

## FROM THE EDITOR - Dr Jackie Jones, RN, PhD, with Toni Hoffman, RN, NUM, Intensive/Coronary Care Unit

### 'I HAD TO ACT': IN CONVERSATION WITH A WHISTLEBLOWER

Evidence based practice is a framework for change and currently a driving force for reform in Australian health care contexts. Notably, a health service is made up of individuals who work together, systems of care and clinical encounters involving decision making (Muir-Gray 1997, p.155). Muir-Gray elaborates that key inter-related components of an evidence-based health service are:

1. Organisations designed with the capability to generate and the flexibility to incorporate evidence; and,
2. Individuals and teams who can find, appraise and use research evidence (Muir-Gray 1996, p.155).

Having the best available research evidence alone will not help change practice; it requires an informed determination to confront existing norms and behaviour, and to challenge systems and organisational culture. It also requires consideration of patient values.

When practice is not what it could be, what makes one individual feel the need to advocate for patients more strongly than others? Firtko and Jackson in this issue consider whistleblowing which they define as:

'the reporting of information to an individual, group, or body that is not part of an organisation's usual problem-solving strategy. Whistleblowing is a phenomenon where a party or parties take matters that would normally be held as confidential to an organisation, outside that organisation despite the personal risk, and potentially negative sequelae associated with the act' (Firtko and Jackson 2005, p.52).

When reflecting on whether the ends justify the means, Firtko and Jackson argue that they do, and so would Toni Hoffman, a whistleblowing nurse, when she says: *'if the act of "whistleblowing" has the ability to remove the problem and open up the Pandora's box that it has, the end does justify the means. When we are dealing with patients lives and are acting as patient advocates it will always do so'*.

In the case in point there were many who held similar concerns but who failed to act.

Nurses have been shown in the past to interpret events differently and nurses may hold the belief that they would not be taken seriously should they wish to raise difficult concerns. Ahern and McDonald (2002, p.303) argue that the 'dilemma for nurses is that nursing actions should be based on ethical codes of conduct, not on fear of job loss or reprisals'. They compared the beliefs of those nurses who blew the whistle with those who did not. These authors report that 'participants who reported misconduct

(whistleblowers) supported the belief that nurses were primarily responsible to the patient and should protect a patient from incompetent or unethical people. Participants who did not report misconduct (non-whistleblowers) supported the belief that nurses are obligated to follow a physician's order at all times and that nurses are equally responsible to the patient, the physician and the employer. These Australian researchers suggest there is a difference in the interpretation of the seriousness of events and in individuals whose value system leads them to defer to authority. It could be said then the complex nature of authority and conflicting ideologies within an organisation in turn influences power and the potential for organisation violation.

Speedy (2004, p.146) describes 'behaviours that are unacceptable to management' or 'organisation violations' as those events deeply embedded in complex structures of culture, enactment of authority, and, organisational processes that disturb organisational goals which in turn may disrupt organisational functioning. Those who have power over those whose behaviour is being judged draw on a matter of perspective and can lead to a culture of intimidation (p.147-148). Speedy argues that knowledge about organisation violations can be used to enhance organisational environments and ultimately reform processes. In this way whistleblowing, as a form of resistance against organisational abuses such as bullying, emotional assault and maintaining an infirm status quo can be reconceptualised as contributing to a violation free environment by exposing underlying tensions, culture and power struggles.

Being in a position of power does not preclude the desire for advocacy. Line managers in nursing are often criticised for upholding organisational goals above those of the nurse at the coal face. This particular whistleblower is the nurse unit manager of a small combined intensive/coronary care unit in Central Queensland. Toni explains that she had never thought she would ever become a whistleblower:

*'In 2003, I found myself in a very difficult situation where I believed there was something seriously wrong with the practices of a surgeon. My decision to become a whistleblower was not a "deliberate one". My actions were deliberate, but I had no way of knowing what the outcome would be. My main concern was with the patients and potential patients.'*

It is clear then that deliberations about resisting organisation violations are not just about the here and now but also about the future. She adds that she was

incredibly frustrated that senior management had not taken her concerns seriously:

*'I was frustrated that the situation was well known to many people from within and without the establishment, staff with much more authority than me. The situation could have been dealt with so much more easily and without the need for me to blow the whistle'.*

Ethical resistance demands political scholarship and as Peter et al (2004, p.414) point out, 'to increase nurses' capacity to resist, they could benefit from developing negotiation and political action skills and participating in institutional committees, such as ethics committees. It is, however, most fundamental that they receive institutional support and acknowledgement so that they have the freedom to express their viewpoints, values and experiences without risk of punishment.'

Perhaps it is timely that tertiary institutions look to the nursing union(s) for the lifetime of expertise they have in order to develop and educate both new and existing generations of nurses in the art of organisation and the importance of collective action, in and between professional discourses in the art of political scholarship.

One study in California (Seago and Ash 2002) found that in unionised hospitals they had 5.7% lower mortality rates for patients suffering acute myocardial infarction. In providing a context for nurses to have a voice at work, by building nurse resilience and capacity for resistance, this research found that a nursing union can indirectly improve patient outcomes. Drawing on this evidence it could be argued nursing unions may promote 'stability in staff, autonomy, collaboration with medical doctors, and practice decisions that have been described as having a positive influence on the work environment and on patient outcomes' (p.150).

When Firtko and Jackson ask what the motivation for whistleblowing is, Toni identified patient safety as her motivating factor. She said: *'My main concern was with the patients and potential patients. My main concern was to stop the surgeon and stop him quickly. The patients would then be safe, and the nursing staff would be relieved.'*

Firtko and Jackson in drawing on Speedy (2004), identify that some organisations create cultures of reduced loyalty and can cause employees to feel violated, betrayed, and liable to seek reprisal. This was not the case for Toni who clarifies that she *'agonised for months over what to do, [and] tried all of the other channels'*. Despite the consequences she proceeded and highlights: *'I was very aware that by going to a member of parliament I was breaking my health department's code of conduct. I was aware I could lose my job, I would lose favour within the system amongst the current executive and any future potential employers would view me as a liability. Some people would be hurt and alliances and friendships within my small town would be fractured.'*

There are other considerations regarding the potential impact of whistleblowing, in particular, this nurse thought about the patients, the ones who had lost loved ones many months before and were well into the grieving process. She constantly asked herself, what would this do to them? When it became obvious to Toni and others that nothing was being done fast enough, she emphatically states ***'I had to act'***.

Albeit unknown territory for Toni, as a nurse she did not want to involve others so they would be implicated and could also be in danger of losing their jobs. She explains: *'I did ask one person if they wanted to accompany me, but they did not want to. So I went alone to see the Member of Parliament for my area. I was very fearful; I did not know what he was going to do'*.

The consequences of whistleblowing can be, and are, far reaching, for the whistleblower. Nurses are placed in a situation that they are unfamiliar such as *'with lawyers and Queen's Counsels, the media and politicians.'* The experience can challenge the very moral foundations of the individual including *having to earn everyone's trust again*. Some unpleasant things have occurred as a result of speaking out. Toni said *'I have been threatened by telephone and out in the community. I have been vilified on the stand and had to 'cop it'. This situation was far worse than I had ever imagined'*.

The experience was not all negative, however, as Toni goes on: *'The public support has been incredible, I have received hundreds of letters of support, hundreds of calls and emails and I am stopped in the street frequently. The collegial support has been incredible with no negative feedback. A lot of the letters were signed "from an old RN" or "an ex RN". I think these people have been in my situation, some have acted and some haven't, but they know what I went through'*.

The ramifications of whistleblowing for Toni Hoffman have been huge. A Royal Commission was established to investigate her complaints and is in a position to make some fundamental changes to the way health care is carried out in Queensland. The act of 'whistleblowing', in this instance did solve the problem and uncovered a Pandora's Box of systemic problems, which in turn may be addressed with recommendations received by the Royal Commission.

Nevertheless, Queensland, if not the rest of Australian health service providers have an opportunity to reflect on organisational violations, structures that require change and individuals who need the ethical fortitude and collective support to actively stand out and improve practice.

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# MEDICATION KNOWLEDGE AND SELF-MANAGEMENT BY PEOPLE WITH TYPE 2 DIABETES

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**Key words:** type 2 diabetes, medication, knowledge, self-care

## ABSTRACT

### Objective:

To explore medication knowledge and self-management practices of people with type 2 diabetes.

### Design:

A one-shot cross sectional study using in-depth interviews and participant observation.

### Setting:

Diabetes outpatient education centre of a university teaching hospital.

### Subjects:

People with type 2 diabetes, n=30, 17 males and 13 females, age range 33-84, from a range of ethnic groups.

### Outcome measures:

Ability to state name, main actions and when to take medicines. Performance of specific medication-related tasks; opening bottles and packs, breaking tablets in half, administering insulin, and testing blood glucose.

### Results:

Average medication use  $\geq 10$  years. Respondents were taking 86 different medicines, mean  $7 \pm 2.97$  SD. Dose frequency included two, three and four times per day. All respondents had  $\geq 2$  diabetic complications  $\pm$  other comorbidities. The majority (93%) were informed about how and when to take their medicines, but only 37% were given information about side effects and 17% were given all possible seven items of information. Younger respondents received more information than older respondents. Older respondents had difficulty opening bottles and breaking tablets in half. Twenty percent regularly forgot to take their medicines. Increasing medication costs was one reason for stopping medicines or reducing the dose or dose interval. The majority tested

their blood glucose but did not control test their meters and 33% placed used sharps directly into the rubbish.

### Conclusion:

Polypharmacy was common. Medication knowledge and self-management were inadequate and could lead to adverse events.

## INTRODUCTION

Diabetes is a chronic disease that affects 7.5% of Australians over 25 and 16.8% over 65 years (Dunstan et al 2000). Long term self-care and education are needed to control blood glucose levels and reduce the risk of complications and adverse medication-related events.

These necessary skills include blood glucose monitoring and medication administration. Over time, the complexity of the medication regime increases for people with type 2 diabetes because of the associated complications, comorbidities and pancreatic beta cell exhaustion (Olefsky et al 1999). This means the complexity of the self-care regime increases often at the same time as the person is growing older and eyesight, hearing, fine motor skills and memory and information processing are changing. These changes make it difficult for the individual to comply with recommended self-care practices such as blood glucose testing and medication management including insulin administration.

Anecdotal evidence suggests that many people with diabetes do not have adequate knowledge about the medications they take, stop medications and alter doses inappropriately without consulting their doctors and do not understand the actions, side effects or potential interactions of the medications they take, even those they have been taking for years.

In particular, older people are more likely to have physical problems that make safe medication usage difficult and they

make significantly more insulin dose errors using syringes (DeBrew et al 1998) despite the advent of premixed insulin formulations such as Mixtard and modern insulin delivery devices (Coscelli et al 1992). Inappropriate medication usage is likely to have an effect on blood glucose control and therefore on health outcomes and diabetes-related health costs. In addition, inadequate medication self-care increases the likelihood of admission to a nursing home (Stradberg 1984).

A number of researchers have examined medication issues such as adherence by monitoring: pill counts, the frequency of completing the full course of a medication, script refill rates, and ability to open medication packages (Matsuyama et al 1993; Paes et al 1997; Kriev et al 1999). These studies indicate omitting doses, stopping medications without consulting a doctor, and, inappropriately changing doses, are common behaviours. However, supplying medications to patients does not guarantee the medications are actually taken. In fact, a systematic review of randomised control trials showed that about half the medicines prescribed for chronic diseases are not taken (Haynes et al 1996). In addition, self-reported behaviour is subjective and problematic. For example, people who say they do not follow treatment, may report accurately, while people who deny not following recommendations may report inaccurately (Spector 1986).

The majority of these studies relied on self-report. Actual practices were not directly observed and no researcher reported asking about self-prescribed medicines and complementary therapy use. There is a high rate of complementary therapy use among people with diabetes (Egede et al 2002) and there are a growing number of reports of undesirable drug/herb interactions and adverse events relating to the use of some complementary therapies by people with diabetes (Dunning 2003).

The impact of education on adherence is well documented (Kriev et al 1999), but adherence is a complex phenomenon and is difficult to predict. Adherence is influenced by many factors and is dependent on an individual's problem-solving skills, beliefs and attitudes, social situation and support and is complex and demanding (Jones 2003). The term is often used in a derogatory way that does not take account of the fact that it has physical, psychological, attitudinal and social components. The majority of medication adherence studies focus on adherence to the medication recommendations, knowledge and behaviour. Only rarely have physical limitations and financial factors been explored with people with diabetes. When they are, it is usually with respect to oral hypoglycaemic agents (OHA) and insulin administration (Coscelli et al 1992; Tay et al 2001; Evans et al 2002).

People with diabetes frequently have complications and concomitant diseases that make it difficult for them to perform some diabetes self-care tasks including managing their medications. For example, arthritis limits manual dexterity and makes it difficult to test blood glucose, break tablets, administer insulin, and open medication packages. Diabetes complications include reduced vision and

retinopathy, yet consumer medication information and medicine labels are often presented in small fonts that are difficult to read, even with glasses. An important and rarely considered factor is the impact of health professional attitudes and beliefs and health system issues on an individual's willingness and ability to follow treatment recommendations.

Regular diabetes complication screening is an Australian established nationally co-ordinated project known as ANDIAB. Home medication reviews were introduced more recently, but routine monitoring of medication self-care ability and behaviours rarely occurs in a structured way and is not a focus of either of these processes. Diabetes management guidelines based on the Diabetes Control and Complications Trial (DCCT) (1993) and The United Kingdom Prospective Diabetes Study (UKPDS) (1998) stress the need to achieve good blood glucose, lipid and blood pressure control and 'treating to target'. That is, achieving evidence-based metabolic, blood pressure and weight targets. The targets are getting lower as the evidence that tight metabolic control prevents morbidity and mortality accumulates.

As a consequence, more medications are added to the treatment regime, which become more complex. Polypharmacy is the norm and could be considered best practice in light of diabetes management guidelines that recommend aiming for normoglycaemia and normal lipid and blood pressure ranges. For example, people with diabetes can expect to take three to four antihypertensive agents as well as insulin or oral hypoglycaemic and lipid lowering agents for their diabetes, as well as a range of medications for other diabetes complications or concomitant diseases. The cost of uncontrolled diabetes is high and carries significant morbidity and mortality rates; therefore polypharmacy can be justified. However, it leads to complicated medication regimes that are more likely to lead to mistakes and/or non-adherence.

The Quality Use of Medicines (QUM) initiative has been a key component of the National Health Policy in Australia since 1992 and is slowly being integrated into patient medication self-management education programs. The basic tenets of QUM are the primacy of the patient, collaborative, multidisciplinary practice, a systems based approach, the judicious selection and use of medicines if medicines are indicated and regular outcome monitoring. Research indicates medicines use is less than optimal nationally, and nurses have a shared professional responsibility for QUM (Griffiths et al 2001). This responsibility includes monitoring patient medication self-management, especially in chronic disease such as diabetes, where medicines are often required for life. A number of health professionals, including diabetes educators, are responsible for instructing patients about appropriate medication usage.

Despite the knowledge that good blood glucose control reduces the long term complications of diabetes (DCCT 1993; UKPDS 1998) and the availability of the technology to achieve it, good control is not achieved in many cases (Dunning 1994). Factors such as attitudes, beliefs and self-



care practices, including appropriate use of medicines are some of the intervening variables between having the knowledge, applying it, and achieving good metabolic control.

Non-adherence, for whatever reason, threatens the provision of effective diabetes care. Lustman, (1995) stated that seven out of 10 leading causes of death are linked to behaviour. If that is so, more consideration of the behavioural factors associated with diabetes medication self-management appears to be warranted.

## AIM OF THE STUDY

The study aimed to explore the medication knowledge and self-management practices of people with type 2 diabetes referred to the diabetes outpatient services by their general practitioners.

For the purpose of the study medication knowledge consisted of seven specific items of information: being able to name all medicines being used, what the medicine was prescribed for, the dose to take, when the medicine should be taken, potential side effects, how to store the medicine, and how to dispose of unused or outdated medicines. Self-management practices included being able to open medicine packages, break tablets in half, administer insulin and monitor blood glucose levels.

## METHODS

A cross-sectional survey using structured interviews and observations of respondents performing relevant medication self-management practices was used to collect the data. The interview questionnaire was developed specifically for the study.

Face and content validity was established by consulting with relevant experts and pilot testing the draft questionnaire on a representative group from the sampling population who were subsequently excluded from the study. Ethics approval was obtained from the relevant human research ethics committee.

### The sampling population and study sample

The sampling population consisted of all people attending the diabetes education centre of an inner city university teaching hospital who were taking medications and able to give informed consent including those referred by their general practitioners (GP). Between 30 and 45 outpatients are seen each week, primarily by the diabetes educators. Close links have been established with the referring GPs through a diabetes shared care scheme where GPs undertake diabetes management in consultation with the diabetes educators and endocrinologists. A large proportion of patients attending the centre are from multicultural backgrounds, predominantly Vietnam, Greece, Turkey, Italy and South East Asia.

Patients were invited to participate when they presented to the diabetes educator and were given written information

about the study. Informed written consent was obtained if they agreed to participate and an appointment was made for them to return to the diabetes education centre where the data were collected.

Participants were asked to bring all of the medications they were taking, including any complementary and over-the-counter medicines, vitamin and mineral supplements and their usual blood glucose testing equipment to the appointment. These requirements were written on an appointment card together with directions to the centre.

### The questionnaire

The questionnaire addressed four domains: a) standard demographic data to ascertain if there was any correlation between patient demographic characteristics and medication management practices; b) medication type, dose frequency, obtaining prescriptions and having them filled; c) education and knowledge, and, d) complementary and over-the-counter medicines.

### Participant observations

Participants were observed undertaking specific medication-related activities such as breaking tablets in half, opening medication packages, preparing and administering an insulin dose and testing their blood glucose and the results recorded on a data base.

### Data analysis

Interval and categorical data were analysed using ANOVA and Chi Square respectively to ascertain any significant relationship between the variables. Descriptive statistics including means, standard deviation and frequency counts were used for the demographic data. The Pearson correlation coefficient was used to test the degree of association between interval level data. Content analysis was used for the open questions where each question was read line-by-line to note any emerging themes (Morse 1994). Words, phrases and sentences were classified into categories, in which the number of occurrences of a particular category gave an indicator of the relative importance of the behaviour or activity described.

## RESULTS

Thirty people were interviewed. Each interview took approximately two hours.

### 1. Demographic data

Seventeen males and 13 females took part; age range 33–84 years, mean  $68.7 \pm 13.35$  SD. A range of ethnic backgrounds was represented including Turkish, Italian Greek, Chinese and Vietnamese. Twelve participants did not speak English and an interpreter assisted with the interviews. HbA1c, which provides an accurate measure of long term glucose control ranged from 5.7%–10.9% (normal 4.5–6%, using High Pressure Liquid Chromatography [HPLC]). Twenty-seven respondents had at least one diabetic complication and the majority had three or more. The most commonly occurring complications were retinopathy,

macrovascular disease and neuropathy and erectile dysfunction. Four were taking antidepressant medicines. The most common concomitant diseases were arthritis and thyroid disease.

## 2. Medication usage

Overall, 86 different prescribed conventional medicines and nine self-initiated or complementary medicines and supplements were used. Individuals were taking an average of 7.4 medicines; range 1–12±2.97 SD. Thirty three percent used insulin, 46% were on OHAs and 20% were taking a combination of OHA and insulin.

Overall, respondents were on 10 different antihypertensive agents, six types of lipid lowering agents, three different aspirin formulations and a range of other medicines including anticoagulants and diuretics. The majority, 66%, were on twice a day OHA/insulin regimes. Twenty-three percent were on daily and 10% on three times a day regimes. Forty-six percent took their medicines before meals, 36% after meals and 16% with meals. Most had been on medications for ≥10 years, range 1–≥10.

### Complementary therapies

Participants described complementary therapies as ‘using old medicines for current problems’, ‘things that improve wellbeing and quality of life’, and ‘something other than regular medicines’. In three cases the GP had referred patients to a complementary therapist for massage, chiropractic or relaxation. Table 1 outlines the reasons people gave for using complementary therapies. Twenty-three percent used complementary and self-initiated medications, which included vitamin and mineral supplements, aperients, analgesics, iron tablets, cold remedies, amino acid supplements, garlic, aloe vera and tea tree essential oil on a foot ulcer.

#### Obtaining medications

Seventy-three percent always obtained their medicines from the same pharmacy and collected them themselves. Thirty percent required assistance to obtain their medicines due to poor vision or difficulty getting to a pharmacy. In these cases seven relatives (spouses, daughters) collected medicines from the pharmacy and also helped with dosing. One pharmacist and one GP delivered medicines to the homes of two participants.

In the majority of cases (90%), prescriptions were written by the GP, which is consistent with centre policy. Fifty-two percent of GPs wrote repeat prescriptions without reviewing the patient and left the script with the receptionist to be collected or sent the script directly to the pharmacist.

Reported costs of medications per year ranged from less than \$100 to more than \$600 (mode \$100). Thirty-six percent paid more for medications than they had in the previous year, mostly because they needed more medications and the cost of some medicines had increased.

