

NURSING TURNOVER AND STAFFING PRACTICES IN NEW ZEALAND'S DHBS: A NATIONAL SURVEY

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Abstract

Nursing turnover is critical issue as nurse shortages throughout the Western world are putting a strain on health systems. New Zealand's nursing shortage is exacerbated by international recruitment efforts targeting nurses. New Zealand is a participating country in an international study, using an agreed study design and instruments, to determine the real direct and indirect costs of nursing turnover and the systemic costs by also determining the impacts of turnover on patient and nurse outcomes.

The paper reports on two components of the study. First, a pilot study was conducted in six countries, including New Zealand, to identify availability of costs and suitability of the instrument. The results of the pilot, that found that many costs were not available, are reported. Second, as part of a national Cost of Nursing Turnover study, Directors of Nursing in the 21 District Health Boards (DHBs) throughout New Zealand were contacted to complete a survey on turnover and workplace practices; 20 participated. In 13 DHBs nursing turnover was a problem, with 5 reporting rates over 20%; 5 DHBs reported low turnover at 5-10%. The survey did not establish how turnover rates were determined. Notwithstanding the importance of attracting and retaining nurses, in every DHB except 5 there are tight controls over recruitment of new staff, and several DHBs reported a freeze on recruiting RNs except for 'specialist' nurse roles.

Introduction

Nursing turnover is an issue of growing concern for health services and policy makers as many countries in the Western world are experiencing endemic shortages of nurses. The nursing profession is experiencing declining numbers of new nurses, an older average age of new graduates and high rates of younger nurses leaving the profession due to unwillingness to accept the poor pay, high stress, and limited opportunities for advancement. Contributing to nurse shortages, therefore, are an exodus of Registered Nurses (RN's) from the profession, declines in the number of graduates entering the profession, and an ageing nursing workforce as the 'baby boomer' generation of nurses approaches its retirement (Cowin, 2002; Shader et al., 2001; Stone et al., 2003). In the UK a bulge of nurses in their mid 30s-40s, in conjunction with lower intakes of nurse learners/students has resulted in 1 in 5 nurses being aged 50 or over (Buchan, 1999). At the same time demand for a skilled, experienced nursing workforce is growing as skill shortages affect other

medical and health professions also, and a population characterised by increasing age, complex morbidities and high expectations of excellent health care is increasing demand for health services.

Like other Western countries, in New Zealand in 2002 45% of active registered nurses were aged 45 and over (NZHIS, 2002). New Zealand's nursing shortage is exacerbated by international recruitment efforts targeting nurses including new graduates, to cover other countries' staff shortages Health Workforce Advisory Committee, 2002). New Zealand research into the career plans of nurses has consistently found that around 30-40% of all active RNs intend to leave their jobs in the next 12 months, and over 50% of New Zealand nurses cease active employment as a RN within eleven years of initial registration (Cobden-Grainge & Walker, 2002; Gower & Finlayson, 2002; Nursing Council of New Zealand, 2000; NZ Herald, 2002; and Quinnell, 2001). While the problem of nursing turnover is acknowledged, the levels, costs and consequences both in economic and quality

terms have not been empirically established in New Zealand, hampering policy and organisational efforts to address the issue.

This paper describes a national study on the cost of nursing turnover in New Zealand's public hospitals. The study is part of an international collaborative study involving Canada, Australia, the United States, the United Kingdom, and Scotland, all of which participated in a pilot study to test the instrument, with other countries showing interest. To date the study has been commenced in Canada and New Zealand only, and in New Zealand the first stage only, a national survey of Directors of Nursing to contextualise the study, has been completed. Some results of this survey are presented in the paper, after first briefly reviewing literature on the cost of nursing turnover, and discussing the pilot study in New Zealand. The policy context in which the study is conducted is characterised by recent health system restructure, severe financial pressure and ongoing organisational change.

