WEPAU

Workforce experience and retention in nursing in Australia#

by

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ABOUT WEPAU

The Women's Economic Policy Analysis Unit ("WEPAU") was founded in April 1999 in response to a growing void - within Australia and internationally - in the gender analysis of the economic and social policy issues that confront women. To most effectively address this void, WEPAU was established as an inter-disciplinary research program, spanning two divisions of Curtin University, the Curtin Business School (CBS) and the Division of Humanities.

WEPAU is committed to producing high quality quantitative and qualitative feminist research on a broad range of issues that women identify as undermining their ability to achieve equity and autonomy in the current context. Meeting this commitment is enabled by the breadth of experience and expertise brought to WEPAU by an increasing range of researchers.

Through its academic and consultancy research into women's experiences of social and economic policies WEPAU provides a meaningful gender analysis of policy. An analysis strongly put forward via active contribution to government policy debates.

Our broad objectives include:

• Identifying the cases and causes of women's disadvantaged social and economic status and to contribute appropriate policy initiatives to address this disadvantage;

• Demonstrating the way in which social factors, particularly gender, influence the construction of economic theory and policy;

• Extending current theory and research by placing women and their social context at the centre of analysis;

• Contributing an interdisciplinary approach to the understanding of women's position in society. In turn, this should enable the unit to better reflect the interrelatedness of the social, economic and political discourses in policy and their consequent implications for women;

• Fostering feminist research both nationally and internationally;

• Expanding linkages with industry;

• Establishing and supporting a thriving Curtin University postgraduate research community with a common interest in feminist scholarship.

For further details see: **http://www.cbs.curtin.edu/research/wepau/** and/or contact wepau@cbs.curtin.edu.au

Workforce experience & retention in nursing in Australia

Abstract

The labour market for nurses appears to be persistently in a state of shortage, as evidenced by regular reports of "the nursing crisis". This paper draws on data from two surveys to investigate critical aspects of the working lives of Australian nurses: a survey of Registered Nurses in Western Australia and the nationally representative Household Income and Labour Dynamics Australia survey. While nurses face strong employment opportunity, consistent with an occupational shortage, there is evidence of widespread dissatisfaction on other aspects of their jobs. Despite strong dissatisfaction with pay, estimated wage equations suggest that, by and large, nurses' pay is in line with that of other women when other factors are controlled for. Dissatisfaction with non-pay aspects of the job appears to have a stronger influence on overall job satisfaction and on intentions to leave the profession. The age profile and future intentions of the current nurse workforce suggests a continuing, if not worsening, shortage of qualified nurses in Australia.

1. INTRODUCTION

Few occupations have attracted as much interest in the balance between the supply and demand for workers as professional nursing. We read regular media reports of shortages of nurses and even of "the nursing crisis". Bloch and Nowak (2003) review some 15 State and Federal reports on nursing in Australia published since 1994. Further, this shortage is not restricted to Australia, but appears also to exist in many other Western economies (see Shah and Burke 2000: 13-14). This would suggest the "imbalance" in the nursing labour market is due not only to institutional and policy settings in Australia, but to intrinsic characteristics peculiar to the occupation of nursing.

In the world of neo-classical economics, labour market shortages should not persist. The basic supply and demand diagram shows us that a shortage leads to an increase in the price (wage), leading to lower demand and higher supply until the two equate in equilibrium. Since the vast bulk of jobs for Registered Nurses (RNs) are in the public sector these market processes are obscured. The demand for nurses (number of positions available) and pay rates are largely determined via policy decisions relating to health budgets at Federal and State levels of government, and the allocation of those budgets within Government health departments and hospitals.

The "net" supply of nurses in any one-year is determined by the sum of the training rate (new entrants), net migration, net wastage from the occupation and retirement. Due to falling training rates, the nursing labour force has aged considerably, leading to concerns that the retirement rate in coming years will have a highly significant adverse impact upon supply. Wastage occurs when qualified nurses leave the occupation either to pursue a different line of work or to leave the labour force altogether. Offsetting this are qualified nurses who re-enter the occupation. The Western Australian Government has recently embarked on a major public promotional campaign to encourage nurses who have left the profession to return.

And while low relative pay was once seen as the major constraint in increasing the supply of nurses, more recent studies have suggested that non-wage aspects of the job are of more importance (see, for example, Bloch and Nowak 2003, Johnson and Preston 2000). Boosting the training rate is also critical to the future balance of the nurse labour market, but doing so requires encouraging young people to enter the occupation. Issues relating to career choice in nursing are addressed in a companion paper (Dockery and Barns 2004).

This paper draws on data from two surveys to explore characteristics of the nursing labour market and how these relate to retention. One of these is the data from the first wave of a publicly available panel survey of Australian households. The other dataset comes from a survey of Registered Nurses in WA designed and conducted as part of a research project into the labour market implications of changing career expectations with special reference to highly feminised occupations. The project was undertaken through a Linkage Grant from the Australian Research Council and with the support of the Western Australian Department of Health.

The analyses can be grouped into two broad areas: (i) the working experiences of RNs and their attitudes towards their jobs; and (ii) the future career intentions of RNs. The evidence on these areas constitute sections 3 to 4 of the paper, respectively. Preceding these is a brief description of the two surveys.

2.   THE SURVEYS AND DATASETS

2.1   Registered Nurses Survey (RNS)

In August and September, 2003, a self-completion questionnaire was mailed to a random sample of 5000 persons drawn from the registrar of nurses held by the Western Australian Nurses Registration Board. Registration with this board is compulsory to work as a RN in Western Australia. Thus the survey can be seen as a random sample of currently practicing RNs in Western Australia, with the exception that if people leave the profession and/or move out of Western Australia there will be somewhat of a delay before they lapse from the registry. Hence the population may better be described as "recently practicing" RNs.

A total of 1884 surveys were returned, giving a healthy response rate of 38 percent. Thirteen observations for which gender is not identified are omitted. Ninety-five percent of the respondents were women and around 85 percent indicated that they were currently employed as a RN. Of those who were not currently employed as a RN, roughly 40 percent were employed in other occupations and 60 percent had left the labour force.

