

Factors associated with the recruitment and retention of dentists in the public sector

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Keywords

dental workforce; recruitment; retention; job satisfaction.

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Received: 3/14/2009; accepted: 8/24/2009.

doi: 10.1111/j.1752-7325.2009.00153.x

Abstract

Objectives: There is an increasing demand for public dental services in Australia, with many community dental clinics unable to meet this demand because of an inadequate number of dentists in the workforce. The aim of this study was to identify factors contributing to the recruitment and retention of dentists in the public sector.

Methods: A postal questionnaire survey of 180 dentists (response rate 75.6 percent) working in the Victorian public sector was undertaken to investigate the characteristics of public sector dentists, job satisfaction, remuneration, perceptions of public dentistry, future career intentions, and issues that relate to recruitment and retention of staff.

Results: Victorian public dentists' main reason for entering the public sector was to work in a community-based setting in a supportive and mentored environment. The main factors related to dentists leaving the public sector were poor remuneration, lack of clinical experience, and frustration with administrative policies. Victoria's oral health workforce shortages in the public sector are mainly attributed to retention issues. The potential for mentoring and a desire for helping those in need were factors attracting dentists to work in the public sector.

Conclusion: There was a disproportionate number of female dentists in the public sector compared with the general population, and female dentists had a lower mean salary than male dentists regardless of experience. A range of factors were associated with retention, and gradual frustration because of poor remuneration and lack of professional autonomy were significant reasons for the decision to leave the public sector.

Introduction

Public dental services across Australia are facing major challenges, with an increasing demand for services compounded by dental workforce shortages, particularly in rural areas, leading to adverse effects on the delivery of services and long waiting times. In Victoria, approximately one-third of the population of more than 5 million people are eligible for public dental services, but only about 10 percent of dentists work in the public sector (1). Although more than 320,000 public patients were treated in Victoria in 2007-2008, there were more than 110,000 people on waiting lists, and the average waiting time for general dental care was more than 17 months (2). Public dental patients have significantly poorer

oral health outcomes than nonpublic patients, with nearly twice the prevalence of dental caries, a greater prevalence of periodontal disease, and three times as many having fewer than 21 teeth compared with the general population (3). This situation is likely to worsen, with the demand for dental services in Australia exceeding the ability of the workforce to meet that demand, with a shortfall of approximately 2.2 million visits or 800-900 dental personnel by 2020 (4).

There are numerous studies exploring job satisfaction of health professionals in the public sector; however, there has been limited research into job satisfaction in relation to recruitment and retention of dentists in the public sector in Australia. Remuneration (5), range of clinical work (6), and variety in the available treatment options (7) have been

shown to impact on job satisfaction of doctors and dentists. Additional factors, such as lack of career structure (8); limited autonomy; time management; increased workload without flexibility; and a lack of organizational and professional support, task variety, respect, and recognition (9), all contribute negatively to job satisfaction. Among the medical workforce, factors that are associated with length of practice include problems with the inability to get time away for recreational leave, spouse's ability to find employment, and children's education (10).

There are further problems facing recruitment and retention of health professionals in rural and remote areas, and these are often areas where workforce shortages are most acute. Financial incentives, lower cost of living, and government incentives to remain in rural areas are measures that have been shown to impact on allied health workforce recruitment and retention (9). However, the lack of education opportunities for children, and the need to be closer to other family members, better employment opportunities, and financial reasons factor heavily into the decision to leave rural practices (9). Professional autonomy and flexibility of work arrangements were identified as factors that may influence job satisfaction for dentists working in the public sector in rural Tasmania (11), while in rural Western Australia, the high level of demand for emergency episodic care had constraints on the autonomy and work satisfaction of dentists (12).

In the United States, salary and benefits were considered important factors by dentists, yet they were not major determinants in retaining staff in community health centers (13). Factors that were associated with the retention of American public sector dentists included freedom to exercise professional judgment, the availability of specialist referral options, and the level of cooperation from the administration and the board of directors. More importantly, personal perceptions toward those who are less fortunate were a key to recruitment and retention. Dentists who expressed an altruistic motivation to treat the underserved were more likely to continue to practice in community health centers. However, retention also depended on a dentist's ability to adapt to the specific community health care system of service delivery. Retention increased with more years of experience and length of service in the public sector. Other factors, such as the quality of the dental facility, number and quality of assistants and other day-to-day operating activities, recreational leave, continuing education allowances, and insurance coverage did not significantly impact on the retention of staff in community health centers. Student loan repayment appeared to be the least effective means of retention, with dentists who ranked loan repayment highly as a reason for initially choosing employment in community health centers being approximately five times more likely to report an intention to leave the community health center setting. In Britain, the most common

reasons for dentists moving from the public to the private sector were to improve the quality of work, having more choice for treatment and clinical decision making, and increasing time for patient treatment (14).

