



## Student debt amongst junior doctors in New Zealand; part 2: effects on intentions and workforce

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### Abstract

**Aims** To assess the effects of student debt on the intentions of first-year house officers in relation to location of practice and vocation, and to evaluate the relative importance of incentives to remain practising in New Zealand (NZ).

**Methods** A questionnaire sent to all 296 New Zealand-graduate first-year house officers practicing in New Zealand.

**Results** The response rate was 53%. Eighty percent of respondents intended to practice in New Zealand for the bulk of their careers; however, 65% of respondents intended to leave New Zealand within 3 years of graduating. The most important factors influencing the decision to leave NZ were overseas travel, financial opportunities, and job/training opportunities. Fifty-five percent of respondents had considered leaving the country, specifically because of the student loan debt. The most important factors influencing vocational intentions were interest, lifestyle, and intellectual challenge. Forty-three percent of respondents stated that their student debt had influenced their intended specialty, and only 9% of respondents indicated their intention to pursue a career in general practice. The highest rated incentives for staying in New Zealand were increased salaries, employer contributions towards student loans, and training opportunities within New Zealand.

**Conclusion** Student debt influences both emigration and specialty choice intentions of junior doctors in New Zealand. This effect is an unintended but important consequence of our current tertiary education system in New Zealand. These results paint a worrying picture for the junior doctor and general practitioner workforce in New Zealand's future.

New Zealand faces worsening problems in its medical workforce. A recent forecast of population ageing indicated that the number and type of medical services currently delivered will be insufficient by 2011.<sup>1</sup> Of particular concern is the general practitioner (GP) workforce, which is ageing and declined by 8% between 2000–2002.<sup>2</sup> Other areas of concern include psychiatry, pathology, general medicine;<sup>3</sup> and the medical workforce in rural and provincial areas, where even mainstream specialties struggle with recruitment.<sup>4</sup>

New Zealand has the highest proportion of overseas-trained doctors in the OECD;<sup>5</sup> they comprise more than one-third of the active workforce in 2002<sup>6</sup> and 50% of GPs in rural areas.<sup>2</sup> While overseas-trained doctors are currently vital in our medical workforce, it can be argued that developed nations such as New Zealand have a moral obligation to train their own doctors, in order to reduce the emigration of doctors from poorer countries (which have greater need for those doctors) into New Zealand. It also

seems reasonable to assume that doctors trained in New Zealand would be better prepared to practice in the unique cultural environment of this country.

New Zealand medical school graduates remain the major source of doctors in New Zealand. New Zealand medical schools graduate approximately 285 New Zealand citizen/resident doctors each year (to increase to 320 in 2008). However, the last 15 years has seen the introduction of high tuition fees (currently approximately NZ\$60,000 for an MB ChB) as central funding has not kept pace with increasing costs of delivery. These fees have resulted in large personal debts for graduates—our companion paper in this issue of the NZMJ entitled *Student debt amongst junior doctors in New Zealand; part 1: quantity, distribution, and psychosocial impact* lists the average graduating debt as \$65,206. It is important to understand how these large financial costs impact upon the decisions of graduates and the medical workforce.

In 2001, a survey of New Zealand medical students found that 82% intended to leave New Zealand shortly after graduation, with 40% citing student debt as a factor in their decision.<sup>7,8</sup> Moreover, the level of debt correlated positively with students' intentions to emigrate. Only 16% of respondents placed general practice as their most preferred speciality. There was a trend toward respondents with larger debts excluding general practice as a career. Specifically, these respondents had a mean debt \$7,137 greater than those who were considering general practice.

Indeed, a survey of Auckland medical students in 2001 found that 25.8% expected to practice mainly or only overseas and that only 13.8% of students expressed an interest in general practice as a career, compared to 77% for hospital practice.<sup>9</sup> That survey also found that those students with higher debts were more likely to indicate an intention to emigrate after graduation.