The RNS questions explore the characteristics of the respondent's job and working environment, attitudes towards the nursing profession, attitudes towards gender roles in work and family and their attitudes now on their decision to originally enter a career in nursing.

2.2   Household Income and Labour Dynamics Australia Survey (HILDA)

HILDA is a representative panel survey of Australian households. At the time of writing only data from the first survey in which the panel was established (2001) is available. Thus the data used here are cross-sectional in nature. The data set does however contain a large amount of relevant information on labour market history, current experience and attitudes towards work, family and gender roles. I investigate background characteristics, life experiences and attitudes, and past and current labour market experiences of females who became registered nurses, defined as women who had gained a registered nursing qualification. For women currently working as a nurse the evidence on their current job characteristics, attitudes towards work and their pay is reviewed. The HILDA data has an important advantage over the RNS data in that it is possible to compare nurses with the wider population.

The confidentialised unit record file from the first wave of HILDA contains data for 7,682 respondent households and 13,969 individuals aged over 15. Details on the survey and sampling frame can be found in the HILDA Discussion Paper series and HILDA Technical Paper series published jointly by the Melbourne Institute and the Department of Family and Community Services.[1]   Occupation is identified at the 2-digit Australian Standard Classification of Occupations (ASCO) level for workers' main job if they are currently in paid employment, and also for their last job for those respondents not currently working. The major ASCO category covering RNs is the 3-digit code of "232 Nursing professionals", which encompasses nurse managers, nurse educators and researchers, registered nurses, registered midwives, registered mental health nurses and registered developmental disability nurses. This falls within the 2-digit ASCO code of "23 Health Professionals" along with medical practitioners and miscellaneous health professionals (such as dentists, pharmacists, occupational therapists and so on). Thus it is not possible on the basis of the occupational coding alone to identify nurses.

There are 567 individuals who report having a nursing qualification, of whom 44 (7.8 percent) are male. Of these 385 have a qualification equivalent to an undergraduate diploma or higher, and it is this sample of 385 individuals who are considered for the purposes of this analysis to be qualified registered nurses.[2]   It is possible of course that those individuals went on to gain equal or higher qualifications in a field other than nursing. As the best approximation for persons who are currently working as nurses or who are not now working but who worked as a nurse in their last job, I identify those who are qualified as registered nurses and whose occupation in their current job (or last job if they are not currently working) is that of "Health Professional".

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[1] See http://www.melbourneinstitute.com/hilda/ .
[2] The response categories for these 385 respondents included Undergraduate diploma, Registered Nurse or Sister; Bachelor degree (including Honours); Triple or Double Certificate Nurse, Theatre Nurse, Registered Midwife; Post-graduate diploma; and Masters degree/Doctorate.

3. THE WORKING EXPERIENCES OF REGISTERED NURSES

This section draws upon data from the RNS and HILDA to investigate aspects of the working lives of nurses. As discussed in Section 2, registered nurses cannot be definitively identified in HILDA. Those with nursing qualifications can be identified as one group of interest. As a proxy for the second group of interest, those working as nurses, I take those who have a nursing qualification and who are working as a "health professional". The RNS data provides observations on 1562 people currently working as a RN, of whom 75 are male.

Of major concern for the future supply of nurses is the aging of the nursing workforce. The mean age for the RNS sample of Western Australian registered nurses is 43 years, and the figure is almost identical for those currently working as RNs and those who have left the profession. Just under two-thirds of the working nurses are aged 40 or over, and 30 percent are over 50. More generally, the aging of the population has raised concerns about the labour supply in a range of occupations. However, the HILDA data confirms that the profile of nurses is markedly different. In the HILDA data, the average age for females with a nursing qualification is 48.7 years. By contrast, the figure for other women with professional qualifications is just under 40, almost ten full years lower (see Table A1).

Roughly 70 percent of the RNS sample are married and a further 15 percent are in a relationship. Three quarters of the women in the RNS sample have children, and slightly less for the male nurses. Looking at the levels at which the nurses work at, half of the female nurses currently working as a RN are employed at Level 1, and another 25 percent at Registered Nurse Level 2. Fewer of the male respondents work at Level 1, with higher proportions employed at Level 2 (29 percent) and "Clinical Nurse Specialist Level 3" (16 percent of male respondents as opposed to just 5 percent of female respondents).

3.1 Job satisfaction

The basic construction of the supply and demand curves for labour suggest that the cause of any shortage is that wages are below their equilibrium level, and the solution is to increase wages. Indeed low wages have been seen to be a major cause of the apparent shortage of nurses. More recently, however, non-wage aspects of nursing have been given more attention. The RNS explores these issues in some detail. Around 40 percent of respondents, whether they are currently working as an RN or not, say that they would not choose nursing again if they could go back in time. This would seem to suggest widespread discontent with nursing as a career, although we do not have figures for other professions with which to make a comparison. Table 1 investigates elements of nurses' job satisfaction in more detail. Nurses were asked to rate their satisfaction on a five point scale ranging from very dissatisfied to very satisfied. The data are recoded here such that a higher number indicates a higher level of satisfaction. The means are presented in the table, ranked in order from the least satisfying to the most satisfying item.

Table 1: Satisfaction with various aspects of job/workplace; persons working as Registered Nurses, RNS (means for scale of 1=very dissatisfied to 5=very satisfied).

	Female nurses only			Total sample of RNs
	Under 40	Over 40		
Your pay as a nurse	2.6	2.8	**	2.7
Proportion of agency staff	2.8	2.8		2.8
The nurse/bed ratio	2.9	2.9		2.9
Public recognition of nurses' work	2.7	3.0	***	2.9
Availability of preceptors for new graduates	2.8	2.9		2.9
Your trade union	2.9	3.0	**	3.0
Senior management	2.9	3.1	**	3.0
Stability of nursing staffing	2.9	3.1		3.0
Proportion of casual staff	3.1	3.1		3.1
Proportion of experienced staff	3.0	3.1		3.1
Opportunities for training and education	2.9	3.2	***	3.1
Comfort of your work environment	3.3	3.4	**	3.3
Equipment/materials you work with	3.4	3.4		3.4
The way you are supervised	3.4	3.5		3.4
Your personal safety at work	3.3	3.5	***	3.5
The nature of care you are able to provide	3.5	3.6		3.5
Your job as a nurse	**3.4**	**3.7**	***	**3.6**
Other health professionals at work	3.5	3.6	**	3.6

Notes: Number of observations ranges from 348 to 490 for nurses under 40 and 678-943 for nurses over 40; ***,** , * denotes that the mean is significantly different from that for the under 40 nursing sample at the 1, 5 and 10% levels, respectively, according to the standard t-test for the difference in means between two samples.