It is important to understand the factors that are associated with the recruitment and retention of dentists in the public sector in order to ensure that the public system is able to cope with the increasing demand for services. The aim of this study was to identify factors that may contribute to the recruitment and retention of dentists in the public sector in Victoria.

Methods

A cross-sectional survey of dentists working in the public sector in Victoria, Australia was undertaken by means of an anonymous, self-administered postal questionnaire between May and July 2008. The questionnaire was designed to investigate the characteristics of public sector dentists, practice characteristics, job satisfaction, remuneration, perceptions of public dentistry, future career intentions, and issues that relate to recruitment and retention, and was based on a previous study undertaken in the United States (13). A pilot study was then conducted involving four public dentists, and the questionnaire was refined accordingly.

Data were collected from a sample population consisting of all dentists currently working in public dental clinics in Victoria. A register of all practicing dentists was obtained from the Dental Practice Board of Victoria, and cross-matched with the addresses of all the public dental clinics in Victoria. Academic staff and postgraduate dental students were excluded from the sample. There were 70 public dental agencies and 325 dentists registered with a public sector practice address.

Each subject was sent a plain language statement, a questionnaire, and a return envelope. The questionnaire consisted of 32 questions relating to recruitment and retention in the public sector. Questions related to choosing to commence working in the public sector and deciding to remain or leave gave a range of responses, and the participants were asked to respond on a 5-point Likert scale (strongly disagree to strongly agree, or not important to very important). Three weeks after the initial mail-out, the nonrespondents were identified and sent a reminder letter. Three weeks after the reminder letter was sent, the nonrespondents were sent a final reminder letter and another copy of the questionnaire. The data were analyzed using the statistical software programs SPSS Statistics version 16.0 (SPSS Inc., Chicago, IL, USA). Univariate statistics and bivariate analysis [analysis of variance (ANOVA), *t*-tests, and chi-square tests] were used to describe various aspects of job satisfaction, and reasons for recruitment and retention in the public dental sector. Logistic regression analysis was used to model the reasons why dentists choose to remain in the public sector. For the bivariate and logistic regression, responses of good/very good, agree/strongly agree,

and important/very important on the 5-point Likert scale questions were combined to indicate agreement with the particular statement. The project was approved by the University of Melbourne Human Research Ethics Committee.

Results

A total of 180 dentists returned useable questionnaires, with a further 87 returned as no longer practicing in the public sector, giving a response rate of 75.6 percent. Almost 60 percent of the samples were female, and male dentists (mean 43.6 years) were significantly older than female dentists (mean 36.1 years) ($F = 37.7$, $P < 0.001$) (Table 1). Younger dentists were more likely to have been born overseas and to have worked at least part-time in the public sector on graduation. The majority of dental specialists were male, and 63.2 percent of specialists were born in Australia, compared with only 23.3 percent of general dentists ($\chi^2 = 13.54$, $P < 0.001$). Currently, 66.3 percent of the female dentists were working solely in the public sector compared with only 50 percent of the male dentists ($\chi^2 = 4.80$, $P = 0.029$).

Forty-two percent of public sector dentists had graduated from dental school in the past 10 years, and 37.8 percent had

been working in the public sector for less than 3 years. Two-thirds of dentists were working in staff dentist positions; however, 52.1 percent of male dentists were working in senior dentist positions compared with only one quarter of female dentists ($\chi^2 = 13.60$, $P < 0.001$), and 60 percent of senior positions were filled by males.

Male dentists earned significantly more than females, regardless of their age, level of experience, or qualification. The full-time equivalent (FTE) salary for male general dentists was \$90,623 compared to \$75,584 for female dentists ($t = 3.77$, $P < 0.001$), while male specialists (\$177,444) were paid more than \$40,000 per year more than female specialists ($t = 1.88$, $P = 0.102$). The mean FTE salary increased with increasing experience in the public sector for both genders.