People used a range of strategies to pay for their medications including doing occasional work because the pension was inadequate, employing budget strategies and

**Table 1: Reasons participants gave for using complementary therapies and the main therapies they used.**

Reason	Therapies used
Arthritis	Massage Glucosamine sulphate tablets Reiki
Reduce stress and improve wellbeing	Mediation Aromatherapy
Improve immunity	Vitamins and minerals Aromatherapy massage with thyme, basil and clove oils
Reduce blood glucose	Herbs and bitter melon, prickly pear
Treat wounds, fungal infections on feet	Tea tree essential oil Aloe vera gel
Treat colds	Echinacea Lemon and honey drinks
Because they are holistic	
They work with medicines to help feel better and control blood glucose	

making sacrifices in other areas. One person ‘kept my diabetes medicines but threw the others away because of the cost’ and one ‘got tired of taking them, so I stopped. They were not doing any good anyway’. Another respondent stopped all his medications because of the cost. None of these respondents consulted their doctors before they stopped their medicines. One person shared their diabetes medicines and blood pressure tablets with a relative who helped with the costs. Fifteen were enrolled in the National Diabetes Services Scheme, one in the Veteran Affairs Scheme, which are schemes set up by the Australian Government to subsidise the cost of some non-medical products. Three had private health insurance.

#### Disposal of unused medicines and/or sharps

Eighty-three percent monitored their blood glucose at home and they all used meters. The majority, 80%, did not perform control tests on their meters to ensure they were reading accurately, but did calibrate the meter with each new batch of strips. Thirty-three percent discarded used needles and lancets (sharps) directly into the rubbish. Unused medicines were generally left in the cupboard, taken away by a relative or discarded into the rubbish.

#### Education about medicines

Eighty-three percent of respondents reported having specific education about their medicines when they were prescribed. Table 2 shows a breakdown of the specific medicine-related education items received. The majority were given information about how to take (93%) and when to take (93%) medicines and ≥50% accurately reported this information for most of their medicines. However, only 37% were given information about and could name possible side effects of their medicines. The risk of hypoglycaemia with insulin was the best known medicine side effect. In addition, only 17% received all seven possible items of information. The GP was the most frequently reported education provider. Table 3 shows the mean differences between patients who

received education from their GPs alone and those who received education from GPs and other education providers. There were no significant differences ( $p=0.05$ ).

There was a negative correlation between age and total pieces of education delivered, suggesting younger patients received more information about issues such as side effects and how to store than older patients but the relationship was not statistically significant ( $p=0.05$ ).

### **Ability to administer medicines**

The majority were able to open their medicine bottles or dosettes, but five people all over 65 and all women living alone, were not able to open a childproof cap. Seven individuals, who needed to break at least one tablet in half, were not able to do so accurately, even though three used a pill cutter (two used a knife). Sixteen percent of participants using insulin did not dial up the correct dose.

Twenty percent regularly forgot to take their medications and offered the following reasons:

*'I am getting older and my memory is not what it used to be.'*

*'I forget to take my insulin to work.'*

*'I do not forget insulin but forget the metformin quite often.'*

*'I like to have a rest from pills when I am on holidays and eating out.'*

*'It is human nature to forget.'*

*'Too busy to remember-sometimes, often, actually.'*

These participants adopted a number of strategies when they realised they had missed a dose. The majority did not worry and took the medicines when the next dose was due. Others took all or part of the dose whenever they remembered, and two individuals telephoned their doctors for advice.

### **Perceptions of blood glucose control**

All respondents had HbA1c estimations performed at least once in the past 12 months. Ninety-nine percent indicated they had good blood glucose control but only one participant's HbA1c was in the target range (<7%).

### **Medication side effects**

Fifty percent of the respondents reported hypoglycaemic episodes, 43% had no hypoglycaemia and 3% were not sure. Education was associated with greater likelihood of reporting hypoglycaemic episodes ( $r=0.22$ ,  $p=0.24$ ), which rose to ( $r=-0.30$ ,  $p=0.11$ ) after correcting for the effect of age. The correlation between age and hypoglycaemic episodes was negative at  $-0.13$ . That is, older age was associated with a lower chance of having hypoglycaemic episodes.

**Table 2: The seven specific education items related to medicines use participants were asked about in the study and the percentage of positive and negative responses**

Medicine related information items	Response category	% responses
How it works	No	43.3
	Yes	56.7
How to store	No	50
	Yes	50
How to take	No	17
	Yes	83
When to take	No	7
	Yes	93
Side effects	No	63
	Yes	37
Special precautions	No	70
	Yes	30
Appropriate disposal	No	57
	Yes	43

**Table 3: Mean differences between patients who received information from their GP only and those who received information from their GP and/or other health professionals**

	GP only Mean difference	GP and Other* Mean difference	p
What medicine is for	3.37	2.73	0.085
When to take medicine	3.53	3.64	0.370
What the effects are	2.79	1.64	0.004
How long effects last	1.89	1.45	0.138
Side effects	1.95	1.18	0.025
Correct dose	2.89	2.45	0.192
Total knowledge of medicines	16.42	13.09	0.05

\*Pharmacist, diabetes educator, nurse



There was no significant difference in the proportions of women (54%) versus men (54%) reporting hypoglycaemic episodes (Chi square =1.46,  $p=0.48$ ). There was no significant relationship between smoking and hypoglycaemic episodes ( $p=0.83$ ); 67% for smokers and 50% for non-smokers indicating a trend toward significance that may have been evident in a larger sample. There was no significant relationship between alcohol and hypoglycaemia episodes, with an equal proportion of self-reported drinkers (50%) and non-drinkers (52%) reporting hypoglycaemic episodes.

Participants reported side effects to some drugs: venlafaxine SR (drowsiness), isosorbide mononitrate (nausea), prednisolone (thirst), metformin (diarrhoea and nausea), and bruising following insulin injections. All of the reported side effects were correctly attributed to the specific drug, however some, such as thirst and drowsiness could have been a consequence of hyperglycaemia.

## DISCUSSION

The demographic characteristics of the sample were similar to other studies undertaken in the same sampling population (Dunning 1994, 2003). This finding suggests the sample was representative of people who attend the diabetes centre and enhances the ability to transfer the findings beyond the sample. However, the results may not be applicable to other settings.

A number of participants reported forgetting to take their medications or discontinuing them if they could not afford the cost. Other researchers have demonstrated older patients use fewer medicines because of the costs (Tokarski 2004). Patients in Tokarski's study said they continued to take their core diabetes medications but cut back on analgesics and medicines such as Viagra.

Participants in our study adopted a number of strategies when they realised they had forgotten to take their medicines. In some instances they 'did not worry' and took the next scheduled dose. With long acting medications this may be appropriate behaviour and may not greatly affect therapeutic blood levels. However, where drugs have a narrow therapeutic index or are needed in frequent doses, adequate blood levels of the drug may be compromised eg, warfarin and digoxin.

Conversely, stopping medicines may reduce the risk of adverse drug events. Given the high incidence of complications and comorbidities in individuals in the current study, medicines, other than the 'diabetes medicines' were necessary, and stopping them increases the risk of long term complications.

Other researchers have reported suboptimal compliance with OHA (Evans et al 2002). Evans et al (2002) based their conclusions on the number of medications actually dispensed to patients (filled prescriptions), and found one third of the individuals in the study did not obtain sufficient supplies of OHAs. Filled prescription rates were not used as

a measure of appropriate medicines self-management in the current study. It does not indicate actual or self-reported medicine use and does not take into account the physical and social limitations involved in managing medicines.

Gilbert et al (2002) reported more than 80% of individuals missed medicine doses and suggested planning strategies with individuals when medicines were prescribed so they would know what to do when they missed doses.

In contrast, only 20% of participants in the current study regularly forgot to take their medicines and gave a range of reasons for forgetting, but none of the participants had been specifically told what to do if they missed a medication dose. Sless and Wiseman (1997) make a similar recommendation in *Writing about medicines for people: Usability guidelines consumer medicine information* (Sless and Wiseman 1997). These are a set of guidelines, primarily for pharmaceutical companies, which specify how to prepare information about medicines for consumers. The extent to which the relevant Consumer Medicine Information sheets (CMI) were utilised in the current study is unknown.

Participants were certainly on a high average number of drugs per day, which equates to polypharmacy. Polypharmacy is a complex issue and involves finding a balance between necessary drugs and the associated risk of multidrug use such as interactions in addition to increasing the complexity of the regime. It is not known whether the complexity of the regimen affected medicine use in the study participants but it is likely given the evidence for such effects in other populations. Given the currently agreed stringent blood glucose, lipid and blood pressure targets, polypharmacy may be best practice in diabetes management.

One significant side effect of OHAs and insulin is hypoglycaemia. The risk of hypoglycaemia due to drug interactions and age-related changes that affect drug pharmacodynamics and pharmacodynamics, increases with polypharmacy. The incidence of hypoglycaemia was high in the current study, (50%), but factors in addition, to or other than, drug interactions, may have led to hypoglycaemia, for example reduced food intake and increased activity. There were no reports of serious hypoglycaemia requiring hospitalisation and patients managed hypoglycaemia appropriately.

Twenty percent reported using complementary therapies and over-the-counter medications, which is consistent with other studies in the same population (Dunning 2003). There was no indication that patients substituted these therapies for conventional prescribed drugs, although some individuals were taking herbal therapies to control blood glucose. There is some evidence to support the blood glucose lowering effects of both the preparations being used, which may have increased the risk of hypoglycaemia if they were also taking OHAs or insulin. Using hypoglycaemic herbs in combination with OHAs may enable lower dose of these medicines to be used, which is consistent with QUM recommendations to use the lowest possible effective dose.

It was of concern that many patients were able to obtain repeat prescriptions from their GP without having to see the GP. GP visits represent ideal opportunities for medication practices and knowledge to be assessed, which are missed if the patient is not actually seen. GPs usually refer patients to a diabetes educator when insulin is required but diabetes educators rarely provide specific, detailed education about the other medicines people are prescribed. For instance, most participants received education about some aspects of how and when to take medicines, but only 37% were informed about potential side effects, especially if they were elderly. However, it is not clear if they had been given the information originally and forgot, or whether the information was given in a way that was not relevant to the individual. Certainly, they did not appear to have been given CMI, or to have read the package insert that comes with all prescription medicines in Australia. CMI does not usually accompany complementary medicines and over-the-counter-medicines.

Frequent reminders are important education strategies and improve adherence. Regular reviews of knowledge and self-care skills are necessary in any chronic disease where physical and mental changes can affect self-care. The focus in diabetes care has been on regular screening for complications but systematic medication review has not been a focus of these programs. Factual reminders (Germer et al 1986; Tay et al 2001) and mailed reminders (Haynes et al 1996) have been shown to improve adherence. Home medication reviews, linking medicines review to annual review, offering individual education, and involving patients by seeking concordance rather than focusing on compliance, are other ways of achieving effective medicines use (Royal Pharmaceutical Society of Great Britain 1997). Concordance in this sense refers to achieving agreed goals.

The lack of appropriate disposal of used sharps (insulin needles and lancets) reported by participants in our study was a major concern, although the extent to which it represents a health risk to other people is not known. Most Victorian municipal councils have sharps disposal schemes in place and sharps disposal is a standard part of blood glucose testing and insulin therapy teaching. This finding could not be explained but highlights the need to find other ways to ensure patients are aware of their responsibilities to dispose of used sharps appropriately.

Quality use of medicines (QUM) is central to Australia's National Medicines Policy (NPS). The NPS aims to meet medication-related service needs so that optimal health outcomes and cost-effective medication use is achieved. There are four main inter-related objectives of QUM: selecting management options wisely; choosing suitable medicines; if a medicine is necessary; and, using medicines safely and effectively. Although individuals were using a large number of medications, they appeared to be necessary. However, individuals were not always using them appropriately and, based on their responses, were not adequately informed about appropriate use. Likewise it is not possible for individuals to achieve QUM if they cannot afford medicines, and this was an issue for many individuals in our study.

## LIMITATIONS OF THE STUDY

The results of this study may not be able to be generalised outside the study participants because of the small sample size and the possibility of selection bias. No information is available about patients who do not attend regularly for diabetes or medicine review or who are managed in other diabetes services. Nevertheless, the researchers identified major concerns about medication knowledge and self-management by people with type 2 diabetes who regularly attend the diabetes outpatient clinic.

## CONCLUSIONS AND IMPLICATIONS FOR NURSING PRACTICE

Some inappropriate medication self-care practices and knowledge deficiencies were identified in the study. The majority of participants had received some medicines education, but only a minority had received all seven possible items of information.

The results support the need to ensure medicines knowledge and use is part of routine diabetes education practice especially at regular complication reviews and when medicines or doses are changed. CMI could be used as part of the medicines education process.

Asking about complementary and self-initiated medicine use should be standard nursing practice.

Further research to determine which CMIs are most useful to people with diabetes and how to incorporate QUM strategies into diabetes education and management is warranted.

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# A COMPARISON OF AN EVIDENCE BASED REGIME WITH THE STANDARD PROTOCOL FOR MONITORING POSTOPERATIVE OBSERVATION: A RANDOMISED CONTROLLED TRIAL

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**Key words:** postoperative, post surgery, monitoring, vital signs, observations

## ABSTRACT

### Background

Monitoring patients' vital signs is an important component of postoperative observations.

### Objective

To compare the safety and efficacy of the current standard practice for monitoring postoperative observations in one hospital with an experimental protocol.

### Method

Patients who were classified as American Society of Anaesthesiologists (ASA) Class 1 or 2 and who met the inclusion criteria were randomised to one of two groups. Following their return to the ward from the recovery unit, these patients were monitored according to either the standard practice (n=96) or the experimental protocol (n=93). Data collected included patient demographics, medical and surgical history, the postoperative observations and the number and type of untoward events.

### Results

The findings indicated that there was no statistically significant difference in the incidence of abnormal vital signs between the groups in the first four hours as well as within the 24 hours following return to the ward from the recovery unit. Additionally, none of the patients required either transfer to the intensive care unit /high dependency unit or management by the intensive care team. Patients in both groups were successfully discharged within 24 hours following surgery.

## Conclusion

This study provides evidence to inform clinicians of a safe and cost effective regime in the management of the patient in the postoperative period following discharge from the recovery to the ward. Clinicians, however, must utilise clinical judgement to determine which patients require close monitoring during the postoperative period.

## INTRODUCTION

Monitoring of patients' vital signs is an important component of postoperative observations, undertaken for the early detection of complications that may require an intervention, thus preventing further clinical deterioration (Botti and Hunt 1994). Research has demonstrated that 5% of patients develop postoperative complications (Gamil and Fanning 1991), 0.21% of patients developed an early postoperative emergency within 48 hours after surgery (Lee et al 1998), and the incidence of mortality is 0.24% in the first 24 hours following surgery (Gamil and Fanning 1991).

A large number of studies have been published which provide recommendations specifically for monitoring patients in the recovery room, however there has been limited research relating to management of patients following their transfer to the ward.

The commonly monitored vital signs include temperature, pulse, respiration and blood pressure (Evans et al 1999). Nurses usually assess these vital signs in accordance with the individual hospital protocols (Botti and Hunt 1994), although the rationale for these protocols are rarely based on scientific evidence (Arsenault 1998; Burroughs and Hoffbrand 1990).



Policies and protocols for monitoring patients following return to the ward varies between facilities as well as between wards within each facility. For example half hourly monitoring for two hours, hourly monitoring for four hours and hourly monitoring for six hours have been reported (Zeitze and McCutcheon 2002).

Findings from a systematic review of the literature (Centre for Applied Nursing Research 1998) investigating the optimal frequency for monitoring patients on return to the ward, recommended that vital signs should be monitored half hourly for two hours followed by fourth hourly for 24 hours if the patients were stable. However, the systematic review did not include recommendations for the type of observations, therefore a further review of the literature was undertaken to identify the common complications occurring in the first three postoperative days and the associated vital signs to be monitored.

The findings from this literature review identified hypotension as a common complication occurring within the first three hours after surgery (Gamil and Fanning 1991) therefore the value of blood pressure monitoring was confirmed. Likewise, the recording of pulse rate was justified because bradycardia has been reported as the second most common complication occurring within the first two hours after surgery (Field 1998). The literature also indicated that monitoring the temperature in the first four hours has been frequently recorded to detect hyperthermia, which is primarily an indicator of infection (Litwack 1997; Wipke-Tevis 1999), DVT, pulmonary emboli, atelectasis (Pett and Wernly 1988) and anastomotic breakdown. Researchers have also demonstrated that these complications are uncommon in the first few hours following surgery and are more likely to occur from the second postoperative day (Heidenreich and Giuffre 1990).

The importance of monitoring the respiratory rate was debatable, as adequate breathing did not necessarily indicate optimal ventilation (Thompson 1983). Rather, monitoring oxygen saturation levels has been demonstrated to be an important predictor of the patient's respiratory status (Moller et al 1992; Moller et al 1993; Rosenberg et al 1989). With the availability of bedside technology (pulse oximetry) to record the patient's oxygen saturation, monitoring the physiological results of respiration rather the respiratory rate is a much more appropriate indicator of respiratory status (Bayne 1997).

Based on the findings of the systematic review and a comprehensive literature review of the commonly occurring complications in the early postoperative period and in consultation with expert clinicians an evidence based postoperative monitoring regime was developed. The objective of this study was to investigate the safety and efficacy of the evidence based regime for monitoring postoperative observations with the existing standard practice.

## RESEARCH QUESTION

What is the effect of a modified regime compared to existing practices for monitoring vital signs in postoperative patients on their return to the ward from the recovery unit?

## MATERIALS AND METHODS

A randomised controlled trial was undertaken comparing the incidence and nature of untoward events that occurred in the first 24 hours following return to the ward after surgery in patients monitored according to the study protocol and those monitored according to the standard hospital protocol. This study design was chosen due to the ability of randomised controlled trials to eliminate selection bias thus making them the best method to obtain evidence on the effects of health care interventions.

The study was conducted in a metropolitan health service in New South Wales, Australia, over six consecutive months. As such a study had not been previously undertaken it was determined that only patients classified by the American Society of Anaesthesiologists (ASA) as Class 1 or 2 would be included. The ASA Classification status (table 1) was used as an estimate of operative risk (Wolters et al 1996).

**Table 1: ASA Classification**

ASA I	The patient has no organic, physiological, biochemical, or psychiatric disturbance. The pathological process for which the operation is to be performed is localised and is not a systemic disturbance.
ASA II	Mild to moderate systemic disturbance caused either by the condition to be treated or by other pathophysiologic processes.
ASA.III	Severe systemic disturbance or disease from whatever cause, even though it may not be possible to define the degree of disability.
ASA IV	Indicative of the patient with severe systemic disorder already life-threatening, not always correctable by the operative procedure.
ASA V	The moribund patient who has little chance of survival but is submitted to operation in desperation.

Patients having surgery under general anaesthesia were identified on admission to the peri-operative unit and assessed by the departmental staff to determine their eligibility for entry into the study. Patients were eligible for the study if they were scheduled for surgery under general anaesthesia, between the ages of 18-80 years, transferred to the ward from recovery, and had a minimum length of stay of six hours following surgery.

Patients who failed to give consent, had surgery under spinal or local anaesthesia, patient controlled anaesthesia following surgery, neurosurgery, vascular surgery or were transferred to the intensive care (ICU) or high



dependency units (HDU) from the recovery unit were excluded from the study. The surgeons and anaesthetists reviewed the experimental protocol and consented to have their patients participate in the study. The study was approved by the South Western Sydney Area Health Service Research Ethics Committee and the University of Western Sydney Ethics Review Committee (Human Subjects).

An intensive education program for staff in the surgical wards was undertaken to provide details of the study, procedures to be followed, and the documentation to be completed for each client enrolled in the study.

At the time of admission to the peri-operative unit, patients who met the inclusion criteria were informed of the study and written consent was obtained prior to allocation to a study group. The randomisation sequence was generated from a statistical table of random numbers and concealed in sequentially numbered, opaque, sealed envelopes. Following their return to the recovery unit after surgery, envelopes containing the monitoring regime were placed by the nurse in charge, in front of the patients' medical notes. On transfer to the ward, the envelope containing the protocol was located; the random number recorded on the data sheet, and the patient was monitored according to the assigned protocol. Nurses were instructed that in the event that a patient became unwell and required further monitoring, the patient was to be discontinued from the study and treatment commenced according to medical/nursing advice.

Patients in the control group had their observations monitored according to the standard hospital protocol (table 2) while those in the experimental group had their observations monitored according to the study protocol (table 3). Owing to the nature of the intervention, it was not possible to blind the participants, nurses or the data collectors to the treatment allocation. However, in order to maintain the rigour of the study and to avoid bias during documentation, the nurses and the data collectors were not informed of the criteria used to describe abnormal vital signs.

**Table 2: Standard protocol (control)**

Temperature to be recorded on return to the ward then at the end of four hours followed by daily until discharge if the patient is stable. Respiratory rate, pulse rate, blood pressure, oxygen saturation and level of arousal to be recorded on return to the ward followed by fourth hourly for 24 hours if the patient is stable.

**Table 3: Experimental protocol**

Temperature to be recorded on return to the ward then at the end of four hours followed by daily until discharge if the patient is stable. Respiratory rate, pulse rate and blood pressure to be monitored and recorded on return to the ward then one hourly for two hours followed by fourth hourly for 24 hours. Oxygen saturation and level of arousal to be monitored and recorded on return to the

ward then one hourly for two hours followed by four hourly for 24 hours.

Data collection was undertaken by an independent staff member not associated with the research project. Standardised data collection was undertaken using a tool developed by the researchers. The data collector was provided with extensive education regarding transcription of the data and the data collection method. Data collected included the patient's age, gender, date of admission, surgery and discharge, name of the surgical procedure, medical history, ASA class, duration of anaesthesia, duration of the procedure, length of time in recovery, the observations recorded, and any variations in the condition of the patient during the first 24 hours following surgery. Random audits by the researchers were conducted to ensure accuracy of the data collected.

