



## **Student debt amongst junior doctors in New Zealand; part 1: quantity, distribution, and psychosocial impact**

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### **Abstract:**

**Aims** To quantify student debt owed by first-year house officers at graduation, and to describe the effects of student debt on their lives.

**Methods** A questionnaire was sent to all 296 New Zealand-graduate first-year house officers practicing in New Zealand. The survey included questions on demographics, level of debt, student support received, repayment since graduation, psychosocial and financial impact of debt, and career intentions.

**Results** The response rate was 53%. Ninety-two percent of respondents had some form of student debt, with 85% having a government student loan. The average total debt from all sources (excluding mortgages) at graduation was NZ\$65,206. Seventy-five percent of respondents owed more than \$50,000 and 13% had owed more than \$100,000. Eighty-eight percent of respondents reported increased levels of stress as a result of their student loan, with 31% reporting that they worried about their student loan 'often' or 'always'. Eighty-three percent reported that their student loan had made it more difficult to save for their future, such as for a house deposit or for their retirement, and 42% stated that their student loan debt had influenced their decision whether to have children (or more children).

**Conclusion** Student debt has a major negative impact on the lives of house officers in New Zealand. These data provide a baseline for studying how changes in medical education affect junior doctors.

The New Zealand Government Student Loan Scheme (GSLS) was owed over NZ\$7 billion in 2004. Aspects of the MB ChB compared to other degrees, such as length of training and the high cost of tuition fees (currently \$11,000 per year), mean that medical students and junior doctors are amongst the most affected by student debt. Given the potential for student debt to impact upon workforce development, it is important to understand its effects. To date, the extent to which medical student debt affects junior doctors in New Zealand has not been quantified in a peer-reviewed study.

The GSLS allows medical students to borrow tuition fees (currently \$60,330 for the Otago MB ChB), up to \$150 per week for living expenses (a total of up to \$36,000 over 6 years), and \$1000 per year in additional course costs (\$6000 over 6 years). They are also able to borrow a variable amount from banks and other private lenders. Student allowances are available (at tapering rates) to those whose combined parental income is less than \$62,000 (for students under 25 years old). Graduate-entry medical students have the additional cost of the student debt accumulated during their first degree. Thus it is possible for medical students to owe more than \$100,000 at graduation.

In equivalent US dollars, medical tuition fees in New Zealand are 40% higher than in Australian universities, and would be considered high by USA and Canadian standards.<sup>1</sup>

A survey of 179 medical students at the Christchurch School of Medicine in 2001 found that medical students estimated they would owe on average \$60,000 to \$70,000 at the completion of their medical training.<sup>2,3</sup> It was also found that medical student debt was likely to have significant effects on the New Zealand workforce over the coming years.<sup>4</sup> Furthermore, beginning careers with large debts is likely to impact on doctors' lives, health, and career intentions.

These previous studies have been limited to students' self-projected estimates of their debt at graduation. Retrospective data on debt, collected after the fact, provide a more accurate picture of the situation facing young doctors. Furthermore, medical student debt may have changed since 2001. Otago graduates of 2001 paid approximately \$4100 less in fees than students graduating in 2003 (and tuition fees have increased by another 20% since 2003).

Thus a comprehensive survey of doctors' student debt, and the effects on their lives was undertaken. This study aimed to examine the demographics, level of debt, student support received, and debt repayments of New Zealand-graduate house officers in the final stages of their provisional registration year in New Zealand. It also aimed to reveal the psychosocial and financial effects that student debt had had on these doctors' lives. The career intentions of these doctors and the effect of debt on the medical workforce is available in the companion paper issued in the same issue of the NZMJ.

## Method

A questionnaire was designed based on the same questions as the Wellbeing, Intentions, Debt and Experiences (WIDE) survey of New Zealand medical students in 2001.<sup>2,3</sup> Additional questions explored whether respondents had made voluntary repayments, and asked quantitatively and qualitatively about how student debt had impacted on their lives. The questionnaire collected information on demographics, levels of debt, student support, debt repayments, psychosocial and financial effects of debt, and career intentions. The survey included closed questions and open-ended questions (i.e. unlike closed questions, those requiring more than a 'yes' or 'no' answer) to provide an opportunity for respondents to elaborate on their experiences.

