

IN BRIEF

- The available dental workforce may not increase in line with the rise in dentists completing undergraduate training.
- Fifty-nine percent of the cohort in this study planned to retire from full-time dentistry before the age of 60.
- Eighteen percent intended to work entirely on a private basis, with only 3% planning to work exclusively within the NHS.
- Today's dental students will give more consideration to their work-life balance when considering their career than in the past.

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CPD PAPER

Senior dental students' career intentions, work-life balance and retirement plans

F. M. J. Stewart,¹ J. R. Drummond,² L. Carson³ and E. D. Theaker⁴

Objective To gather information from senior dental students about their future career plans, with particular emphasis on work-life balance issues, their attitudes towards the NHS and retirement plans. **Method** Senior dental students at the Universities of Dundee and Manchester were asked to complete a voluntary anonymous questionnaire. **Results** In all 141 questionnaires were completed, 42 by students in Manchester and 114 in Dundee. On qualification nearly all surveyed intend to work full time but after five years one quarter (26%) of females intend to work part time. This is significantly ($p < 0.05$) different from males where nearly all (98%) intend to work full time. Although the majority (65%) intend to work in general practice significant numbers (19%) wish to have a career in hospital dentistry and very few (3%) in community dentistry. Senior students seem to show no more commitment to the NHS than those in our previous study of dental school applicants. Only 3% intend to work exclusively for the NHS and 18% intend to work exclusively in the private sector. Surprising numbers had plans to retire or go part time before 60 years of age. Only 20% of the sample intended to continue working full time after the age of 60 years. The mode age that those surveyed intended to start a family was 30 years and a large majority of both sexes thought this would interrupt their professional life. More than half of the sample intend to take time out of dentistry until their children attended primary school (female 63%, male 38%) and 6% (female 6%, male 8%) until secondary school. **Conclusions** Many of our findings suggest that future generations of dentists may have a pattern of professional life that will have the effect of reducing their clinical commitment, although it is not possible to determine how significant an effect this will have on the workforce. It may, however, be appropriate to take career intention into account when workforce planning.

INTRODUCTION

Previously we have reported^{1,2} on the attitudes and backgrounds of applicants to the undergraduate dental courses at the Universities of Manchester and

Dundee. A particular emphasis was placed on discovering motivating factors, the applicants' future career plans, gender differences and how they proposed to address work-life balance issues. The background of the applicants was predominantly from the professional classes with only 22% of the sample coming from a non-professional background. Most commonly, applicants expressed a desire to help people, work with their hands and be involved in health care as the most important motivating factors in deciding to study dentistry. Other factors, such as desiring a secure job and being able to work

independently, were also highly rated. The majority of applicants (65%) intended to enter general practice, 15% hospital practice and 4% community dentistry, the remainder being undecided. Of those interested in a career in general practice, only 3% intended to work exclusively in the NHS, while more than double this number wished to be exclusively private. Around half intended to take time away from dentistry when they had children and 90% thought that childcare should be the responsibility of both partners, although more males than females considered their work-life balance would be only minimally affected by the birth of

¹Lecturer in Restorative Dentistry, ²Senior Lecturer in Restorative Dentistry, Dundee Dental School, University of Dundee; ³Lecturer in Psychology, Division of Psychology, School of Social and Health Sciences, University of Abertay; ⁴Lecturer/Specialist in Oral Medicine, School of Dentistry, University of Manchester
*Correspondence to: Dr Fiona Stewart
Email: f.m.j.stewart@dundee.ac.uk

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children. Applicants surveyed appeared to be committed, even at this early stage, to obtaining postgraduate qualifications, with over 70% of the sample intending to pursue further qualifications.

The attitudes and plans of future generations of dentists are of considerable importance in terms of predicting possible workforce patterns. Without doubt one factor in the UK dental workforce crises has been the change in the gender balance of the profession, as the proportion of women has steadily risen since records began in the 1960s. Currently women comprise 36% of the dentists on the Dentists' Register, compared to 27% in 1995. Certainly the working profile of male and female dentists has been different³ but it is uncertain if this trend will continue.