Adverse outcomes of interest included the number of patients who developed any untoward events such as chest pain, required management by an intensive care team, were transferred to the ICU/HDU for intense monitoring or had an abnormal vital sign. An abnormal vital sign was defined as a value outside the predetermined parameters (Davis and Nomura 1990) (table 4).

**Table 4: Definitions and parameters of abnormal vital signs for the purpose of this study**

Fever	Temperature of 38.3° or higher
Hypoventilation	Respiratory rate of 10/min or less
Hyperventilation	Respiratory rate of 30 or more
Hypotension	Fall in blood pressure (BP) >20mm of Hg from baseline BP or systolic BP <80mm of Hg
Hypertension	Systolic BP >180mm Hg and diastolic BP > 120mm of Hg; a rise in BP of 20% or more than the highest preoperative BP
Bradycardia	Pulse <60/min Severity classified B1 –50 –60/min B2 <50/min
Tachycardia	Pulse >100/min Severity classified T1 100 –120/min T2 >120/min
Hypoxia	O <sub>2</sub> saturation 90% or less

### Statistical analysis

Statistical analysis was carried out using SPSS version 10. Descriptive statistics were calculated for all variables. Chi-square analysis was undertaken to determine the differences between the two groups. All patients who were monitored could potentially have up to five vital signs outside normal limits. Therefore, the analysis was performed on the number of occurrences of abnormal vital signs, rather than the number of patients. For example, patients in the experimental group had two sets

of observations recorded in the first four hours following transfer to the ward.

Therefore the total number of potential abnormal vital signs for this group of patients (n=93) would be 930, if all parameters ie temperature, pulse, respiratory rate, blood pressure and oxygen saturation were monitored at both times. As more frequent monitoring can result in an increase in the detection of abnormal vital signs the proportion of the abnormal vital signs in each group was calculated.

## RESULTS

Two hundred and twenty seven patients who met the inclusion criteria were randomised to either group. However, 38 patients were subsequently excluded as they were administered either spinal or local anaesthesia for the surgical procedure or were commenced on PCA following surgery. These results are therefore based on an analysis of 189 patients (experimental=93; control=96). Forty-two of these patients were not monitored according to the assigned protocol however their data have been included in an intention to treat analysis (table 5).

There were no significant differences between the experimental and control groups in any of the baseline characteristics (table 6), nor were there any statistically significant differences in the observations recorded at admission or in the recovery unit (table 7).

The majority of patients had a general surgical procedure (n=151), whilst the other operations involved the head and neck (including faciomaxillary) (n=3), ear, nose and throat (n=1), orthopaedics (n=8), gynaecology (n=14), urology (n=10), breast (n=1), and plastic surgery (n=1) (table 6).

### *Incidence of adverse outcomes*

During their period of hospitalisation, none of the patients in either group developed a postoperative emergency that required management and treatment by an intensive care team or transfer to the ICU/HDU.

Two patients in the experimental group complained of chest pain. The first patient, a 29 year old, complained of chest pain seven hours after transfer and was treated with intravenous Ranitidine. The second patient, a 36 year old, had chest pain 15 hours after transfer, was treated with sublingual nitrates and cardiac investigations were undertaken. The chest pain resolved within the hour in both patients and they were discharged home the following day.

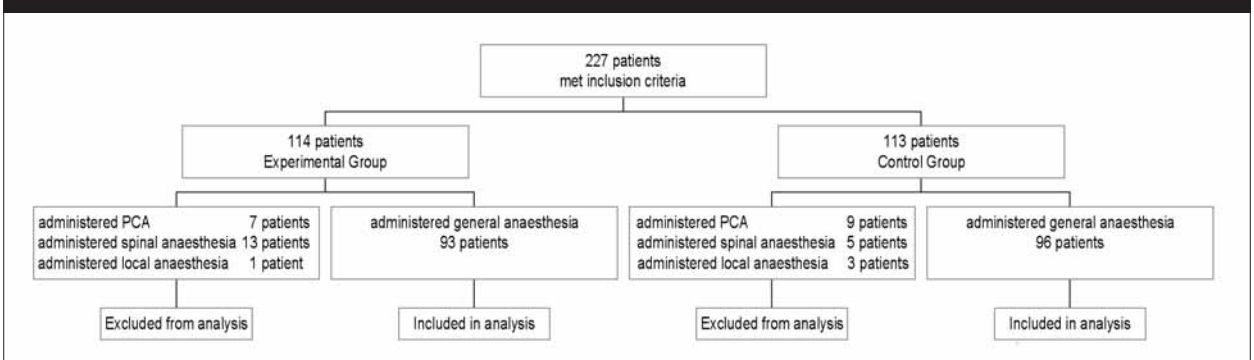
Five hours after returning to the ward one patient in the control group tried to sit out of bed and fell. Vital signs recorded at the time of the fall were stable and the patient exhibited no signs or symptoms of complications, although, the patient was asked to remain in bed for a further two hours, and was discharged home the next day.

### *Incidence of abnormal vital signs*

The number of abnormal vital signs that were documented has been reported in table 8. Ten patients in the experimental group and five patients in the control group had a pulse rate of less than 60 beats/minute at baseline. When these patients' data were removed from the analysis there was no statistically significant difference in the number of abnormal vital signs at any point in the first 24 hour period. Therefore the data from these patients were included in the final analysis.

Although monitoring the respiratory rate and oxygen saturation was a requirement of the protocol, these vital signs were monitored in less than 70% of all patients. Abnormal events relating to these vital signs have, therefore, not been included in the final analysis. In those patients who did have this vital observation monitored, none had tachypnoea or bradypnoea in the 24 hour period and only one patient had an abnormal oxygen saturation (89%) on transfer to the ward. It could be postulated that the low level of oxygen could be due to the fact that this patient had a diagnosis of pulmonary embolism and was transferred to the ward without oxygen therapy. Treatment with oxygen supplementation for one hour resulted in the patient attaining normal oxygen saturation.

**Table 5: Flow chart of patients through the study**



### ***Incidence of abnormal vital signs on transfer to the ward***

On their return to the ward from the recovery unit, all patients had their temperature, pulse, and blood pressure monitored. However, the respiratory rate was monitored in only 28% and oxygen saturation was monitored in only 77% of patients, therefore these parameters were not considered in the analysis. Twenty-one patients in the experimental group and 17 patients in the control group had one untoward event each, however, these results were not statistically significant ( $p=0.44$ ) (OR 1.30, 95% CI 0.67, 2.51) (table 8). The most commonly occurring untoward events were bradycardia ( $n=18$ : 3.1%) followed by hypotension ( $n=11$ : 2%).

### ***Incidence of abnormal vital signs in the first four hours following transfer to the ward***

In the first four hours after returning to the ward from the recovery unit, patients in the experimental group had two sets of vital signs and those in the control group had only one set of vital signs recorded (these do not include the vital signs recorded at transfer). Therefore, the number of potential untoward events that could occur in the experimental group and control group was 558 and 288 respectively.

A total of 33 untoward events (experimental=21; control=12) were identified in 30 patients (experimental=18; control=12). These results were not statistically significant ( $p=0.77$ ) (OR 0.90; 95% CI 0.44, 1.86) (table 8). Hypotension ( $n=12$ ) (1.5%) and bradycardia ( $n=11$ ) (1.4%) were the most commonly occurring untoward event during this period.

In the 12 patients who developed hypotension and 11 patients who developed bradycardia, six had a low blood pressure and three had a low pulse rate at baseline.

Hyperthermia was recorded in one patient in the control group.

### ***Incidence of abnormal vital signs in the first 24 hours following transfer to the ward after surgery***

In the 24 hours following transfer to the ward, patients in the experimental group ( $n=93$ ) had seven and those in the control group ( $n=96$ ) had six sets of observations recorded. Again these do not include the vital signs recorded at transfer. Therefore, the number of potential abnormal vital signs that could occur in the experimental group and control group were 1953 and 1728 respectively.

One hundred and fourteen abnormal vital signs (experimental=52; control=62) were identified in 65 patients (experimental=33; control=32) in the first 24 hour period following transfer to the ward from the recovery unit ( $p=0.11$ ) (OR 0.74; 95% CI .51, 1.07) (table 8). These abnormal vital signs occurred at any time during the 24 hour postoperative period and not necessarily in the first four hours.

Hypotension ( $n=32$ ) (0.9%) and bradycardia ( $n=46$ ) (1.2%) were the most common untoward events documented (table 8). In the 20 patients who developed hypotension and 23 patients who developed bradycardia, 14 had a low blood pressure and five had a low pulse rate at baseline. Severe bradycardia (HR <50 beats/minute) was not identified in any of the patients in the first 24 hours following surgery. None of the patients who had an abnormal blood pressure or pulse complained of dizziness, nausea or weakness.

All patients who developed untoward events were managed with appropriate nursing interventions and the attending doctor was notified of the changes in vital signs. Assistance from the doctor was required in only three patients: two who developed chest pain and one who had a fall.

**Table 6: Patient demographics**

	Experimental group	Control group
Total number of patients analysed	93	96
Males	44	41
Female	49	55
Age	53.98 (SD 17.53)	
Range 20-85 years	48.23 (SD 16.45)	
Range 19-81 years		
<b>Types of surgery</b>		
General surgery	74	77
Head and neck including faciomaxillary	1	2
Ear, nose and throat	1	
Breast	1	
Orthopaedics	3	5
Gynaecology	8	6
Urology	5	5
Plastic	0	1

**Table 7: Demographics**

	Experimental group Mean (Std. deviation)	Control group Mean (Std. deviation)
Length of hospital stay	2 days (1.33)	1.8 days (1.36)
Length of stay after surgery	1.92 days (1.34)	1.8 days (1.6)
Length of anaesthesia	83 minutes (37)	82 minutes (30)
Length of surgery	63 minutes (33)	66 minutes (70)
Length of time in recovery	87 minutes (47.5)	84 minutes (43)
Systolic blood pressure at baseline	137 (27)	134.8 (22.2)
Diastolic blood pressure at baseline	79.4 (11.7)	79.7 (13.3)
Pulse rate at baseline	72 (11)	73.7 (11)

**Table 8: Incidence of abnormal vital signs**

Time	Vital sign	Experimental group No. of abnormal vital signs (%)	Control group No. of abnormal vital signs (%)	p value	Odds ratio (95% CI)
Transfer	Temperature >38	0	0		
	Bradycardia	13	5		
	Tachycardia	2	3		
	Hypotension	6	5		
	Hypertension	0	4		
	Total	21 (7.5%)	17 (6%)	0.44	1.30 (0.67, 2.51)
4 hours	Temperature >38	2	1		
	Bradycardia	8	3		
	Tachycardia	4	2		
	Hypotension	7	5		
	Hypertension	0	0		
	Total	21 (3.8%)	12 (4.1%)	0.77	0.90 (0.44, 1.86)
24 hours	Temperature >38	6	7		
	Bradycardia	24	22		
	Tachycardia	8	5		
	Hypotension	10	22		
	Hypertension	4	6		
	Total	52 (2.7%)	62 (3.6%)	0.11	0.74 (0.51, 1.07)

## DISCUSSION

Various regimes for monitoring vital signs in the postoperative period have been used, although there is limited documentation of research relating to this practice. This randomised controlled trial was undertaken to compare the safety and efficacy of a modified protocol to the usual hospital protocol for monitoring patients on their return to the ward from the recovery unit. The experimental protocol was developed from the findings of a systematic review, literature review of commonly occurring complications in the first 24 hours following surgery and expert advice.

The major difference between the two monitoring regimes was the number of times the patients were monitored in the first four hours following return to the ward from the recovery unit. Although all patients were monitored on transfer, patients in the experimental group were monitored for a further two hours while patients in the control group were monitored only once again in the following four hours. The main outcome of interest was the number of patients who required assistance of the intensive care team or transfer to the intensive care unit. Other outcomes assessed included the number of patients who developed abnormal vital signs or had any adverse complications, eg, haemorrhage.

Patients frequently exhibit abnormal vital signs during recovery from general anaesthesia and in only a minority of cases does this progress and require intervention. Therefore statistical analysis was undertaken on the number of abnormal vital signs documented in each group, rather than the number of patients who developed the abnormal vital signs.

The incidence of abnormal vital signs in the first 24 hours following return to the ward from the recovery unit was 3%. Although not statistically significant, a greater number of abnormal vital signs (n=21) were identified in the experimental group compared to the control group

(n=12) in the first four hours. This could be due to the fact that patients in the experimental group were monitored more frequently than those in the control group, thus increasing the likelihood of detection of abnormal vital signs.

This study supports the findings of other researchers (Harley and Tsamassiros 1997) that following return to the ward from the recovery unit if abnormal vital signs have not occurred in the first two and a half hours it is unlikely they will occur within the first four hours. The results also demonstrated no statistically significant difference in the incidence of abnormal vital signs in the first 24 hours, thus supporting the feasibility and safety of reduced frequency of monitoring vital signs following a patient's return to the ward from the recovery unit.

In this study, the incidence of abnormal vital signs may be underestimated due to poor compliance by nurses to the monitoring schedules. Although the monitoring regimes for both the experimental and control groups included monitoring of the oxygen saturation, it was interesting to note that this observation was monitored in less than 80% of all patients. One would assume that the patients who did not have their oxygen saturation monitored would have their respiratory rate monitored. However, this was not the case as there were patients who had neither observation recorded.

In this study bradycardia and hypotension were the most commonly occurring abnormal vital signs in the first 24 hours which supports the findings of other researchers. However, it should be noted that for the purpose of this study, bradycardia was defined as a pulse rate of less than 60 beats/minute. The majority of the patients who had bradycardia postoperatively also had a baseline pulse rate of under 60 beats/minute.

The majority (78%) of abnormal vital signs occurred after the first four hours indicating that all patients following surgery are at risk, hence pertinent observations



are critical and nursing staff should be vigilant as complications can occur at any point along the postoperative continuum.

None of the patients in either group demonstrated any serious or potentially life threatening events after returning to the ward. In the three patients who developed untoward events, there was no association between the time of occurrence of the abnormal vital sign, and the time since return to the ward.

These results indicate that there is no association between the frequency of observations in the first four hours and outcomes for the type of patients included in this study. However, as no adverse events were reported, it is unclear whether monitoring the patient frequently in the first four hours assists in the early identification of patients at risk of postoperative complications.

The results from this study have implications for clinicians and administrators and provide a platform for the rational use of services aimed at optimising patient care post surgery. The regimes for postoperative monitoring should be based upon the condition of the patients, the nurse's clinical judgement and with consideration of existing guidelines within the facility. Monitoring regimes should include appropriate vital signs to identify the complications that have been commonly reported to occur following surgery. Diligent visual observation and communication with the patient is also important as part of the patient's postoperative care.

Monitoring appropriate vital signs based on clinical judgement will provide nursing staff with valuable time and added flexibility to prioritise other nursing interventions. As the nurses' role expands to include more assessments, planning, teaching and evaluation, it is imperative that clinical practice is based on evidence rather than tradition. This research study reports on one clinical practice that can be changed to achieve that goal.

A major limitation of the study is the sample size, therefore the findings of this study cannot be generalised beyond the population and setting where this study was conducted. Potential confounders of early postoperative untoward events include the type of surgery, type of anaesthesia and ASA classification of the patients. However, as all the patients in the study had general anaesthesia and were classified as ASA class 1 or 2 and most of them had general surgery it can be concluded that the findings are only applicable to this population and cannot be generalised to other types of patients.

Replication of this study in other settings with patients classified as ASA 3 and with other surgical procedures will provide an evidence-based protocol for monitoring patients in the postoperative unit.

## CONCLUSION

The research, including this study, demonstrates that current regimens for monitoring patients in the immediate

postoperative period may in fact be more intensive than is indicated by patient outcomes. The data presented fails to provide justification for routine, frequent monitoring of vital signs in the postoperative period following return to the ward from the recovery unit. However, the results cannot be generalised to all patients following surgery. Clinicians, however, must utilise clinical judgement to determine which patients require close monitoring during the postoperative period. Further research needs to be undertaken to assess patient satisfaction with reduced monitoring.

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# WHAT WERE THE OUTCOMES OF HOME FOLLOW-UP VISITS AFTER POSTPARTUM HOSPITAL DISCHARGE?

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## ABSTRACT

### **Objectives:**

To assess health outcomes of home follow-up visits after postpartum discharge and assess relationships between the number of home visits and selected outcomes among women who gave birth at two Queensland, Australia, regional hospitals.

### **Design:**

A cross sectional study. Services provided during the home visits were responsive to a woman's need rather than having a structured protocol of services.

### **Main Outcome Measures:**

The four measured health outcomes were: 1) postpartum depression; 2) confidence to undertake maternal roles; 3) breastfeeding; and, 4) satisfaction with postpartum care.

### **Results:**

Of 210 women who were invited to participate in the study, 143 (68.1%) provided information. Women who received a higher number of home visits had significantly lower confidence to undertake maternal roles than those who received fewer home visits. There was a positive correlation between the number of home follow-up visits and postpartum depression among women who gave birth at one hospital (Hospital B), but not at the other (Hospital A). No relationship was found between the home postpartum visits and the other outcomes.

### **Conclusion:**

These results could be explained in that home follow-up visits were offered to all women at Hospital A while Hospital B only provided home visits to women who had a health risk due to their social, physical and psychological characteristics. The lack of protocol home visits and the characteristics of women receiving the visits were probably the major factors which influenced these limited beneficial outcomes.

## INTRODUCTION

In the past two decades many researchers (Ransjo-Arvidson et al 1998; Fraser et al 2000; Lieu et al 2000) have assessed the outcomes of home follow-up visits after postpartum discharge as hospitals have reduced the hospital stay of postpartum women after the birth of their infants.

Health outcomes of postpartum women and their infants who were discharged early and received home follow-up visits were compared with women who had a longer hospital stay (Armstrong et al 1999; Kendrick et al 2000). A wide range of outcomes have been measured, including maternal depression and satisfaction with care and hospital readmissions (Lieu et al 2000).

The results of these studies recommended the provision of home visits to postpartum women, particularly first time mothers, single mothers and mothers who intend to breastfeed their infants. Another common and consistent outcome derived from these studies was that mothers who received home visits were

more likely to be satisfied with the postpartum care or to be more confident to seek help from health care providers than women who did not receive this care (De Koninck et al 2001).

The major approach relating to home visits after postpartum hospital discharge was having systematic and well planned protocols in order to achieve specific health outcomes. For example, Barros (1994) and Brent (1995) developed a protocol of services during home visits to postpartum women in order to increase their exclusive breastfeeding (see also Sikorski et al 2004). Such evidence-based practices were strongly recommended by health policy makers as they demonstrated outcomes based on a structured protocol of health services and systematic investigations. However, the adoption of these protocols was limited due to a range of administrative and practical factors.

Other factors included lack of understanding of nurses and midwives relating to the process used to develop the protocols of the best practices or their inability to obtain such protocols (Hay et al 1999). Results of the study by Hay et al (1999) suggested that at relatively small hospitals, health issues need to be prioritised so that appropriate protocols to deliver evidence-based practices could be developed to address such issues.

In September 2004, data based on six Queensland regional hospitals gathered by the researchers of this study, showed there were three major patterns of home visits provided to women after hospital postpartum discharge.

The first pattern was that nurses or midwives visited all women who lived within a designated area at their homes after the hospital discharge. There were objectives for the visits with a clear protocol for the visits.

The second pattern was that nurses or midwives visited all women who lived within a designated area at their homes after the hospital discharge. No structured protocol was written for the visits. Referral of women who lived outside of the boundary to other health centers might be made.

The third pattern was that women who had special needs due to physical, psychological or social problems would receive home visits provided by nurses or midwives after hospital discharge.

The pattern of home visits adopted by health organisations varied from one to another relating to the number of visits, time of initial and subsequent visits after hospital discharge and the range of protocols for services. If required, women or their infants were referred to other health professionals such as social workers, general practitioners or paediatricians for appropriate care. In general, care provided by nurses or midwives during these home visits aimed to prevent and detect complications among the women and their infants. Grullon and Grimes (1997) and Lieu et al (2000) who reviewed services

provided in many countries including the United Kingdom and the United States suggested these included physical, psychological and social assessment, health education and anticipatory guidance.

Studies in the United Kingdom, the United States and Canada assessed the outcomes of these home follow-up visits after postpartum discharge (Frank-Hanssen et al 1999; Johnson et al 1999; Lieu et al 2000; Morrell et al 2000; De Koninck et al 2001).

Comparing the results of one study with other studies was problematic due to the difference in outcome measures, study designs, periods between hospital discharge and data collection, protocol and content of home visits, and, types of health care providers (Frank-Hanssen et al 1999; Johnson et al 1999; Lieu et al 2000). For example, Johnson et al (1999) assessed the success or continuation of breastfeeding while Lieu et al (2000) assessed a number of mother and infant outcomes including newborn re-admission, newborn urgent clinic visits, maternal re-admission and maternal postpartum depression. Lieu et al (2000) used an experimental design and Frank-Hanssen et al (1999) used a cross-sectional descriptive design. Only women who had vaginal deliveries were included in the study by Meikle et al (1998) whereas Armstrong et al (1999) focused specifically on high-risk women, excluding low risk women.