Dentists who worked solely in the public sector worked significantly fewer hours (29.1 hours per week) than those who worked in both the public and private sector (39.9 hours per week), suggesting that dentists who worked solely in the public sector did so on a part-time basis ($t = -4.77$, $P < 0.001$). Nearly one quarter of dentists' clinical time was spent dealing with emergency procedures and completing routine restorative procedures, with very little time spent undertaking preventive or periodontal procedures, fixed

Table 1 Sociodemographic and Employment Profile of Victorian Public Sector Dentists (%)

	<30 years (<i>n</i> = 58)	31-40 years (<i>n</i> = 50)	41+ years (<i>n</i> = 70)	Total (<i>n</i> = 178)
Male*	39.7	24.0	57.1	42.1
Female	60.3	76.0	43.5	57.9
Born in Australia†	24.1	10.0	44.1	27.8
Born overseas	75.9	90.0	55.9	72.2
General practitioner‡	100.0	100.0	72.9	89.3
Specialist	0.0	0.0	27.1	10.7
Dental degree from Victoria¶	64.9	26.0	38.6	43.5
Dental degree from Australia	3.5	10.0	12.9	9.0
Dental degree from overseas	31.6	64.0	48.6	47.5
Employment in the first 12 months§				
Public only	41.4	58.0	44.9	47.5
Private only	17.2	24.0	31.9	24.9
Both	41.4	18.0	23.2	27.7
Current employment				
Public only	53.4	56.3	65.7	59.1
Both	46.6	43.8	34.3	40.9
Years working in the public sector•				
<3 years	77.8	32.7	14.5	39.5
4-10 years	22.2	55.1	15.9	29.1
11+ years	0.0	12.2	69.9	31.4

* $\chi^2 = 13.36$, $P = 0.001$.

† $\chi^2 = 17.29$, $P < 0.001$.

‡ $\chi^2 = 32.82$, $P < 0.001$.

¶ $\chi^2 = 18.96$, $P < 0.001$.

§ $\chi^2 = 10.58$, $P = 0.032$.

• $\chi^2 = 102.59$, $P < 0.001$.

Table 2 Time Spent by General Dentists Performing Different Procedures (%)

Procedure	Male (n = 64)	Female (n = 97)
Routine restorative*	25.5	30.4
Emergency	23.4	23.5
Examination	14.9	12.5
Oral surgery	10.1	8.5
Preventive/periodontal†	8.3	11.4
Endodontic	8.1	8.1
Removable prosthodontic	4.5	4.5
Aesthetic/cosmetic	4.2	4.6
Crown and bridge	1.5	1.1

* $F = 4.13$, $P = 0.044$.† $F = 6.45$, $P = 0.012$.

prosthodontic treatment, or cosmetic dentistry (Table 2). Female practitioners spent significantly more of their clinical time performing preventive and periodontal procedures, and routine restorative procedures compared to males, while males spent more time performing oral surgery and aesthetic dentistry.

Only 43.8 percent of practitioners felt that they were completely free to exercise their professional clinical judgment in

the treatment of public patients, with 86.2 percent of dentists feeling constrained by budgetary issues involving laboratory procedures, materials, and equipment. A further 54.3 percent cited a lack of cooperation from community health center administration, and 54.3 percent were concerned with the poor availability of specialist referral options for their patients.

The respondents appeared to be generally satisfied with their practice environment, with 50-60 percent of respondents rating most aspects of their surgery, the number of dental assistants, and quality of administrative staff as good or very good. However, 70.1 percent rated the utilization of dental hygienists as poor or very poor, and nearly half felt that surgery design, utilization of dental therapists, or the number of administrative staff was good or very good.

The reasons for initial recruitment into the public sector were varied, and there did not appear to be one single factor that was strongly associated with this decision (Table 3). While more than 60 percent of respondents indicated that clinical experience, professional support and mentoring, and wanting to work in a community-based setting were important, many of the other proposed factors did not receive strong support. Dentists who initially worked solely in the private sector on graduation, then

Table 3 Reasons for Initial Decision to Work in the Public Sector (% Important/Very Important)