AIM

The purpose in the present study was to survey senior students studying dentistry at Dundee and Manchester Universities to discover if their attitudes were any different from those who had not yet embarked on the dental course. We imagine that as a dental student progresses towards qualification their early views will be modified by a large number of factors. These might include: contact with dental teachers (both in the primary and secondary care settings), elective studies, both home and abroad, and media/political commentary on dentistry. We would expect that their views might become more discerning, sophisticated and focussed than the ones expressed by the group who had yet to embark on the dental course. It is possible, however, that some of the differences highlighted in this paper might be a reflection of the different cohorts.

STUDY DESIGN

The questionnaire was essentially the same as described in our previous publications^{1,2} except that some additional questions were added in concerning retirement plans in addition to a work/childcare balance scenario. The questionnaires were distributed to 4th and final year students at Dundee and Manchester dental schools. The students were all volunteers, informed about the project, were able to withdraw at any point and were assured about anonymity.

RESULTS

Response rate

In total 141 questionnaires were completed, 27 of 64 (42%) in Manchester and 114 of 116 (98%) in Dundee equating to an overall response rate of 78%. A larger fraction of Manchester students responding would have been preferable to increase the certainty of this being a representative sample.

Given the numbers and ethnic mix of the respondents, for analysis purposes they were grouped as 'white' and 'non-white'.

Differences in responses by gender and ethnic group are only reported where there are significant differences.

BACKGROUND

Twenty-six percent of Manchester students and 77% of Dundee students were ethnically 'white' with the others 'non-white' (chi-squared = 26.103, $p < 0.05$). About 62% were female from each school.

In the study group 23% stated they had a relation who was a dentist, whereas 50% did not. When asked if they had any relations who were doctors, 30% responded in the positive, and 42% in the negative. The remainder did not respond. Seventy-one percent of the respondents came from a background where one or both parents had a professional or managerial role, and were thus classified as middle class (National Statistics Socio-Economic Classification, NS-SEC).

In terms of school attendance, 55% had attended a comprehensive school, 17% a grammar school, and 26% had been educated in a private school.

Career choice – pros and cons

Most (82%) were satisfied or extremely satisfied with their choice of dentistry for their career, while 10% were unsatisfied to some extent. Only 7% regretted their career choice for a variety of reasons, including too much pressure/stress.

Most students (63%) felt concerned about the level of personal debt associated with a five year course, and 53% thought it would dissuade others from studying dentistry.

About half (52%) felt they had had to overcome a range of problems with their training or the undergraduate course while they had been a student. A wide variety of problems were cited, the most frequently occurring one being dealing with difficult teaching staff (6%),

followed by lack of clinical experience (4%), financial worries (4%) and lack of confidence (4%). Six percent felt they had not had any particular problems.

A further 55% anticipated facing problems as qualified professionals, however 3% did not. By far the most common concern was time management (18%) with fear of litigation (6%) following.

Although some differences were noted in responses between genders and ethnic groups, none was significant due to the small numbers in each category.

When asked whether they thought success was related to ability and luck, 84% felt it was strongly related to ability and 7% felt it was strongly related to luck. Ninety-four percent stated they were at least moderately confident they could achieve their personal goals. Overall 84% agreed that men and women were equally likely to succeed in dentistry. Females were more likely to disagree with this idea (16% compared to 4% of males), however that effect just failed to meet statistical significance (chi squared = 6.833, $p = 0.077$).

Twenty-three percent of the respondents felt that males had an advantage over females in dentistry since they did not take maternity breaks or have the same family responsibilities. However, 28% felt that females had the advantage in that they were more gentle and sympathetic, and females and children tended to be more comfortable being treated by a female dentist. Significant variation was seen between the responses of the two sexes when asked about the advantages of being female in dentistry. Sixty-two percent of males and 36% of females thought there were no advantages at all. Female students felt more strongly that other females and children were more comfortable with a female dentist (15% compared to 7% of males) and that females were more gentle and sympathetic (28% females and 12% males) (chi squared = 13.241, $p < 0.05$).

Anticipated work pattern

Immediately after completing vocational training, 99% planned to work full time. Differences became apparent between the sexes when they were asked about their anticipated working hours five years into their careers. While 98% of males planned to work full time, over one quarter (26%) of women anticipated

working on a part time basis (chi squared = 13.172, $p < 0.05$).