In Australia, all women and their infants are entitled to receive publicly funded health care during the perinatal period (Australian Institute of Health and Welfare 2003). As mentioned earlier, not all women received postpartum home visits after hospital discharge. The availability of, and accessibility to, the home visit is influenced by many factors, including hospital policies, financial support and the number of deliveries to justify cost-benefits. Many women in rural or regional areas travelled long distances to give birth in regional referral hospitals while the distance and availability of midwives in local communities limited the delivery of post hospital discharge care. No published data were available relating to health outcomes of the unstructured post hospital discharge care among women in regional Australia.

The major aim of this study was to assess health outcomes of unstructured home follow-up visits provided by midwives or nurses to women following the birth of their infants at two regional hospitals in Queensland, Australia. Specific objectives of this study were to describe and compare characteristics of mothers who gave birth at the study hospitals and to assess the relationship between the number of home follow-up visits and the following four outcomes: 1) postpartum depression; 2) confidence to undertake maternal roles; 3) breastfeeding; and, 4) satisfaction with postpartum care. The study hospitals were specifically selected for their different unstructured follow-up programs which reflected the actual postpartum services provided by many Australian hospitals. The first hospital, Hospital A, had midwives

visit all women at their homes located within 15 kilometre radius while the second hospital, Hospital B had selective criteria in the provision of services. The study hospitals and their home visit services will be briefly described in the following section.

### Study hospitals and home follow-up visits

Two major Queensland regional hospitals served the dispersed population in more than 126,000 square kilometres (Queensland, The Office of Economic and Statistical Research 2002). Some women traveled more than 100 kilometres to use services at these hospitals.

The annual number of births in each hospital was approximately 1000. Prior to the questionnaire design, the authors held discussions with six nurses and midwives working at the study hospitals and relevant health organisations in order to explore postpartum home visit protocols, specific services and anticipated outcomes of home visits provided by each study hospital.

At Hospital A, home visits were offered and provided to all postpartum women who lived within a 15 kilometre radius. Midwives would make the initial visit within five days after the hospital discharge. If needed, subsequent visits were also made.

Women or their infants with long term health problems or severe illness were referred to other health professionals such as general practitioners, community health nurses, social workers or paediatricians for appropriate care.

Other women who lived outside the 15 kilometre radius might or might not receive home visits depending on the policy of the women's nearest health centre. At Hospital B, the home visits were only provided by midwives to women or infants with social, physical or psychological health problems. These included drug users and women in domestic violence relationships. Midwives at Hospital B would decide who would require a home visit. Both Hospital A and B did not have a formulated protocol of services during each visit to achieve anticipated outcomes by nurses or midwives who visited women who gave birth. No fixed number of visits were provided by visiting midwives.

## RESEARCH METHOD

Postpartum women who gave birth at the study hospitals between August and December 2001 were invited to participate in the study. Ethics committees of relevant organisations approved the study. Two hundred and ten women (Hospital A = 102, Hospital B = 108) were approached and invited to participate in the study. Of these 172 (81.9%) agreed to participate (Hospital A = 76, 74.5%, Hospital B = 96, 88.9%) and later were followed-up by telephone interviews within four weeks after hospital discharge. These participating rates at Hospitals A and B were significantly different.

Reasons for non-participation were that they did not perceive the benefits of the study and they did not have time.

More than 80% of the women (143 women of 172, 83.1%) were contacted after four to 10 telephone calls (average five calls) and took part in the study. Each woman was contacted at various times of the day including weekends. A minimum of four telephone calls were made to each woman and up to 10 calls in total. Three research assistants, who were registered nurses, were trained by the first author to conduct telephone interviews. A manual was also developed to be used by the research assistants, and this described the purpose of the study and the questions included in the questionnaire. A telephone interview ranged between 15 and 45 minutes (median 20 minutes).

The results of the discussions between the first author and the nurses and the midwives and various studies were used as a guide to select outcomes of home visits and design the questionnaire comprising open-ended and closed-ended questions. The following information was gathered from each participating woman: sociodemographic characteristics, number of follow-up home visits, postpartum depression, confidence to undertake maternal roles, frequency of breastfeeding and satisfaction with postpartum care.

Information relating to obstetrics during pregnancy, delivery and postpartum period of the participants was based on the hospital records. A form was designed to collect the recorded perinatal data of both the woman and her infant. The information was transcribed by research assistants. These perinatal data included gestational age, type of delivery, presentation of the infant, plurality, and the presence of infant congenital anomaly at birth.

### Variables and their measurements

The independent variable was home follow-up visits measured by the women's reported number of home visits provided by nurses or midwives within four weeks after their hospital discharge. Maternal psychological health was assessed by using the standardised Edinburgh postpartum depression scale (Eberhard-Gran et al 2001). The possible score ranged from zero (no depression) to 30 (high depression).

The studies by Ransjo-Arvidson et al (1998), Fraser et al (2000) and Kendrick et al (2000) were used as a guide to design five question items to assess confidence to undertake maternal roles. This study assessed the woman's reported confidence to care for her baby relating to bathing, feeding, dealing with the baby's waking at night, the baby's crying non-stop for more than one hour and having fever. These tasks were later ranked as the most difficult (baby cried non-stop for more than one hour and having fever) and to the least difficult (bathing) by gaining the opinion of five midwives and four postpartum mothers. The women responded by using a five point Likert scale from no confidence (one score) to

very confidence (four score) and unsure (zero score) to each question item. The possible score of the confidence to undertake maternal roles ranged from zero (unsure) to 20 (most confidence).

The studies by Jirojwong (1995), Lieu et al (2000) and De Konick et al (2001) were used as a guide to design a single question item to assess the women's overall satisfaction with postpartum care. Studies by Johnson et al (1999) and Sikorski et al (2003) were used to design a question item to assess breastfeeding by the self-reported regularity of breastfeeding in the past seven days. The regularity of breastfeeding was used to categorise a woman into one of four groups: exclusively breastfeeding (no bottle feeding), predominantly breastfeeding, predominantly bottle feeding and exclusively bottle feeding (no breastfeeding).

A short hospital length of stay after birth was defined as postpartum hospital stay for not more than two days for women who had vaginal delivery and not more than four days for women who had caesarean delivery (Grullon and Grimes 1997).

Cronbach's alpha was computed to assess internal reliability of two measurements: the Edinburgh postpartum depression scale (0.83) and the confidence in maternal roles (0.63). This internal reliability was computed based on the data of all 143 women in the study. This was a satisfactory level of internal consistency (Nunnally 1978).

Descriptive and analytical data analysis methods were used. Number, percentage, range, mean, standard deviations, median and inter-quartile were used to analyse and present descriptive data. In order to assess group differences, a chi-square test for categorical variables and the student's t-test for continuous variables were used. As the number of home visits was not normally distributed, non-parametric methods were used to assess its relationship with the study outcomes. The non-parametric Kruskal-Wallis test was used to compare two or more groups and the Spearman Rank correlation was used to assess a relationship between two continuous variables (Daniel 1995). The minimum statistical significance level of 0.05 ( $p=0.05$ ) was used as a criterion for rejecting a null hypothesis.

## RESULTS

### The women

The details of social, demographic and obstetric characteristics of the women who gave birth at Hospital A and Hospital B are shown in table 1. Information relating to home visit after postpartum hospital discharge is also included in table 1. The average age of women was 28 years, more than 50% of the women completed high school education, 40% lived in a family where the main income earners were manual workers, 40% lived in a family where the main income earners were professional workers, 87% were married or in a de facto relationship,

13% had private health insurance and 28% were first time mothers. The average length of hospital stay after delivery at both hospitals was approximately three days. There was no significant difference between the following characteristics of the women who gave birth at Hospital A and the women who gave birth at Hospital B: age, the highest level of education, occupation of main family income earner, marital status, the type of health insurance, being a first time mother, and the length of hospital stay after birth.

Compared with the percentage of women who gave birth at Hospital B, a significantly higher percentage of women who gave birth at Hospital A had an assisted delivery including caesarean section, forceps assisted delivery or vacuum assisted delivery. However, a lower percentage of the women who gave birth at Hospital A had recorded complications during their perinatal period compared with the percentage of women who had such complications at Hospital B. These contradictory findings were unexpected. The average length of hospital stay after delivery at Hospital A and Hospital B were 3.4 days and 3.7 days, respectively. This difference was not statistically significant.

Approximately one-third ( $n=52$ , 36.4% of 143 women) had home visits by midwives, ranging from zero to seven visits. Of all 63 women who gave birth at Hospital A, 46 (73%) received at least one postpartum home visit. The average number of visits was 2.2. Among 80 women who gave birth at Hospital B, only six women (7.5%) who met the criteria of having home visit (see 'Study hospital' and 'Home follow-up visits' section) received at least one home visit. The number of home visits ranged from zero to two with the average number of home visits being 0.1. As expected, the numbers of home visits provided to women who gave birth at both hospitals were statistically significantly different.

### The number of home visits and the characteristics of women

Table 2 shows the number of home visits categorised by different social, demographic and obstetric characteristics of women. Women who were single, widowed or divorced received a significantly higher number of home visits than the number of home visits provided to married women or women who were in a de facto relationship. Women who did not have complications during the perinatal period received a significantly higher number of home visits than the number of home visits provided to women who had perinatal complications. These findings did not differ after taking into account women who had perinatal complications and gave birth at each hospital. This was an unexpected finding.

Thirteen of the 19 women at Hospital A who experienced perinatal complications received home visits. Of 51 women at Hospital B who experienced perinatal complications, only three received home visits. The length of hospital stay after birth among those who had



**Table 1: Social, demographic and obstetrics characteristics of postpartum women who gave births at two study hospitals (a)**

Characteristic	Hospital A	Hospital B	Total (b)	
Maternal Age (year)				
Number of women	62	79	141	
Range	17-39	15-40	15-40	
Mean (SD)	27.56 (5.5)	28.7 (5.7)	28.2 (5.6)	
t (df)				-1.23 (139)
p				p = 0.22
	<b>Number (%)</b>	<b>Number (%)</b>	<b>Number (%)</b>	
Mother's highest level of education				
Lower than high school	17 (27.0)	21 (26.3)	38 (26.6)	
High school or equivalent	34 (54.0)	51 (63.7)	85 (59.4)	
University undergraduate education or equivalent	12 (19.0)	8 (10.0)	20 (14.0)	
Chi-square (df)				2.63 (2)
p				p = 0.27
Occupation of main family income earner				
Unemployed or student	13 (20.6)	14 (17.4)	27 (18.9)	
Manual worker	25 (39.7)	33 (41.3)	58 (40.6)	
Professional worker	25 (39.7)	33(41.3)	58 (40.6)	
Chi-square (df)				0.23 (2)
p				p = 0.89
Marital Status				
Married or de facto relationship	52 (82.5)	72 (90.0)	124 (86.7)	
Single, widowed or divorced	11 (17.5)	8 (10.0)	19 (13.3)	
Chi-square (df)				1.70 (1)
p				p = 0.19
Type of health insurance				
Public	54 (85.7)	70 (87.5)	124 (86.7)	
Private	9 (14.3)	10 (12.5)	19 (13.3)	
Chi-square (df)				0.10 (1)
p				p = 0.76
Number of pregnancy				
First	14 (22.2)	26 (32.5)	40 (28.0)	
Second and higher	49 (77.8)	54 (67.5)	103 (72.0)	
Chi-square (df)				1.85 (1)
p				p = 0.17
Type of delivery				
Normal delivery	28 (44.4)	52 (65.0)	80 (55.9)	
Caesarean section, forceps and vacuum delivery	35 (55.6)	28 (35.0)	63 (44.1)	
Chi-square (df)				6.04 (1)
p				p = 0.01
Complication during perinatal period				
Had complication	19 (30.2)	51 (63.8)	70 (49.0)	
No complication	44 (69.8)	29 (36.2)	73 (51.0)	
Chi-square (df)				15.92 (1)
p				p < 0.001
Length of hospital stay after delivery (day)				
Number of women	63	80	143	
Range of hospital stay	1-16	1-7	1-16	
Mean (SD)	3.41 (2.1)	3.72 (1.5)	3.59 (1.80)	
t (df)				1.03 (141)
p				p = 0.30
Postpartum home visit				
Number of women	63 (100.0)	80 (100.0)	143 (100.0)	
Number of visits				
0	17 (27.0)	74 (92.5)	91 (63.6)	
1	4 (6.3)	4 (5.0)	8 (5.6)	
2	16 (25.4)	2 (2.5)	18 (12.6)	
3	9 (14.3)	0	9 (6.3)	
4	10 (15.9)	0	10 (7.0)	
5 or higher	7 (11.1)	0	7 (4.9)	
Range of postpartum home visit	0-7	0-2	0-7	
Mean (SD)	2.2 (1.8)	0.1 (0.4)	1.04 (1.6)	
t (df)				3.0 (50)
p				p = 0.005

Note: a) Pearson Chi-square test was used to assess a relationship between two categorical variables and the student t-test was used to assess a relationship between the difference of two means. b) Total number may not be equal to 143 due to missing data.



**Table 2: Relationship between social, demographic and obstetrics characteristics of postpartum women and the number of home visits after hospital postpartum discharge (c)**

Characteristic	Number of women (%) <sup>b</sup>	Number of home visits		p
		Range	Median (inter-quartile)	
Maternal age (year) Range Mean (SD) Correlation Coefficient (r), p	141 (100.0) 15-40 28.2 (5.6)	0-7	-	-0.15, 0.68
Mother's highest level of education Lower than high school High school or equivalent University undergraduate education or equivalent Chi-square (df) p	 38 (26.6) 85 (59.4) 20 (14.0)	 0-7 0-6 0-6	 0 (0.2) 0 (0.2) 0 (0.3)	  1.30 (2) 0.52
Occupation of family main income earner Unemployed or student Manual worker Professional worker Chi-square (df) p	 27 (18.9) 58 (40.6) 58 (40.6)	 0-7 0-6 0-6	 0 (0.2) 0 (0.2) 0 (0.2)	  1.33 (2) 0.52
Marital Status Married or de facto relationship Single, widowed or divorced Chi-square (df) p	 124 (86.7) 19 (13.3)	 0-6 0-7	 0 (0.2) 2 (0.3)	  5.48(1) 0.02
Type of health insurance Public Private Chi-square (df) p	 124 (86.7) 19 (13.3)	 0-7 0-5	 0 (0.2) 0 (0.3)	  0.14 (1) 0.7
Number of pregnancy First Second and higher Chi-square (df) p	 40 (28.0) 103 (72.0)	 0-6 0-7	 0 (0.2) 0 (0.2)	  0.02(1) 0.89
Type of delivery Normal delivery Caesarean section, forceps and vacuum delivery Chi-square (df) p	 80 (55.9) 63 (44.1)	 0-7 0-6	 0 (0.2) 0 (0.2)	  2.81 (1) 0.09
Complication during perinatal period Had complication No complication Chi-square (df) p	 70 (49.0) 73 (51.0)	 0-5 0-7	 0 (0, 0.25) 0 (0.3)	  9.24 (1) 0.002
Length of hospital stay after delivery (day) Correlation Coefficient (r), p	143 (100.0)	0-7	-	-0.05, 0.6

Note (b) Total number may not be equal to 143 due to missing data.

(c) The Kruskal-Wallis non-parametric test used to assess a relationship between the number of home visits and categorical variables and the Spearman rank correlation was used to assess a relationship between the number of home visits and continuous variables.

complications at both hospitals (average 4.2 days, SD=2.1 days) was significantly longer than the length of hospital stay among women who did not (average 3 days, SD=1.2 days). The data are not shown in the table.

Results also showed that no statistically significant difference occurred between the number of home visits and the women's level of education, occupation of main family income earner, type of health insurance, being a first time mother or the type of delivery. There was no

correlation between the number of home visits and the women's age and their length of hospital stay after delivery.

### Outcomes of home visit

Tables 3a and 3b show the median, inter-quartile and range of home visits provided to women who gave birth at both study hospitals and were categorised according to their health outcomes: 1) postpartum depression; 2) confidence to undertake maternal roles; 3) breastfeeding;

**Table 3a: Relationships between the health outcomes of postpartum women and the number of home follow-up visits (c)**

Health Outcomes	Hospital A	Hospital B	Total
Postpartum depression (score)			
Number of women	63	80	143
Range of score	0-23	0-19	0-23
Median (Inter-quartile)	5 (1,8)	3.5 (1, 8.75)	4 (1,8)
Correlation Coefficient (r), p	0.13, 0.30	0.23, 0.04*	0.16, 0.06
Confidence of maternal roles			
Number of women	63	80	143
Range of score	10-20	12-20	10-20
Median (Inter-quartile)	15 (14, 17)	17 (16, 19)	17 (15, 18)
Correlation Coefficient (r), p	-0.10, 0.46	-0.34, 0.002**	-0.34, <0.001**

**Table 3.b: Relationships between the health outcomes of postpartum women and the number of home follow-up visits (c)**

Health Outcomes	Hospital A			Hospital B			Total		
	Number of Home Visit			Number of Home Visit			Number of Home Visit		
	Number of women (%)	Range	Median (Inter-quartile)	Number of women (%)	Range	Median (Inter-quartile)	Number of women (%)	Range	Median (Inter-quartile)
Breastfeeding in the last 7 days									
Exclusively breastfeeding	34 (54.0)	0-6	2 (0,3.25)	48 (60.0)	0-2	0 (0,0)	82 (57.3)	0-6	0 (0,2)
Predominantly breastfeeding	10 (15.9)	0-7	2 (0,4)	5 (6.2)	0-2	0 (0,0)	15 (10.5)	0-7	0 (0,3)
Predominantly bottle feeding	0	-	-	4 (5.0)	0-1	0 (0, 1.5)	4 (2.8)	0-2	0 (0,1.5)
Exclusively bottle feeding	19 (30.1)	0-6	2 (2,4)	23 (28.8)	0-1	0 (0,0)	42 (29.4)	0-6	0 (0,2)
Chi-square (df)	1.01 (2)			2.54 (3)			2.29 (3)		
p	0.60			0.47			0.51		
Satisfaction with postpartum care									
Very satisfied	45 (71.4)	0-7	2 (0.5, 4)	43 (53.8)	0-2	0 (0,0)	88 (61.5)	0-7	0 (0, 2.75)
Satisfied	12 (19.0)	0-6	2 (0.25,3.75)	28 (35.0)	0-2	0 (0,0)	40 (28.0)	0-6	0 (0,1)
Little satisfied	5 (8.0)	0-2	2 (0,2)	5 (6.2)	0-1	0 (0, 0.5)	10 (7.0)	0-2	0 (0,2)
Dissatisfied	1 (1.6)	0	0	4 (5.0)	0-1	0 (0, 0.75)	5 (3.5)	0-1	0 (0, 0.5)
Chi-square (df)	4.024 (3)			3.12 (3)			4.09 (3)		
p	0.26						0.25		

Note: (b) Total number may not be equal to 143 due to missing data.

(c) The Kruskal-Wallis non-parametric test used to assess a relationship between the number of home visits and categorical variables and the Spearman rank correlation was used to assess a relationship between the number of home visits and continuous variables.

\* p<0.05, \*\*p<0.005

and, 4) satisfaction with postpartum care. The results indicated that all women in the study, regardless of home visits or other characteristics, had a relatively low depression level and a high level of confidence to undertake maternal roles. We were unable to control for other confounding factors using multivariate data analyses because of a small sample size of few cells.

The majority of women (57.3% of 143 women) reported that they exclusively breastfed their babies while approximately 30% never breastfed their babies. This information was based on the self-reported regularity of breastfeeding in the past seven days. The majority of the women (n=88, 61.5% of 143 women) reported they were very satisfied with postpartum care while only 7% said they were not satisfied with the care.

There was no significant relationship between the number of home visits provided to women who gave birth at Hospital A and their health outcomes. However, there was a significant association between the number of

home visits provided to women who gave birth at Hospital B and the women's postpartum depression and their confidence to undertake maternal roles. The direction of a relationship between the number of home visits and these health outcomes was contrary to the expectation of health personnel at the study hospitals. Results indicated that an increasing number of home visits were related to an increasing level of postpartum depression. The higher number of home visits was also related to a lower level of the women's confidence to undertake maternal roles among the women who gave birth at Hospital B.

The data from both hospitals indicated a positive relationship between the number of home visits and a woman's confidence to undertake maternal roles. However, there was no positive correlation between the number of home visits and the Edinburgh postpartum depression scale.

## DISCUSSION AND IMPLICATIONS

Women who gave birth at both hospitals had similar social and demographic characteristics. The women in the study had a slightly longer hospital stay (3.6 days) after their birth compared with the 2000 national average (2.8 days of public hospitals) (Australian Institute of Health and Welfare 2003). Although the women in the study were similar to the women who gave birth in Queensland in relation to their age and marital status, it was unlikely they represented all women who gave birth in Queensland as there was a lower percentage of first time mothers (28%) than the percentage of first time mothers in Queensland (40.1%) (Australian Institute of Health and Welfare 2003).

As expected, the women who gave birth at Hospital A had a significantly higher number of home visits compared to the number of home visits provided to the women who gave birth at Hospital B. The length of stay after delivery at both hospitals was not significantly different. However, the results at both hospitals, after taking perinatal complications into consideration, showed that women who had complications had a longer postpartum hospital stay than women who did not.

