



## Career and life experiences of New Zealand women medical graduates

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### Abstract

**Aims.** To investigate the career and life experiences of a cohort of women graduating from a New Zealand medical school.

**Methods.** A questionnaire was mailed to 415 women who had graduated from the University of Auckland between 1973 and 1997.

**Results.** The response rate was 74%. Compared with a study undertaken in 1986, more women are entering clinical specialties and significantly fewer entering general practice. 60% had children (mean 2.3 children per participant). The majority of women had managed to work

NZ Med J 2001; 114: 537-40

part-time in their careers. Income per hour was lower for those who chose specialties to fit in with family commitments. Job satisfaction was moderately high, but varied between specialties. Over half were undecided about their specialty at graduation.

**Conclusions.** A higher proportion of women is moving into specialties other than general practice. As about half of all medical graduates are women, most of whom will want to have children, training agencies and employers should continue to develop their programmes and jobs to facilitate the combination of work and family life.

Despite obtaining equality over the past fifteen years in terms of number and performance at medical school in New Zealand, women continue to be under-represented in specialty areas other than general practice. In New Zealand in 2000, women made up 47% of house officers, 38% of registrars and 19% of specialists.<sup>1</sup> This proportion of women specialists has increased from 5% in 1976 and 10% in 1985.<sup>2</sup> To provide current information on the major factors affecting career choice, we conducted a study sponsored by the Medical Council of New Zealand (MCNZ). The aim was to look at factors affecting career choice within medicine, especially features of those specialties that have attracted a large percentage of women. The study was intended to complement the MCNZ workforce survey and to inform training bodies, employers and women contemplating a medical career. As part of this study we describe the life and practice patterns of medical women who graduated from the University of Auckland over a 24-year period.

### Methods

**Subjects.** These were randomly chosen from a list of all Auckland women graduates who had their final year at Medical School between 1973 (the first graduating class) and 1997 and who remained on the medical register. Surveys were mailed to two thirds of the 664 eligible women in order to receive a sample of 300, allowing for a 70% response rate.

**Identification of responders and preservation of confidentiality.** Responders were identified by their MCNZ registration number written on the bottom left corner of the supplied freepost return envelope. One reminder letter was sent. Respondents were assigned a random subject number and there was no identifying information on the survey form. The University of Auckland Human Subjects Ethics Committee approved the project.

**Data analysis.** Responses were entered into an Excel spreadsheet. For comparison, Durham's 1986 survey of 1083 women practising medicine in New Zealand (not all of whom were New Zealand graduates),<sup>3</sup> and the MCNZ Annual Report 2000 on the active medical workforce<sup>1</sup> were used. Each work category included both specialists and those training or working primarily in that specialty. The categories were the same as used by Durham. To analyse time trends, the respondents were categorised as either early or late postgraduate (PG). The early PG period was nine years or less since the end of medical school, and late PG was ten years or more. Where questions covered more than one year, data were entered into the appropriate category for the year it applied to. For hours and income, as well as for the rating of impacts, the mean and median values were similar, and means are reported.

### Results

**Practice specialty.** The response rate was 74% (306 respondents). In Figure 1, the distribution of specialties of

the Auckland women in this study is compared with that of New Zealand medical women in 1986. In the present study those categorised as "Other" included: private emergency medicine, breast medicine, palliative care, appearance medicine, travel medicine, sports medicine, mental/sexual health, research, family planning, management, medical writing, medical informatics and house officers.

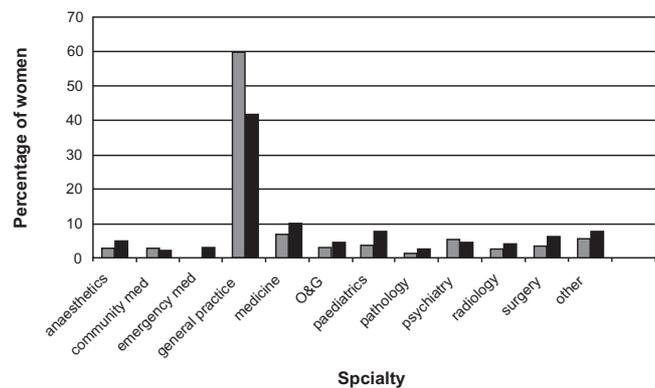


Figure 1. Specialty distribution of New Zealand doctors from the current (year 2000) survey (black bars) compared with Durham's Survey<sup>3</sup> of 1986 (grey bars).