Previous Research

There is a considerable body of research on the reasons for turnover: the predominant reasons nurses resign from a job include issues related to salary, work schedules, job satisfaction, professional autonomy and job-related stress (Blegen, 1993; Cangelosi, Markham & Bounds, 1999; Cowin, 2002; Irvine & Evans, 1995; and Shader et. al., 2001). There is also a small body of international and New Zealand literature on the consequences of nursing turnover: regular turnover of nursing staff has a negative impact on the care patients receive as health care teams become destabilised, staff morale declines, communication lines become disrupted and strain is placed on resources as temporary cover is arranged (Blegen, Goode & Reed, 1998; Buchan & Seccombe, 1991; Finlayson, 2002; Mueller & Price, 1989; O'Conner, 1996). In addition, efficiency is reduced and staff safety is compromised by staff shortages, increasing the likelihood of such incidents as needlestick injuries (Clarke, Rockett, Sloane & Aiken, 2002). Turnover can also have positive impacts on employees and employers. Dalton and Todor (1979) assert that turnover can increase organisational effectiveness through enhanced innovation and mobility, and turnover is seen as an opportunity to replace dissatisfied workers who may have been unproductive for some time. In spite of these research findings, few policy and health service decision-makers have addressed the link between staff numbers, characteristics of work environment and the impact on patients, nurses and the hospital system as a whole. (O'Brien-Pallas, 2001).

Nursing turnover can have negative social impacts on an organisation, by disrupting cohesiveness, increasing internal mobility and often triggering additional turnover. In addition to impacting on the social dynamics of an organisation, turnover takes up a significant proportion of the healthcare dollar. Nursing turnover affects hospital efficiency through the costs of recruiting and orienting replacement nurses, the costs incurred in using temporary agency nurses to fill vacancies, reduced efficiency of team-based care on patient units, and the administrative

costs of supervising new nurses (Alexander, Bloom & Nuchols, 1994). However, studies into the cost of nursing turnover are limited in number and are predominantly a decade out of date, therefore failing to reflect current nursing shortages (Johnston, 1991; Jones, 1990).

American research has estimated turnover to cost as little as US \$1,528 or in excess of US \$25,000 per nurse, largely due to indirect costs (Hoffman, 1985; Jones, 1990). The identification of turnover costs per RN varies significantly due to both environmental factors and a lack of consistency between studies. Definitions of turnover, in particular, have been inconsistent amongst previous turnover research, and the costs included have varied, limiting comparability between studies. For example, Loveridge (1998) found turnover costs ranged from US \$2,000 to \$5,000 per RN, and Wise (1990) estimated turnover costs to be \$5,435 per experienced RN. Similarly, a British study within the NHS found that nursing turnover cost between £1,250 and £7,760 per nurse (Buchan & Seccombe, 1991). Waldman, Kelly, Aora & Smith (2004) found that turnover of all health professionals, not only nurses, in a medical centre to represent a minimum of >5% of the total operating budget. Turnover of nurses was the greatest contributor to costs, through loss of productivity, followed by training costs, with costs related to hiring the smallest driver.

The inclusion of both direct and indirect costs is a primary cause for disparities in results amongst studies calculating turnover costs. Costs may also vary according to the level of experience and specialisation required for the position. Those on a higher wage may receive larger holiday leave payouts, and positions requiring a greater degree of specialisation may be more difficult to fill, causing longer periods of temporary cover. Due to the difficulty of accessing and measuring indirect costs many studies under-represent the cost of turnover by studying only the direct costs. The term turnover can also be differently used operationally, for example be used narrowly regarding nurses leaving the organisational, or to include internal transfer. Whether nurses leave voluntarily or not may also vary among studies. Even the term "nurse" can be defined differently, depending on qualifications and levels of nurse included.

The Pilot Study: An Experience of Difficulties in Determining Costs

The methodological deficiencies and variation of cost of nursing turnover studies, and inconsistent use of cost measures combined with the lack of data, must be overcome if the true costs are to be determined. In 2002 a group of influential researchers and policy makers in nursing initiated an International Consortium with the aim of conducting international comparative studies using the same definitions and methodologies to establish the true cost of nursing turnover to inform and drive policy to address nursing shortages and turnover.