The study results did not find that women who had short hospital stay after the birth of their babies received home visits so they could gain benefits of continuing health services. The overall results indicated that unstructured home visits to women after hospital postpartum discharge did not provide positive health outcomes. Nurses and midwives responded to a woman's circumstance and identified needs rather than using a structured protocol during a short period of home visits. The lack of positive health outcomes could probably be explained by a longer postpartum hospital stay among women who had perinatal complications. Further studies need to investigate specific services provided to women during hospital stay and compare them to the services provided during postpartum home visits.

The study data showed the number of home visits was related to a high level of depression and a low level of confidence to undertake maternal roles. Caution is needed to interpret these results as only a few women who gave birth at Hospital B during the study period received the home visits. The lack of selection criteria to provide home visits by Hospital A, self selection to receive care by the women and a perceived personal need to have home visits could be reasons for the lack of positive health outcomes found in Hospital A. However, the social and obstetric characteristics of the women who gave birth at Hospital B could contribute to the negative outcomes of the home visits by nurses or midwives. We were unable to control the extraneous factors, including marital status, due to the small number of women who gave birth at Hospital B and had home visits. It was beyond the scope of this study to explore health outcomes of home visits taking into

account various confounding factors using multiple variate analyses since the number of each group would be too small to permit any meaningful pattern to emerge.

The lack of positive health outcomes needs further investigation. For example, self-selection to receive home visits and the women's expectation of services might have influenced the satisfaction level reported by the women. Other social support from family members and health personnel might have affected the decision to seek care for themselves and their infants. Also, prior intention not to breast-feed an infant may not have changed with only a few home visits.

Only one disadvantaged group, women who were single, widowed or divorced, received a higher number of home visits compared to other groups of women. Surprisingly, the women who had complications during the perinatal period had a fewer number of home visits compared to the women who did not have complications. This was probably due to their longer hospital stay. The sources of support, including general practitioners, obstetricians, family members and friends provided to women who had complications were not assessed in this study. This might be different to the sources of support to women without complications and this needs further study. There was also contradictory information between the percentage of assisted deliveries and complications during perinatal periods. We were unable to validate this information to identify whether there was any discrepancy in the information recorded by health professionals between both hospitals.

We did not explore other sources of information given to the women during their pregnancy so were unable to assess how these might influence postpartum health outcomes. The study also did not explore health education content given by midwives. The women who participated in the study were also unlikely to represent all women who gave birth in the study area. We were unable to assess the effects of the difference of response rates between both hospitals on the study results. The small number of women who gave birth at Hospital B and received home visits limited the ability to consider both social and obstetrics factors of the women during the assessment of a relationship between the number of home visits and health outcomes.

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# IMPLEMENTING FAMILY-CENTRED CARE: AN EXPLORATION OF THE BELIEFS AND PRACTICES OF PAEDIATRIC NURSES

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## ABSTRACT

### **Objective:**

This study explored paediatric nurses' perceptions of how they include and involve parents in the care of hospitalised children.

### **Design:**

This qualitative study used individual unstructured interviews to gather data, the data was analysed using thematic coding.

### **Setting:**

Paediatric wards within two regional area health services of New South Wales, Australia.

### **Subjects:**

Fourteen paediatric nurses were asked to describe their beliefs and practices regarding the clinical application of family-centred care.

### **Main outcome measure:**

Paediatric nurses' beliefs and practices about family-centred care were explored in an effort to explain how the concept was implemented.

### **Results:**

The findings are presented as four interconnected themes. The first describes how participants either allocated tasks to parents or retained them, the second relates to the nurses' professional identity, the third theme identifies barriers and constraints to the implementation of family-centred care, while the

fourth describes the nurses' beliefs about their responsibilities when delivering family-centred care.

### **Conclusions:**

Together these findings suggest that while nurses endorse the concept of family-centred care, the implementation into practice is more problematic. While it is not possible to generalise these findings to other paediatric nurses, the authors believe the insight gained will resonate with paediatric nurses internationally. The findings from this study are being used as the basis for the development of clinical practice guidelines to assist paediatric nurses to more consistently apply the concepts of family-centred care to their practice.

## INTRODUCTION

This collaborative project arose from discussions between a group of paediatric nurses and a nurse academic during a paediatric education day held in regional New South Wales, Australia. The discussion centred on how difficult it can be to actively involve parents in the care of their sick child. The clinicians' concerns focused on the variability of the roles and tasks parents are encouraged to undertake in paediatric wards, the power and knowledge differential between health care professionals and parents, and the lack of time available for nurses to build rapport with parents.

The concept of 'family-centred care' is used to describe the way in which families and significant others are included and involved in the health care of hospitalised children (Coyne 1996). In developed countries, most paediatric wards claim to be 'family-centred', which

means that these wards adopt a philosophy where parents are acknowledged as being central to their child's existence, and are therefore vital in the decision-making process regarding the care of their child (Shields 2001).

However, previous research has indicated that family-centred care remains an idealistic notion in many paediatric settings (Espezel and Canam 2003; Fenwick et al 2001; Shields et al 2003).

So, while most paediatric nurses accept that the concept of family-centred care is important, the application of this concept into practice is not always evident. This study sought to explore ways in which a group of paediatric nurses' incorporated this concept into their clinical practice. The results of this study will further enhance nursing knowledge regarding the clinical application of family-centred care, and the findings will be used to develop clinical practice guidelines during the next stage of this project.

## BACKGROUND TO THE STUDY

Historically, hospitals maintained rigid visiting policies preventing parents from seeing their child for long periods of time. However, since the early 1950s it has been recognised that hospitalisation is stressful for children. Two reports from the British Ministry of Health (1946, 1959) identified that children in hospital required emotional support and should be visited frequently by their parents. These early reports were among the first to advocate that mothers should be allowed to 'room-in' with their hospitalised child. Within a short space of time similar findings evolved from Canadian and North American studies, so that by 1963 health care practices and policies in most developed countries had recognised the beneficial effect of having a family member stay with a hospitalised child (Poster and Betz 1963).

A review of the more recent literature shows that hospitalisation is considered to be traumatic, particularly for infants and children less than five years of age. This is because young children lack the appropriate coping skills necessary to deal with the stresses of illness, pain, separation from family and an unfamiliar environment (Coyne 1996; Morse and Pooler 2002; Sheldon 1997). Allowing parents to stay with their hospitalised child has been identified as a significant step toward reducing the traumatic effects of hospitalisation on children (Shields 2001).

In 1996, Coyne concluded from a study which examined parental participation in the care of hospitalised children that 'the concept of parental participation was both complex and underdeveloped' and added that this leads to 'different interpretations of parental participation by health professionals in their effort to apply the concept in practice' (Coyne 1996, p.740). In 1997, a literature review by Sheldon identified that nurses acknowledged parents know their child better than anyone, but still believed that, in practice, nurses were better than parents in looking after a hospitalised child.

Recently, the concept of parental involvement in the care of hospitalised children has also come to include parental involvement in decision-making as well as participation in the care provided. This concept has been linked to an increase in consumerism in healthcare (Galvin et al 2000; Espezel and Canam 2003).

Today, parents, families, or the child's primary care giver expect to be actively involved in health care decision-making as well as the delivery of care. However, parental involvement in the health care of hospitalised children does not always occur. Kristensson-Hallstrom (2000, p.1029) believes the reason for this is that while paediatric nurses claim to support family-centred care, their practices do not always reflect this claim. Galvin et al (2000, p.625) agrees, stating that 'within the hospital culture there may be resistance to incorporating the patient and family into decision-making and involvement with care'. Similarly, Hutchfield (1999) found family-centred care remains an idealistic notion and while nurses espouse the concept of family-centred care, in reality they 'regulate the amount of parental participation in the child's care' (Espezel and Canam 2003, p.35).

The findings of a recent study by Shields et al (2003) identified that unless nurses have the time, energy and motivation to build rapport with parents then effective collaboration regarding the child's care is unlikely to occur. So, while the literature indicates paediatric nurses accept the concept of family participation in the care of hospitalised children there is a lack of empirical evidence regarding its implementation. This study sought to explore paediatric nurses' perceptions of this concept and its incorporation into their clinical practice.

### Clinical practice guidelines

At present there are no evidence-based clinical practice guidelines available in NSW, Australia, that articulate how paediatric nurses can best implement the concept of family-centred care into their practice. Clinical practice guidelines in nursing are a way of providing consistently high quality care, by adhering to recognised, evidence-based standards. The care provided should then be evaluated using continuous quality improvement strategies (Whittenmore and Grey 2002). However, to be effective, clinical practice guidelines need to be based on current evidence and appropriate for the clinical environment in which they are to be implemented (Whittenmore and Grey 2002; Sabatier 2002). Thus, the research team for this study consisted of nurse academics and paediatric clinical nurses who worked together on every phase of this pilot study. The aim of the next stage of this project is to introduce clinical practice guidelines that will be relevant to paediatric nursing practice throughout New South Wales, Australia.

## METHOD

The aim of this collaborative study was to explore how paediatric nursing staff included and involved family members in the care of the hospitalised child.

The specific objectives were to:

- explore paediatric nurses' beliefs regarding the involvement of family members in the care of hospitalised children;
- identify whether paediatric nurses' include and involve family members in the care of sick children in hospital;
- identify the challenges and/or barriers faced by paediatric nurses in implementing family-centred care; and,
- the data to develop clinical practice guidelines that will assist paediatric nurses to provide family-centred care.

## STUDY DESIGN

A qualitative approach was used as beliefs, perceptions and experiences needed to be explored. According to Rowe and McAllister (2002, p.8) qualitative inquiry can provide a means of understanding the contextual nature of nursing and informs clinical practice in a way that may allow for changes to occur.

### Population and sample method

The population from which the sample was drawn was paediatric nurses who care for hospitalised children in the paediatric wards of two hospitals in regional NSW.

A purposive sample was recruited by inviting paediatric nurses employed in both hospitals to participate in the study. Willing participants with a diverse range of paediatric experience were selected to be interviewed, by one of two interviewers.

### Procedures

The data collection consisted of individual interviews and validation of themes was conducted to ensure rigour and trustworthiness. Fourteen participants were individually interviewed, using broad prompting questions such as: 'Can you describe how you involve parents in the care of their children during hospitalisation? Or 'In your practice how do you apply the concept of family-centred care'? Each 30-50 minute interview was audio taped with the participant's permission and the tapes transcribed.

### Data analysis

The transcripts of the interview tapes were read and re-read by all members of the research team. The analysis used thematic coding to identify key concepts and themes in the data. This method of data analysis allowed the researchers to extract the essence of the experiences as described by the participants and present these as themes designed to describe the key elements (Roberts and Taylor 1998).

In order to agree on the emerging themes a two-step method of analysis was used. First, the transcripts from each of the two locations were analysed by the interviewers. Second, clean copies of the transcripts were exchanged and re-analysed by each member of the team in order to check for consistency of the emerging themes.

Following analysis of the interview data a summary of findings was disseminated to all participants, who were then invited to make suggestions and comments. Together both sets of data will be used to develop preliminary clinical practice guidelines.

### Ethics

Ethical approval to commence this project was given by a university human research ethics committee and both relevant area health service human research ethics committees. Willing participants were provided with an information sheet asked to sign a written consent form prior to participating in the study. Participants were informed that their identity and place of employment would not be revealed.

## RESULTS

The researchers identified four major themes in relation to paediatric nurses descriptions of how they implement the concept of family-centred care. These themes are titled; 'tasks and roles', 'empowerment issues', 'barriers and constraints' and 'care and protection'.

### Theme 1: Tasks and roles

All participants described particular tasks or roles they commonly allocated to willing parents or primary caregivers, as well as tasks and roles felt were best left to nurses. In some instances participants indicated they made decisions about which jobs and roles to allocate to parents based on the nurses' assessment of the motivation and/or perceived skill level of the parents. The following is a list of tasks and roles all the participants regularly allowed willing parents to perform:

- Staying with the child at all times to calm and comfort (generally this applied to only one parent or care-giver at a time).
- Meeting hygiene needs (eg bathing, showering, washing).
- Feeding or helping at meal times.
- Meeting elimination needs (eg taking the child to the toilet, changing nappies, emptying urine bottles).
- Accompanying the child to the anaesthetic bay (if allowed by the medical officer).
- Entertaining the child (eg organising games, stories, videos).
- Advising nursing staff of the child's status (particularly any changes in the child's condition).

Only a few participants described allowing some parents to perform the following tasks, but this only occurred after the parent had been instructed and observed for competency:

- Giving medications.
- Changing dressings.
- Recording fluid balance.

All participants felt strongly about the importance of performing their nursing tasks and roles. Many of the

participants made comments about caring for the patient and the family by protecting them from unpleasant sights and sounds, and particularly unpleasant procedures. All participants talked about the importance of retaining their professional role, with one participant commenting: *'We cannot expect parents to take on our role as nurses... nurses have to continue to be nurses'*. This is consistent with Galvin et al (2000, p.626) who found that 'staff member perceptions are that working collaboratively with families is a threat to their professional identity'. One participant obviously felt this threat when commenting: *'Things are being taken away from us and handed over to the parents'*. These comments highlight the concerns a number of the participants felt regarding role erosion. For example, one participant stressed that: *'as nurses we can't lose the skills we trained for... the parents are there to support the child... I mean they can be involved but not take away our role.'*

These comments are consistent with the findings of a recent study conducted by Espezel and Canam (2003, p.40) who found that even when parents described the parent-nurse relationship as positive it was rarely collaborative in nature.

Evident in all the interviews was the important role nurses believed they played in providing a communication conduit between the medical officers and the child and parents, by 'translating' medical terms into layperson's language and by checking for parents' understanding of the child's condition and care requirements. One participant explained this role; *'It's up to us to keep the parents fully informed'*. While another participant explained that after the doctors' rounds the nurse goes back to the family and explains the jargon by *'acting as an interpreter between the doctor and the family'*.

Again, according to a study by Espezel and Canam (2003) parental expectations of a nurse's role included nurses acting as a mediator between parents and doctors. Furthermore, Espezel and Canam (2003) found parents viewed nurses positively as long as they 'translated' medical information successfully.

## Theme 2: Empowerment issues

This theme related closely to the participants' assumptions and beliefs about their professional identity as a nurse. Each participant made comments concerning their power as health care professionals. In all instances the participants' descriptions were consistent with those of Hewitt (2002, p.440) who describes the power exercised by health care professionals as 'benevolent paternalism'.

Hewitt (2002) goes on to say that, despite the best intentions of the nurse, this form of power restricts the autonomy of patients and families. All participants discussed these empowerment issues in terms of what they would 'allow' parents to do, making it clear that the decision to include parents in care delivery rested with the nurse. Their comments are condensed into the following key points:

- Nurses believe they are the ones to 'set the boundary' regarding the role and tasks that parents can perform for the hospitalised child.
- Nurses assume control of the decision-making processes for the care of the child by educating, 'telling' and advising parents of their child's condition and treatment.
- Parents must ask nurses' permission before making any decisions in relation to the care of the hospitalised child.
- Nurses discourage parents from assuming responsibility for anything other than basic parental duties during hospitalisation and 'nursing' skills are only taught if parents need 'advanced' skills to provide home care.
- Nurses feel strongly that parents should not take on 'nursing' responsibilities, as they need to focus on the child, not the nursing tasks.

All participants felt strongly that they were 'the knowledge experts' in providing nursing care for sick children. This belief was reflected in many of the comments such as:

*'Skilled nursing jobs should be done by the nursing staff, and the nurturing and comforting and the unskilled jobs, like bathing and changing, left to the parents.'*

*'Nurses just go and do things because sometimes nurses know best and kids are better with nursing staff than they are with parents.'*

*'I wouldn't encourage parents to be giving drugs and things like that... because if anything goes wrong I'm the one who takes the rap.'*

One participant commented that *'I don't believe we should involve parents [in nursing duties] unless it's teaching them something for when they go out of the hospital environment.'*

This sentiment was echoed in all the interviews. However, in many of the interviews the participants qualified their comments by explaining that if they had more time to spend with families, providing education and support then they may be more comfortable in allowing parents to assume greater responsibility for the nursing care of the child.

According to Espezel and Canam (2003) and Shields et al (2003) paediatric nurses readily promote family-centred care as a concept but the clinical application remains problematic, for a number of reasons, which are described in the next theme.

## Theme 3: Barriers and constraints

All participants described barriers and constraints they believed prevented them from providing family-centred care as effectively as they might. Unanimously, all participants stressed they would like more time to involve and educate parents. This included more time to assess parental competence and provide more advanced knowledge and skills.

The barriers described were varied but all participants agreed staff shortages, heavy workloads, and time constraints



impacted on their ability to give sufficient time to each family. Some of the comments related to these barriers were:

*'We're often under time pressure and understaffed so it isn't always possible to explain procedures.'*

*'In a very busy ward it's easier to do it yourself... it's a timeframe thing.'*

*'When it's really busy it's hard to be able to spend time with them [parents], teaching them things.'*

Espezel and Canam (2003) believe inadequate staffing levels and the desire for cost-effectiveness in health care significantly influences the incongruence between the theory and practice of family-centred care.

Other issues participants described as constraints in providing effective family-centred care are summarised below:

- A lack of guidelines and/or policies for the nurse regarding the role of parents when children are hospitalised.
- Nurses' concerns regarding the extent of their legal and professional responsibilities for the care of the hospitalised child.
- Parents who indicate an unwillingness or inability to be involved.
- Lack of structure and guidance about how to implement family-centred care, particularly for staff new to a paediatric setting.
- Outdated nursing habits, eg 'doing the job yourself' because it is quicker.
- Poor communication between nurses and parents.
- Nurses and parents lack of confidence in their respective roles; new parents who were unsure of their parenting skills and nurses who lacked confidence in their knowledge and/or skills.
- The nurses' need to be seen as 'the expert'; exemplified by an inability/unwillingness to share knowledge.
- Nurses who do not have the energy or motivation to teach and involve parents, often because they are overworked and/or 'burnt out'.
- The nursing management practice of reducing staffing levels when parents are present to 'care' for young children and infants, in the belief that the nurses' workload is reduced by their presence.

Many of these barriers are consistent with those described in the literature (Espezel and Canam 2003; Galvin et al 2000; Hutchfield 1999; Shields 2001; Shields et al 2003). However, the researchers suspect that removal of these barriers may not address the problem of including parents as more equal partners in care, for the reasons discussed in the final theme.

#### **Theme 4: Care and protection**

All of the participants described the importance of assuming responsibility for the care and protection of families, not just the individual patient. Therefore, at

times the nurses made decisions regarding the involvement of parents, based on the assumption that parents expected nurses to make such decisions.

All the participants talked about protecting the parents from stress when children were acutely ill and had to have painful or unpleasant procedures performed. The rationale for this belief was that parents needed to provide the nurturing and comfort for their children, thus it was not acceptable for nurses to expect parents to be involved in painful or unpleasant procedures which would only add to their stress levels.

These assumptions are evident in all the transcripts, some examples are:

*'I asked "would one of you like to come in"... but by the looks on their faces, they were scared stiff. So I said I'll just bring him back to you when it's over, for a cuddle.'*

*'If a child is going to die I want to protect them [parents] from it, instead of saying "yes, it may happen".'*

*'Some may think you should say to parents "you need to do this", but it's not fair when parents are stressed anyway. We need to fulfil our role and look after the child and the parents.'*

*Sometimes I ask parents to leave because it's easier for them and the child to cope.*

There were many other comments related to this theme and they have been summarised as follows:

- Nurses felt parents should assume their usual caring role while the child is hospitalised and not participate in nursing duties because this would cause the parents additional stress in an already stressful situation.
- Nurses believe parents are often very tired when a child is hospitalised and therefore nurses should protect them from any additional responsibilities.
- Nurses felt strongly that parents have clear expectations of what a nurse should do, and nurses need to live up to those expectations in order to build a positive relationship with parents.
- Nurses assumed parents may feel guilty when their child is sick, because they may not have the time or energy to give undivided attention to that child, particularly if there are other children at home or unavoidable work commitments, therefore nurses need to assume a primary caring role.
- Nurses were role models for parents, and as such nurses need to reassure and educate parents regarding the care of the child, and nurses should not abdicate this responsibility.
- Nurses believe parents do not want to make decisions at this time, but look to the experts, eg doctors and nurses to decide the care/treatment needed.

All participants described adopting this protective paternalistic role, explaining it was this responsibility that motivated them to exclude parents at times. In particular, all participants described discouraging parents from witnessing procedures that could be distressing.

In their capacity as carers, the participants felt they had a responsibility to assume the decision-making role when parents were tired or stressed. Furthermore, all participants believed that by protecting parents from unpleasant events they were 'caring' for the whole family, that is, they were actually implementing 'family-centred care'.

Interestingly, Shields et al (2003) describes the hospitalisation of a child as an indication that help is needed. The nurses in this study all believed that by caring for and protecting the family they were providing the help needed in a 'family-centred' way.

## ASSUMPTIONS AND LIMITATIONS

The findings from this qualitative study cannot be generalised to a wider population of paediatric nurses, but the results may resonate with nurses who work with sick children. One assumption on which this study is based is that the implementation of family-centred care is a positive practice worth striving toward. Additionally, the research team acknowledges that observation of practice and interviews with other stakeholders (for example, children, parents and families) would have added further valuable dimensions to this study, but financial and time constraints did not allow for these additional data collection strategies at this stage of the project. However, it is anticipated that further studies will include interviews with other stakeholders and observation of practice as data collection methods.

## IMPLICATIONS AND CONCLUSION

The findings of this study showed that the paediatric nurses who participated all believed strongly in the 'family-centred care' concept, yet they found the application in practice to be somewhat challenging.