All New Zealand-graduate first-year house officers were identified through the New Zealand Medical Register, and questionnaires were posted to participants by the Medical Council of New Zealand to maintain confidentiality. House officers received the questionnaire with a covering letter explaining the intention of the study, and the way in which the data would be used. Participants were invited to go in the draw for a \$500 cash prize by completing their contact details on a separate form, which was separated from the questionnaire on its receipt. A second copy of the survey, along with a covering letter was sent to non-responders after 6 weeks.

All survey responses were entered electronically into Microsoft Access database software by one of the authors, and statistical analysis was completed using SPSS statistical software. Ethnicity data was recorded using the Statistics New Zealand prioritisation standard. Where participants recorded multiple ethnicities, the ethnicity entered into the database depended on the following priority order: New Zealand Maori, Pacific Island (either Samoan, Cook Island, Tongan, Niuean), Chinese, Indian, Other ethnic group, *Pakeha* (New Zealand European).

This paper refers to two types of debt: GSLS debt refers only to the debt owed to the Government Student Loans Scheme at the time of graduation from medical school. Total debt refers to debt from all sources (including GSLS, private commercial debts, credit card debt, overdrafts, family loans, and other loans) at the time of graduation from medical school. Any mortgage debt was excluded from the

total debt figure, as it created extreme skew in the data, and also to protect the anonymity of individual respondents.

For the open-ended question, *describe the impact of your student loan on your financial decisions*, responses were coded and sorted into themes.

## Results

There were 158 responses to the 296 surveys distributed (a response rate of 53%).

**Demographics**—The median age of respondents was 25 (with a range of 28 years). Table 1 shows the demographic characteristics of respondents compared to the WIDE survey sample,<sup>5</sup> and medical school demographic data.

**Table 1. Comparison of demographic data from this survey, WIDE survey, and medical schools**

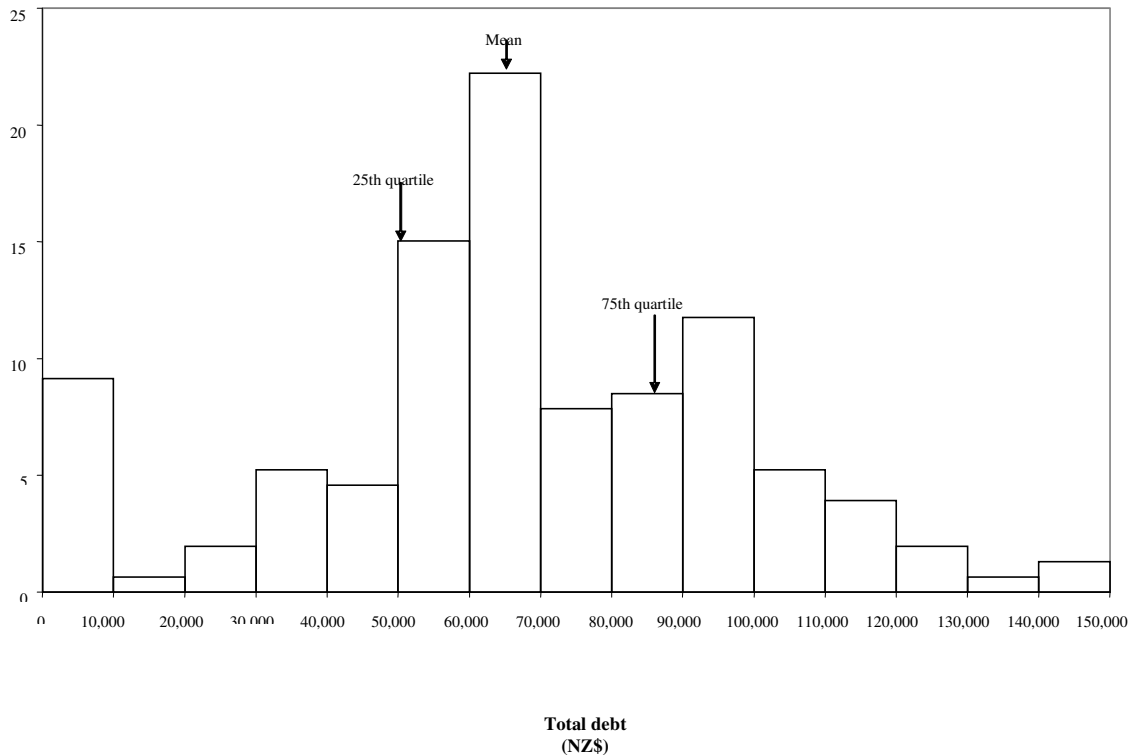
Variable		(%)	WIDE <sup>5</sup> (%)	Medical school data (%) <sup>‡</sup>
Gender	Male	46	44	48
	Female	53	56	52
Ethnicity	New Zealand European*	65	51	53
	Asian†	16	31	42
	Pacific Islander	6	4	4
	Maori	3	6	5
	Other ethnicity	10	8	2
Marital status	Single	67	–	–
	Married	16	–	–
	De facto	14	–	–
	Divorced	1	–	–
NZ citizenship status	Citizen	91	82	
	Permanent resident	6	11	
	Other	3	7	
Medical school	Auckland	46	44	45
	Otago	52	56	55