The score of 3.6 for "your job as a nurse" appears to suggest a generally high level of satisfaction — somewhere between "neither satisfied nor dissatisfied" and "fairly satisfied". Pay does in fact rank as the aspect with which nurses express most dissatisfaction. It also seems surprising that nurses report being highly satisfied (relative to other aspects) with personal safety and the nature of care provided, as these have arisen regularly as major problems effecting the motivation of the nursing workforce.

When the means for males (not reported) and females are calculated separately males are significantly less satisfied with their job as a nurse, and the scores for individual items suggest this is due to lower satisfaction with management (senior management, the way you are supervised, other health professionals). It is difficult to know what to read into this since, as noted, a greater proportion of the male respondents work above Level 1. There are also some differences in the pattern of satisfaction between cohorts. Dividing the sample of female RNs into those under 40 years of age and those aged 40 and older, it appears that older workers are more satisfied with the public recognition of nurses' work, pay and personal safety at the workplace.

The RNS also asked nurses directly whether they thought nurses' pay was high or low relative to other workers. Roughly 60 percent indicated that nurses' pay was low relative to other jobs at their workplace, 80 percent that it was low relative to jobs requiring similar skills in the health industry and almost 90 percent that nurses' pay is low relative to jobs requiring similar skills and responsibilities in other industries.

We can gain some idea about the importance of these individual aspects in overall job satisfaction through looking at the strength of the correlation between respondents' satisfaction with each item and their satisfaction with their job as a nurse. The things that correlate most strongly with overall satisfaction are satisfaction with the nature of care they are able to provide to their patients, the way they are supervised, personal safety and comfort in their work environment and opportunities for training and education. Satisfaction with pay is not strongly associated with overall satisfaction with one's job as a nurse — the correlation coefficient for pay ranks thirteenth out of the seventeen remaining factors. Clearly the perception that nursing is poorly paid remains widespread among the nurse workforce but, as recent contributions have suggested, other factors may be more important in motivating and retaining nurses.

The HILDA data allows us to compare the levels of satisfaction felt by nurses with those in other occupations. The HILDA questionnaire asked all those currently in paid employment a series questions on satisfaction with and attitudes towards various aspects of their jobs and workplaces. Again means are calculated from these responses to compare female nurses with women with other professional qualifications and with all working females (Table 2).

On all the measures of satisfaction with various aspects of one's job, nurses report a low level of satisfaction with the exception of job security. The scale used to measure satisfaction in the survey ranges from 0 (totally dissatisfied) to 10 (totally satisfied). Thus the means for nurses still indicate satisfaction rather than dissatisfaction with each job attribute. However, the distribution of responses to such questions is typically highly skewed to the right — few people indicate dissatisfaction when presented with such scales. In this respect the level of satisfaction relative to other workers can be considered a more meaningful measure than the literal interpretation of the scale. Nurses' relative dissatisfaction with their pay in comparison to both other professional workers and other women workers as a whole is robust. They are less satisfied with the nature of the work they do when compared to other professionals and their overall job satisfaction is lower than for both the comparison groups. Surprisingly, nurses are less satisfied with their ability to balance work and non-work commitments than other female workers (highly significant) and other professional women (weakly significant). Yet this is one of the main job attributes that is thought to attract women to nursing careers!

One could perhaps argue that nurses are essentially just a relatively grumpy lot. There may be fixed individual characteristics which are associated with both a greater likelihood of becoming a nurse and of tending to be dissatisfied or unhappy about life in general. Fortunately the HILDA data can be used to dismiss this theory. Respondents are also asked to rate their level of satisfaction with their life as a whole and with a range of aspects of their life. Those with nursing qualifications actually tend to be as positive or more positive about most things than other women, including their employment opportunities, feeling part of the community, the amount of free time they have and, when compared to other professionally qualified women, with their lives overall. Recall, however, that the sample of qualified nurses is considerably older than those in the comparison categories, and this may account for some of the differences in reported satisfaction levels.

A further indicator of job satisfaction is provided by the data on why persons left their last job. HILDA contains observations on 73 women who were not in paid

employment at the time of the survey, but who possessed nursing qualifications and worked in a health professional occupation in their last job. Although the sample number involved is small, the comparison with other females who are also no longer working reveals two stark differences worth noting. Few nurses had left their last job through lay-offs or redundancies, but twice as many nurses had left because they "retired or did not want to work any longer" when compared to the wider female population.

For persons in paid employment, the HILDA self-completion questionnaire included a series of twelve questions about their attitudes towards their job and workplace. These come in the form of statements with which respondents indicate their degree of agreement or disagreement on a seven-point scale. The responses tell a familiar tale (see bottom half of Table 2). Compared to other female workers, women currently working as registered nurses are less likely to agree that they are paid fairly for the work they do, but express a feeling of greater job security. They also indicate a lack of autonomy with respect to what happens in their job, how they go about their work and the scheduling of work. Nurses express a greater degree of stress than other female workers as a whole, but on the stress-related statements the means for nurses are similar to those for other professional women.

It is interesting that nurses, on average, agree more strongly with the statements that their job is complex and difficult, that they are often required to learn new skills and that they use many of their skills and abilities in their job. The difference between the mean response of the nurses and both the other professionals and other female workers as whole for each of these statements is highly significant in statistical terms. However, these attributes could conceivably be taken as either positive or negative ones. Certainly one would think learning new skills and utilising existing skills would be positive attributes of a job. Yet, as we see from the job satisfaction measures, nurses are relatively dissatisfied with their job in respect to "the work itself".

