature to environments supportive of professional nursing practice: autonomy, control over the work environment, and relationships with medical staff (Aiken & Patrician, 2000).

In order to refine the 49-item NWI-R into a parsimonious, psychometrically sound instrument with empirically derived domains, a secondary analysis of a data collected using the NWI was undertaken by Lake (2002). This process resulted in a 31-item instrument that measures 5 domains: *Collegial nurse-doctor relationships; Nurse manager ability, leadership, and support of nurses; Nursing foundations for quality of care; Nurse participation in hospital affairs; and Staffing and resource adequacy.* An overall domain, *Practice environment*, was also calculated, as the mean of the domain scores (Lake, 2002).

Each item in the NWI-PES is scored on a 4-point scale, with higher scores indicating agreement that the item is present in the environment. Domain scores across a ward or hospital at or above the mid-point of 2.5 indicate general agreement in regard to the subscale, permitting the classification of that domain as 'favorable' or 'positive' (Lake & Friese, 2006). The NWI-PES has displayed good psychometric properties and has been applied in a number of studies since development (Aiken et al., 2008; Friese et al., 2008; Lake & Friese, 2006). It has also been adopted in the United States as a measure of nursing quality in organizations (National Quality Forum, 2004). Internal consistency of the NWI-PES has been examined (Lake & Friese, 2006; Manojlovich & Laschinger, 2007) and was satisfactory for each of the subscales and the instrument as a whole (Cronbach's  $\alpha$  0.71 – 0.98). In the present study, Cronbach's  $\alpha$  scores ranged from 0.70 to 0.85 (Table 1), with an overall  $\alpha$  of 0.82. The NWI-PES as used here has not been applied to mental health nurses. Hanrahan and Aiken (2008) did undertake an analysis of a large combined psychiatric and general nursing dataset using similar methodology, but used 3 subscales rather than the 5 analyzed in this study.

*Analysis.* Data were analyzed using SPSS version 16 (SPSS Inc., 2007). Missing data were imputed as the ward mean or, where more than 10% of data were missing, that variable was not used in analyses.

Descriptive statistics were first calculated, followed by an assessment of the differences between the mental

health and general nurses on the available demographic variables using the  $t$ -test or  $X^2$ . Domains of the NWI-PES were calculated as means of the item scores (Lake, 2002). A comparison of the domain scores using the  $t$ -test was conducted. In order to examine the differences between mental health and general wards, rather than nurses, the proportion of nurses per ward with domain scores above 2.5 (i.e. considered 'positive') was calculated.

### *Findings*

Respondents to the Nurse Survey were predominantly female (88.6%) registered nurses (73.6%) working full time (53.2%). Their mean age was 37.9 years ( $SD=10.74$ ) and mean years of experience 12 ( $SD=10.17$ ). Both the mental health and medical surgical groups displayed similar skill mix and gender characteristics to their respective categories in population data collected by the Australian Institute of Health and Welfare (AIHW; 2006). The age of both groups was lower than the mean of 43.1 reported by the AIHW. These factors were similar in both the general nursing and mental health groups (Table 2). However, there were higher proportions of males, full time staff and registered nurses in the mental health group. The differences were statistically significant and should be taken into account when applying these results.

Subscale scores for both groups of nurses had normal distributions and similar standard deviations (Table 3). Differences were noted between the 2 ward types on all domains, but not on the overall practice environment. Mental health nurses scored more highly in regard to collegial nurse-doctor relationships and staffing and resource adequacy. General nurses scored more highly on nursing leadership, the foundations for quality care, and participation in hospital affairs. Most subscale scores were over the mid-point of 2.5, suggesting a positive view of most aspects of the practice environment. The exception was general nurses' views of staffing and resource adequacy, which was below the threshold at 2.26. As a group, mental health nurses reported that all positive facets of the environment measured by the NWI-PES were present, with only the scores for participation in hospital affairs approaching the mid-point.

When considered as a proportion of scores above 2.5 per ward, there was a wide range for both groups (Figure 1). As reflected in the overall scores above, mental health wards had a higher proportion of respondents with a positive view of nurse-doctor relationships and staffing adequacy than general wards. In particular, all mental health wards had more than 80% of responses indicating positive collegial work with medical colleagues, and 2 wards had 100% positive responses for both that domain and leadership. However, one of the mental

health wards had the lowest proportion for both leadership (7.7%) and participation in hospital affairs (15.4%). Other mental health wards had the lowest proportion of positive responses for the foundations of quality care and the overall practice environment.