A lower percentage of the workforce is entering general practice (42% vs. 60% in 1986,  $\chi^2=31$ ,  $p<0.001$ ) and more are entering clinical specialties such as anaesthetics, paediatrics, medicine and surgery.

**When is the career choice made?** 40% of Auckland women graduates had decided on their specialty by the time of graduation, compared with 16% in 1986.<sup>3</sup> The majority (60%) entering surgery had decided by graduation. When 'current career' was compared with 'desired career at graduation' 27 women who originally intended entering medicine or surgery eventually chose an alternative career with sixteen of these becoming general practitioners (GPs).

**Prior qualifications.** 16% of respondents had a qualification prior to commencing Medical School compared with 27% in 1986.<sup>3</sup> 56% of those in emergency medicine had a prior qualification, 31% in radiology and 29% in pathology. This compares with anaesthetics, medicine, obstetrics and gynaecology, paediatrics and surgery where only 5-8% of women had previous qualifications.





**Age.** The median age for all respondents was 37 years (range 26-63) slightly less than that of medical women in the New Zealand workforce as a whole (38 years). The youngest women were those in anaesthetics (33.2 years) with the oldest being GPs (38.7 years) or those working in 'other' fields (38.6 years).

**Ethnicity.** 88% of women identified as European, 3.5% Maori, 5.5% Asian, 1.7% Indian and 1.4% from Pacific Islands. There was a higher representation of Maori and Pacific Island graduates in community medicine than in any other field (37.5%).

**Hours and income (Table 1).** The mean number of hours worked was 42 per week. The mean annual gross income was estimated at \$69 240. Obstetrics and gynaecology and surgery showed the largest increments in income between the early and late PG periods and the least in general practice, community and emergency medicine.

**Table 1. Mean hours and income in early (<10 years) and late postgraduate (PG) periods.**

Specialty	Early PG Mean hrs/wk	Late PG Mean hrs/wk	Early PG Est. income/hr*	Late PG Est. income/hr*
Anaesthetics	55.5	45	\$29.5	\$51
Community	41	35	\$21	\$26
Emergency	44	38	\$24	\$31
General Practice	39	33	\$24	\$28
Medicine	57	41	\$20	\$41
O&G	59	48	\$22	\$65
Paediatrics	51	47	\$22	\$42
Pathology	52	35	\$23	\$47
Psychiatry	52	40	\$25	\$36
Radiology	53	40	\$23	\$41
Surgery	62	50	\$22	\$47
Other	45	24	\$36	\$44
Mean	51	34.5	\$23	\$44

\*Income per hour was estimated from respondents who filled in both hours and income. The gross income was divided by the number of hours worked per week and then by 52 weeks.

**Part time working.** 64% of respondents indicated that they had worked part time (for any reason at any stage) in their career. Those in 'Other' fields (82%), emergency medicine (80%) and general practice (77%) were most likely to have worked part time and those in radiology (31%) and surgery (32%), least likely.

**Job sharing.** Only 37% of all those who had worked part time had job shared. Women in emergency medicine and psychiatry were the most likely to have job shared (86% and 75% respectively). No one in pathology or radiology had job shared and rates were also low amongst surgeons and anaesthetists (17% each).

**Partners.** 82% were currently in a long-term relationship. This compares with 78% in 1986.<sup>3</sup> 37% of partners were also medical graduates. Partners worked longer hours than the Auckland women (50 compared with 42 hours per week).