Table 2: Comparison of means for selected job attributes and attitudes – women working as a nurse, in other professional occupations and all females, HILDA.

Variable	Nurses	Other professional occupation	All working females
How satisfied are you with the following aspect of your job (scale of 0 to 10):			
Total pay	6.0	6.8***	6.7***
Job security	8.6	7.8***	7.9***
The work itself	7.4	8.0***	7.7
Hours of work	7.0	7.2	7.3*
Flexibility to balance work & non-work commitments.	6.9	7.3*	7.6***
Overall job satisfaction	7.4	7.8**	7.8***
Workplace attitudes (1= strongly disagree, 7=strongly agree):			
My job is more stressful than I imagined	4.1	3.8*	3.3***
I fear the amount of stress in my job will make me physically ill	2.9	2.8	2.5***
I get paid fairly for the things I do in my job	3.9	4.5***	4.5***
I have a secure future in my job	5.9	5.0***	4.8***
The company I work for will still be in business 5 years from now	6.5	6.0***	5.6***
I worry about the future of my job	2.5	2.9**	2.9***
My job is complex and difficult	5.2	4.9***	3.6***
My job often requires me to learn new skills	5.9	5.5***	4.6***
I use many of my skills and abilities in my current job	6.3	6.0***	5.3***
I have a lot of freedom to decide how I do my job	4.2	5.3***	4.7***
I have a lot of say about what happens on my job	4.0	4.7***	4.3
I have a lot of freedom to decide when I do my work	2.7	3.5***	3.5***

Notes: ***,** , * denote statistical difference from the mean for women currently working as a RN at the 1, 5 and 10% levels, respectively, according to the standard t-test for the difference in means between two samples.

3.2   So how fair are nurses' earnings?

While nurses express relative dissatisfaction with their pay, their earnings position can be investigated more formally by estimating a wage equation using the HILDA data. Following the standard approach, an OLS regression is estimated in which the dependent variable is the log of the wage and the set of explanatory variables includes measures of human capital and other characteristics of the individual or job known to influence earnings. In the first set of regressions, the dependent variable is the log of annual earnings and the sample is restricted to full-time workers. The second set of regressions incorporates the data on the number of hours usually worked to calculate an hourly wage rate. The dependent variable is thus the log of hourly wages.

The results of the wage equations are reported in Table 3. I briefly discuss the results for other controls before looking at the results for the nursing variables. In Models 3.1 and 3.2 annual earnings are estimated with the sample restricted to full-

time female employees only. These models are able to explain around 30 percent of the variation in observed earnings. Models 3.3 and 3.4 estimate the hourly wage for all female employees, and explain just over 20 percent of the observed variation. The explanatory power is not atypical for such a wage equation. The coefficients on the explanatory variables also accord with expectations. Married females have higher earnings than those who have never been married. Women who speak English as a second language have lower earnings – about 40 percent lower in the case of those with poor English. Variables capturing the effects of being born in a non-English speaking country and the time since arrival in Australia were also tested but proved not to be significant once the measures of English ability were included. Those with a permanent disability or long-term chronic health condition also have lower earnings.

Earnings increase with level of qualification. Women employees with post-graduate degrees are estimated to earn around fifty percent more than those who did not complete Year 12. Earnings increase with experience, as measured by years in work but at a decreasing rate, while tenure in the current job is significant only for full-time workers. There is a positive wage premium associated with being a union member, but this is significant only in the models for hourly wages. No significant difference in women's wages between the private and public sectors is identified. Perhaps surprisingly, being employed on a casual contract is associated with lower wages — it is common in Australia for casuals to earn higher wages in lieu of other entitlements, such as sick leave and annual leave. A "part-time" dummy was also tested in models 3.3 and 3.4 but proved not to be significant.

The models are estimated separately with a dummy variable included for whether or not the individual has a nursing qualification and then whether or not they currently work as a nurse. The variables are insignificant both for full-time employee's annual earnings and for hourly wages. This suggests that once level of qualification, experience and other factors are taken into account, the earnings of women working as registered nurses, or of women with the qualifications to be a registered nurse, are not significantly different to the earnings of women in other occupations. To qualify this result further, variables capturing whether or not the individual worked shift-work or had supervisory responsibilities were added. Having supervisory responsibilities is associated with a wage premium of around 8 percent for full-time workers (highly significant), and around 2.5 percent for hourly wages (weakly significant). No significant premium is observed for shift-workers. Even with the inclusion of these job-related controls, the earnings of nurses are not significantly different from other women.   In the model of annual full-time wages, the variable for those currently working as nurses just fails to gain significance at the 10 percent level when these job-related controls are included and the coefficient indicates 7.5 percent lower wages for nurses.

Much could be done to refine the wage equation presented here. On the whole, however, the evidence suggests that nurses' earnings are pretty much on par with those of other women once the standard human capital variables — particularly level of education and experience — are taken into account.

Table 3: Estimated wage equations for female employees, HILDA.