### *Discussion*

A large body of research in general nursing has established the relationship of characteristics of the practice environment with patient and nurse outcomes. These environmental factors have also been identified as matters of concern in mental health. The NWI-PES as described by Lake (2002) has not been applied to the acute inpatient mental health setting before and consequently a comparison of mental health and general practice environments on the 5 factors of this instrument has not been reported. This study identified differences between the groups on all domains, but not on the composite practice environment scale, which was at the same level (2.70) for both groups. An advantage of using a tool such as the NWI-PES, that measures several domains, is that it permits the identification of specific areas of strengths and weaknesses. Environmental factors in need of improvement may thus be targeted.

Mental health nurses perceived significantly stronger relationships with doctors. In particular, this group reported collegial nurse-doctor relationships at a higher level (3.13) than reported for magnet hospitals in the United States (Lake, 2002; Lake & Friese, 2006), and higher than other Australian general nursing research (Middleton et al., 2008). This is indicative of strong interdisciplinary relationships and may be a consequence of the nature of work in mental health settings, described as inherently multidisciplinary (Grigg, 2001; Rosen, 2001).

Nurses in mental health also perceived their staffing to be adequate compared to general settings. Although this may simply be a reflection of higher staffing, it may also be an indicator that these nurses viewed the skill mix of their wards as appropriate to the care required by patients. There was a statistically significant difference between the groups in this regard, with the respective proportion of RNs being 89.5% versus 73.1%. Skill mix has been noted in Australian research to have moved to a lower percentage of RNs in general nursing wards, with a corresponding consolidation of richer skill mix in specialty areas such as intensive care (Duffield et al., 2007). The relatively richer skill mix in the mental health wards may also be a consequence of this process.

In contrast to the relatively positive view of these aspects of the environment, nurses in mental health reported less participation in the affairs of the hospital. The difficulties encountered by mental health staff in

regard to participation in the governance of general hospitals have been reported anecdotally (Mental Health Council of Australia, 2005), but not identified in research. The apparent barriers may be addressed through facilitation of the involvement of mental health nurses in the governance of general hospitals. This would include the active involvement of mental health staff in hospital-wide policy activities, and the creation of career development opportunities for mental health nurses in the general hospital. This could also serve to improve access for mental health staff to senior hospital management, to improve the understanding of mental health service delivery in general hospitals and to thereby improve hospital responsiveness to those concerns.

The foundations of quality nursing also scored lower in mental health than in general settings. This domain includes a number of items, some of which, such as access to continued education, have been identified as problematic in previous mental health research (White & Roche, 2006). In recognition of the importance of this particular issue, incentives to undertake mental health post-graduate education have been introduced in a number of locations (Pagnini, 2005). However, the involvement of nurses remains low compared to the size of the profession (NSW Labour Economics Office, 2008). A more detailed examination of the specific issues in mental health is warranted.

The remaining factor in which mental health scored lower was leadership. However, although this domain was scored lower overall, there was a broad range across the wards. Leadership, particularly of front-line managers on the ward, has been found to be an important factor in nurse retention (Force, 2005) and may enhance the involvement of nurses in hospital governance (Leiter & Laschinger, 2006). Actions to improve leadership in this area, such as the *Take the Lead* program in NSW (New South Wales Health, 2009), should be continued and evaluated for further implementation.

*Limitations.* Other than the application of a version of this instrument by Hanrahan and Aiken (2008), reports of the use of the NWI-PES in the mental health nursing environment were not found in the literature. Therefore, despite satisfactory reliability scores, further testing would be beneficial, in particular to establish the validity of the items and derived constructs. Also, the general nurse sample was not only considerably larger, it was drawn from a wider range of hospitals than the mental health nurse sample. As noted previously, there were several differences between the samples in terms of gender, employment status and grade.

### *Conclusion*

The practice environment of nurses in the mental health acute inpatient setting is different to that of nurses in medical or surgical settings. In particular, mental health nurses report their relationships with doctors and the adequacy of staffing more favorably. However, the majority of nurses on some mental health wards highlight issues of participation in the hospital, the foundations of quality care, and nursing leadership. These findings suggest that this group of nurses, in mental health wards attached to general hospitals, is disengaged from the general hospital environment, and have consequent difficulties in accessing necessary career and professional development opportunities. These factors may be modified through changes to practice and policy, particularly at the local hospital level. In the light of general nursing research that has linked the practice environment to outcomes, improvements here have the potential to improve nurses' capacity to undertake mental health patient care in an effective manner. Also, in the context of a worldwide shortage of nurses, the impact of these factors on recruitment and retention may be significant (Roche & Duffield, 2007).