A survey of medical students in Canada in 2002 suggested that increasing levels of student debt resulted in more students taking finance into consideration when choosing their speciality and practice location.<sup>10</sup> Research among Resident doctors in the United States in 2001 also showed a relationship between speciality choice and level of debt, with those in surgical residencies having significantly greater total debt than those in primary care residencies.<sup>11</sup>

Thus there is evidence that student debt affects the medical workforce, but the only New Zealand data are of medical students' intentions. For the first time, this study aimed to measure the effect of debt on New Zealand junior doctors' career intentions.

## Methods

The survey was based on the same questions as the 2001 Wellbeing, Intentions, Debt and Intentions (WIDE) questionnaire,<sup>7,8</sup> and was delivered to every first-year doctor registered with the Medical Council of New Zealand at the end of 2004. The survey covered a range of topics including respondent demographics, level of debt, psychosocial and financial impact of debt, and the impact of debt on career intentions. The design, delivery, and analysis of this questionnaire survey are described in the companion paper (part 1).

The present study used Likert scales of agreement (1=strongly disagree, 5=strongly agree), and both open and closed questions to explore respondents' career intentions regarding country of practice, intended speciality choice, and likelihood of working in rural areas. Associations between student debt and ordinal Likert scale responses were measured using Spearman's rank correlation coefficients. Some respondents did not answer specific questions, therefore percentages may not add to 100%. Total debt refers to the total debt at graduation from all sources (excluding mortgage debt).

## Results

A total of 158 out of 296 questionnaire recipients responded (53%). Their demographic characteristics are described in the previous paper.

**Location of practice**—Eighty percent of respondents indicated that they intended to spend the bulk of their careers in New Zealand. The intention to emigrate away from New Zealand was not associated with the total debt of respondents (ANOVA;  $p=0.5$ ), with a large group of undecided respondents (11%) owing the most. . Sixty-five percent of respondents indicated that they intended to go overseas within 3 years of graduating. Only 3.8% intended to never leave New Zealand to practice, and 22.2% remained undecided.

Table 1 shows how respondents rated the importance of various factors on their decision whether to leave New Zealand, using a Likert scale of 1–5.

The importance of debt and financial opportunities in influencing the decision to go overseas were correlated with respondents' total debt (Level of debt  $r=0.538$ ,  $p<0.001$ ; Financial opportunities  $r=0.352$ ,  $p<0.001$ ). That is, doctors with higher debt were more likely to consider these factors as important in deciding whether to leave New Zealand.

**Table 1. Importance of factors influencing decision whether to leave New Zealand (NZ), correlated to total debt**

Reason for leaving NZ	No influence 1 (%)	2 (%)	3 (%)	4 (%)	Strong influence 5 (%)	Median
Level of debt**	21.5	12	18.4	17.7	24.7	3.1
Research*	32.9	17.7	20.3	19.6	5.1	2.4
Financial opportunities**	3.8	13.3	17.7	31.6	31.0	3.8
Family	19.6	13.9	21.5	19.6	21.5	3.1
Returning to home country	59.5	8.2	10.8	6.3	8.2	1.9
Job/training opportunities*	7.0	8.2	20.3	32.9	28.5	3.7
Overseas travel	5.1	5.7	15.2	29.7	41.1	4.0
Working conditions	12.0	20.9	24.1	17.7	20.9	3.2

\*Correlation to total debt significant at 0.05 level; \*\*Correlation to total debt significant at 0.01 level.

In response to a yes/no question, 55% of respondents (mean total debt \$79,904) stated that they had considered leaving New Zealand specifically because of their student loan debt, and their debt was significantly higher than those who had not considered leaving New Zealand (mean total debt \$59,771;  $p<0.001$ ).

**Career intentions**—In response to a yes/no question, 43% of respondents with a student loan stated that their student debt had influenced their intended specialty, and these respondents had a significantly higher total debt (\$65,281 compared to \$57,120;  $p=0.03$ ).