Explanatory variables	Full-time female workers only - Dep variable=log (annual salary)				Full- and part-time female workers Dep variable=log(hourly wage)			
	Model 3.1		Model 3.2		Model 3.3		Model 3.4	
Intercept	9.9854	***	9.9847	***	2.3515	***	2.3513	***
Married	0.0417	*	0.0403	*	0.0909	***	0.0915	***
Separated	0.0166		0.0157		0.0362		0.0371	
Never Married	—		—		—		—	
1st language is not English and:								
Speaks English well	-0.0744	***	-0.0752	***	-0.0632	**	-0.0629	**
Speaks Eng poorly	-0.4390	***	-0.4397	***	-0.4208	***	-0.4208	***
Has disability/health condition	-0.0664	**	-0.0662	**	-0.0543	**	-0.0542	**
Highest qualifications:								
Post-graduate	0.5773	***	0.5765	***	0.4784	***	0.4804	***
Bachelor's degree/grad dip	0.4370	***	0.4423	***	0.3985	***	0.3977	***
Advanced diploma/diploma	0.2655	***	0.2653	***	0.2391	***	0.2394	***
Certificate level II or IV	0.0760	**	0.0753	**	0.0588	**	0.0608	**
Certificate level I or II	0.0728	*	0.0729	*	0.0915	***	0.0915	***
Completed Yr 12/other certif.	0.1311	***	0.1313	***	0.1348	***	0.1349	***
Completed Yr 11 or below	—		—		—		—	
Experience (years in work)	0.0274	***	0.0275	***	0.0231	***	0.0230	***
Experience squared	-0.0005	***	-0.0005	***	-0.0005	***	-0.0005	***
Tenure (yrs in current job)	0.0047	***	0.0047	***				
Union member	0.0214		0.0234		0.0394	**	0.0384	**
Sector of employment								
Govt business enterprise	0.0491		0.0498		0.0646	*	0.0648	*
Other public service	-0.0131		-0.0117		0.0254		0.0251	
Other (included not-for-profit)	-0.1348	***	-0.1343	***	-0.1234	***	-0.1229	***
Private	—		—		—		—	
Casual	-0.1631	***	-0.1633	***	-0.0569	***	-0.0569	***
Has nursing qualification	-0.0014				0.0052			
Nursing is current job			-0.0555				0.0494	
Observations	1675		1675		3044		3044	
Deg of Freedom	20		20		19		19	
R-squared	0.31		0.31		0.22		0.22	
Adjusted R-sq	0.30		0.30		0.21		0.21	
F-value	36.91	***	37.01	***	44.11	***	44.15	***

Notes: ***,** , * denote significance at the 1, 5 and 10% levels, respectively

3.3   RN's Attitudes towards nursing

A set of 21 statements based upon Meyer and Allen's seminal work on commitment to organisations and occupations were included in the RNS to solicit nurses' attitudes about the nursing profession (Meyer and Allen 1991; Meyer, Allen and Smith 1993). A factor analysis[3] of the data returns four factors for which the Eigenvalue is greater than one. These can be summarised as follows:

- Obligatory commitment — Is strongly correlated with agreement with the statements that I feel a responsibility to continue in the nursing profession, I would feel guilty if I left nursing; I remain in nursing out of a sense of loyalty and that it would not feel right to leave the profession even if it were to my advantage.

- Disaffection — Loads heavily on the statements "I dislike being a nurse", "I do not identify with the nursing profession" and "I regret having entered the profession".

- Inertia — Is positively correlated with the sentiments that changing profession would require considerable sacrifice and it would be costly and disruptive to do so.

- Pride in nursing — Relates to believing that nursing is a highly prestigious occupation and that nurses are well regarded and respected in the community.

The factors termed obligatory commitment, disaffection and inertia correspond closely, but not exactly with the three factors Meyer and Allen identified and termed normative, affective and continuance. However, for those not well versed in Meyer and Allen's definitions, I prefer to use the above terms for ease of interpretation.

The full set of statements and the mean responses for those currently working as Registered Nurses are contained in Appendix Table A2. This attitudinal data seems to tell a more encouraging story than might be gained from the data on job satisfaction. The statement that those currently working as RNs agreed with most strongly was "I am proud to be in the nursing profession", while the statements which attracted the strongest disagreement were "I dislike being a nurse", "I would feel guilty if I left nursing", "I do not identify with the nursing profession" and "I regret having entered the nursing profession". There is also general agreement that changing professions would involve considerable difficulty. Moreover, the relative ordering of the statements are similar for younger and older nurse. It is true that those aged 40 and over are more positive about nursing and it's public image, and express a stronger attachment to it.

Table 4 presents the means for the four factors identified above conditional upon age and gender. The factor scores have a mean of zero and a standard deviation of 1 for the full sample, which includes those nurses who are not currently working as RNs. The more positive attitudes of older nurses noted above are evident in the factor scores. For males, there is a markedly higher level of disaffection — it seems the few males who have entered nursing very much regret that decision, at least in terms relative to their female counterparts. To test whether this may be due to the fact that the male sample population tend, on average, to be employed at higher

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[3] More specifically, a principal components analysis using promax rotation.

levels the factor scores of Level 1 registered nurses were compared with those at other levels but no significant differences arose.

Table 4: Mean scores for attitudinal factors; those currently working as Registered Nurses, Registered Nurse Survey.

Attitudinal Factor	Females	Males		Aged less than 40	Aged 40 and over		All RN's
Obligatory Commitmt.	0.03	-0.16		-0.14	0.10	***	0.02
Disaffection	-0.05	0.46	***	0.14	-0.11	***	-0.02
Inertia	0.07	0.29	*	0.01	0.12	**	0.08
Pride in nursing	0.00	0.03		-0.13	0.08	***	0.01

Notes: ***,** , * denotes that the mean is significantly different for males (v. females) and aged over 40 (v. aged under 40) nursing sample at the 1, 5 and 10% levels, respectively, according to the standard t-test for the difference in means between two samples.

3.4 Attitudes towards work and gender roles

From a survey of first year university students, evidence was found that entrants to nursing hold more traditional views on gender roles for men and women (Dockery and Barns 2004). The RNS and HILDA also provide opportunities to investigate nurses' attitudes towards work and family. A common set of statements was put to nurses in the RNS survey as in the survey of first-year university students, but unfortunately different response scales are used, making any direct comparison potentially spurious. A safer approach is to compare the rankings of the statements in terms of the strength of agreement expressed. From doing this it seems the main difference between today's students and RNs who have been in the workforce is that the students are more optimistic about the degree of flexibility available in the workplace for meeting family commitments. Students were in stronger agreement with the statements "In general, the workplace allows mothers reasonable flexibility to attend to family responsibilities", and more strongly disagreed that "… the flexibility in the workplace is shouldered by individuals without children".

Overall, however, the patterns are similar between the female students and the female RNs, as well as for younger and older RNs. There is universal agreement that occupational choices for young women have increased, but strong disagreement with the notion that women and men have equal opportunities or promotional prospects at work.

The HILDA data further confirms the existence of differences in attitudes between those who entered nursing and other women. HILDA asked respondents to indicate how satisfied they were with a range of aspects of their lives and the importance they attached to different factors. Importance was rated on a ten-point scale ranging from 0 (least important) to 10 (most important). A comparison of means between women qualified as nurses, other professionally qualified women and all women is made for these variables (see Table 5). Compared to other professionals, those qualified as nurses place less importance on work, and more on their family, home and religion. Other females as a whole rank home as more important, and religion as less important than do the sample of nurses, but their priorities are otherwise quite similar.