Finally, a notable aspect of general nursing research in this area is that it has established strong associations between aspects of the environment and both nurse and patient outcomes. Some studies in mental health have examined the associations between aspects of the environment and nurse outcomes such as job satisfaction or burnout (Hayman-White et al., 2007; Hyrkas, 2005), but links to patient outcomes have not been reported. One potential reason for this is the lack of readily identifiable activities in mental health nursing that may be influenced by the work environment (Forchuk, 1996; Tummers, Houkes, Janssen, & Landeweerd, 2001). Indeed, although a wide range of mental health nursing activities may be found in the literature (Cleary, 2004; Deacon, 2003; Mullen, 2009), the focus remains on the therapeutic relationship, a concept that in nursing has proven to be difficult to define and measure (Barker & Buchanan-Barker, 2008; Forchuk, 1996). Further, in general nursing, patient outcomes have been clearly defined and linked to nurse activities (Needleman et al., 2002). In contrast, there is considerable discussion about which patient outcomes to measure in mental health, and whether the outcomes may be sensitive to nursing work (Gerolamo, 2004). Further research must be undertaken in the mental health setting to establish readily measureable patient outcomes. Links between nursing work and these outcomes may then be investigated.

*Clinical Resources*

Duffield, C. M., Roche, M. A., O'Brien-Pallas, L. L., Diers, D. K., Aisbett, C., King, M. T., Aisbett, K. Hall, J.  
Glueing it together: Nurses, their work environment and patient safety.

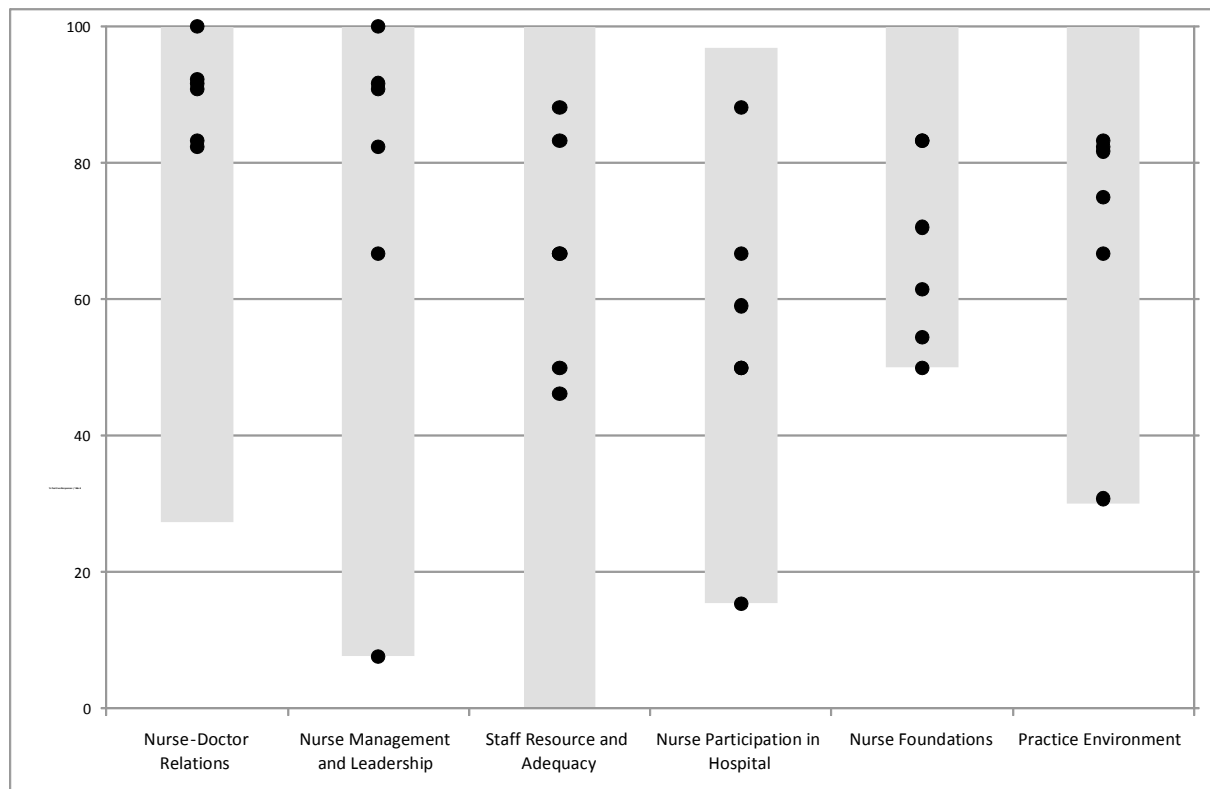
[http://www.health.nsw.gov.au/pubs/2007/nwr\\_report.html](http://www.health.nsw.gov.au/pubs/2007/nwr_report.html)

American Nurses Association. The National Database of Nursing Quality Indicators,

<http://www.nursingworld.org/MainMenuCategories/ThePracticeofProfessionalNursing/PatientSafetyQuality/Research-Measurement/The-National-Database.aspx>