Reason for initial decision	Male (n = 64)	Female (n = 97)	Dentist (n = 11)	Specialist (n = 8)
Wanting to make a difference	58.3	54.2	54.7	66.7
Professional support/mentoring	50.7	63.4	55.1	83.3
To improve oral health of a community	51.4	52.5	54.2	33.3*
Wanted to practice dentistry in a community-based setting	49.3	60.6	58.4	31.3
To gain clinical experience	48.6	62.4	56.4	58.8
Interested in public health	47.9	47.5	47.4	50.0
Altruistic factors	48.5	45.3	47.8	38.9
Wanted to work in a multidisciplinary environment	45.1	58.6	50.6	75.0
Less stressful environment than private practice	39.7	45.9	47.1	11.1†
Focus on prevention and health promotion	34.3	46.9	42.1	37.5
Interested in mentoring undergraduate students	31.9	28.7	26.8	58.8‡
Clinic facilities and infrastructure	27.8	32.3	32.0	16.7
Access to salary packaging	24.3	34.0	30.5	25.0
Career opportunities	23.6	27.7	25.6	29.4
Location of clinic	18.1	40.6¶	32.1	23.5
Workplace flexibility	19.4	30.0	26.5	17.6
Interested in research	10.0	21.6	13.9	43.8§
Remuneration	11.0	12.1	11.7	11.1
Other financial incentives	11.1	9.4	11.3	0
Dissatisfied with private practice	12.9	13.3	13.2	12.5

* $\chi^2 = 8.35$, $P = 0.015$.† $\chi^2 = 11.53$, $P = 0.003$.‡ $\chi^2 = 12.08$, $P = 0.002$.¶ $\chi^2 = 10.64$, $P = 0.005$.§ $\chi^2 = 9.30$, $P = 0.010$.

Table 4 Factors Affecting Decision to Leave the Public Sector (% Important/Very Important)

Factor affecting decision to leave	Male (n = 64)	Female (n = 97)	Dentist (n = 11)	Specialist (n = 8)
Poor remuneration	70.8	77.9	76.5	50.0
Frustration with public dental policies	71.7	56.8	60.9	100.0
Broader clinical experience in private sector	55.3	66.7	64.1	20.0
Limited career opportunities	48.9	56.2	53.9	40.0
Long waiting lists	45.5	40.8	41.8	60.0
Lack of clinical freedom	39.1	45.2	43.9	20.0
Focus on emergency treatment	37.0	29.6	33.6	0
Limited range of dental materials and equipment	34.8	35.6	35.1	40.0
Lack of flexibility	32.6	26.8	29.5	20.0
Poor facilities/infrastructure	26.1	22.9	22.5	60.0
Limited access to CPD	19.1	25.0	22.8	20.0

moved into the public sector later in their career were less likely to do so for clinical experience ($\chi^2 = 20.07$, $P = 0.010$) or professional support and mentoring ($\chi^2 = 16.40$, $P = 0.037$) than dentists who went into the public sector immediately after graduation.

Only 32.8 percent of respondents reported an intention to remain working in the public sector, with 33.9 percent unsure and 33.3 percent intending to leave in the near future. Female dentists were more likely to be unsure about their future career in the public sector, with only 28.4 percent intending to remain and 29.4 percent intending to leave, compared with 38.7 percent of male dentists intending to remain and 38.7 percent intending to leave ($\chi^2 = 7.34$, $P = 0.026$). Older dentists were significantly more likely to indicate an intention to remain in the public sector, with 44.3 percent of those aged 41+ years intending to remain compared with 25.7 percent of dentists aged less than 41 years of age ($\chi^2 = 6.57$, $P < 0.038$). For dentists who indicated that they were considering leaving the public sector in the near future, the most important reasons cited were poor remuneration, frustration with public dental policies, and broader clinical experience in the private sector (Table 4). Other than the desire to gain a broader range of clinical experience for younger dentists ($\chi^2 = 18.37$, $P < 0.001$), there were no other age-related differences evident in factors affecting the decision to leave the public sector.

There were a number of factors that dentists considered important in their decision to remain in the public sector, with financial considerations often rated the most important (Table 5). Significantly, more females rated increased remuneration, access to specialists, salary packaging, and workplace flexibility as important compared to males, while general dentists rated financial considerations and workplace flexibility as more important factors than specialists. For

younger dentists aged <41 years, 70.4 percent cited increased remuneration as important compared with only 46.4 percent of older dentists ($\chi^2 = 10.52$, $P = 0.032$), 69.8 percent reported other financial incentives as important compared with only 40 percent of older dentists ($\chi^2 = 14.86$, $P = 0.005$), 64.6 percent stated that improved facilities and infrastructure were important compared with only 43.1 percent of older dentists ($\chi^2 = 12.95$, $P = 0.012$), and 61.5 percent reported a desire for more clinical freedom as important compared with 41.5 percent for older dentists ($\chi^2 = 11.11$, $P = 0.025$). When considering workplace flexibility, 77.3 percent of dentists aged 31-40 years regarded this as important, compared with 65.4 percent of dentists aged <30 years, and 50.8 percent of dentists aged 41+ years ($\chi^2 = 10.12$, $P = 0.038$).