The aim of the international pilot study was to test an instrument developed to determine costs of turnover, not primarily to describe the costs themselves. The investigators were asked to document the availability of

data, whether costs were accurate or estimated, how costs were calculated, and the if possible wider systemic costs attributed to nursing turnover including patient care errors and adverse nurse outcomes incurring costs. For the purposes of the pilot study, "nurse" referred to registered nurses working as staff nurses only, excluding enrolled nurses, nurse specialists and nurses in management roles such as charge nurses. "Turnover" was defined as voluntarily leaving the primary place of employment, including both internal transfer and leaving the organisation; an agreed formula for determining turnover rates was used.

Costs were conceptualised as direct and indirect costs. Direct costs are those costs that are easily identified and are a direct result of recruitment, temporary replacement and leaving. In contrast, indirect costs are costs which are normally incurred as a result of the nurse leaving, but which primarily relate to the time spent by other employees in administering the turnover process e.g. orienting and precepting, new hires and employment termination costs. The instrument employed in the pilot was based on Buchan and Seccombe's (1991) disaggregation of turnover costs into 40 items under the following headings:

Separation: The costs associated with processing a nurse leaver's separation from the employment of the organisation.

Temporary Replacement: The costs associated with the method, or methods, which the employing organisation adopts in the interim period until a permanent replacement is recruited.

Recruitment and Selection: The costs incurred by the organisation in searching for, and appointing, an appropriate permanent replacement for the leaver.

Induction and Training: The costs associated with induction and training of the replacement nurse, and costs incurred during the time elapsed until the replacement is determined to be providing an equal contribution to that provided by the leaver.

A largely 'bottom up' approach was used, focussing on the hospital unit level. Analysis at the unit level avoids intra-organizational variation in turnover by work unit (Mueller & Price, 1989). The bottom up approach evaluates the costs and benefits of turnover through a checklist method which 'allows the development of a detailed picture of the costs of turnover within individual employing units and can assist operational management to identify major sources of costs, and potential cost saving policies (Buchan and Seccombe, 1992:23).' For the purposes of the pilot, the units used in all countries participating in the pilot were general medical and general surgical units, thereby minimising variation. General surgical units were those where 80% or more of the patients admitted are usually treated for surgical conditions by a general surgeon, while general medical

units were those with 80% or more of the hospital inpatients admitted and treated for non-surgical conditions; specified specialties were excluded for each category, e.g. psychiatry from medical, paediatric from general surgical.

The cost of turnover was evaluated retrospectively within one medical and one surgical unit of one of New Zealand's major metropolitan hospitals over a six months period, from 1st July to 31st December 2001. The hospital involved in the study was known to have high rates of turnover, with figures released by the hospital's District Health Board (DHB) indicating a turnover rate of 18.2% for health professional staff in 2001. It must be noted that throughout this period the hospital made major reductions to its budget and had carried out managerial restructuring in previous months. Faced with huge budget deficits, the DHB was undertaking restructuring in the hospital's nursing management, removing a layer of leadership, and freezing the employment of new staff.

The Results of the Pilot

The general surgical unit investigated was comprised of 27 beds, with an average occupancy rate of 92.16%, and the general medical unit was also comprised of 27 beds with an average occupancy rate of 93.8%. While actual turnover rates and related costs were calculated using the protocol and checklist developed for the pilot, it is emphasised that reporting these results is not the main purpose of this paper. Neither the turnover rates nor costs reported reflected the hospitals reported turnover rates and, in the absence of data regarding costs, are almost certain to grossly under represent costs. Rather, this discussion focuses on the process of locating data, interpreting data and reflecting on both reliability of data and implications of data management.

Nursing turnover rates were based on the number of RN FTE terminations per fiscal year calculated as a percentage of the average annual budgeted RN FTEs. The first problem encountered concerned determining the budgeted RN FTEs. Curiously, three differing levels of budgeted FTE per fiscal year were provided by the study hospital: the units' own reported figures, those of the Human Resource department, and the Payroll database. The nurse managers FTEs were based on the actual number of persons working in the units, whereas budgeted FTEs were reported by the Human Resource department were between 2-3 FTEs lower than those reported by the nurse managers. The reasons for the discrepancies were explained as being due to the software system used by the payroll department, where annual leave and sick leave dollar amounts were deducted from the budgeted FTEs, and that Human Resources estimates reflected a forecasting based reporting system. For the purposes of the pilot, the FTE-based nursing turnover rates were extracted from actual FTEs who work in and are paid from the budget of the units analysed.