Figure 1 Proportion of nurses per ward with positive responses to domains of NWI-PES



Note: Gray areas indicate all wards. The symbol '●' indicates mental health wards

Table 1

*Domains and Items of the NWI-PES*

<b>Domain</b>	<b>Item</b>
<b>Nurse Participation in Hospital Affairs</b> ( $\alpha = .71$ )	1. Career development/clinical ladder opportunity.
	2. Opportunity for staff nurses to participate in policy decisions.
	3. A chief nursing officer who is highly visible and accessible to staff.
	4. A chief nurse officer equal in power and authority to other top level hospital executives.
	5. Opportunities for advancement.
	6. Administration that listens and responds to employee concerns.
	7. Staff nurses are involved in the internal governance of the hospital. (e.g., practice and policy committees).
	8. Staff nurses have the opportunity to serve on hospital and nursing committees
<b>Nursing Foundations for Quality of Care</b> ( $\alpha = .70$ )	9. Active staff development or continuing education programs for nurses.
	10. High standards of nursing care are expected by the administration.
	11. A clear philosophy of nursing that pervades the patient care environment
	12. Working with nurses who are clinically competent.
	13. An active quality assurance program.
	14. A preceptor program for newly hired RNs.
	15. Nursing care is based on a nursing, rather than a medical, model.
	16. Written, up-to-date nursing care plans for all patients.
	17. Patient care assignments that foster continuity of care, i.e., the same nurse cares for the patient from one day to the next.
<b>Nurse Manager Ability, Leadership, and Support of Nurses</b> ( $\alpha = .81$ )	18. A supervisory staff that is supportive of the nurses.
	19. A nurse manager who is a good manager and leader.
	20. Praise and recognition for a job well done.
	21. A nurse manager who backs up the nursing staff in decision making, even if the conflict is with a doctor.
<b>Staffing and Resource Adequacy</b> ( $\alpha = .80$ )	22. Adequate support services allow me to spend time with my patients.
	23. Enough time and opportunity to discuss patient care problems with other nurses.
	24. Enough registered nurses to provide quality patient care.
<b>Collegial Nurse – Doctor Relations</b> ( $\alpha = .85$ )	25. Enough staff to get the work done.
	26. Doctors and nurses have good working relationships.
	27. A lot of teamwork between nurses and doctors.
	28. Collaboration (joint practice) between nurses and doctors.

*Note: The complete NWI-PES contains 31 items. Only common items across the three studies and listed in the NWI-PES as described by Lake (2002) are included here.*

Table 2  
Demographic Variables

	<b>Mental Health (N=76)</b>	<b>Medical or Surgical (N=2480)</b>		
	<b>Mean (SD)</b>	<b>Mean (SD)</b>	<b>t</b>	<b>p</b>
<b>Age</b>	36.3 (10.56)	38.0 (10.74)	-1.308	0.19
<b>Years nursing</b>	12.5 (11.02)	12.0 (10.14)	0.439	0.66
	<b>N (%)</b>	<b>N (%)</b>	<b>X<sup>2</sup></b>	<b>p</b>
<b>Sex</b>				
<b>Female</b>	52 (68.4%)	2213 (89.2%)	31.661	≤0.01
<b>Male</b>	24 (31.6%)	267 (10.8%)		
<b>Employment Status</b>				
<b>Full time</b>	55 (72.4%)	1305 (52.6%)	12.505	≤0.01
<b>Part time</b>	16 (21.1%)	781 (31.5%)		
<b>Casual</b>	5 (6.6%)	394 (15.9%)		
<b>Grade</b>				
<b>RN</b>	68 (89.5%)	1812 (73.1%)	10.586	≤0.01
<b>EN</b>	8 (10.5%)	598 (24.1%)		
<b>Other</b>	0 (0%)	70 (2.8%)		

Table 3

*Comparison of nurses working in Mental Health and General wards on NWI-PES Domains*

	<b>Mental Health (N=76) Mean (SD)</b>	<b>Medical or Surgical (N=2480) Mean (SD)</b>	<b>t</b>	<b>p</b>
<b>Nurse-Doctor Relations</b>	3.13 (0.616)	2.81 (0.581)	4.682	≤0.01
<b>Nurse Management and Leadership</b>	2.66 (0.750)	2.87 (0.646)	-2.807	≤0.01
<b>Staff Resource and Adequacy</b>	2.58 (0.621)	2.26 (0.678)	4.063	≤0.01
<b>Nurse Participation in Hospital</b>	2.52 (0.487)	2.65 (0.527)	-2.024	0.04
<b>Nurse Foundations</b>	2.60 (0.391)	2.93 (0.454)	-6.384	≤0.01
<b>Practice Environment</b>	2.70 (0.425)	2.70 (0.451)	-0.134	0.89

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