<sup>5</sup>WIDE=Wellbeing, Intentions, Debt and Experiences (Survey); \*Also termed *Pakeha*; †Includes those who identified Indian subcontinent ethnicity; ‡Data on 2003 medical graduates from Faculty Offices, University of Auckland and University of Otago.

**Student debt at graduation**—Total debt at graduation is shown in Figure 1. At graduation, 92% of respondents had some form of student debt with 85% of respondents owing money to the GSLS scheme, and 68% of respondents having borrowed money from other private commercial organisations or family to pay for their education.

The mean GSLS debt for those who had a GSLS loan was \$60,644. At graduation, mean total debt across all respondents was \$65,206; 75% of respondents had total debt of greater than \$50,000, and 25% of respondents had a total debt at graduation of greater than \$88,875. Twenty respondents (13%) had total debts at graduation of greater than \$100,000.

**Figure 1. Distribution of total debt of New Zealand medical students at graduation (n=158)**



There were no statistically significant differences in total debt between females (mean \$65,460) and males (\$63,851;  $p=0.8$ ), or between universities (Auckland \$63,502; Otago \$66,396;  $p=0.36$ ). Marital status did not predict debt (ANOVA;  $p=0.5$ ).

Table 2 shows some variations in the mean debt levels by reported ethnicity, although they were of only borderline statistical significance ( $p=0.05$ ; ANOVA) and post-hoc analysis was not informative.

**Table 2. Mean total debt by ethnicity (n=158)**

Ethnicity	% of respondents	Mean total debt
Asian	16	\$48,180
Maori	3	\$81,250
NZ European/Pakeha	65	\$68,682
Other ethnicity	10	\$66,000
Pacific Islander	6	\$64,889

**Student support**—Forty-six percent of respondents received either a full or partial student allowance at some point while studying. These respondents received an average of \$144 per week, for an average of 3.75 years. Twenty percent of respondents received a student allowance for the entire time they were at medical school. The length of time respondents received a student allowance did not predict total debt at graduation (ANOVA;  $p=0.8$ ).

During medical school, 59% of respondents had a part-time job. These respondents worked for an average of 3.4 years, for an average of 9.7 hours per week. There was no difference in the mean total debt at graduation for those who had a part-time job (\$67,332) and those who did not have a part-time job (\$61,708;  $p=0.3$ ). Summer holiday work was undertaken by 91% of the respondents, for an average of 4.5 summers, for an average of 38.6 hours per week during summer.

In response to an open question on how they might have improved their financial situation in retrospect, 51% of respondents stated they had no options available to reduce their debt; however, some students specifically mentioned their inability to work more part-time hours due to course commitments.

Table 3 shows the financial support received by respondents from their parents while at medical school.