In the surgical unit during the 6-month study period there were 2 terminations during the study period and 2 RN FTEs hired, and in the general medical unit 1 termination and 3.8 RN FTEs hired. Annual turnover rates for Registered Nurse were 7.4% within the medical unit and 12.5% in the surgical unit. These numbers are lower than the DHB's total turnover rate for health professionals

18.2% for 2001, and anecdotal evidence—from nurse managers and low turnover rates compared to the DHB's average for the year indicate that the study took place over a period of low turnover. As the study took place over only a six-month period it does not reflect true turnover levels due to the nature of taking a cross-section in time.

Table 1: Analysis of Data Availability and Total Turnover Costs for Surgical and Acute Units at a New Zealand Hospital

Direct Costs	<i>Recruitment</i>	Advertising costs	\$1,211.22
		Recruiters pay and costs	Unavailable ¹
	<i>Temporary Replacement</i>	Costs associated with temporary replacement mechanisms	\$25,200.00
		Costs of clerical and admin time arranging and paying temporary cover	Unavailable ²
		Time of experienced staff to provide on the job instruction to temp staff	Unavailable ²
	<i>Hiring</i>	Management time	Unavailable ¹
		Processing costs and supplies	\$550.70
		Pre-employment physical exam	\$1,809.90
		Applicants expenses	Not Applicable
	Indirect Costs	<i>Termination/ Separation</i>	Holiday pay
Manager's time writing reference			\$318.00
Clinical administrative time			\$25.00
Exit interview time			Not Applicable
Unused sick time			Not Applicable
Leaving rituals			\$798.00
<i>Orientation/ Training</i>		Formal off-job training	Unavailable ¹
		On-job training	\$10,583.00
		Salaries and benefits	Incorporated
		Training equipment	Not Applicable
		Reduced efficiency of preceptors	Unavailable ¹
<i>Decreased Productivity of New Employee</i>		Number of hours orientation/induction to achieve 50% of full contribution of nurse	Unavailable ²
		Number of hours orientation/induction to achieve 100% contribution of nurse	Unavailable ²
Technical Notes:			
¹ These figures were not collected by the hospital administration.			
² These figures were not available as the numbers were too variable to calculate costs with accuracy, or the costs related to the units in the defined time period could not be disaggregated from general figures.			

The second difficulty concerned identifying costs related to nursing turnover, difficulties exacerbated by the pilot being a retrospective study. The main difficulties related to loss of institutional memory due to turnover of clerical and senior nursing staff, the fact many human resource and payroll information were aggregated, and simply tracking down who exactly had the information sought, and their finding time to identify the costs requested. Using the instrument provided, Figure 1 shows the costs that were determined, some of which were estimated costs and others documented costs, and shows costs that the investigators were unable to determine.

Table 2 shows the distribution of costs. Between 65% and 75% of turnover costs were a result of temporary replacement costs, those costs incurred in covering for staff that have left, and the administrative aspects of arranging cover. The bulk of these costs were due to the higher wages associated with employing nurses from internal banks and external agencies, and the expense incurred in paying regular staff to work overtime to cover for the staff members who had left. The total costs for temporary replacement of unfilled positions came to

\$8,400 per nurse. The clerical and administrative time utilised in arranging temporary coverage also is significant, with up to one hour spent by charge nurses ringing own staff to cover vacancies; however no data was available on these costs as the charge nurses were unable to retrospectively report how often this occurred. Following temporary replacement costs, the most significant cost to arise, as a proportion of total turnover costs, was in orienting and training staff. Orientation and training costs varied from 13% of the surgical unit's total turnover costs to 22% of the medical unit's. All staff employed by the DHB were at the time of the study supernumerary for the first two weeks of their employment, although in practice this is variable based on the nurses' level of experience. The cost of orientation/training was similar across the surgical and medical units varying from \$3467.50 to \$3648.00. This cost was estimated based on the median hourly staff nurse rate covering the hours in which they were in orientation and supernumerary in the unit. It does not include the fixed cost of delivering orientation programmes and on the job training. Data was not available on the reduced efficiency of the preceptor while training new employees.