There was a significant association between the intention to remain in the public sector, and both age and the number of years working in the public sector, with 51.9 percent of dentists who had worked in the public sector for more than 11 years, indicating an intention to remain compared with only 20.9 percent of dentists with less than 3 years of experience ($\chi^2 = 17.07$, $P = 0.002$). There was also a strong association between mean FTE salary and the intention to remain in the public sector, with dentists who indicated an intention to remain having an average salary of \$95,574, compared with \$85,063 for dentists who were unsure and \$78,846 for those who intended to leave (ANOVA $F = 4.04$, $P = 0.020$).

Bivariate logistic regression analysis found a number of factors that were associated with the decision to remain working in the public sector (Table 6). These included perceived clinical freedom, number of years in the public sector, FTE annual salary, country of birth, and location where primary dental qualification was obtained. There was a strong correlation between country of birth and location of primary dental degree (Pearson's $R = 0.581$, $P < 0.001$), with all of the

Table 5 Factors Affecting Decision to Remain in the Public Sector (% Important/Very Important)

Factor affecting decision to remain	Male (n = 64)	Female (n = 97)	Dentist (n = 11)	Specialist (n = 8)
Altruistic factors	61.5	44.8	52.2	50.0
Access to salary packaging	56.3	81.4§	76.0	27.8•
Access to dental specialists	52.9	66.0¶	61.1	55.6
Workplace flexibility	52.2	71.3∞	66.9	33.3#
Better access to CPD	54.3	63.9	62.0	41.2
Increased remuneration	50.0	69.1*	66.0	17.6†
Professional support/mentoring	50.7	67.3	61.6	50.0
Other financial incentives	50.0	64.5	63.0	17.6‡
Improved facilities/infrastructure	44.9	63.9	56.4	52.9
Broader range of clinical experience	48.5	53.6	52.0	47.1
Improved facilities/infrastructure	44.9	63.9	56.4	52.9
Broader range of dental materials and equipment	37.7	49.5	46.9	23.5
Career advancement opportunities	35.2	51.1	45.9	29.4

* $\chi^2 = 9.26$, $P = 0.010$.† $\chi^2 = 15.07$, $P = 0.001$.‡ $\chi^2 = 16.29$, $P < 0.001$.¶ $\chi^2 = 7.99$, $P = 0.018$.§ $\chi^2 = 12.73$, $P = 0.002$.• $\chi^2 = 18.21$, $P < 0.001$.∞ $\chi^2 = 6.91$, $P = 0.032$.# $\chi^2 = 11.55$, $P = 0.003$.

Australian-born respondents trained in Australia and 64.8 percent of the overseas-born dentists trained overseas. There was also a strong correlation between the number of years working in the public sector and FTE annual salary (Pearson's $R = 0.405$, $P < 0.001$). In the multivariate logistic regression, location of dental degree and FTE annual salary were used as explanatory variables. In the multivariate analysis, dentists who reported that they were completely free to exercise their professional clinical judgment were nearly three times more likely to remain in the public sector, while dentists who earned more than \$95,000 per year were nearly five times more likely to remain than dentists who earned less than \$65,000 per year. Dentists trained in Australia were also nearly three times more likely to remain in the public sector than dentists who were trained overseas. Dentists identified a number of factors that they considered important in their decision to remain in the public sector, including increased access to specialists, more clinical freedom, increased remuneration, salary packaging, and other financial incentives, and these were significant in the bivariate logistic regression. However, none of these factors retained statistical significance in the multivariate logistic regression.

Discussion

The response rate for this study was relatively high; therefore, the opinions expressed could be considered to be representative of the broader public dental sector workforce in Victoria. Although many of the issues facing public sector dentist are

similar across Australia, there are differences in policies and administration across different states and territories, so caution must be exercised in generalizing the results of this study across Australia or indeed international jurisdictions.