The challenges described by the participants were linked to the nurses' beliefs about their own professional role, their desire to see themselves as the 'experts' in the care of hospitalised children, and the barriers they identified that make implementation of family-centred care difficult for them.

Overwhelmingly, all participants described their role as involving not only providing nursing care for the patient and family but also protecting family members from painful or unpleasant experiences. This belief seems to cause the nurses the most conflict when they discussed the practical implications of parental participation.

The clinical implications of this small study are that the decisions of the participants about the degree of involvement of parents were influenced by the nurses' need to fulfil their caring role. As well, there were legitimate concerns about the legal implications of parents assuming traditionally 'nursing' duties.

Based on these findings, the next stage of this project will focus on the development of clinical practice guidelines, aimed at clarifying the nurses' professional and legal responsibilities when delivering family-centred care. In addition, the findings

of this study may encourage nurses to reflect on how they involve families in caring for a sick child. The next stage of this study involves talking to larger groups of paediatric nurses, who will be asked to comment on the clinical applicability of the draft guidelines, prior to introducing them into a number of paediatric settings in New South Wales

In summary, this collaborative project has provided significant insight into nurses' assumptions, beliefs and experiences of implementing family-centred care.

The findings have explicated an aspect of paediatric nursing practice from a clinicians' perspective, and will be invaluable as the basis for the development of clinical practice guidelines to assist nurses in the implementation of this concept into practice.

Finally, the significance of this project is grounded in the belief that children are hospitalised in order to receive expert nursing care, therefore enhancing the consistency of nursing practice will be beneficial to children and families during hospitalisation.

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# UNDERSTANDING THE NURSING WORKFORCE: A LONGITUDINAL STUDY OF AUSTRALIAN NURSES SIX YEARS AFTER GRADUATE STUDY

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**Key words:** nursing workforce, graduate education, career paths

## ABSTRACT

### *Background:*

The challenge posed by the worldwide nursing shortage is significant not only for workforce and facility planners, but also for those who educate nurses for practice and nurses themselves. The provision of skilled and competent advanced nurses is clearly a goal of postgraduate education. An increasing shortage of skilled and qualified nursing staff to provide the required level of care is evident in Australia.

### *Objective*

To determine the impact of graduate education on registered nurses' personal and professional development.

### *Design*

A longitudinal descriptive and co-relational study of postgraduate nursing students using postal survey.

### *Sample:*

Five cohorts (1998-2002) of nurses who had graduated from university with a graduate diploma or master of nursing qualification were all surveyed over six years post graduation (n=151).

### *Results:*

The study showed the greatest motivator to change jobs was greater job satisfaction; self esteem and their ability to carry out their role exceeded their job satisfaction; one quarter wanted to change their career and the strongest facilitator and the

strongest barrier to career advancement were their personal situation.

### *Conclusion:*

This paper focuses on recent career moves, motivation, intentions and influencing factors six years after completion of their tertiary studies. This information is critical in choosing retention strategies and workforce planning.

## INTRODUCTION

In the 20 years since the transfer of nursing education into the higher education sector in Australia, graduate programs for nurses have proliferated with many specialist clinical courses having moved to universities. Although master level nursing courses have been available in this country since the early 1980s, they were relatively few until the transfer of the hospital based nursing programs to the tertiary sector in 1985. Also at this time the graduate diploma developed as an increasingly popular educational option as it became available in different Australian states. Students often transferred from the graduate diploma program to the masters program and completed that program. Alternatively they graduated with the graduate diploma and returned at a later date to convert it to a master's qualification after further study.

Also, nurses began to evaluate the graduate courses offered in Australia (Simsen and Holroyd 1997; Boore 1996). Simsen and Holyroyd (1997, p.370) assert that:

*Postgraduate nursing education supports a tertiary-based vertical career path, which not only facilitates*

*professional career development but also gives nursing parity with other professions that have well-established postgraduate education structures.*

In reporting the findings of a longitudinal study following graduates from a higher degree program it is these professional career development activities that are of primary interest to the researchers. Consequently, the literature review will focus on these aspects but will also include workforce issues. Consideration of the impact of graduate study on competence and advanced practice or critical thinking and research or other dimensions will be covered in less depth.

This paper presents the findings from a 10-year longitudinal study of registered nurses (RNs) who completed a graduate diploma or master of nursing course work degree. The purpose of the study was to determine the impact of graduate education on their personal and professional development.

One element of this was the perceived impact of their education on their career advancement or movements, initially after graduation (Pelletier et al 1998a) and six years later. The study commenced with a pilot in 1991 (Pelletier et al 1994) and five cohorts of students (1992-1996) were surveyed every two years for six years post-graduation. The final questionnaire for each cohort was completed from 1998 to 2002. The findings related to the early impact on their professional growth, behaviour and care activities have been reported elsewhere (Pelletier et al 1998b) as has the perceived effect of their study on the practice and quality of care (Pelletier et al 2002).

## LITERATURE REVIEW

Whether achieved through sound knowledge and practice in the research process (Sandor et al 1998) or at other points in the programs (Dexter et al 1997; Sandor et al 1998; Vaughan-Wrobel et al 1997) critical and analytic thinking are valued and seen as goals of masters level education for nurses (Giroto 2000). Boore (1996) studied a masters program which claimed its goals were to develop the nurse's knowledge and skills to support their role as an advanced nurse and to develop nurses with a capacity for nursing research. Increasingly, descriptions of advanced nursing practice are using words such as analysis, critical thinking, synthesis of information, establishing priorities, reflection and creativity (Davis 1993). While it is believed these are qualities which can be achieved through postgraduate education, research evidence has not identified significant differences in critical thinking skills in practice at different stages of their studies (Giroto 2000). Giroto (2000) did find a significant improvement in decision-making skills as a result of graduate education. So what motivates nurses to study at the graduate level?

An early study of nurses found that students were motivated by career advancement and the opportunities offered by access to higher education (Thurber 1988).

Watson and Wells (1987) found professional growth, personal growth and professional socialisation were the main motivators to pursue study to master's level. Winson (1993) undertook a longitudinal study of nurses who had completed master or doctoral level theses or were doing so. The study showed there was a strong tendency after one to two years for these nurses to move into positions that permitted them more autonomy.

Another UK study found personal development and growth rather than career advancement were the main motivating factors for graduate study (Fraser and Titherington 1991). Boore's study (1996) revealed about 20% were motivated by the enhancement of career paths but the majority were motivated by the course's relationship to practice and potential to increase their competence. In contrast, an Australian study evaluating a tertiary critical care course, found students strongly believed the course would contribute to their achievement of a promotion (Chaboyer and Retsas 1996). Another Australian study (Pelletier et al 1998c) found the motivating factors to be personal or job satisfaction (42%), increased professional status (22%) and better job opportunities (17%).

The literature is quite consistent on what facilitates and blocks efforts to study - time, support and recognition. The majority of clinical students in Boore's (1996) study received time off and only 25% received no financial support. Lack of financial support and time off, as well as lack of recognition in promotional opportunities were recognised in Simsen and Holroyd's (1997) study. Trethewie, in her qualitative study (1999), found respondents would have liked more support from their institutions in the form of time off and funding. She also recommended on the basis of her findings that nurses with graduate qualifications be recognised and remunerated by their employers.

### *The work environment*

The Australian work environment has changed significantly in recent years and most probably many of the respondents in the study reported here would have felt the impact of these changes. In developed countries the nurses' workload has been affected by increased patient acuity, shortened lengths of stay, more chronic lifestyle diseases and improved life expectancy, an increase in patient age and the number of severely ill patients (AIHW 2001; Aiken et al 2001; Diers and Bozzo 1997; Duffield and O'Brien-Pallas 2002; Jakob and Rothen 1997; O'Brien-Pallas et al 2001). In addition, the workforce is ageing (DEST 2002) and nurses are potentially retiring faster than they can be replaced (O'Brien-Pallas et al 2004) and they are being actively recruited to other industries (Duffield and Franks 2001; Duffield et al 2004).

Unacceptable and unsafe work environments and experiences impact negatively on retention (Duffield and O'Brien-Pallas 2002) as do the perception of poor



rewards (monetary and a lack of recognition relative to efforts put into the job) (Aiken et al 2001; Fagin 2001; O'Brien-Pallas 2000). Hospital restructuring and downsizing have an impact on staff satisfaction and well being (Burke 2003) and these factors may have contributed to the respondents' decision to change their position.

Given economic uncertainty in Australia, in both the health and higher education sectors and their accountability for the use of public monies, it is important that educational providers monitor the outcomes of their endeavours. As students are likely to be paying more in the future for their education, either as direct fees or through increased HECS (Higher Education Contribution Scheme) charges, the value of the product they are purchasing will need to be made more explicit, particularly in an increasingly competitive market. The need for evaluation of the outcomes of graduate education continues to be argued (Bethune and Jackling 1997; Dexter et al 1997) and Jordan (2000) calls for better tools and methods to do so.

## METHOD

### Design

This is a longitudinal descriptive and co-relational study of postgraduate nursing students on completion of their studies and for six years afterwards.

### Sample

The respondents were nurses who graduated from a graduate nursing course in a metropolitan Australian university between 1992 and 1996. The programs were essentially focused on management or a clinical specialty. Research subjects were included, especially in the third year of the master program. The sample did not include those doing a master of nursing by research thesis. Students may have entered the program on the basis of an undergraduate degree or on the basis of experience and prior learning (Donoghue et al 2002). The demographic profile of the cohort collected on commencement of this project was undertaken on completion of their studies, six years before the time of completion of the final questionnaire in the series, Questionnaire D which is the focus of this article.

Ninety three percent were female and 30% were married. Ages ranged from 21-58 with a mean age of 35. Attrition and loss of participants is inevitable in a longitudinal study. This means that while this profile is reflective of the original population it cannot be considered exact for those still responding six years later.

### Procedure

A questionnaire was used on each of the four occasions. The first (A) was completed at university and subsequently B, C and D were sent to students by mail and returned by self addressed stamped envelope. Each of

the five cohorts was followed every two years for six years post graduation via questionnaire. A variety of strategies were used to reduce loss of participants. These include contacting professional bodies, clinical venues and fellow academics to try to track non-responders. Loss rates are reported in table 1.

**Table 1: Number of participants completing questionnaire A (on graduation) and questionnaire D (six years later)**

On graduation	Six years later	% lost
1992: 70	1998: 33	53
1993: 90	1999: 36	60
1994: 82	2000: 33	59
1995: 80	2001: 32	60
1996: 81	2002: 28	70

### Instrument

The final questionnaire (D) had 28 questions divided into sections using 15 tick box questions and 13 questions with a five point Likert Scale. It was developed by the authors and has not been validated. Demographic data were collected at the time of graduation only and not on subsequent surveys. The areas explored in questionnaire D were position, career moves (including motivation, impact and related factors), goals and career and study plans. Findings from the fourth and final questionnaire (D) in each cohort's series are reported here.

### Results

Participants' current positions and whether these had changed in the previous two years were explored (see table 2) and a great deal of variation is obvious. Over half of two cohorts had changed jobs in the previous two years. This move was perceived to be upward by 43% (in 2002) down from 75% in 2000. Twenty to 28% perceived it as downward and from 13-28% perceived it as horizontal in nature. From 28-83% felt it increased their salary whereas 8-36% felt their salary went down. From 8-71% felt their salary had not changed as a result of the move.

The level of personal significance of this career move was very high at 71-100% for all cohorts. Their perception of the influence of their study on the move is also strong with 50-80% feeling it had a moderate or high influence. However, from 8-29% felt their qualification had not influenced their success.

Motivation for changing jobs was explored (see Figure 1) and the percentage of participants who did so and indicated 'quite a bit' or a 'great deal' for each motivating factor is shown. While there was no consistently strong motivator across the cohorts the desire to increase their job satisfaction shows most strongly with the exception of the 2002 cohort. Balancing life and satisfaction are of equal importance to the 1999 and 2002 cohorts. Career advancement is more predominant in recent years and the need for balance in their life is stronger with earlier cohorts.

The next questions are not tied to their career move but focus on their current circumstances. All participants (not just those who had changed jobs) were asked to indicate their self perception of self esteem, ability to carry out their role and their job satisfaction (Figure 2). The percentage rates for strong positive responses are presented. It is apparent that self esteem is lowest in the 2000 cohort and that the ability to carry out their work role is consistently strong and out strips job satisfaction itself.

Perceptions on three beliefs about their current working circumstances were explored. Only half to two-thirds of the participants indicated that they had 'sufficient' control over their career and future despite having strong tertiary qualifications. From 60-80% felt that they had gained recognition from others. Less than half of them were interested in further study.

Current goals of participants are presented in table 3 and their intention to remain in nursing over five to 10 years is shown in table 4. The most significant factors that facilitate or hinder their career advancement are presented in tables 5 and 6. Approximately half of each cohort intends to remain in nursing for the next five years but from 19-33% are uncertain. From 21-30% intend to remain 10 years but 25-41% of them are uncertain of this.

No group identified a single factor that would strongly facilitate their career goals. However, the 1996 cohort was influenced most by their personal situation and least by their qualifications with the reverse picture for the 2002

cohort. The strongest factor at a little over third was job availability for the 1998 cohort.

Barriers featured more strongly than facilitating factors with personal situation the highest or equal highest for all cohorts. Financial and other support was most important at 24% for the 1998 cohort and much less for others. Job availability remains a factor for 15.6 % of the 2002 cohort despite the nursing shortage.

Participants' study activities were explored and from 3% of the 1998 cohort to 12% of the 2000 cohort were studying in a nursing-related course six years after entering the study following completion of their postgraduate qualification. Within nursing, 3% of one cohort was studying either at the graduate diploma or coursework masters level with a total of 8% across two cohorts at the masters thesis level and a total of 11% across three cohorts doing doctoral studies. From 16-25% across the cohorts were studying outside the field of nursing.

## DISCUSSION

The study has a number of limiting factors to be acknowledged before the results are discussed. The total sample size of 151 is small and care must be taken when generalising findings. However, as longitudinal studies are uncommon and retention is always problematic the small number retained in the study is not surprising. Having a subset within this of those who changed positions reduces the numbers further to 59. The non-

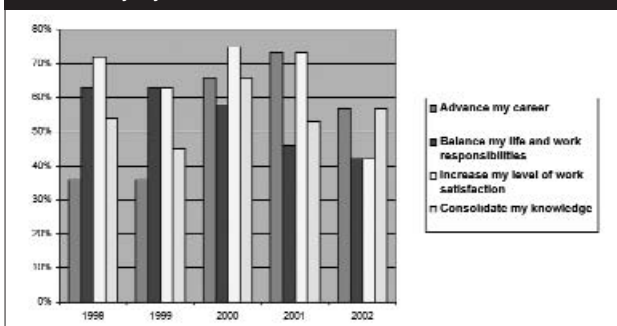
**Table 2: Position held at time of questionnaire completion, ie six years after graduation (%) and % who changed positioning last two years**

	% in 1998 n=33	% in 1999 n=36	% in 2000 n=33	% in 2001 n=32	% in 2002 n=28
RN	24	17	19	28	21
CNS	27	22	23	6	29
NUM	21	14	36	3	18
Educator	12	8	0	12	4
CNC	6	11	9	16	4
Unemployed	3	11	5	6	14
Other	6	17	8	28	11
Changed position	36	45	55	54	29

CNS = Clinical Nurse Specialist NUM = Nurse Unit Manager CNC = Clinical Nurse Consultant

Note: Missing variable percentages not included in this table

**Figure 1: Changing my job was STRONGLY motivated by my desire to:**



**Figure 2: Percentage indicating their self perception on three characteristics**



**Table 3: Highest reported current goal in percentage**

	1998 n=33%	1999 n=36%	2000 n=33%	2001 n=32%	2002 n=28%
Change career	27	23	25	25	19
Advance career	12	6	12	10	25
Increase management involvement	15	6	4	4	6
Professional development	6	6	7	7	6
Other	15	8	0	0	6

Note: Missing variable percentages not included in this table

**Table 4: Do you intend to remain employed in nursing for the next five years? Next 10 years?**

	1996 n=33%	1998 n=36%	2000 n=33%	2001 n=32%	2002 n=28%
Yes	51 <b>30</b>	58 <b>28</b>	46 <b>29</b>	46 <b>29</b>	53 <b>22</b>
No	9 <b>27</b>	8 <b>25</b>	13 <b>36</b>	14 <b>36</b>	6 <b>25</b>
Uncertain	33 <b>36</b>	19 <b>33</b>	33 <b>25</b>	29 <b>25</b>	28 <b>41</b>

Note: Missing variable percentages not included in this table

**Table 5: Facilitate career advancement rank no: 1. Highest reported item in percentage**

	1996 n=33%	1998 n=36%	2000 n=33%	2001 n=32%	2002 n=28%
Personal situation	21	17	16	14	6
Diversity of skills	12	6	12	11	3
Job availability	9	36	16	14	19
Motivation	9	8	13	11	14
Post grad education	6	11	17	14	25

Note: Missing variable percentages not included in this table

**Table 6: Main barriers to career advancement rank no: 1. Highest reported percentage item**

	1996 n=33%	1998 n=36%	2000 n=33%	2001 n=32%	2002 n=28%
Personal situation	30	33	17	18	25
Lack career path	0	17	17	18	3
Job availability	15	6	8	7	16
Experience	0	6	4	4	13
Course recognition	0	6	4	4	13
Hospital funding and support	24	14	4	7	13

Note: Missing variable percentages not included in this table

validation of the instrument used might be regarded as another limitation.

However, some insights were gained from the results. The five cohorts (1998-2002) were all surveyed six years post graduation and, as such, they are relatively senior within the health care system.

It is not surprising a number would have changed jobs, as career advancement was a strong motivating factor in the literature for graduate study. In this study, seeking job satisfaction is the strongest motivating factor, slightly ahead of 'advancing the career'. This is supported somewhat by the findings that upward mobility and more money were not a result of the move as approximately a third of some cohorts felt their salary dropped or the move was downward or horizontal in nature. (The drop in

salary was probably due to moving off penalty awards because of shift work). This emphasis on the importance of job satisfaction, while not surprising, is further evidence of the need for managers to seek strategies both to measure and enhance this in the current climate of nursing shortages. However, from 40-60% made the career move, possibly downward or sideways and at no extra pay with the motivation to balance work life and family. This reinforces the importance for managers of initiatives such as child care, flexible rostering and others designed to keep nurses in the workplace.

The success in achieving more job satisfaction may be evident in the very high perceptions of their self esteem and their capacity to carry out their role. But their perception of their job satisfaction does not hold up as strongly with only 55% of the 2002 ranking it highly. This

may cause managers to review the elements that comprise job satisfaction since a high self-esteem and capacity to fulfil the role would be part of this, but the inclusion of their degree of autonomy might have strengthened the results here. The high level of self-esteem may be considered surprising but this may be due to the fact that the majority (66%) of respondents were holding more senior positions than that of RN in the form of specialist, managerial or consultant roles for example.

Managers may be heartened to find that the majority had experienced a high level of recognition from others in the workplace and that they had sufficient control of their career and future. The former might strengthen their allegiance to their workplace and retention of highly qualified nurses in whatever position must be a managerial goal in the current climate. The perceived degree of control over their career and future may seem somewhat surprising since there may be some perception that nurses are a relatively powerless group. However, while a lack of control within a clinical or managerial work environment may be understandable, the more global nature of this question may have encouraged a more positive response. Certainly as the nursing shortage increases, particularly for specialist well qualified nurses which these participants are, they may have felt a greater sense of control with more options open should they chose to change jobs.

While almost half the sample had changed jobs in the two years prior to completing this questionnaire they may also have changed positions in the previous four years. While there have been few changes to the career ladder in this period in New South Wales, new roles are emerging in the form of practice nurses and nurse practitioners. Re-structuring in institutions is at the very least altering traditional career paths as middle management positions disappear, particularly in nursing. On the other hand, the increased rate of casualisation (Creegan et al 2003) may generate more career opportunities for full-time employees at the expense of those working part-time and casually.

In terms of career movement or job change an important aspect that was not explored was whether their move was out of nursing. However, there is evidence emerging that nurses are actively being recruited into positions outside nursing and indeed, the health industry as a whole (Duffield et al 2004; Duffield and Franks 2001). This trend is likely to be exacerbated by registered nurses who are not only very experienced but also, possess a higher degree.

It is perhaps not surprising that only a quarter or less of the participants felt their graduate qualification played a major role in the success of their job application since it was achieved six years prior. Their subsequent work expertise may well have had a greater impact. Also, for the latter cohorts, over half had completed an additional graduate course which they may have seen as having more impact. These latter cohorts are likely to be a

younger population and their responses signal what might be seen as a pattern of 'life long' learning or efforts to carry out some form of career development plan. Again, a weakness is that the study did not determine if the completed courses were outside nursing. However, it did determine that from 16-25 % of each cohort was studying outside nursing and only 3-12% within nursing. This finding is supported by other Australian work which shows many nurses gained non-nursing qualifications prior to moving to positions outside the health industry (Duffield et al 2004).

The intention of the respondents to remain in nursing will be of interest to workforce planners. About half of all cohorts intend to remain five years which is not high since they are only six years out from having gained a significant professional qualification. The level of uncertainty in staying is 20-30%. This fits with the pattern of doing study outside nursing and again fits with a trend for nurses to move outside the nursing field (Duffield et al 2004).