Table 2: Distribution of Measurable Turnover Costs for Surgical and Acute Units

	General Medical Unit		General Surgical Unit		Total	
	Cost (NZ\$)	%	Cost (NZ\$)	%	Cost (NZ\$)	%
Recruitment Costs	1923.47	6.21	1211.22	4.50	3134.70	5.41
Temporary Replacement Costs	20248.00	65.40	20426.00	75.84	40674.00	70.26
Hiring	1525.20	4.93	835.30	3.10	2360.50	4.08
Termination/Separation	327.50	1.06	813.50	3.02	1141.00	1.97
Orientation/Training	6935.00	22.40	3648.00	13.54	10583.00	18.28
Total	30959.17	100.00	26934.02	100.00	57893.20	100.00

In summary, total costs were very similar for the two units, the medical unit incurring \$30,959.17 over the six-month study period, and the surgical unit \$26,934.02 in turnover costs. However, the researchers emphasise that these costs are likely to significantly under-represent actual costs due to costs for some variables, particularly productivity costs, (shown in other research as a significant contributor to turnover costs (Waldman et al, 2004)), not being available (shown in Fig. 1), and due to the process of desegregation from other costs incurred by a given service or department.

Despite significant gaps in the data collected the cost of nursing turnover was just under \$60,000 for just three RN terminations in the two medical and surgical units of one of New Zealand's major metropolitan hospitals over a six-month period, \$20,000 per nurse. The data was collected for a period of low turnover, and despite the study results under-representing actual turnover costs, the pilot reflects the significant impact which nursing turnover is having on healthcare budgets of New

Zealand's health service organisations. The pilot study confirmed that nursing turnover is consuming a large proportion of the health care dollar and this represents a net loss to direct patient care. These figures, which understate the true cost of turnover in the two units, would however almost pay the salaries of an additional full-time nurse each. These findings are consistent with previous research into the cost of turnover and, like previous studies, are indicative of a minimum cost of turnover.

The outcome of the pilot is two-fold. First, in view of the indicative high real costs of nursing turnover, the decision to proceed with a national study was made. This decision was made both at the International Consortium level, and locally. In New Zealand funding was secured, and the study is now underway. Conducting the study in a randomised sample of nursing units in New Zealand's public health service organisations will control for differences in particular databases and administrative systems, and allow results to be generalised with

confidence. Data collected over a calendar year will control for seasonal variations in turnover. The results of a prospective, national study will provide hospital management with the evidence needed to support strategies to retain valued nursing workforces, thereby positively affecting patient outcomes.

Second, based on the experiences of the pilot study, the International Consortium made a number of changes to the instrument. The limitations to the application of the checklist were predominantly a result of the hospital's data collection procedures. Because available data was collected and stored in a form for other purposes much of the data required for the pilot entailed additional effort by human resource and nurse management staff to meet the study's needs. As shown in Fig. 1, much data couldn't be identified, or it wasn't possible to disaggregate nursing data from other human resources. Further, the retrospective nature of the pilot meant that some important data was lost to recall. The research design arising out of the pilot included: the study is prospective, collects data not only on the direct and indirect costs of turnover but also the impact of turnover on patient and nurse outcomes; and considerable fine-tuning of methods to calculate actual costs was undertaken.

The New Zealand Cost of Nursing Turnover Study

The outcome of the pilot study was to commit to a larger national study so as to provide robust information on costs that will inform policy and decision-making on the nursing workforce. To overcome problems of recall and unavailable data, a longitudinal study research design is employed. The study aims to measure the direct and indirect costs of nursing turnover in New Zealand's public hospitals, and the impact of turnover on patient and nurse outcomes. Twenty-two general medical and surgical units in 11 District Health Boards have been randomly selected. As the first stage of the study the Directors of Nursing in all twenty-one District Health Boards (DHBs) throughout New Zealand were contacted and asked to participate in the first stage. Twenty DHBs and Directors of Nursing agreed to be involved by either returning completed questionnaires or participating in a telephone interview.