The self-completion questionnaire of HILDA included a series of fourteen statements relating to mothers' and fathers' roles in working and child raising. Respondents

were asked to indicate on a seven-point scale the extent to which they agreed or disagreed with each statement. Restricting the sample to females only a principal components analysis is carried out to identify linear combinations of the responses (factors) that could be used to summarise the patterns of responses between individuals. On the rule of thumb of retaining factors with an Eigenvalue of greater than one, five factors are retained which explain 65 percent of the total variation in the set of responses to these statements. These factors are as follows:

1. Family should be first – this factor loads heavily on (ie. is strongly correlated with) the statements that a woman and a man's most important role is that of being a parent, whatever their career. To a lesser degree, this factor is also correlated with agreement with the statements that it is better if the man works and the woman takes care of the home and children and that mothers who don't need the money shouldn't really work.

2. Work and family can be balanced – this factor is associated with agreement that both working mothers and working fathers can establish just as good relationships with their children as non-workers, and that it is okay for children under 5 to be placed in child care for all the working week.

3. Career success is over-valued – loads heavily on the statements that many working mothers and fathers seem to care more about being successful at work than meeting the needs of their children. Like the "family first" factor, there is also a significant correlation with the statements that men rather than women should work and that women shouldn't work if they do not need the money.

4. Gender equality – this factor is strongly and positively correlated with agreement that children can do just as well with the mother earning the money and the father caring for the home and children, that if both partners work they should also share the housework and care of children equally and that fathers should be as heavily involved with the care of children as the mother. The factor is negatively associated with the belief that it is better for all involved if men work and women take care of the house and children.

5. Wants to work – loads heavily with the statements "it is important to have a paying job in order to be happy" and "I would enjoy having a job even if I didn't need the money".

The scores for these five factors are calculated for each female in the sample. These "factor scores" are standardised to have a mean of zero and a standard deviation of one for the sample population (in this case the female sample population). The bottom panel of Table 5 shows that nurses' attitudes seem to fall somewhere between those of other professionally qualified women and women as a whole. Compared to women overall, those with non-nursing professional qualifications score significantly lower on the "family should come first" factor.[4] Similarly, other professional women score markedly lower on the "Career success is over-valued" factor, suggesting they are less likely to agree with statements suggesting that parents often tend to care more about their careers than the needs of their children.

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[4] Note that these scores indicate variation *relative* to the sample mean and not absolute agreement or disagreement. Thus, for example, scoring low on the "Family should be first" factor does not necessarily imply these individuals disagreed with such statements. It may mean that they did not agree as strongly as the sample as a whole.

Nurses also score lower than the overall female population on these two factors, but their attitudes are not nearly as divergent from "the norm" as is the case for other professionally qualified females.

Table 5: comparison of means – ratings of satisfaction with and importance of various life factors, factor scores for work/gender attitudes, HILDA

Variable	Qualified as a registered nurse	Other professional qualifications	All females
How important to you are:			
The home in which you live	8.0	7.8**	8.4***
Your employment and work situation	6.4	7.4***	6.3
Your financial situation	7.9	7.8	8.0
Involvement in your local community	6.0	5.7*	5.8
Your health	9.0	8.9	9.0
Your family	9.7	9.5***	9.7
Leisure activities, such as hobbies, sports	8.1	7.8*	8.0
Religion	5.6	4.7***	5.2**
Attitudes towards work and gender roles – factor scores			
Family should be first	-0.21	-0.61***	0.00***
Work and family can be balanced	0.11	0.11	0.00**
Career success is over-valued	-0.16	-0.28**	0.00***
Gender equality	0.10	0.18	0.00*
Wants to work	-0.04	-0.05	0.00

Notes: ***,** , * statistically different from the mean for persons qualified as a RN at the 1, 5 and 10% levels, respectively, according to the standard t-test for the difference in means between two samples.

The same pattern is true of the "gender equality" factor, but here the difference between nurses and the sample mean is only weakly significant, and the difference between nurses and other professionals not statistically significant. Nurses and other professionals score equally on the factor relating to being able to balance work and family roles.

4.   FUTURE CAREER INTENTIONS OF THE NURSING WORKFORCE

In the RNS those currently working as Registered Nurses were asked whether or not they anticipated ceasing to practice nursing in the next five years. Thirty-seven percent of the respondents indicated that they would cease to practice. Of course life does not always go as planned, but taken on face value this suggests an alarmingly high rate of attrition from the occupation. The figure is similar for both males and females. By far the most common reason given for the intention to cease practicing was retirement, given by 15 percent of those intending to leave nursing, but "change in occupation" was also prominent (8 percent). In HILDA, respondents were asked to rate the likelihood of quitting their job within the next 12 months, of losing their job within the next 12 months and, if so, of finding a replacement job. The high degree of employment opportunity open to nurses is evident from these responses. On average, nurses saw the likelihood of losing their job to be 6 percent, roughly half the figure for other working women, and were much more confident of

finding a replacement job. However, on the probability of quitting their job in the next 12 months, there was no difference between nurses and other women, with an expected likelihood of 24 percent (this may not imply leaving the profession).

Attrition from the nursing profession may be offset by people returning to nursing. However, when the main reason for departure is retirement, in the long run there can only be a partial offset. There were around 160 registered nurses who responded to the RNS but who were no longer in the paid workforce. Around two-thirds of those not in the labour force indicated that they would in fact return to nursing in the next five years. This seems encouragingly high, but then for these nurses to have been included in the sample it can be expected that they only recently left the occupation. Thus their responses cannot be taken to be typical of the full population of ex-nurses. Again the main reason given for not intending to return was retirement.