Table 2 shows the intended specialty intentions of respondents alongside the proportion of the New Zealand workforce in 2002 (from Medical Council of New Zealand), and the first-choice responses from the 2001 WIDE survey of Christchurch medical students.<sup>7</sup>

**Table 2. Intended specialty of junior doctors**

Speciality	% of respondents	2001 WIDE survey of medical students <sup>7</sup> (%)	New Zealand workforce in 2002 (%) <sup>6</sup>
Surgery (all subspecialties)	24	22	11
Internal medicine (all subspecialties)	19	25	11
Anaesthesia/intensive care medicine	13	3	7
General practice	9	16	41
Paediatrics	8	10	3
Radiology	5	3	4
Career outside medicine	4	3	-
Obstetrics & gynaecology	4	5	3
Psychiatry	4	1	6
Emergency medicine	2	9	2
Pathology	2	0	2
Public health	2	1	3
Management	0.6	0	<1
Research	0.6	1	<1
Academic/teaching	0	0	-

Table 3 shows how respondents rated the importance of various factors on their career intentions. The importance of debt, and financial opportunities in determining career intentions was correlated with respondents' total debts (level of debt  $r=0.304$ ;  $p<0.001$ ; Financial opportunities  $r=0.189$ ;  $p=0.02$ ). That is, respondents owing more found debt and financial considerations had a larger influence over their choice of specialty. However, level of debt was not a strong influence over specialty choice for most respondents, as indicated by the median rating. The strongest influences over speciality choice were *interest*, *lifestyle*, *family*, and *intellectual challenge*, respectively.

**Table 3. Importance of factors influencing career choice, correlated to total debt**

Factor influencing career choice	No influence 1 (%)	2 (%)	3 (%)	4 (%)	Strong influence 5 (%)	Median
Family (current & planned)	5.1	5.7	16.5	37.3	34.8	3.92
Level of debt**	36.1	15.8	15.8	21.5	9.5	2.52
Financial opportunities*	6.3	15.2	32.9	31.6	13.3	3.31
Intellectual challenge	1.3	4.4	18.4	41.1	34.8	4.04
Prestige	36.7	22.8	23.4	11.4	5.1	2.25
Lifestyle	2.5	4.4	12.7	35.4	44.9	4.16
Interest	0.6	0	3.8	27.8	67.7	4.62

\*Correlation to total debt significant at 0.05 level; \*\*Correlation to total debt significant at 0.01 level.

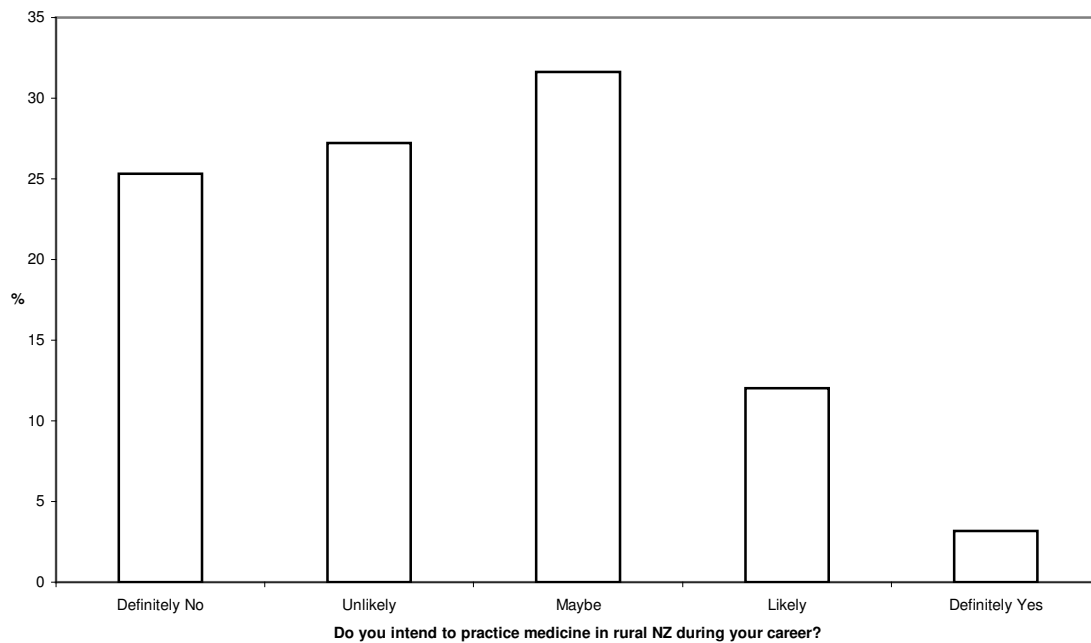
Table 4 shows how respondents rated potential incentives for them to stay in New Zealand. Respondents considered increased salaries, employer repayments towards student loans, training opportunities in New Zealand, and shorter working hours as the most important incentives to staying in New Zealand. Again, those with higher debts were more likely to find increased salaries and employer contributions towards student loans as important incentives.