The aim of the survey of Directors of Nursing was to identify workplace practices affecting nursing turnover, in order to contextualise nursing turnover and its costs. The following data were requested: information related to nursing turnover currently collected; data, policy and initiatives on retention and recruitment; and relevant studies and reports conducted internally. Only results pertaining to turnover are reported here.

Reported Turnover

The majority of DONs reported receiving regular reports from Human Resources or Payroll on resignations and new appointments, with fewer DHBs also reporting on internal transfers, dismissals, leave of absence, parental leave and vacancies. These reports were received at

weekly or monthly intervals, the more frequent the more current, and therefore useful, the data was. Three DHBs reported that a Balanced Scorecard reporting system is used that includes turnover, and in others the Annual Report refers to turnover. In some DHBs Nurses and Midwives are not separated from other staff so true figures cannot be derived. Only three DONs reported that analysis on nursing turnover data was carried out. There were three DHBs that collect no data on nursing turnover, one because there was said to be little turnover, and in one case because the HR staff who had previously done so had left.

Thirteen DONs reported that nursing turnover was a problem, or it was becoming an increasing priority. This was turnover that normally ranged between 12% and 25%. Five DHBs, primarily in the main cities of New Zealand, reported turnover rates that were at or over 20%. DHBs in regional areas were more likely to report that there was low turnover, or they had not felt major turnover issues for some time, reporting turnover rates of 5% to 10%.

The survey did not establish how turnover rates were determined. When turnover data was not available estimates were given, or numbers of nurses who had left, not turnover rates, were reported. Another approach is to report on unfilled vacancies, e.g. one DHB reported 19.2 unfilled advertised vacancies. To add to difficulties in making comparisons, 3 DHBs stated that turnover data is routinely reported on a monthly or quarterly basis, and reported separately for wards and/or services.

The following illustrates how specific turnover rates, where available, were reported differently by 9 DHBs: 5 regional DHBs reported rates at 12%, 12.9%, 15.84%, 16.38% and 16.9%. In contrast 2 metropolitan DHBs reported annual turnover rates as 19.2% and 22-24%, and also provided quarterly turnover: this ranged from 3.2%-37.5% per ward in one of those DHBs and 23.7-35.7% per service in the other. Another DHB claiming a problem with high turnover reported monthly rates per ward of between 1.47-7.49%. Two DHBs gave further breakdown of turnover data: the highest level of resignations occurs in the age ranges 22-39, and the lowest in the 40-55 year range. One of these DHBs reported that 75% of resigning nurses have served less than 3 years. Although in some DHBs turnover figures are detailed, the variability in reported rates, where these are available, and methods of reporting make for difficulty in comparing turnover and indeed in establishing exactly what is the nursing turnover rate in New Zealand.

Some DONs specified that turnover was an issue in certain areas only, e.g. Emergency, Mental Health. Turnover is not evenly distributed: DHBs in metropolitan areas and in areas where there is high competition for nurses report more difficulty than those in areas with stable populations and that offer attractive lifestyles. For example a DON of a DHB in a large metropolitan centre commented on competition among multiple employers, DHBs as well as private hospitals and rest homes. In contrast were participants in popular areas who described

their DHBs as currently privileged, with neither turnover nor recruitment problems, but who added that turnover was likely to become a concern in the future as many in their nursing workforce approach retirement.

Two DONs gave additional statistical information on the nursing workforce that although it can't be generalised, indicates some important characteristics of the hospital nursing workforce impacting on turnover. A largely female workforce was described, at 91.3-94%, with more males in mental health services; this compares with 90% of the total DHB workforce who are female. The average age is about 43; 61% of nurses are over 40 years. The average tenure for nursing at one DHB was 6.94 years; at the other 63% left between 0-5 years. Of the total in one DHB 45% were reported as part-time, 15% casual and only 35% full-time employees. Nurses made up 39-40% of the total DHB workforces. Embedded in these figures is a picture of a female, mid-aged, short-tenured and less than full-time workforce, with high associated costs.

Negative impacts due to nurse shortages included bed closures, restricted elective surgery, reduced inpatient admission and ED service restrictions. The costs of underutilising expensive plant are high, but a dollar figure not provided. In these situations there is likely to be a trade-off in costs between protecting and supporting nursing staff stressed by endemic shortages, thereby potentially reducing further turnover, and full utilisation of plant.