Table 6 reports the results of a multivariate logit model estimating the probability of a respondent to the RNS indicating that they anticipated ceasing to practice in the next five years. Initially (model 6.1) the factors scores for attitudes towards nursing are not included as these may mask other effects. The obvious example is the factor relating to inertia – obviously those who strongly agree with statements to the effect that leaving nursing would cause considerable difficulty are less likely to indicate that they are going to leave in the next five years. Rather, we want to get at what factors or circumstances lead them to think they could not leave nursing. The scores for the obligatory commitment, disaffection and pride in nursing factors are added in model 6.2. Finally, the inertia factor score is included in model 6.3. As it turns out, inclusion of these factor scores does not greatly influence the coefficients for other variables.

When other variables are controlled for, no significant difference between males and females is found with respect to the likelihood they will indicate that they expect to leave nursing in the next five years. Age of course has a very strong and highly significant effect. Importantly, overall satisfaction with one's job as a nurse and with personal safety at the workplace are also robust predictors of the intention to leave nursing, as are the disaffection and inertia factor scores. Persons who are married and their partner works full-time are significantly more likely to plan to leave. The variable for children is problematic. The estimated effect shows that nurses with children are less likely to anticipate leaving the profession. The probable cause of this is that among the remainder are many women who do not yet have children but intend to do so, and thus strongly anticipate at least a temporary departure from the nursing workforce. The data enables identification of those who do not currently have children but intend to do so; but not of those who do have children and who intend to have further children. Thus we are inhibited in constructing a variable on intentions to have children, and leave the effect to be captured through the gender, age and marital status variables.

Table 6: Logistic regression results for likelihood of anticipating leaving nursing in next 5 years; RNS.

	Model 6.1		Model 6.2		Model 6.3	
Intercept	1.055	***	0.116		0.215	
male	-0.205		-0.184		-0.149	
Age (years)						
20 to <30	—		—		—	
30 to <40	-0.282		-0.311		-0.226	
40 to <50	-0.592	**	-0.554	**	-0.453	
50 to <55	0.817	***	1.023	***	1.146	***
55 to <60	1.975	***	2.142	***	2.238	***
60 plus	4.778	***	5.370	***	5.391	***
Country	0.218		0.319	**	0.322	**
Level Mananger/Admin	0.493	*	0.449		0.432	
Type of contract:						
Permanent	—		—		—	
Fix ed term/temporary	0.226		0.082		0.039	
Agency/casual worker	0.389	**	0.413	**	0.396	*
Level of Satisfaction with (1=low to 5=high)						
Your pay	-0.088		-0.062		-0.083	
Your job as a nurse	-0.573	***	-0.355	***	-0.379	***
Your personal safety	-0.275	***	-0.299	***	-0.302	***
Comfort of work environment	0.257	***	0.293	***	0.269	***
Public recognition of work	0.116	*	0.127	*	0.143	*
Marital status						
Single	—		—		—	
Married – partner works FT	0.446	***	0.480	***	0.456	**
Marrried – partner works PT	-0.151		-0.128		-0.173	
Married – partner not working	0.170		0.137		0.232	
Has children	-0.605	***	-0.694	***	-0.649	***
Factor scores for attitudes						
Obligatory commitment			-0.176	**	-0.101	
Disaffection			0.398	***	0.449	***
Inertia					-0.394	***
Pride in nursing			0.088		0.071	
n	1445		1356		1356	
DoF	19		22		23	
	Chi-Square		Chi-Square		Chi-Square	
Likelihood Ratio	418.3	***	425.4	***	453.3	***
Score	382.5	***	381.9	***	402.2	***
Wald	251.4	***	248.8	***	260.9	***

Notes: ***,** , * denote statistical significance at the 1, 5 and 10% levels, respectively.

How important are each of these effects? Using the regression results, the predicted likelihood of a person anticipating leaving the nursing profession in the next 5 years is calculated conditional upon selected characteristics (see Table 7). It can be seen that by age 60 and over, the model predicts almost a 100 percent chance of leaving. The very important point to this table is that is allows us to glean some idea of the importance of satisfaction levels on retention in nursing. If all variables are

evaluated at their means, the model predicts a 33 percent likelihood of that "average" RN anticipating leaving. If that nurse reported being "very dissatisfied" with their job as a nurse as opposed to "very satisfied", they are predicted to be more than twice as likely to intend to leave the profession (56.5 percent as opposed to 22.2 percent). Satisfaction with personal safety has an effect of similar magnitude. Satisfaction with pay just failed to attain significance in the models, and the effect is small relative to that of overall satisfaction.

Table 7: Predicted likelihood of a RN anticipating leaving in next five years (sample mean = 33 percent)

Effect (Case 1 versus Case 2)	Predicted likelihood of anticipating leaving nursing (percent)	
	(Case 1)	(Case 2)
Aged 30-40 v. aged 20-30	19.6	23.4
Aged 40-50 v. aged 20-30	16.3	23.4
Aged 50-55 v. aged 20-30	49.1	23.4
Aged 55-60 v. aged 20-30	74.2	23.4
Aged 60 plus v. aged 20-30	98.5	23.4
Perth based v. works in regional Western Australia	31.3	38.5
On permanent contract v. agency/casual worker	31.8	40.9
Job as an Nurse: Very dissatisfied v. very satisfied	56.5	22.2
Personal safety: Very dissatisfied v. very satisfied	50.9	23.7
Married with partner working FT v. single	37.3	27.4
Factor scores on attitudes toward nursing		
Disaffected score −1 v. score +1	24.1	43.8
Inertia score −1 v. score +1	27.3	14.6

The effect of the individual's factor score for disaffection is also very high. The comparisons are between persons with scores of −1 and +1 on this factor, all other variables evaluated at their means. Roughly, this translates to comparing a person at the 84th percentile of "disaffection" with someone at the 16th percentile. Again it can be seen that this degree of disillusionment with nursing doubles the likelihood of the person anticipating leaving the profession. This effect is *additional* to the effects of the satisfaction ratings, since the variables are included in the model simultaneously.

To repeat, we cannot judge how closely an intention to leave translates into actual departure from the profession. However, the results here suggest that improving nurses' general levels of satisfaction with their jobs and with the nursing profession would potentially improve retention dramatically. Equally, it is also likely to increase re-entry rates for nurses who have already left the profession.