**Table 4. Importance of incentives to stay in New Zealand, correlated with debt**

Incentive	No influence 1 (%)	2 (%)	3 (%)	4 (%)	Strong influence 5 (%)	Median
Increased salaries**	1.9	7.0	19.6	32.3	39.2	4.00
Employer contributions towards student loan**	12.7	5.7	13.3	19.0	45.6	3.82
Shorter working hours	3.2	9.5	22.2	29.1	35.4	3.85
Training opportunities*	1.3	6.3	23.4	39.2	29.1	3.89
Increased spending on healthcare	9.5	22.2	37.3	17.7	12.7	3.02
Bonded training <sup>‡</sup>	16.5	17.7	24.7	18.4	20.9	3.10
Increased morale in hospitals	3.8	8.9	32.3	33.5	20.9	3.59

<sup>‡</sup>Bonded training would be a scholarship towards fees etc in exchange for a guarantee of work for a set number of years in a particular hospital after graduation; \*Correlation with total debt significant at 0.05 level; \*\*Correlation with total debt significant at 0.01 level.

**Figure 1. Intention of junior doctors to practice in rural New Zealand (n=158)**



**Rural intentions**—As illustrated in Figure 1, the majority of respondents stated that they definitely would not, or were unlikely to practice in rural New Zealand during

their career. Total debt was not associated with the intention to practice in rural New Zealand (ANOVA  $p=0.3$ ).

## Discussion

These results demonstrate that student debt had a strong influence over the decisions of the first-year house officers (PGY1s) in New Zealand. These influences are likely to affect the medical workforce, as the majority considered emigration due to their debt, and a substantial number claimed debt affected their specialty choice. These findings have implications for medical workforce development, and the tertiary education sector.

It is notable that only 9% of applicants indicated that general practice was their preferred specialty, when considering GPs currently make up over 40% of the medical workforce in New Zealand. With primary care as a central focus in current government health policy, and the GP workforce already declining, this result is potentially alarming. It was also notable that psychiatry and public health were the only areas besides general practice in which a smaller proportion of respondents intended to work than currently do so amongst the New Zealand medical workforce.

Twenty percent of respondents did not intend to practice in New Zealand for the majority of their career. Between 1998 and 2002, the percentage of medical graduates remaining practicing in the New Zealand medical workforce after 3 years has ranged from 69 to 78%.<sup>12</sup> The comparable figure from the present study (35% intending to remain in New Zealand beyond their third year) would represent a large increase in emigration. Historically, doctors have emigrated to gain experience and specialist training, but the present results indicate that debt is now a factor in this decision, particularly for those with the bigger debts. In contrast, debt as a driver of medical emigration did not exist 20 years ago.

This new motive for doctors to leave New Zealand may represent a change in professional motivation. Indeed, the sense of obligation felt by many past graduates may have been undermined by personal debts, and a focus on repayment. While doctors have tended to return from travel in the past, those who travel to repay (or escape) debts of \$100,000 may not.<sup>13</sup>

Forty-three percent of respondents with student loans stated that their student loan debt had influenced their choice of specialty. This indicates that student debt may have long-term consequences for the structure of the medical workforce—this is an unintended and potentially detrimental consequence of the student loan scheme.

Intentions do not always equate to actions. However these doctors were surveyed at a time in their careers when they were beginning to make choices about their future specialties. A regular intentions survey of junior doctors in PGY1 and 2 would be a useful tool for monitoring trends in career intentions.

This paper describes associations between emigration from New Zealand, altered patterns of speciality choice, and student debt. This illustrates the unintended, yet potentially serious effect that student debt may be having on the public health system in New Zealand.

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