In spite of reported current or anticipated high nursing turnover and nursing vacancies, many DHBs exercised tight control over recruitment. Only five DHBs stated that there were no freezes, reviews, restructures or rationalising taking place. In almost every other DHB there are tight controls over recruitment of new staff. Vacancies are reported as going through a review process before they are recruited for due to financial constraints. Several DHBs have a freeze on recruiting RNs except for 'specialist' nurse roles. Five of the 20 DHBs reported they are currently or soon to have a review of Senior Nursing roles. One DHB has just gone through a full restructure. There is also reported redeployment and freezes on salary reviews.

Conclusions

Nursing turnover is a growing problem shared by many Western countries, including New Zealand. However the costs of nursing turnover are poorly understood: there has been little research on costs, much of it dated, and generalising that research is limited by variation in operational definitions, and the way costs were determined. The paper describes a major new initiative into determining real costs, in order to inform policy and practices relating to the nursing workforce that is underway, driven by an International Consortium of researchers and policy-makers in nursing. New Zealand is a participating country using the same research design as other countries.

The pilot study of the instrument that was undertaken to identify availability of costs and suitability of the

instrument highlighted methodological difficulties: some data unavailable, problems of recall, variable figures and definitions [e.g. for fte, turnover]. As a result the costs determined grossly understate true costs; nevertheless indicative costs were nevertheless sufficiently high as to justify a national study on a much larger scale.

The first phase of the national study in public hospitals has shown that while nursing turnover is seen as a problem, it is not evenly distributed. DHBs in metropolitan areas where there is high competition for nurses from private hospitals and non-hospital services reporting more difficulty than non-metropolitan areas with stable or growing populations. Certain clinical areas report higher turnover than others, e.g. mental health and emergency services.

Despite concerns over turnover, there was little firm data provided, and the data was not comparable across DHBs: estimates of turnover rates varied, and no information was collected on how rates were determined, making it difficult to compare DHBs or state turnover rates with certainty. Further, the majority of DHBs were undergoing tight controls on recruitment and a number reported reviews of senior nursing positions and restructuring, strategies that may add to nursing shortages and stress, leading to dependence on temporary cover and further turnover.

Although there is a considerable body of overseas research on reasons nurses leave, there is scant research in New Zealand. Yet health workforce research is strongly endorsed by the Health Workforce Advisory Committee, reflecting the volume of submissions on its importance to workforce development in New Zealand. (2003) A limitation of the study is that it is limited to medical and surgical units in publicly funded hospital services only; it is also important that the study is extended to include other sectors including aged care, community and primary care services, private hospitals and specialised nursing units such as intensive care, emergency and operating room services. To complement the current study on costs of nursing turnover, New Zealand studies on reasons for leaving, and reasons for staying are required. Determining the real costs of nursing turnover and the reasons for turnover will provide DHBs with the information they need to make strategic decisions regarding their nursing workforce, decisions aimed at improving retention and building a positive workplace.

References

- Alexander J, Bloom J & Nuchols B. (1994). Nursing Turnover and Hospital Efficiency: An Organization Level Analysis. *Industrial Relations*, 33, 4, 505-520.
- Blegen M, Goode C & Reed L. (1998). Nurse Staffing and Patient Outcomes. *Nursing Research*, 47, 1, 43-50.
- Buchan J & Seccombe I. (1991), Nurse Turnover Costs. *Health Manpower Management*, 174, 23-25.