**Table 3 Parental support compared to students' mean total debt (n=158)**

Support from parents	% of respondents	Mean total debt
No support	15	\$74,223
Pay some fees	29	\$59,884
Pay all fees	13	\$26,583
Pay some living costs	59	\$68,992
Pay all living costs	20	\$47,383

**Effects of student debt**—Eighty-eight percent of respondents reported increased levels of stress because of their student loan. Table 4 shows how levels of total debt related to how often doctors felt stressed by their student loan. Eleven percent of those who had sought additional finance (for example, banks loans, credit cards) had experienced difficulty in gaining approval for this finance, because of the level of their student loan. Those students who had experienced difficulty gaining additional finance had a higher total debt (\$88,462) than those who did not (\$68,964;  $p<0.01$ ).

Student loans had made it difficult to save for the future for 83% of respondents, including saving for a house deposit or retirement fund. When asked to describe the impact of their student loan on their financial decisions, themes emerged, which are shown in Table 5. Forty-two percent of respondents stated that their student loan debt had influenced their decision to have children, (or more children) and these respondents owed significantly more than those who stated that their loans did not affect their intentions to have children ( $p<0.001$ ).

**Table 4. Frequency of stress with mean total debt (n=158)**

Frequency of stress	% of respondents	Mean total debt
Never	6	\$54,786
Rarely	13	\$64,438
Sometimes	50	\$69,209
Often	24	\$82,186
Always	7	\$82,833

Spearman's  $\rho=0.300$ ,  $p=0.001$ .

**Table 5. Themes in response to an open question on how student loan impacted on financial decisions (n=158)**

<b>Impact of loan on:</b>	<b>% of students</b>
Saving for house/inability to get a mortgage	47
Ability to save for retirement/contribute to superannuation scheme	13
Lifestyle choices	13
Ability to save for future	13
Ability to invest income	10
Family life/children	5

**Repayments**—The mean reduction in debt was \$13,005 between the respondents' total debt at graduation compared to after approximately 1 year of working. The mean total debt at the time of the survey was \$50,501 (of which \$45,160 was, on average, owed to the GSL scheme).

Sixty-six percent of respondents stated that they had made voluntary GSLS loan repayments, on top of the 10% that is automatically withdrawn from their wages. Predictably, the group that made voluntary repayments had a larger reduction in debt during their first year of work (\$20,445) than those who did not (\$6,735;  $p < 0.001$ ). Interestingly, those doctors who made voluntary repayments during their first year of working had a lower mean GSLS debt to begin with at graduation than those who did not (\$54,756 compared to \$70,714;  $p < 0.001$ ). Doctors with dependent children were also less likely to make voluntary repayments (65% of respondents without dependents, compared to 25% of respondents with dependents;  $p = 0.04$ )

## **Discussion**

This study is the first peer-reviewed nationwide survey of the effect of student debt on the lives and experiences of junior doctors in New Zealand. Moreover, this information is critical to understanding the connection between education funding and our future doctors.

It is important to consider selection biases that can arise from a response rate of 53%. It is possible that those who did not choose to respond to the survey may have had different debts to those who did. Our sample had proportionally fewer Maori respondents than the 2001 WIDE survey,<sup>2,3,5</sup> and fewer Maori than the medical graduates of 2003 (with a response rate of only 32% amongst Maori).

The relatively low numbers of Maori respondents mean that it was difficult to draw firm conclusions on Maori doctors' debt, though it appeared to be higher than other ethnic groups. This may warrant further study. There was also an under-representation of Asian respondents in our survey, however this may partially be explained by some students classifying themselves under the 'Other' category. The response rate amongst New Zealand European people was 66%, and amongst Pacific Island people was 80%. There were also more New Zealand citizens and fewer permanent residents, respectively, than the WIDE respondents.

Eighty-five percent of respondents graduated with a government student loan, and 92% had some form of student debt at graduation. This is higher than the 78% reported by Gill et al<sup>3</sup> in 2001. In American research, 83.2% of graduating medical

students in the United States in 1996-1997 had educational debt.<sup>6</sup> It is probable that there was response bias in our study, as doctors with student debt may be more motivated to respond, however it is impossible to confirm or quantify this.