Although female dentists comprised only 34.8 percent of all dentists registered in Victoria, they made up 57.9 percent of the public sector workforce, and while 46.8 percent of all Victorian dentists were aged 45+ years, only 39.3 percent of public sector dentists were aged 41+ years (15). There was also a very high proportion of overseas trained dentists currently working in the public sector; however, there are no data available from the Dental Board for comparison with the broader dentist population in Victoria. The high proportion of female dentists aged less than 40 years suggests that employment decisions are made to suit family and lifestyle choices. There were some significant differences between male and female public sector dentists that are likely to play a role in both recruitment and retention, particularly related to remuneration. Male general dentists earned on average 20 percent more than their female counterparts irrespective of age or experience, suggesting an institutional bias toward male dentists. There was also a disproportionate number of male dentists working in senior dentist roles. This lack of financial and professional recognition may play a part in significantly fewer female dentists reporting an intention to remain in the public sector.

The results of this study suggest that the factors relating to recruitment and retention of dentists and specialists in the public sector are complex, and there is no "silver bullet"

Table 6 Logistic Regression: Factors Involved in the Decision to Remain in the Public Sector

	Bivariate			Multivariate		
	OR	CI	P	OR	CI	P
Years in public						
<3 years	Ref					
4-10 years	1.58	0.68-3.66	0.289			
11+ years	4.08	1.84-9.03	0.001			
Has clinical freedom	2.23	1.17-4.25	0.015	2.84	1.09-7.43	0.033
Born in Australia	3.10	1.55-6.18	0.001			
Dental degree from Australia	2.82	1.45-5.48	0.002	2.81	1.03-7.64	0.043
FTE salary						
<\$65,000	Ref			Ref		
\$65,000-95,000	1.41	0.55-3.62	0.480	1.25	0.40-3.98	0.702
>\$95,000	3.77	1.35-10.51	0.011	4.54	1.09-18.84	0.037
Factors important in decision to remain in public						
Increased remuneration						
Not important	Ref			Ref		
Neutral	0.64	0.20-2.07	0.457	0.25	0.02-2.58	0.242
Important	0.32	0.15-0.65	0.002	0.59	0.10-3.47	0.562
Other financial incentives						
Not important	Ref			Ref		
Neutral	1.39	0.49-3.97	0.540	5.24	0.72-38.16	0.102
Important	0.33	0.15-0.69	0.004	1.50	0.23-9.69	0.673
Salary packaging						
Not important	Ref			Ref		
Neutral	0.85	0.27-2.63	0.773	0.32	0.05-1.89	0.207
Important	0.32	0.13-0.77	0.012	0.43	0.11-1.76	0.239
More clinical freedom						
Not important	Ref			Ref		
Neutral	0.41	0.16-1.06	0.067	0.39	0.09-1.69	0.210
Important	0.35	0.15-0.83	0.017	0.39	0.11-1.43	0.157
Access to specialists						
Not important	Ref			Ref		
Neutral	0.25	0.08-0.75	0.014	0.16	0.02-1.17	0.071
Important	0.46	0.21-1.00	0.051	0.75	0.23-2.47	0.633

Nagelkerke $R^2 = 0.349$; Hosmer and Lemeshow test: $\chi^2 = 2.43$, $P = 0.965$.

solution to the problem. There appears to be a significant dissatisfaction within the Victorian public dental sector workforce, with a large proportion of respondents indicating an intention to leave in the near future or uncertainty about remaining. This is of particular concern in a public system that is already struggling to cope with the demands placed on it. This high level of dissatisfaction is in contrast to high levels of reported satisfaction for dentists working in the United Kingdom and the United States (16-18).

This study confirms results from previous studies that suggest that the decision to enter the public sector workforce is not based on monetary rewards or financial incentives, but rather is based primarily on altruistic factors and access to professional support and mentoring (6,13). New graduates sought a supportive clinical and professional environment in order to consolidate their clinical skills while working in a community-based multidisciplinary environment, and are motivated in part by altruistic factors. Although the majority

of dentists currently working in the public sector commenced working in the public sector immediately after graduation, one quarter of dentists initially worked solely in the private sector before moving into the public sector. Therefore, it is important that recruitment measures target not only new graduates, but also more experienced dentists who are perhaps looking for a change in career direction, or who are dissatisfied with private practice.