Salary expectations were grouped into bands of £5,000. There was general agreement between the sexes that just after completing VT they would earn in the region of £30,000 per annum. Later in their careers however there was a difference and males felt they would earn a mode of £50,000 and median £57,500, compared to females earning a mode of £50,000 and median £45,000.

Although non-white students felt they would earn slightly less initially (mode £25,000, median £30,000), there was a trend for them to expect to earn more as experience increased (mode £60,000, median £57,500) compared to whites where both mode and median were £50,000.

Career plans

The majority of students (65%) intended to enter general dental practice (GDP), while 19% would plan to work in the hospital dental service (HDS) and 3% community dental service (CDS). Around half (47%) of the cohort intended to do Vocational Training (VT), while 10% anticipated doing General Professional Training (GPT). A further 13% were undecided while the remainder did not respond. Ninety percent of the students considered themselves aware of available career paths.

The figures in Table 1 showing responses by gender were not significant due to the small numbers in the community dental service groups. Further breakdown of the data showed twice the proportion of non-white ethnic groups intended to enter the CDS, but again this was not significant due to the numbers involved.

The questionnaire asked whether respondents planned to work as an associate or partner in GDP. Fifty-four percent responded and the results are shown in Table 2, along with those from a previous survey of entrants to dental school, carried out in 1998 and 1999.

Significant variation was found between responses compared by ethnic groups and by gender, and these are summarised in Table 3. Eighty-three percent of the 'white' students anticipated entering general dental practice as an associate before buying a partnership in the future, while 15% planned to remain working as an associate. A

Table 1 Career paths – percentage of respondents (n)

	Males (n)	Females (n)
General dental practice	82% (41)	67.6% (50)
Community dental service	2% (1)	4.1% (3)
Hospital dental service	16% (8)	25.7% (19)

Table 2 GDP career plan – percentage of respondents (n)

	Current survey 53.9% response rate	Previous survey 58.9% response rate
Remain as an associate	23.7% (18)	6.6% (17)
Start as an associate then buy a partnership	75% (57)	86.8% (223)
Look for partnership immediately	1.3% (1)	6.6% (17)

Table 3 Career plans in GDP v ethnic group and gender – percentage of respondents (n)

	White	Non white	Male	Female
Remain as an associate	15.4% (8)	41.7% (10)	11.4% (4)	34.1% (14)
Start as an associate then buy a partnership	82.7% (43)	58.3% (14)	85.7% (30)	65.9% (27)
Look for partnership immediately	1.9% (1)	0% (0)	2.9% (1)	0% (0)

Table 4 NHS/Private work – percentage of respondents (n)

	Current survey 63.8% response rate	Previous survey 57.8% response rate
Totally NHS	3.3% (3)	2.8% (7)
Mixed NHS/private	78.9% (71)	89.7% (226)
Totally private	17.8% (16)	7.5% (17)

further 2% intended to look for a partnership immediately on entering practice. A larger proportion (42%) of the 'non-white' students, however, planned to remain as associates, with 58% looking for a future partnership after starting as associates although none anticipated looking for a partnership straight away.

Responses of males echoed the 'white' group, with 11% remaining as associates, 86% working as associates then partners, and 3% intending to look for a partnership immediately. Females responded similarly to the 'non-white' group, with 34% planning to remain as associates, 66% starting as associates

with a view to future partnership, and none intending to enter a partnership upon completion of training.

Analysis showed ethnic group responses to have chi squared = 6.550, $p < 0.05$, and gender comparison had chi squared = 6.279, $p < 0.05$.

NHS v private practice

Overall 68% responded when asked whether they anticipated working within the NHS or on a private basis, and the responses are shown and compared with the previous survey in Table 4.

Almost all the non-white group planned to work in mixed NHS/private practice

(93%) and the remainder in private practice, but this was marginally not significant (chi squared = 4.946, $p = 0.084$).

Significant variation was found when looking at practising intentions of the two sexes. All the few students indicating an intention to work in purely NHS practices were female ($n = 3$). More females (84%) than males (73%) would work in mixed practice, and more than twice the proportion of males (27%) than females (10%) planned to work on a private basis (chi squared = 6.293, $p < 0.05$).