The mean level of GSLS debt at \$60,591 for respondents in this study is significantly higher than the mean GSLS balance of \$14,242 for all GSLS borrowers in New Zealand,<sup>7</sup> and thus puts the average respondent for this study in the top 1.4% of all student loan borrowers in New Zealand. Inland Revenue statistics also demonstrate that only 0.08% of borrowers had loan balances of greater than \$100,000.<sup>7</sup> However in this survey, 4.4% of respondents had GSLS balances exceeding \$100,000, and 13% owed more than \$100,000 in total from all sources (excluding mortgage debt). This level of debt is very concerning. Indeed, the prospect of high student debt may act as a disincentive for people from lower socioeconomic groups to enter medicine—this would counter the goal of having medical graduates represent a diversity of backgrounds and experiences.

Forty-six percent of respondents received a student allowance at some point while at medical school. However, only 20% of respondents received an allowance for the entire duration of their medical degree. The length of time respondents received a student allowance did not predict total debt at graduation. This is likely to be due to the fact that costs associated with the medical course are heavily weighted towards tuition fees, compared to other courses. Although the need for many students to borrow from the Government to cover their basic costs of living may add a significant amount to their debt, our data did not show a significant difference between those who received an allowance and those who did not.

One explanation for this may be that many of those who did not receive an allowance may have received assistance for living costs from other sources, or by working part time. Almost 60% of respondents also held a part-time job for an average of 3.4 years while attending medical school, although this was not associated with their debt at graduation either. This suggests that those who worked part time may have done so out of necessity for day-to-day living costs. The vast majority of respondents worked over the summer holidays.

The financial circumstances of future graduates can be expected to worsen, as medical school fees have increased by 20% after the graduation of these respondents. On the other hand, Government also introduced Step-Up Scholarships in 2003, which dramatically reduce fees for those new students who are eligible for a Government student allowance. Nevertheless, given that only 20–46% of our respondents would have been eligible for an allowance, the majority of students will not qualify. The benefits of *Step-Up Scholarships* will not manifest in the medical workforce until at least 2008.

The current mean total debt for medical graduates of \$65,206 is a large amount of money to owe when starting one's first job. The length of the medical degree also means that this is the age at which many young doctors are making long-term decisions about their future, including career intentions and families.

Student debt appeared to have a significant effect on the lives of the respondents: 88% percent of those with student loans stated that they had experienced increased levels of stress as a result. Indeed, almost one-third of respondents stated that they felt stressed about their loan either “often” or “always”, and 50% were stressed

“sometimes”. This is important because the house officer years already contain considerable work-related stress: from inexperience, learning/training requirements, and long working hours. Student debt appears to be compounding the levels of stress in this group.

Eleven percent of respondents had experienced difficulty in gaining additional finance because of their student loan, and this 11% had significantly higher mean debt. This suggests that banks and financial institutions are considering the level of student debt when deciding whether to approve finance for junior doctors. The great majority of recipients (83%) had difficulty saving for homes and retirement because of their loan. Both home ownership and retirement savings have been highlighted by the Government as key issues facing New Zealand.<sup>8</sup> The effects of student debt on these important financial milestones may remain hidden for many years.

Doctors’ debts also affected their decisions regarding families. Student loans were delaying childbearing, and encouraging doctors to have fewer children. Numerous comments indicated that the stress and financial burden of debt created a living environment in which doctors were not prepared to raise children.

In summary, the average medical graduate’s debt was shown to be at the 98th percentile of all student debt, with major negative impacts on the lives of junior doctors. These effects of medical student debt can only be expected to worsen, as tuition fees and living costs continue to rise.

The New Zealand Government is to be commended for some of its recent initiatives, including raising the trainee intern allowance and introducing *Step-Up Scholarships*. The prospect of an interest write-off for graduates choosing to stay in New Zealand, which is due to be introduced in April 2006, is also likely to have a positive impact on the current situation.

To summarise, this study provides baseline data against which the effects of recent Government initiatives, and ongoing fee increases can be measured. Our results indicate that tuition fee reduction should be the priority intervention to relieve doctors’ debts. (The implications of student debt for the medical workforce is described in the companion paper in this issue of the NZMJ entitled *Student debt amongst junior doctors—part 2: effects on intentions and workforce*.)

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