Not surprisingly, in the intention to remain 10 years, the numbers drop to 22-30% which would take account the fact that more have reached retirement age (O'Brien-et al 2004) as well as the continued shift out of nursing. Understandably the number indicating they are uncertain of their intention rises to 41% in 2002 but was also at 36% in 1998 so it is not directly attributable to the current difficult work environment.

In the context of factors that would facilitate their career advancement, it seems over the time of the study the personal situation has become less important which may reflect some of the initiatives regarding flexible rostering, increased part time opportunities and child care or the passage of time.

Job availability, a strong factor for the 1999 cohort is substantial at 19% for the 2002 cohort. Since the nursing shortage reduces the impact of this factor in most circumstances it may be the lack of availability of management positions, especially middle management that are the concern. Alternatively, it may be that it is of importance to those seeking positions outside nursing. The 2002 cohort puts more emphasis on the impact of postgraduate education reflected in their higher levels of completion of courses and studying both inside and out of nursing. Again, this may reflect the trend for the more recent groups who are presumably younger, to plan and work towards a career following a life long learning track. These inter-generational differences will continue to challenge employers to provide ever changing and challenging workplaces (Creegan et al 2003).

In Australia, as in other developed countries, the nursing shortage and ageing work force make it increasingly imperative for administrators to 'understand' their workforce and what motivates them to study, to move and hopefully to stay in the health service sector. They are an invaluable asset.



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# THE CHANGING FACE OF NURSES IN AUSTRALIAN GENERAL PRACTICE

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## ABSTRACT

### **Objective:**

To describe the workforce characteristics and current responsibilities of nurses working in Australian general practice settings.

### **Design:**

Survey research combining qualitative and quantitative data collected through telephone interview.

### **Subjects:**

222 enrolled (RN Division 2 in Victoria) and registered nurses (RN Division 1 in Victoria) working in general practice in rural and urban areas of Australia.

### **Results:**

General practice nurses in Australia are likely to be RNs (84.7%) who work on a part-time basis (75.3%) in a medium to large practice (93.7%). Often the nurse has worked less than five full time equivalent years (52.3%) in a general practice environment and is likely to work in a practice where at least one other nurse works (64.4%). The nurse is likely to have some post-basic formal education (65.9%), and to have participated in professional development in the past two years (94.9%). The nurse performs a diverse range of activities within the general practice. No substantial differences were found in the workforce characteristics or role of urban and rural general practice nurses.

### **Conclusion:**

It appears that nurses working in general practice are no longer the 'handmaiden' to the doctor but are professionals who perform a vast range of clinical, administrative and organisational responsibilities within the general practice primary health care setting.

## INTRODUCTION

Registered and enrolled nurses working in general practices in Australia enhance the quality of primary health care provided to the general public. However, the value of general practice nursing has not always been recognised and, historically, the nurse was viewed as a 'handmaiden' to the doctor.

Increasingly, Australian general practice nursing is being recognised by the nursing and medical professions as a specialised area of nursing. General practice nursing is supported by the Australian Government through the Nursing in General Practice 2001 Budget Initiative, which includes a financial incentive to GPs in areas of workforce pressure to employ a practice nurse, and through the recent MedicarePlus package. The MedicarePlus package extends this incentive to further urban areas of workforce pressure and has introduced general practice nurse MBS items. Through this initiative the Australian Government has given overt recognition to general practice nurses' roles in coordinating clinical care tasks, supporting better management of chronic diseases, undertaking population health activities and providing clinical support which enables GPs to focus on diagnosis and clinical care (see Condon et al 2000; Lockwood and Maguire 2000; Bonawit and Watson 1996; Patterson et al 1999 for further discussion on the activities undertaken by nurses in Australian general practices).

Despite this increased enthusiasm and support, relatively little is known about the working lives of nurses employed in general practice in Australia. While a few small research studies have been conducted in Australia, these have focused on specific geographic areas and no national study of the workforce characteristics and roles of nurses in general practice has been undertaken.

The Royal College of Nursing, Australia (RCNA) and the Royal Australian College of General Practitioners

**Table 1: Percentage of sample by RRMA classification of main practice and State or Territory of main practice**

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Total
Capital/metro (RRMA 1-2)	3.6	12.5	11.7	3.2	6.8	1.4	0.0	2.2	41.4
Rural/remote (RRMA 3-7)	9.0	10.4	21.2	5.4	2.7	8.5	0.9	0.5	58.6
<b>Total</b>	<b>12.6</b>	<b>22.9</b>	<b>32.9</b>	<b>8.6</b>	<b>9.5</b>	<b>9.9</b>	<b>0.9</b>	<b>2.7</b>	<b>100.0</b>

(RACGP) have completed a project funded by the Australian Government Department of Health and Ageing to explore the current and future roles of nurses working in general practice. This paper will discuss the results from a national telephone survey of nurses working in general practice carried out as one of the project activities. Specifically, the workforce characteristics and the roles and activities of nurses working in general practice will be examined.

## METHODOLOGY

A survey of nurses working in general practice was designed, drawing on published and unpublished research undertaken in Australia and internationally, on the role and educational needs of nurses in general practice (see Vincent et al 2002; Hanna 2001; Condon et al 2000; Meadley 2000; Patterson et al 1999; Ross et al 1994). The survey contained 19 quantitative and qualitative questions focusing on workforce characteristics, educational background and needs, current nursing activities and future aspirations.

The survey was administered to enrolled and registered nurses currently working in general practice settings in Australia. The convenience sample of nurses was recruited through a national marketing campaign. Nurses volunteering for the study were surveyed by telephone outside of working hours. The survey took approximately 15-25 minutes to complete.

As part of the research brief from the Australian Government, at least 50% of the sample was to be drawn from rural or remote areas of Australia. The standard classification for geography employed for the survey was the Rural, Remote and Metropolitan Area (RRMA) classification system. Survey participants were classified into a RRMA category (capital city, other metropolitan, rural or remote areas) based on the location of their primary general practice employer. Due to the small number of participants from remote areas, the categories 'rural' and 'remote' were collapsed into one rural/remote category for reporting purposes.

**Table 2: Percentage of sample by nurse classification and RRMA classification of main practice**

Nurse classification	Rural/remote	Capital/metro	Total areas
Registered nurse	86.2	82.6	84.7
Enrolled nurse	13.8	17.4	15.3
<b>Total responses</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

## RESULTS

### Workforce characteristics

The resulting sample for the survey included 222 nurses currently working in general practice, with 58.6% of the sample being drawn from rural and remote areas of Australia. Table 1 displays the RRMA classifications of rural/remote and capital/metropolitan for the nurse's main practice by the State and Territory of the practice.

Table 2 outlines the breakdown in the sample by nurse classification. The majority of the sample consisted of registered nurses (n=188), with relatively few enrolled nurses (n=34) participating. This ratio of registered to enrolled nurses appears consistent with other research on general practice nursing in Australia which found high numbers of RNs compared with ENs (see Patterson et al 1999; Bonawit and Watson 1996).

The survey results clearly indicate that the majority of the general practice nursing workforce are part-time employees, and this is consistent across rural and urban areas of Australia. Table 3 demonstrates that 75.3% of the sample work less than 35 hours per week.

While the general practice nursing workforce is largely employed on a part-time basis, many of these nurses are also relatively new to nursing within a general practice environment. Table 4 indicates that just over half the sample (52.3%) have worked in general practice nursing for less than five full time equivalent (FTE) years. However, 26.1% of the sample have an extended history of working in general practice for more than ten years. This ratio of experience appears to be relatively consistent regardless of the rurality of the practice in which the nurse is employed.

The Practice Nurse Incentive Program may have facilitated a number of recent recruits to general practice nursing in areas of high workforce need and these nurses are likely to fall into the 'less than one' or 'one to five'

year categories for this survey. Alternatively, it is possible that general practice nursing as an occupation experiences a high staff turnover, with nurses entering general practice with the intention of remaining for a short period (due to the attractiveness of part time work for example). Without longitudinal data about the general practice nursing workforce, this remains speculative.

Table 5 demonstrates that when asked to identify the registration status of other nurses they work with in general practice, nearly two thirds of the sample (64.4%) responded that they work in a practice where at least one other nurse works. However, over a third of the sample (35.6%) indicated that they are the sole nurse in their practice. Interestingly, there appear to be substantially more nurses working alone in metropolitan areas than in rural areas, however the study was not designed to determine the reasons for this.

When asked to identify the number of GPs the participants worked with (including full-time, part-time, casual and contracted GPs) at their main practice of employment, just under half the nurses sampled (47.3%) worked in medium sized practices of two to five GPs. A similar proportion (46.4%) were employed in large practices and worked with more than six GPs. A relatively small percentage (6.3%) of those surveyed worked in solo GP practices. Table 6 suggests that nurses in Australian general practice tend to be employed in medium to large practices. Bonawit and Watson (1996) also found that Victorian general practice nurses were most commonly employed in practices with three or more GPs. General

practice nurses are more likely to work in a medium sized practice in rural locations and in large practices in urban locations. This may reflect fewer numbers of large practices in rural areas, with the natural result that fewer nurses are employed in such practices.

Regarding the formal education undertaken since enrolment/registration as a nurse, 34.2% of the nurses sampled had not undertaken any additional formal training. However, this still leaves a substantial number of nurses who had undertaken additional formal training including undergraduate degrees (7.8%), postgraduate diplomas/certificates (11%) and masters degrees (2%). In relation to the attainment of additional formal education, rural and urban general practice nurses appear to be very similar.

Most (94.9%) of the nurses surveyed have been engaged in some form of professional development in the past two years. Table 7 indicates that over half of this professional development (51.4%) was accessed through in-services, conferences, study days, workshops and seminars. Other forms of professional development with significant nurse participation included membership with professional associations (8.9%) and professional development accessed through general practice nurse network meetings (7.7%). A number of other professional development opportunities were identified and these represented a varied mix of activities accessed through localised services. There appeared to be relatively few

**Table 3. Percentage of sample by hours usually worked as a nurse in general practice by RRMA classification of main practice**

Hours per week	Rural/ remote	Capital /metro	Total areas
Less than 17	20.0	14.1	17.6
17-35	54.6	62.0	57.7
More than 35	25.4	23.9	24.8
<b>Total responses</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table 4: Percentage of sample by full-time equivalent years worked as a nurse in general practice by RRMA classification of main practice**

FTE years	Rural/ remote	Capital /metro	Total areas
Less than one	10.8	5.4	8.6
1-5	43.8	43.5	43.7
6-10	23.1	19.6	21.6
More than 10	22.3	31.5	26.1
<b>Total responses</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table 5: Percentage of sample by registration status of the nurses working with survey participants by RRMA classification of main practice**

Nurse classification of colleague	Rural/ remote	Capital /metro	Total areas
None (solo nurse)	30.8	42.4	35.6
Other registered nurse/s	46.2	47.8	46.8
Other enrolled nurse/s	10.0	5.4	8.1
Both registered and enrolled nurses	13.1	4.3	9.5
<b>Total responses</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table 6: Percentage of sample by number of GPs working in nurse's (main) practice by RRMA classification of main practice**

Number of GPs	Rural/ remote	Capital /metro	Total areas
One	7.7	4.3	6.3
Two-Five	55.4	35.9	47.3
More than six	36.9	59.8	46.4
<b>Total responses</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table 7: Percentage of sample by type of professional development completed in past two years by RRMA classification of main practice**

Type of professional development	Rural/remote	Capital/metro	Total areas
In-services, conferences, study days or seminars	53.2	48.8	51.4
Via membership of professional associations	9.0	8.8	8.9
Network meetings with other general practice nurses	6.9	8.8	7.7
Online/distance education	4.3	3.2	3.8
On-the-job training by GP	4.8	2.4	3.8
Reading professional journals	3.2	4.0	3.5
On-the-job training by nurses	1.1	2.4	1.6
On-the-job training by practice manager	1.1	0.8	1.0
Other	12.2	14.4	13.1
None	4.3	6.4	5.1
<b>Total responses</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

differences between the types of professional development undertaken by rural and urban nurses working in general practice. The RACGP/RCNA Nursing in General Practice Final Report, submitted to the Australian Government Department of Health and Ageing, called for a nationally consistent approach to education for general practice nurses in Australia.

### The current role of general practice nurses

In order to identify the current role of nurses working in general practice, the survey participants were asked to identify how frequently they undertook a variety of activities at work, either 'daily-weekly', 'monthly', 'occasionally' or 'not at all'.

Table 8 identifies the percentage of the sample who performed each activity. For ease of analysis, the responses to 'daily-weekly', 'monthly' and 'occasionally' have been collapsed in this table to the percentage of nurses who 'perform' those activities. This is compared with the percentage of the activities that the nurses 'never perform'.

The 32 activities which are shaded in table 8 have been identified as the core activities of a nurse's role in general practice as over 75% of the sample performed these at least occasionally. Whilst 75% is in some ways an arbitrary number, it was theorised that if a substantial majority, or over 75% of the nurses surveyed undertook these activities, then these activities could be said to be integral to the average role of a nurse working in

Australian general practice. The non-shaded activities represent additional activities, that, whilst not central to the role, are valuable activities that some nurses do undertake.

It is clear that a number of the National Health Priority areas as identified by the Australian Government Department of Health and Ageing are incorporated into the core roles of nurses in general practice. It is evident that nurses are providing care in asthma, diabetes and cardiovascular health in general practice. However, the National Health Priority areas of cancer control, mental health, injury prevention and arthritis and musculoskeletal conditions do not currently form a core component of the current role of nurses in general practice.

If the core activities of nurses working in general practice are examined in relation to the RRMA classification of the main practice in which the nurse is employed, it becomes evident that nurses working in rural locations are undertaking essentially the same core activities as nurses working in urban locations.

As seen in Table 9, those core activities in which performance varies by a minimum of 10% between rural and urban nurses have been shaded. Whilst the core activities of rural and urban general practice nurses appear to be essentially the same, there are two notable differences. Substantially more rural nurses perform ear syringing than do urban nurses. Also of interest is the disparity between the percentage of rural and urban nurses undertaking sterilisation activities. There is over 10% difference in the number of urban nurses performing this activity when compared with their rural counterparts. This difference needs to be considered in the context of the arrangement and availability of other resources to general practices in rural locations. It is possible that rural communities may have developed alternative structures for ensuring sterile equipment is available, including using more disposable equipment or using resources such as the local hospital central sterilising unit or a central sterilising facility.

### LIMITATIONS

The overall representativeness of the sample for the survey is not known. Whilst it could be argued that the sample size is relatively small, there exists no baseline data for identifying the absolute population of general practice nurses in Australia. Of consideration is the large proportion of rural/remote nurses in the sample. It seems unlikely that the population of general practice nurses in Australia would be skewed with so many employed in rural/remote areas. However, given the need to explore geographic impacts on the role of the nurse in the context of the project as a whole, it was important that a significant proportion of rural and remote nurses be sampled.

There appeared to be reasonable representation from each state and territory, with the exception of New South



**Table 8: Activities undertaken by nurses, percentage of respondents**

Activities undertaken	Perform	Never perform	Total perform
Liaise with other health professionals and community organisations	99.5	0.5	100.0
Monitor vital signs	99.5	0.5	100.0
Wound care and management	97.7	2.3	100.0
Minor procedures	97.7	2.3	100.0
Monitor/assess sick patients	97.3	2.7	100.0
First aid or emergency procedures	97.3	2.7	100.0
Clinical data entry and retrieval	96.8	3.2	100.0
Removal of sutures	96.8	3.2	100.0
Stocks/stores management	96.8	3.2	100.0
Triage	96.8	3.2	100.0
Provide oxygen/nebuliser therapy	96.4	3.6	100.0
Communicate test results to GP and patients	95.9	4.1	100.0
Cold chain monitoring	94.1	5.9	100.0
Injections/medication administration	94.1	5.9	100.0
Reception duties	92.8	7.2	100.0
Maintaining/ updating policies and procedures	92.8	7.2	100.0
Pulmonary assessments	92.3	7.7	100.0
Immunisation	91.0	9.0	100.0
Sterilisation	90.5	9.5	100.0
Cardiac assessment	90.5	9.5	100.0
Undertake patient counseling	89.2	10.8	100.0
Referral management	89.2	10.8	100.0
Maintenance of S8 drugs and Doctor's bag	86.5	13.5	100.0
Pathology/specimen collection	86.5	13.5	100.0
Manage recall register	85.6	14.4	100.0
Communicate new research to other staff	82.9	17.1	100.0
Diabetes education	80.6	19.4	100.0
Enhanced Primary Care activities such as Health Assessments, Care Planning or Home Visits	77.5	23.4	100.0
Develop/maintain clinical reports	77.0	23.0	100.0
Diabetes assessment and management	76.6	23.4	100.0
Chronic disease management	75.7	24.3	100.0
Asthma education	75.2	24.8	100.0
Ear syringing	73.4	26.6	100.0
Injury prevention education	71.6	28.4	100.0
Application/removal of plaster	70.3	29.7	100.0
Assist with research or clinical audits	67.6	32.4	100.0
Full physical assessments	62.6	37.4	100.0
Diet/weight management	62.2	37.8	100.0
Cardiovascular health and strokes education	61.7	38.3	100.0
Drug and alcohol education	58.1	41.9	100.0
Arthritis and musculoskeletal conditions education	55.4	44.6	100.0
Cancer education	55.0	45.0	100.0
Case management including case conferencing	51.4	48.6	100.0
Antenatal checks	48.2	51.8	100.0
Lactation advice/support	45.0	55.0	100.0
Audiometry assessment	43.2	56.8	100.0
Child health assessment	42.3	57.7	100.0
Mental health assessment	38.3	61.7	100.0
Mental health education	38.3	61.7	100.0
Family planning	29.7	70.3	100.0
Women's health	26.1	73.9	100.0

**Table 9: Percentage of sample undertaking core activities by RRMA classification of main practice**

Activities undertaken	Rural/remote perform	Capital/metro perform	Total perform
Liaise with other health professionals and community organisations	99.2	100.0	99.5
Monitor vital signs	99.2	100.0	99.5
Wound care and management	96.9	98.9	97.7
Minor procedures	96.9	98.9	97.7
Monitor/assess sick patients	96.9	97.8	97.3
First aid or emergency procedures	96.2	98.9	97.3
Clinical data entry and retrieval	97.7	95.7	96.8
Removal of sutures	96.2	97.8	96.8
Stocks/stores management	95.4	98.9	96.8
Triage	96.2	97.8	96.8
Provide oxygen/nebuliser therapy	95.4	97.8	96.4
Communicate test results to GP and patients	96.2	95.7	95.9
Cold chain monitoring	93.1	95.7	94.1
Injections/medication administration	96.2	91.3	94.1
Reception duties	93.1	92.4	92.8
Maintaining/ updating policies and procedures	92.3	93.5	92.8
Pulmonary assessments	93.1	91.3	92.3
Immunisation	91.5	90.2	91.0
Sterilisation	86.2	96.7	90.5
Cardiac assessment	92.3	88.0	90.5
Undertake patient counseling	87.7	91.3	89.2
Referral management	85.4	94.6	89.2
Maintenance of S8 drugs and Doctor's bag	86.9	85.9	86.5
Pathology/specimen collection	89.2	82.6	86.5
Manage recall register	83.1	89.1	85.6
Communicate new research to other staff	86.2	78.3	82.9
Diabetes education	80.0	81.5	80.6
Enhanced Primary Care activities such as Health Assessments, Care Planning or Home Visits	77.7	77.2	77.5
Develop/maintain clinical reports	76.9	77.2	77.0
Diabetes assessment and management	76.9	76.2	76.6
Chronic disease management	72.3	80.4	75.7
Asthma education	76.9	72.8	75.2
Ear syringing	78.5	66.3	73.4

Wales with only 12.6% of the nurses sampled being employed there. Close examination revealed that only 3.6% of the sample was drawn from metropolitan NSW - an under-representation of nurses given the large population in the Sydney region. However, there is no substantial reason to suspect that the sample is not representative of the larger general practice nursing population.

## CONCLUSION

The results from the national telephone survey provide a description of the typical general practice nurse in Australia. Overall, a typical general practice nurse is an RN who works on a part-time basis in a medium to large

practice. Most often the nurse has worked less than five years (full time equivalent) in the general practice environment and is likely to be working in a general practice where at least one other nurse works. The Australian general practice nurse is likely to have some post-basic formal education, and is likely to have participated in professional development in the past two years.

One of the most interesting results to emerge from this survey is the apparently limited impact of rurality on the workforce characteristics and roles of nurses working in general practice in Australia. There were essentially no substantial differences in the workforce characteristics between nurses who worked in capital/metropolitan areas

and those who worked in rural and remote areas. When it came to the current role of the nurse in general practice, the core roles were essentially the same for rural and urban nurses.

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# DO THE ENDS JUSTIFY THE MEANS? NURSING AND THE DILEMMA OF WHISTLEBLOWING

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## ABSTRACT

### Background:

Patient advocacy and a desire to rectify misconduct in the clinical setting are frequently cited reasons for whistleblowing in nursing and healthcare.

### Aim:

This paper explores current knowledge about whistleblowing in nursing and critiques current definitions of whistleblowing. The authors draw on published perspectives of whistleblowing including the media, to reflect on the role of the media in health related whistleblowing.

### Conclusion:

Whistleblowing represents a dilemma for nurses. It strikes at the heart of professional values and raises questions about the responsibilities nurses have to communities and clients, the profession, and themselves. In its most damaging forms, whistleblowing necessarily involves a breach of ethical standards, particularly confidentiality. Despite the pain that can be associated with whistleblowing, if the ends are improved professional standards, enhanced outcomes, rectification of wrongdoings, and, increased safety for patients and staff in our health services, then the ends definitely justify the means.