Retirement

The questionnaire asked at what age the cohort intended to retire or leave full time dentistry, and the largest group selected a time between 56 and 60 years of age (21%). Only 20% planned to work until aged 61-65 years, with the same proportion intending to retire or cut down working between 51 and 55 years. A further 18% wanted to stop working full time in dentistry between 20 and 50 years while the remaining 19% were unsure of their retirement plans.

Following retirement 35% intended to work as a part time dentist, while 14% would do no further paid work. Nine percent stated they would work in another job outside dentistry, either full or part time, and a range of alternatives were mentioned including going into business, voluntary work, doing something artistic and working part time as a dentist and part time in another field. Forty-two percent did not respond.

Significant differences were seen in responses from the two sexes, and these are shown in Table 5 (chi squared = 9.133, $p < 0.05$). Although the majority of both sexes, 51% males and 66% females, intended to work part time in dentistry following retirement from full time dentistry, 23% of the male students would work part time in another job, compared to 2% of the female students. Three percent of the male students and 6% of the females anticipated starting a different full time career. Similar proportions of both sexes (23% males and 26% females) stated their intention to do no further paid work.

Domestic life

Respondents cited the age range of 22 to 37 years for starting a family, with 28% giving the mode age of 30 years, and 65% selecting between the ages of 27

and 30. Although the non-white ethnic groups tended to favour slightly younger ages, this was not significant.

Overall 79% felt that childcare should be shared equally between both parents, with a further 12% thinking it ought to be the responsibility of the mother. No significant difference was seen between the sexes, although 10% females compared to 6% males felt childcare should be undertaken by someone else, eg grandparents or a nanny. Many students favoured sharing childcare, with around 80% selecting this option. There was a tendency for slightly more non-whites (15%, 10%) thinking that childcare should be carried out by the mother (chi squared = 1.964, $p = 0.374$).

Children and careers

When asked how much time the cohort would take out of their career to concentrate on childcare, 6% said they would take none at all, while 30% would take the minimum possible time. The majority, 53%, planned to take time out when children were of pre-school age and a further 6% would not work until children were at secondary school. Two percent stated they would remain at home until children were fully independent.

Although out with the level of significance, some differences were seen in responses from males and females and these are shown in Table 6 (chi squared = 10.219, $p = 0.069$). Eleven percent of male students stated their intention to take no time out at all when they had children, as did 3% of the females. The majority of females, 63%, planned to take time out until children went to school, although 25% said they would take the minimum time out. Equal proportions (37%) of males said they planned to take either the minimum time out, or while children were of pre-school age.

Variation in response was also noted between ethnic groups, with 27% of white students planning to take the minimum time out compared to 37% of non-whites. However, 62% of whites intended taking time out until children went to school, while 37% of the non-white groups would do the same. Eleven percent of the non-white students planned to take time away from work until children went to secondary school compared to 4% of the white group. This variation was not statistically significant (chi squared = 9.106, $p = 0.105$).

Effect of children on career

Thirty-one percent felt that a child would have a considerable effect on their career, 34% thought the effect would be moderate, while 31% indicated it would only have a slight effect. Five percent of the cohort stated having a child would have no effect on their career at all.

Significant differences were seen in responses when compared by gender with females thinking their career would be more affected than males (chi squared = 11.810, $p < 0.05$). The responses are shown in Table 7.

Although the non-white ethnic groups tended to think a child would have less effect on their career than the white group, this was not statistically significant.

The questionnaire contained a scenario with a couple, both partners in a dental practice, who have just discovered the female is pregnant. It asked the respondents what working arrangement they would adopt six months after the child was born. Six options were given, and the most popular, selected by 39%, was the male would work full-time and the female work part-time, with a part-time nanny. This was closely followed by 38% choosing to share the work and childcare between the couple. The next most frequently chosen option (11%) was that the male would work full-time and the female would undertake all the childcare.

No significant differences were seen in responses by the two ethnic groups or genders, although there was a tendency for more males than females to want to share the work and childcare while more females than males preferred the woman to work part-time, and the man full-time.

Effect of taking time out of a career

About half of our sample (48%) thought that taking time out of a career would have a negative effect on it, 28% were neutral and 23% felt it would not have a negative effect.

Slightly fewer females expressed a concern that it would have a negative effect and more disagreed, but this was not significant.