5.   SUMMARY AND CONCLUSIONS

The exploration of the two surveys provides many insights into the nursing labour market and into the nursing workforce. As a very broad summation, the evidence is consistent with a host of other reports about the nursing profession that paint a picture of an aging and disenchanted registered nurse workforce. Although it is not an issue that has been addressed directly, signs of the existence of a shortage in the

labour market are easy to find. Calculations based on the HILDA data (not reported here) show a negligible incidence of unemployment among nurses. Despite reporting low satisfaction on most aspects of their jobs relative to other working women, nurses rate significantly higher on satisfaction with job security. They have strong perceptions of job security and of their chance of finding another job if they were to lose their job. Very few of the nurses who had left the occupation did so due to retrenchments or lay-offs. And while the labour market for nurses does appear to be in shortage relative to the wider labour market for women and for other professional women, the situation can only be expected to deteriorate given the age of the current workforce and their retirement intentions.

Pay has long been suspected as a problem for the retention of nurses, along with dissatisfaction with other aspects of the job. For those who have entered nursing there is widespread discontentment, particularly for the few males who chose nursing as a career. This is not so obvious from the absolute scores on satisfaction scales, but is clear when comparing working nurses to other professional women using HILDA data. Nurses are significantly less satisfied with their pay (and fairness of pay rates), with the work they do, their degree of autonomy in their work and overall job satisfaction. Nurses are even less satisfied with their ability to balance work and non-work commitments, even though this is thought to be one of the main job attributes that attract women to nursing. In non-work aspects of their lives, nurses otherwise appear quite content, and indeed they place greater importance on such aspects as family and religion when compared to other professional women.

The importance of pay remains a bit of a mystery. Dockery and Barns (2004) find that nurses' earnings are an important deterrent at the entry level. This analysis confirms that pay is the aspect of their job with which current nurses are most strongly dissatisfied. However, estimated wage functions suggest nurses' earnings are not very much different to those of other women when controlling for factors such as level of education and experience — there is weak evidence that wages in nursing may be slightly lower than those for comparable women who also have supervisory responsibilities. Further, satisfaction with pay is only weakly correlated with overall job satisfaction.

From a policy perspective, there is clear evidence that job satisfaction, personal safety and recognition are indeed important to reducing wastage. The results suggest that a turnaround in an individual's feelings of job satisfaction for affectivity for the profession can halve the likelihood that they will expect to leave the profession in the coming five years. It is difficult to see exactly how these attitudes or sentiments of nurses could be changed. Improved career paths, as has been highlighted elsewhere, may well be part of the solution. And while pay may not be the cause of the problem that does not mean that higher pay should not be part of the solution. A feeling of more equitable wages may help to improve the sense of recognition of nurses' work and of the public respect given to nurses, as well as partially improving their levels of job satisfaction; and indeed it may be one of the cheaper alternatives for generating such an effect.

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APPENDIX

Table A1: Means of selected background characteristics for females with Registered Nursing qualifications, other professional qualifications and all females, HILDA.

Variable	Qualified as a registered nurse	Other professional qualifications[a]	All females
Age	48.70	39.64***	43.84***
Married or de facto	0.66	0.66	0.62
Number of children	2.06	1.28***	1.91*
Both parents lived at home (age 14)	0.88	0.89	0.85
Had siblings	0.98	0.95**	0.95***
Number of siblings	2.84	2.44***	3.03*
Was the oldest child	0.37	0.39	0.31**
Father worked (age 14)	0.93	0.94	0.90
Father's occ professional or higher	0.41	0.47**	0.31**
Father's occ health professional	0.03	0.04	0.02***
Mother worked (age 14)	0.42	0.53***	0.47
Mother's occ professional or higher	0.18	0.29***	0.15
Mother's occ health professional	0.07	0.08	0.05*

Notes: ***,** , * denote statistically different from the mean for persons qualified as a RN at the 1, 5 and 10% levels, respectively, according to the standard t-test for the difference in means between two samples. a. To be more comparable with the qualified nurses, this is taken as persons with an undergraduate diploma or higher.

Table A2: Attitudes towards the nursing profession: means by age group for those working as RNs, Registered Nurse Survey

(scale 1=strongly disagree, 5=strongly agree[a]).

	Aged under 40	Aged 40 and over[b]		All working as RNs
I am proud to be in the nursing profession	3.8	3.9	**	3.9
Changing professions now would be difficult for me to do	3.5	4.0	***	3.8
I do no feel any obligation to remain in nursing	3.5	3.4	***	3.4
Nursing is important to myself image	2.7	2.8	*	2.8
Even if it were to my advantage, I do no feel it would re right to leave the nursing profession at the moment	2.2	2.6	***	2.5
I am still in nursing because of a sense of loyalty to it	2.3	2.5	***	2.4
I regret having entered the nursing profession	2.3	2.1	***	2.2
There are no pressures to keep me from changing professions	3.0	3.1	**	3.1
I dislike being a nurse	2.0	1.8	***	1.9
I would feel guilty if I left nursing	2.0	2.0		2.0
I have put too much into the nursing profession to consider changing now	2.6	2.9	***	2.8
I do not identify with the nursing profession	2.1	2.0	***	2.0
It would be costly for me to change my profession now	3.6	3.6		3.6
Changing professions now would require considerable personal sacrifice	3.7	3.7		3.7
I believe people who have been trained in a profession have a responsibility to stay for a reasonable period of time	1.9	2.3	***	2.2
I am enthusiastic about nursing	3.3	3.4	*	3.4
Too much of my life would be disrupted if I were to change my profession	3.3	3.4		3.4
I feel a responsibility to the nursing profession to continue in it	2.2	2.4	***	2.3
Nursing is a highly prestigious occupation	2.0	2.3	***	2.2
Nurses are well regarded by the public	3.0	3.2	***	3.2
Nurses are respected in the community	3.1	3.3	***	3.2

Notes: a. the initial questionnaire included a category of 6 "No opinion". These responses have been recoded as 3 "neither agree or disagree"; a: ***,** , * denote statistically different from the mean for RNs aged less than 40 at the 1, 5 and 10% levels, respectively, according to the standard t-test for the difference in means between two samples.