- Buchan J and Seccombe I.** (1991), Nurse Turnover Costs: A review for the Royal College of Nursing, *IMS Report No. 212. Institute of Manpower Studies*, Brighton, UK.
- Buchan J.** (1999), The Greying of the United Kingdom Nursing Workforce: Implications for employment policy and practice. *Journal of Advanced Nursing*, **30**, 4, 818-826.
- Cangelosi J, Markham F & Bounds W.** (1998). Factors Related to Nurse Retention and Turnover: An updated study. *Health Marketing Quarterly*, **153**, 25-43.
- Clarke S, Rockett J, Sloane D, & Aiken L.** (2002). Organizational Climate, Staffing and Safety Equipment as Predictors of Needlestick Injuries and Near-Misses in Hospital Nurses. *American Journal of Infection Control*, **30**, 4, 207-216.
- Cobden-Graince F & Walker J.** (2002). New Zealand Nurses' Career Plans. *Nursing Education and Research Foundation*. Christchurch.
- Cowin L.** (2002). The Effects of Nurses' Job Satisfaction on Retention. *Journal of Nursing Administration*, **32**, 5, 283-291.
- Dalton D & Todor W.** (1979). Turn Over Turned Over: An expanded and positive perspective. *Academy of Management Review*, **4**, 2, 225-235.
- Finlayson B.** (2002). Mind the Gap: The extent of the NHS nursing shortage. *BMJ*, **325**, 538-541.
- Gower S & Finlayson M.** (2002). We Are Able and Artful, But We're Tired: Results from the survey of New Zealand hospital nurses. *Paper presented to the College of Nurses Aotearoa Conference*. Nelson.
- Gower S, Finlayson M & Turnbull J.** (2003). Hospital Restructuring: The Impact on Nursing
- Health Workforce Advisory Committee** (2001). The New Zealand Workforce. Framing Future Directions. Discussion Document. Wellington: author.
- Health Workforce Advisory Committee** (2003). The New Zealand workforce. Future Directions-Recommendations to the Minister of Health, 2003. Wellington: author.
- Hoffman F.** (1985). Cost Per RN Hired. *Journal of Nursing Administration*. **15**, 2, 27-29.
- Irvine D & Evans M.** (1995). Job Satisfaction and Turnover among Nurses: Integrating Research Findings across Studies. *Nursing Research*, **44**, 4, 246-253.
- Jones C.** (1990). Staff Nurse Turnover Costs: Part I, A conceptual model. *Journal of Nursing Administration*, **20**, 4, 27-32.
- Johnston CL.** (1991). Sources of work satisfaction/dissatisfaction for hospital registered nurses. *West Journal of Nursing Research*, **13**, 4, 503-513.
- Loveridge C.** (1988). Contingency Theory: Explaining Staff Nurse Retention. *Journal of Nursing Administration*, **18**, 6, 22-25.
- Mueller C & Price J.** (1989). Some Consequences of Turnover: A work unit analysis. *Human Relations*, **42**, 5, 389-393.
- New Zealand Health Information Service.** (2002). New Zealand Workforce Statistics – 2001 Nurses and Midwives, www.nzhis.govt.nz/stats/nursestats-p.html, accessed 05/08/02.
- Nursing Council of New Zealand.** (2000). New Zealand Registered Nurses, Midwives and Enrolled Nurses, *Workforce Statistics*, Nursing Council of NZ. Wellington.
- NZ Herald.** (2002). Magnet Hospital Aims to Improve Nurses' Lot. December 10, 2002, **A10**.
- O'Conner T.** (1996). Patient Safety Under Threat. *Kai Tiaki*, **July**, 71-72.
- O'Brien-Pallas L.** (2001). Where to from here? *Canadian Journal of Nursing Research*, **33**, 4, 3-14.
- Quinnell S.** (2001). The Retention of Top Talent: New Zealand registered nurses in the public health sector. *Unpublished MCom Thesis*, The University of Auckland.
- Shader K, Broome M, Broome C, West E & Nash M.** (2001). Factors Influencing Satisfaction and Anticipated Turnover for Nurses in an Academic Medical Centre. *Journal of Nursing Administration*, **31**, 4, 210-216.
- Stone P, Tourangeau A, Duffield C, Hughes F, Jones C, O'Brien-Pallas L, Shamian, J.** (2003). Evidence of Nurse Working Conditions: *A Global Perspective. Policy, Politics & Nursing* (accepted for publication)
- Waldman, J.D., Kelly, F., Arora, S. & Smith, H.L.** (2004). The Shocking Cost of Turnover in Health Care. *Health Care management Review*, **29**, 1, 2-7.
- Wise L.** (1990). Tracking Turnover. *Nursing Economics*, **8**, 1, 45-51.