Effect on children on mother working

A relatively small proportion (16%) thought that a mother working part-time would affect their pre-school child negatively, while 53% disagreed. The

remaining 31% gave a neutral response.

Slightly more of the non-white students tended to agree, but this was not significant.

A larger percentage (67%) felt that where a mother worked full-time it would have an effect on a pre-school child. A further 12% were neutral in their response while 21% disagreed.

More non-white students tended to agree with the statement, as did more males, but neither was significant.

Childcare availability

Overall 37% felt there was not enough childcare outside the home for working parents whereas 26% thought there was enough.

Sixty-eight percent agreed that the Government should increase its responsibility for childcare for working parents. Eleven percent disagreed with this statement and 20% remained neutral.

DISCUSSION

Comparing senior students' responses to various questions with those from the previous survey of dental school applicants generated some interesting findings. Many of the differences noted could be attributed to increased exposure to the realities of dentistry as a profession and contact with practitioners of dentistry, as well as the students' own developing maturity.

While 40% of the applicants had expressed concern regarding the level of personal debt associated with a five year course, this proportion rose to 63% of final year students. With this in mind, it was perhaps unexpected that financial worries were not the principal problem the students reported having overcome during the course, but rather dealing with staff perceived to be awkward or difficult was more of a concern. Almost one third of the applicants, however, had anticipated that financial issues would be their main worry as a student. Another major concern (25%) was the heavy workload that the students expected during the dentistry course.

When asked about problems they envisaged facing once qualified, the main worry for the applicants had been treating difficult or nervous patients (14%) followed by stress and/or pressure (12%). The focus for the students, however, was time management (18%) and the fear of litigation (6%). Stress

Table 5 Retirement plans – percentage of respondents (n)

	Male	Female
Do no further paid work	22.9% (8)	25.5% (12)
Work as a part time dentist	51.4% (18)	66.0% (31)
Work part time in another job	22.9% (8)	2.1% (1)
Start a new full time career outside dentistry	2.9% (1)	6.4% (3)

Table 6 Time out of career to concentrate on childcare – percentage of respondents (n)

	Male 37.9% response rate	Female 62.1% response rate
Not at all	11.3% (6)	3.4% (3)
Only for the minimum possible time	37.7% (20)	25.3% (22)
When children are pre-school age	37.7% (20)	63.2% (55)
Until children are at secondary school	7.5% (4)	5.7% (5)
Until children are fully independent	3.8% (2)	1.1% (1)
Other	1.9% (1)	1.1% (1)

Table 7 If you had a child, how much would it affect your career? – percentage of respondents (n)

	Male 38.3% response rate	Female 61.7% response rate
Not at all	5.6% (3)	4.6% (4)
Slightly	44.4% (24)	21.8% (19)
Moderately	29.6% (16)	36.8% (32)
Considerably	20.4% (11)	27.6% (24)
Dramatically	0% (0)	9.2% (8)

and/or pressure were cited as the principal reasons why 7% of the students regretted their choice of career, although 82% were generally satisfied with their decision to study dentistry.

Gender issues in dentistry

In the previous study of applicants to the dental course, 5% felt males had an advantage over females in that their careers would not be affected by children ie maternity/career breaks and part time working. Responses to the same question by the students showed 23% felt males had the advantage over females for simi-

lar reasons. This may again be echoing the situation they have come across in general dental practice visits and more exposure to working within the profession.

Work pattern

Almost all (99%) of the final year students proposed to work full-time when they complete Vocational Training (VT), a higher figure than the 91% found in the previous study.

The questionnaire for the final year students also included a question regarding work plans five years into their career, and 98% of males intend to work

full-time at that stage in their career along with 74% of females. A recent study of Scottish GPs and Community Dental Practitioners (CDPs) found that in fact 62% of GPs worked the equivalent of full-time, with half of females and over one quarter of males working fewer hours. In addition, 57% CDPs worked on a full-time basis with the remainder working fewer hours.⁴

Previous studies have demonstrated that up to 15% of males work part-time in general dental practice, in addition to 54% of females⁹.

It may be the case that more recent graduates will change from the previous work pattern with a greater proportion working full-time, but this may be counter balanced if 25% females work part-time, and the proportion of women in the dental workforce is currently 38% and rising, given the proportion of female new registrants with the GDC in 2006 was 53%.