**Children.** The mean number of children (Table 2) per graduate was 1.4, and 60% of respondents had had children. In 1986, the mean number of children was 1.8 and 48% had children.<sup>3</sup> The mean age at birth of first child was 31 years. For those with children the mean number was 2.3 children. No one in anaesthetics, obstetrics and gynaecology or in psychiatry who was in the first nine years post graduation, had a child. Overall, at least half of the women in each specialty had had a child. 38% of respondents indicated a desire to have more children, especially those working in radiology (63%) and paediatrics (43%). Women with children felt that they contributed 56% of childcare, their partner 22%, paid employment 17%, and extended family 5%. Of these mothers, 88% took maternity leave and 85% returned to work part time. Those women taking time out of the workforce took on average fourteen months off completely and 47 months part-time. Per child, this

equates to six months out of the workforce plus 20 months working part time.

**Job satisfaction and impacts.** Women were asked to rate their job satisfaction from 1 = minimal to 9 = maximal (Table 3). The greatest job satisfaction was reported among those doing community medicine (7.6) and psychiatry (7.3). The lowest rates were found for those in medicine (5.9) and in emergency medicine and general practice (6.2). 91% of those in psychiatry and 88% of those in community medicine said they would choose the same career again. The least likely to repeat were those in emergency medicine (57%) and internal medicine (58%). In all other areas between 60-70% indicated they would have done it again.

On a similar scale, the job's impact on family life was rated as 6.4 with the highest rates amongst the pathologists (7) and surgeons (7.2) and the lowest amongst anaesthetists (5.8). The impact of job on timing and number of children (5.9) was also reported as greater amongst those in pathology (7.8) and lowest in community medicine (5), and general practice (5.3).

The impact of family on career choice was overall reasonably low (5.6) but higher amongst those in general practice, community medicine and emergency medicine, and very low in obstetrics and gynaecology and psychiatry.

## Discussion

This survey includes responses from over 300 women medical graduates - 13% of all New Zealand women graduates in the time period. The major changes in practice from 1986<sup>3</sup> include a significantly smaller proportion of women in general practice and more in specialties such as anaesthetics, paediatrics, medicine and surgery. This is consistent with recent trends in New Zealand workforce data (which includes data from both New Zealand and overseas graduates) showing that women continue to choose to work in general practice more than men do, but there are signs they are moving into other specialties in greater numbers.<sup>1</sup>

Maori and Pacific Islands women each currently make up less than 1% of the total medical workforce, yet in this survey they make up 3.5% and 1.4% respectively. At University of Auckland in 2000, they made up 5% and 3% respectively of medical undergraduates (data supplied by Faculty of Medical and Health Sciences University of Auckland).

The majority of women have managed to combine a career with family life. Compared with 1986, a larger number of women are having children,<sup>3</sup> although family size is smaller. The majority of women indicated that they had worked part-time at some time in their career, and those with children had taken a mean of six months out of work per child. These data complement the MCNZ data for the New Zealand medical workforce which shows that overall, women work about ten hours per week less than their male colleagues, although this still equates to 1.03 FTE.<sup>1</sup>

Overall, the women in this survey seemed satisfied with their career choices although there were differences reported between specialties. There were no strong trends in the data to explain these differences although those careers with a greater subjective job impact on the family tended to have lower satisfactions scores. Psychiatrists were the most positive that they would choose the same career again. Those women in medicine and paediatrics were among the least satisfied and there was a significant change in career path for a number of women who initially contemplated a career in medicine or surgery.

64% of respondents completed an estimate of their annual income over the past five years. Because it is not complete we believe that it can be taken as an indication only and may represent an underestimate as those who earn more may have felt a need not to disclose this, and some may have used their



**Table 2. Timing and numbers of children by specialty.**

Specialty	Number (%) of Total	% with children	% of Early PG	% of Late PG	Mean age at birth of first child	Mean number of children
Anaesthetics	16 (5.2%)	38%	0%	100%	32	0.7
Community	8 (2.6%)	75%	50%	100%	31.5	1.9
Emergency	10 (3.3%)	60%	50%	67%	31.5	1
General Practice	127 (41.6%)	78%	55%	90%	30	1.8
Medicine	31 (10.2%)	42%	14%	75%	31	1
O&G	14 (4.6%)	64%	0%	89%	31	1.5
Paediatrics	23 (7.5%)	26%	8%	50%	33	0.4
Pathology	7 (2.3%)	57%	25%	100%	32	1.3
Psychiatry	13 (4.3%)	39%	0%	83%	30	1
Radiology	14 (4.3%)	36%	13%	80%	33	0.8
Surgery	19 (6.2%)	32%	17%	57%	33	0.7
Other	22 (7.2%)	82%	71%	86%	29.5	2.1
Mean		60%	41%	88%	31	1.4

The mean number of children is divided by all women in that specialty group.