## INTRODUCTION

When considering whistleblowing as an option for nurses, many questions arise. These questions include:

- Whose interests are being served?
- Who could be damaged?
- What is the motivation for whistleblowing?
- What are the consequences of whistleblowing to the whistleblowers and the organisation?
- Is there any other way to draw attention to the issue?
- Will the act of whistleblowing solve the problem?
- Do the ends justify the means?

### Aim of this paper

This paper aims to explore current knowledge about whistleblowing in relation to nursing. The specific objectives are to:

- Propose a definition of whistleblowing that is compatible with nursing.
- Examine the dilemmas associated with whistleblowing as it relates to nursing.
- Explore the repercussions of whistleblowing as represented in the literature.
- Draw on key published perspectives about *The Bristol Affair* to focus on the role the media can play in health related whistleblowing.

### Defining whistleblowing

Whistleblowing may seem to be a taken-for-granted term that has a clear meaning and little room for interpretation. However, a search of published definitions



reveals various understandings and meanings associated with the term. In their paper on whistleblowing, Ahern and McDonald (2002) defined it as any reporting of misconduct in the workplace. Elsewhere, McDonald and Ahern (2002, p.16) define nurse whistleblowers as 'a nurse who identifies an incompetent, unethical, or illegal situation in the workplace and reports it to someone who may have the power to stop the wrong'. These definitions are problematic because they do not delineate between reporting to outside agencies such as the media, and reporting undesirable events according to accepted organisational guidelines. In effect, the aforementioned definitions position reporting questionable practices or undesirable outcomes to individuals, groups, or bodies that are part of a discipline or an organisation's usual problem-solving strategy, as whistleblowing.

Definitions that position all forms of reporting as whistleblowing raise the issue of whether whistleblowing is internal or external to an organisation. It is our contention that internal reporting - that is, reporting which is adhered to as part of guidelines for employees, such as completion of incident forms for poor patient outcomes or unforeseen events, verbal reporting to line managers or other appropriate staff, is ideal professional conduct and should be encouraged. Such reporting is carried out in the interests of quality improvement, incident debriefing, clinical supervision, and maintenance of professional standards and integrity in practice.

Describing internal reporting of undesirable outcomes or poor practice as whistleblowing could make it seem in some way undesirable or as having detrimental ramifications and therefore, something to be avoided. Alerting professional bodies or to structures internal to an organisation about poor practice or other issues of concern, is wholly acceptable and desirable behaviour. For one thing, it does not necessarily involve a breach of confidentiality, which occurs when external avenues are involved. Furthermore, using approved internal or professional problem-solving structures as mechanisms to draw attention to internal problems, and to improve practice is the minimum required standard for all health professionals including students, and should be an accepted work-related event.

On the contrary, far from being a typical and common event, whistleblowing is an extraordinary event. It is associated with stress and personal risk (Ahern and McDonald 2002). It may involve the whistleblower undergoing personal inner conflict about the decision to blow the whistle, and it may be associated with breaching ethical codes such as confidentiality. In order to justify such a breach, all appropriate internal avenues that exist to right the wrong must first be exhausted (Fletcher et al 1998). Fletcher et al (1998) also states that where internal avenues have not been exhausted, whistleblowing can raise concerns about whistleblower motives, and suggests revenge and desire for attention as possible motivating factors.

Understanding the public nature of whistleblowing is crucial to understanding the risks and dilemmas associated with the phenomenon. Wilmot (2000, p.1051) define whistleblowing as 'the public exposure of organisational wrongdoing', but also acknowledged its inherent antagonistic nature when he positioned it as 'part of a spectrum of increasingly confrontative actions against miscreant organisations by their employees' (Wilmot 2000, p.1051). Dawson (2000, p.2) provided a more detailed definition and raised the issue of privileged information. He defined whistleblowing as a 'deliberate, voluntary disclosure of individual or organisational malpractice by a person who has had privileged access to data, events or information about an actual, suspected or anticipated wrongdoing within an organisation that is within its ability to control' (Dawson 2000, p.2).

When considering whistleblowing in nursing, we sought a definition that captured the idea that it involves taking privileged information to an individual or body who would not normally be involved with organisational problem-solving. Thus, for the purposes of this paper, we consider whistleblowing to be the reporting of information to an individual, group, or body that is not part of an organisation's usual problem-solving strategy. Whistleblowing is a phenomenon where a party or parties take matters that would normally be held as confidential to an organisation, outside that organisation despite the personal risk, and potentially negative sequelae associated with the act.

### ***The whistleblower***

Iliffe (2002) constructed whistleblowing as an imposed rather than a chosen situation. She suggested that whistleblowers are 'ordinary' people who find they witness or otherwise become aware of situations that force them into a decision of having to speak out or remain silent. Both decisions carry consequences. Whistleblowers are generally cast in the literature as brave and courageous individuals, who act to maintain standards against the might of an organisation (Jackson and Raftos 1997), and who do so sometimes at great personal cost (Iliffe 2002). An alternative view, and one that is sometimes promulgated by targeted organisations, is that whistleblowers are malcontents, who will stop at nothing to pursue their own agenda, regardless of the destructive and negative sequelae for colleagues and organisations.

In their discussion on whistleblowing in nursing, McDonald and Ahern (2002) proposed the concept of the non-whistleblowers, which she defined as a nurse who, on identifying incompetence, illegal, or unethical practices, adopts methods other than whistleblowing to resolve the situation or address the allegations.

Possible strategies include talking directly with a nursing unit manager about the issues, or reporting the issues on an incident form or similar document (McDonald and Ahern 2002). We suggest that these

actions are in keeping with reporting and reflection associated with maintaining professional standards and integrity in practice and would hesitate to label persons engaging in these activities as non-whistleblowers.

### ***Organisational culture and whistleblowing***

Health care institutions are hierarchical structures and so carry all the entrenched flaws and difficulties of such structures. Furthermore, some organisations create and maintain cultures in which mistrust abounds. Speedy (2004, p.156) states that when employee trust is violated, 'a climate of suspicion and vigilance against wrongdoing' is created. These organisations create cultures of reduced loyalty and can cause employees to feel violated, betrayed, and liable to seek reprisal (Speedy 2004), which in turn becomes a motive or factor in whistleblowing. In making the plea that 'when all is said as done, the whistleblower must blow the whistle for the right moral reason', Fletcher et al (1998, p.2) positions examination of, and reflection on, the motives for whistleblowing as crucial steps for nurses considering whistleblowing.

Speedy (2004) also suggested that health care organisations may have a greater potential for abuse of workers than other organisations. The abuse can take the form of marginalising and silencing people and in general making it difficult for people to speak out against issues or practices that trouble them (Speedy 2004). Health professionals are socialised into a culture of silence (Jackson and Raftos 1997), which contributes to a climate in which whistleblowing, rightly or wrongly, is one of the few avenues open to health professionals who are troubled by poor practice, and see a pressing need for change.

### ***The dilemmas associated with whistleblowing***

Whistleblowing is represented in the literature as an avenue of last resort (Jackson and Raftos 1997; Wilmot 2000). Wilmot (2000) states that whistleblowing can be likened to a spectrum. At one end of the spectrum is the worse case scenario where the effects of whistleblowing are disruptive and experienced as negative to all concerned. On the other end of the spectrum whistleblowing may inflict minimal scars on the organisation or stakeholders (Wilmot 2000).

In an ideal world there would be no dilemma associated with blowing the whistle on poor practice or other institutional short-comings. The dilemmas arise when nurses go outside organisations with privileged information in an attempt to have their concerns addressed. However, it can be argued that nurses are left with little choice. The literature provides numerous accounts of whistleblowing employees who have made many attempts to rectify wrong doing through internal channels, however when they are unsuccessful they turn to external channels in an effort to be heard (Jackson and Raftos 1997). This type of whistleblowing has been

described as a 'morally courageous action' (Fletcher et al 1998, p.2).

Primarily, whistleblowing raises dilemmas for nurses around issues such as patient advocacy and duty of care and can raise conflicts around organisational and professional allegiances. Tensions arise between the perceived need to effectively problem-solve, and the need to adopt a 'damage-control' stance in terms of damage to institutions. Undermining public institutions such as hospitals and health facilities has far-reaching effects to the community the institution serves. The lack of community confidence in and antipathy towards institutional staff (who may not have any association with the alleged poor practices) that can arise as a result of whistleblowing can be devastating. Furthermore, questions about natural justice arise, in that individuals and organisations may be subject to public attack in ways that are very difficult to respond to.

Thus, whistleblowing presents nurses with a conundrum. Brodie (1998) describes it as a moral dilemma, stating that nurses choosing to blow the whistle 'do so out of social consciousness and moral commitment' (Brodie 1998, p.1). Patient advocacy is also commonly associated with whistleblowing acts (Ahern and McDonald 2002; Mallik 1997). Wilmot (2000) suggested that whistleblowing can be a calculated act of sabotage which raises another view. However, regardless of motive, it is undoubtedly a most difficult decision that has moral, practical, ethical and professional implications (Wilmot 2000). Once the decision is taken to blow the whistle the accusations can take on a life of their own. Often, there can be no turning back - particularly when the allegations became public.

### ***The repercussions of whistleblowing***

Wrestling with the system, as a result of feeling compelled to speak out and take action comes at a cost. In hierarchical organisational structures seniority counts. It has been suggested that, within the health professions, those who challenge the abilities of superiors or the integrity of organisations are viewed as the problem, rather than the issues they raise (Faunce and Bolsin 2003). In this way, attention is drawn away from the issues raised by whistleblowers to the whistleblowers themselves.

Once an act of whistleblowing occurs, there are a number of documented detrimental personal and professional repercussions (De Maria 1994; Jackson and Raftos 1997; Ahern and McDonald 2002). The literature paints a bleak picture for whistleblowers and the evidence suggests that whistleblowing acts affect whistleblowers in a number of ways. These effects include feelings of disillusionment, powerlessness, intense frustration, conflict, anger and isolation in the whistleblowers (Brodie 1998; De Maria 1994; Jackson and Raftos 1997). Disciplinary action, hostility, ridicule, ostracism, scrutiny, and, personal attacks may come from colleagues and the institution (Brodie 1998; De Maria 1994; Jackson and

Raftos 1997). Other problems for whistleblowers can include insomnia, headaches, and fatigue (McDonald and Ahern 2002).

The literature reveals a culture in which whistleblowers are subject to a number of official and unofficial reprisals, including workplace violence and intimidation (Ahern and McDonald 2002). Some writers suggest that whistleblowers contemplate resignation (Jackson and Raftos 1997; McDonald and Ahern 2002). It may be that the degree of animosity and resentment is so great that the whistleblower has no choice but to leave the organisation. The most common form of official reprisal is formal reprimand and being castigated by management (De Maria 1994). The second type of reprisal include punitive transfers, which were often initiated to ease tension in the workplace (De Maria 1994). De Maria (1994) identified three common unofficial reprisals experienced by staff as ostracism, scrutiny, and, personal attacks.

Where nurse whistleblowing is concerned, most often all stakeholders (nursing, organisation, other nurses, community, professions, whole hospital staff) are affected by the allegations raised by the whistleblowers. Irritability, cynicism and isolation are reported in the workplace (McDonald and Ahern 2002). McDonald and Ahern (2002) found that whistleblowers and non-whistleblowers experienced similar percentages of physical illness such as altered energy levels, sleep disturbances, and digestive system disturbances, while non-whistleblowers had a higher percentage of emotional illness from feelings of shame, guilt and unworthiness.

As Wilmot (2000) suggested, whistleblowing is inherently adversarial and confrontational. It pits parties against each other and creates a climate of hostility and mistrust. In addition to the effects on the whistleblowers, whistleblowing can create a panic-type reaction in which organisations rush to prepare themselves for the external scrutiny that is certain to follow. Furthermore, staff not directly involved in the allegations, or the whistleblowing activities are under siege, because they are also placed under scrutiny. During this time, organisations remain bound by confidentiality and are often not able to tell their side of the story to the public. Damaging information can continue to be promulgated while organisations and other staff are not able to respond effectively.

### ***The media and whistleblowing***

The media is a fairly common, if controversial, means whistleblowers use to draw attention to their particular issue. Litley (2001) reported a case in the UK in which a nurse wrote to a newspaper alleging that elderly inpatients were not receiving adequate care, to the point that their lives were jeopardised. Findings of an appeals tribunal ruled that writing to a newspaper was a reasonable and acceptable way of raising concerns (Litley 2001).

Later in the article there is mention of the anger and offence felt by the colleagues of the whistleblowers whose actions had cast them into the unpleasant heat of public scrutiny without benefit of being able to defend themselves (Litley 2001). Although the whistleblower in Litley's paper later apologised to his colleagues, one is left wondering if there are not more appropriately, equally effective and potentially less damaging ways that nurses and other concerned health workers can raise issues of concern.

Unwanted media attention can place nurses and other staff under unfair scrutiny. The adversarial and combative aspects of whistleblowing are never more evident than when the media is involved. Both the whistleblowers and the 'offender' organisation are subject to the harsh gaze of public scrutiny. Whistleblowers may be inexperienced in dealing with the media and may be themselves cast in a poor light. However, whistleblowers and the 'offender' organisations are not the only ones who suffer. Bystanders including other organisational staff can get caught in the skirmishes, as they too are scrutinised and sometimes blamed, despite the fact that their story is seldom told. Relatives of patients and members of the community can also become implicated in the reactionary rush that follows.

However, it is neither possible nor desirable to merely dismiss the media. The media has a role as public 'watch dog' and a mandate to keep the public informed. The media is especially important in health because there is a perception that the health professions are unused to being held publicly accountable. The role of the media in whistleblowing can spark bitter controversy in the medical community. However, there are occasions where the media have rightfully raised concerns about health practices or practitioners, with very positive effects. In some cases journalists have adopted the role of whistleblower.

The following exchange highlights two perspectives about the role of the media in publicising the events that became known as The Bristol Affair. Emeritus Professor Peter Dunn aired his views that 'biased, misleading, and often inaccurate information' caused untold damage in this case.

*'Many colleagues, patients, and friends of James Wisheart, Janardin Dhasmana, and John Roylance will have been deeply shocked by the unjust way in which the three men have been treated. Every sympathy is due to those who have lost loved ones. However, whereas doctors will readily understand the aggressive grief some parents have shown, their anger should surely be reserved for the news media (and their informants) that have misdirected this grief against the Bristol surgeons using a sustained stream of biased, misleading, and often inaccurate information. And the defendants' explanations remained almost entirely unreported after they presented their case. The confidence of the public in the medical profession has been badly damaged by this affair and by its handling by*



the GMC [General Medical Council]. So, too, has the morale of doctors. If justice is to be done, confidence restored, and doctors are not to act defensively in the future the forthcoming public inquiry must set the record straight' (Dunn 1998, p.1144).

James Garrett, head of the current affairs team that initially publicised the story issued a response in a subsequent issue of the British Medical Journal in which he asserted that painstaking research was carried out to ensure accuracy:

*'It was my programme in March 1996 about the Bristol heart surgery tragedy, for Channel 4's current affairs series Dispatches, that prompted the General Medical Council (GMC) to investigate what, it subsequently became clear, was the medical scandal of the century. Since then I and my colleagues have continued to report on these cases. I wish to reply to Dunn's allegations about media reporting of the tragedy; I am, presumably, one of those whom he pronounces guilty of "using a sustained stream of biased, misleading, and often inaccurate information". According to Dunn, bereaved parents should direct their grief and anger over the death of their children towards people like me, rather than the surgeons who operated on the children and have since been found guilty of serious professional misconduct. "Shoot the messenger" is the age old response of those who dislike the message. The Dispatches programme was researched painstakingly over many months to ensure the accuracy of the story it told. Had it been "misleading" or "inaccurate" it would surely have attracted a writ for defamation from one or more of the three doctors who were named. However, no writ followed the original programme or any of the four documentaries and dozens of shorter reports that HTV has produced since. Dunn complains that the views of the three doctors have received inadequate attention in the media. I have personally written many letters to James Wisheart, Janardin Dhasmana, and John Roylance, seeking to report their views. None of them has taken up my offer, which remains open. Their refusal to contribute notwithstanding, HTV reported the defence they made at the GMC. Interviews with lay supporters - which we have also broadcast - are, ultimately, no substitute for the doctors' own words... Dunn should look closer to home for people to blame if the public does not like what we showed them and demands reform' (Garrett 1998, p.1592).*

Investigative journalists in particular, tend to take great care to provide balance in their arguments and carefully check and cross check their sources. In many cases they have provided crucial and timely information. A compelling example of media whistleblowing took place in New Zealand as a result of the publication of an article in the mainstream media exposing unethical experimentation on women. The article was the catalyst for an investigation led by Judge Dame Silvia Cartwright into the treatment of women with abnormal cervical

smears the National Women's Hospital in Auckland. The inquiry culminated in *The Cartwright Report* (1988), which resulted in a series of recommendations to improve women's health care, raise awareness of ethical issues, and place patient's rights firmly on the agenda (Women's Health Action Trust 1998).

This type of media involvement plays a crucial role in protecting the public and in making the health professions accountable. In the end, it has probably saved many lives. The media was also instrumental in raising public alarm at the events occurring at Chelmsford Hospital in Sydney, Australia. These concerns led to *The Chelmsford Hospital Inquiry* (Hart 1996) and revealed (arguably) the worst case of psychiatric malpractice in Australian history. As evidenced in Justice Slattery's comments, the secrecy surrounding practices at the hospital was entrenched and without the influence of the media, may have remained so.

*'... there was a systematic cloak of secrecy about the treatments, a blanket on the disclosure of information relating to it and a fraudulent cover-up of deaths and other incidents at the hospital' (Slattery cited in Bagnall undated).*

Clearly, history has shown the media can play a powerful role in raising public awareness about health-related practices and wrongdoings in health organisations. Furthermore, as has been demonstrated in the examples presented here, the media has the power to be a potent catalyst for inquiry processes that compels health professionals to reflect on their attitudes and practices, and to effect positive changes in health care practice.

However, the other side of the coin is that while raising matters in the media certainly has the effect of placing them firmly under the public gaze, the sources of information cannot be guaranteed or even identified in some cases. Though most reporting in the media is responsible, the nature of health care is that both sides are often not able to 'tell their stories'. Accused individuals and organisations remain bound by confidentiality. Legal advisors might advise accused parties not to talk to the media. As a result information may not be balanced or completely accurate and may be taken out of context. Misinformation can cause alarm and panic that can quickly spread. Although altruism and the 'public good' may be cited as possible motivating factors for whistleblowing in the first place, things can quickly get out of control.

In the final analysis, the whistleblower needs to make a considered decision about approaching the media. If they choose to do so they need to carefully select the type of media to approach. The accountability for such decisions rests with the whistleblower, and they must live with the outcomes of their decisions.



### Looking ahead: Solving the whistleblowing dilemma

It could be argued that if health care organisations had appropriate and sound internal structures in place to ensure employees concerns are addressed, whistleblowing would never occur. However, as matters stand, the literature is replete with examples of nurse/employees exhausting all internal avenues with management and organisations as they strive to draw attention to and rectify the wrong doing (eg. Jackson and Raftos 1997).

In Australian nursing, there is an evident paucity of information relating to whistleblowing. In the February 2002 *Australian Nursing Journal*, Iliffe described whistleblowing as a difficult area and asked nurses to respond and debate the issue. At that time she drew attention to the fact that no policy concerning whistleblowing was currently in place to guide nurses and highlighted it as an important omission (Iliffe 2002). In conclusion, Iliffe called for discussion and debate about issues related to whistleblowing, and indicated a need for policy to be developed to deal with whistleblowing situations (Iliffe 2002).

Recommendations for the establishment of a specific task force to assist staff who may be involved in a whistleblowing situation have been made in Australia (Jackson and Raftos 1997). The responsibility could be taken by an existing national body, or an independent body could be formed. The group could provide a platform for nurses to discuss issues around whistleblowing, and could provide information and support for whistleblowers (Jackson and Raftos 1997).

Medicine has begun to act to effect change. Faunce and Bolsin (2003) reported that the Australian National University has initiated strategies within the medical curriculum so that students will be able to understand the inter-relationship between human rights, ethical and legal principals, and how they intersect with safety and quality issues. Students will be exposed to simulated learning experiences, including whistleblowing. Nursing too needs to look to turning around the enculturation processes that condone abusive and poor practices.

### CONCLUSION

Clearly, whistleblowing presents nursing with a continuing ethical and moral dilemma. It is important nurses engage in a debate about whistleblowing and examine ways to ensure standards are met and protect the rights of patients and the wider community. Nurses must be prepared to examine themselves and must continue to advocate for patients, clients and communities. Nurses must not avert their gaze when abuse, neglect or violations of individual and community rights occur.

However, it is not acceptable for nurses who blow the whistle to experience the extreme personal and professional sequelae described in the literature. Furthermore, there must be mechanisms for ensuring rights, and addressing abusive, neglectful and otherwise unacceptable practices without raising public panic and without creating unendurable conditions for nurses and other personnel who remain and continue to provide services, and to reflect, rectify and rebuild.

Finally, to answer the question we pose in the title of this paper - do the ends justify the means? Despite the pain that can be associated with whistleblowing, if the ends are improved professional standards, enhanced outcomes, rectification of wrongdoings, and increased safety for patients and staff in our health services, then we say the answer is a resounding yes - the ends definitely justify the means.

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