Official figures for Scotland show that 84% of NHS dentists work in the GDS, with 12% in the HDS and a further 14% in the CDS.⁸ The current study, however, found similar figures to those given by the dental school applicants in relation to which areas of dentistry the respondents intended to enter and these were in line with previous work carried out in Scotland.⁵ Almost one quarter do not intend to become a partner in practice, but would prefer to remain as an associate. This proportion rises to one third of females and over 40% of non-white ethnic groups. This view may have developed as a result of increased time spent in general dental practice during training, and the appreciation of how much additional work is required in running a practice and meeting the current legislation and health and safety requirements.

NHS v private practice

A surprising percentage (18%) stated a preference to work entirely on a private basis, with only 3% planning to work exclusively within the NHS. The figure for private work had risen from 3% when the applicants to dental school were surveyed. This must be a concern for NHS treatment provision and public accessibility to dental services, particularly when Department of Health figures estimate an undersupply of dental manpower of 20-27% in relation to demand by 2021.⁶ These official figures

take into account the increase in work undertaken by therapists and hygienists over the time period. The problem may be slightly alleviated by the finding that more females planned to work in mixed practice and fewer (10%) exclusively privately. However, any shift away from NHS practice by younger dentists would have a considerable effect on the modelling systems used for predicting the supply of dentists for future treatment provision.

Retirement

Little research has been done with regard to retirement plans of dentists in the UK.^{4,7} Such surveys that have been completed suggested that between 16% and two thirds of GPs planned to retire before they were 60. Similarly the current study found 59% intended to retire from full-time dentistry before this age; however, 35% would continue to work on a part-time basis. While the projections of the Department of Health took into account the trend for dentists to work fewer hours, they did not include provision for early retirement on such a scale as current research suggests.⁶ This will exacerbate the workforce problems even further in the future.

Since this study was carried out, the Government have announced changes to the UK pension scheme, and, from 2020, both women and men will need to work until 65 years old in order to receive their state pension. It is uncertain how this would affect the responses of students now.

Domestic life

Although 79% of the students felt childcare ought to be shared equally between parents, when presented with a specific hypothetical family scenario in which both parents were full-time dentists, only half of this number selected the 'shared equally' option for domestic work and childcare. A slightly higher percentage – around half the students – chose the more traditional 'male working full-time and the female part-time with the help of a part-time nanny' option. It would appear that views expressed in isolation about childcare were somewhat idealised. The proportion of students (between 10 and 12%) who thought that mothers should undertake all the childcare and not work remained constant regardless of the particular form of the question.

Career breaks

Over half of the cohort stated they would take time out of their career when children were of pre-school age and almost half of those questioned felt that taking time out would have a negative effect on their career. Although a similar proportion of the dental school applicants had stated their intention to take time out, many fewer had predicted that it would have a negative effect on their careers.

From these results, however, it would appear that the current students are willing to sacrifice their career to some extent to concentrate on childcare, particularly in the early years of a child's life.

While these groups of students expressed the reported intentions, these will be influenced by secular trends and legislation at the time. For example, a male student may have every intention of taking time off when their child is born, but, at this time, they are only entitled to one month paid paternity leave while women get six months' paid maternity leave.

Cultural differences may have affected responses to some of the questions, although 91% of the students resided permanently in the UK, with the remainder expected to return to their home country upon completion of their studies.

The poor response rate in Manchester may have led to a misrepresentative sample of student views and intentions, so this must be taken into consideration when drawing out conclusions. In addition, because this was a prospective study, the relationship between intention and actual behaviour may not collate.

However, the findings of this study are of relevance in terms of planning a future dental workforce. They indicate that the plans senior dental students have for their future careers may well reduce the 'supply side' of the workforce equation. This is particularly true with respect to their intentions regarding NHS work, childcare arrangements and retirement plans. Of course, it is possible that some of these plans will be modified. However, it seems likely that younger dentists will take a different approach than their predecessors to their professional life and in particular to issues of life-work balance. In our view it is important to continue to monitor the views, intentions and expectations of students and dentists apart from simply adopting a headcount based approach

when engaged in dental workforce planning. It is disappointing therefore that a recent report on dental workforce ignores such factors and adopts a basic metric approach.⁸

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