**Table 3. Job satisfaction and impact on career and family.**

Specialty	Job satisfaction	Impact of job on family	Impact of job on timing/no of children	Impact of family on career choice
Anaesthetics	7.2	5.8	6.0	4.6
Community	7.6	6.4	5.0	7.0
Emergency	6.2	6.8	6.8	6.9
General Practice	6.2	6.0	5.3	6.4
Medicine	5.9	6.9	6.7	5.3
O & G	7.2	6.8	6.8	2.4
Paediatrics	6.4	6.7	6.9	4.4
Pathology	6.7	7.0	7.8	4.8
Psychiatry	7.3	6.2	6.6	3.0
Radiology	7.2	6.3	6.2	5.3
Surgery	6.6	7.2	7.5	4.9
Other	7.1	5.9	4.0	6.9
Mean	6.4	6.4	5.9	5.6

Subjects were asked to rate job satisfaction and impacts on career and family on a scale of 1 (minimal) to 9 (maximal).

net (rather than gross) income. It is, however, consistent with recent data showing that 46% of New Zealand women GPs earn less than \$40 000.<sup>4</sup> Job satisfaction does not correlate well with income. Those with both the lowest (community medicine) and the highest (obstetrics and gynaecology) estimated hourly rate had the highest satisfaction scores. The jobs which were most influenced by family (community and emergency medicine, and general practice) have some of the lowest hourly rates and the least differential between the early and the late PG period. Women who choose careers to accommodate family needs would appear to have a limited ability to earn sufficiently to pay back student loans compared with their peers who have chosen other specialties. A medical student has estimated that it would take 60 years on a salary of \$60 000 to pay back a \$45 000 loan that had accrued interest at 9%.<sup>5</sup>

School leaver entrants will finish medical school at about age 24 years, by which stage only 40% will have decided on a specialty. However, most will have chosen a specialty before they have their first child at mean age 31 years. The changes in career path, particularly from medicine and surgery to general practice, suggest that there is difficulty in training or job requirements, or in juggling family and training. Despite this, a greater percentage of women are choosing specialties other than general practice, and combining it with family responsibilities. The contributions to family responsibilities were similar to those reported in a survey of Melbourne graduates done in 1987 suggesting that, even

with the change in practice specialties, roles for men and women have not changed much in over a decade.<sup>6</sup>

Women are more likely to remain in the New Zealand medical workforce than men,<sup>1</sup> and will work 42 hours per week on average. Faced with workforce shortages, training agencies and employers must continue to look at the training programmes and jobs with the aim of making them more attractive to women. A list of possible strategies has been outlined previously.<sup>7</sup> Women who work part time should not be seen as any less committed to medicine than full-timers. It is of concern that remuneration for certain specialties that attract a large percentage of women (eg, general practice, community medicine) appears to be very low and remains static over years following graduation.

From this survey it appears important to inform women at medical school and in the early postgraduate years about career choices and their compatibility with life outside medicine. In addition, initiatives that support more flexibility in training, employment and continuing education requirements would be welcomed. These could include career maintenance options, more part time and job share posts in hospitals, and facilitated reentry to training programmes once children are older.

**Acknowledgements.** Joanna Lawrence was funded by a Medical Council of New Zealand summer studentship. We thank the women who participated in this project, Ms Sue Patullo and Ms Diane Latham MCNZ, Professor David Thomas and Dr Joanna Stewart, Department of Community Health; Ms Rachael Rhodes, Department of Medicine, University of Auckland.





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