The results from this and previous studies suggest a high level of turnover in the public dental sector, particularly recent graduates who tended to stay in the public sector for less than 2 years (6). This high turnover, particularly of inexperienced clinicians, is likely to impact negatively on the service provided by the public sector. More than one-third of the Victorian public dental workforce had less than 3 years experience working in the public sector, and it is these junior dentists who were significantly more likely to indicate an intention to leave the public sector. Recent graduates require

some time to consolidate their clinical skills and increase their productivity, and are then lost to the private sector. This high turnover of recent graduates is likely to impact not only on the overall productivity of the public sector, but also place an increasing strain on the few remaining senior dentists who provide the mentoring and support that is often cited as a critical reason for new graduates to enter into the public sector in the first place. Retaining corporate knowledge is also an important consideration for the public dental sector, in order to adequately prepare future senior clinicians and administrators.

While remuneration was not an influential factor in the decision to enter the public sector workforce, it was one of the key issues related to retention of dentists in the public sector. Ninety-five respondents gave additional comments on the need for greater remuneration, and thirty expressed extra concern regarding the importance of extra financial incentives such as salary packaging, bonuses, and travel assistance. The study showed that poor remuneration and access to salary packaging were strongly associated with the decision to remain or leave the public sector, which contradicts the attitudes of public American dentists (13). Remuneration has been linked to job satisfaction (5), and the present study suggests that poor remuneration is one of the key factors in retention in the public sector. Female dentists were more likely to leave the public sector on the basis of poor remuneration than male dentists, which is not surprising given that their average salary was considerably less than that for males. Financial inequality between public and private dentists is still a very significant factor in the failure in retaining public sector dentists.

It is difficult to determine the relative importance of remuneration and years working in the public sector on retention. Older dentists with more public sector experience had greater income than younger and less experienced dentists, and dentists who have remained in the public sector for more than 3–4 years are likely to be self-selecting for retention in the public sector for a variety of reasons (13). The impact of poor remuneration is more likely to be a critical factor for younger dentists, where the disparity with the private sector is greater. In 2004, the mean salary for self-employed dentists in Australia was \$148,380, significantly higher than \$85,970 reported for public sector dentists in 2008 (19). New dentists in Australia are graduating with increasing levels of student debt not seen more than a decade ago, now often in excess of \$150,000. It is not reasonable to expect that graduates with this level of debt be expected to accept salaries significantly below that available in the private dental sector, and loan repayment schemes seen in other countries may be an appropriate mechanism to address recruitment and retention (13). Experience and length of service in the public sector were strongly associated with an intention to remain in the public sector (13). Silva *et al.* found that while a high proportion of new graduates

worked initially in the public sector, the majority had left after 2 years to work in the private sector (6). This would suggest that the experiences of the first few years in the public sector are critical in determining whether dentists will continue with a career in public dentistry.

There is a perception that public sector dentistry requires a degree of compromise in clinical decision making, primarily related to limited funding and the need to focus on emergency care and the expense of providing more comprehensive preventively focused treatment to public patients (11). The respondents indicated that they spend the majority of their clinical time dealing with emergency care and routine restorative treatment, with very little time performing more complex procedures or aesthetic dentistry. The majority of dentists expressed frustration with public dental policies, and while only one-third of dentists indicated that a focus on emergency treatment and one-half that long patient waiting lists would strongly influence their decision to remain in the public sector, clearly these issues were still a factor.

The ability to exercise clinical judgment appeared to be one of the most significant factors driving the decision to leave or remain in the public sector, and this has been consistently demonstrated in the literature (7,13). Luzzi *et al.* found that public dentists reported significantly lower job satisfaction than their private colleagues in areas related to professional autonomy and treating patients according to the best clinical judgment (5). Public health administrators need to be mindful of this when developing or implementing policies and procedures, which may be designed to improved efficiencies in service delivery or reduce expenditure, but as a consequence may adversely impact on the clinical freedom of the individual dentist.

Gender was an underlying influential theme affecting the retention of staff in the public sector. Shugars *et al.*, and Wells and Winter reported that in the United States, older dentists registered higher overall job satisfaction scores than younger dentists, and lower satisfaction scores among female dentists were related to age rather than gender (17,18). Gilmour *et al.* found no age- or sex-related differences in career satisfaction for UK dentists, but identified lower overall satisfaction among rural dentists, a finding that was not supported in the US studies (16–18). In the present study, female dentists consistently rated factors such as workplace flexibility, remuneration, and other financial issues as more important factors than their male counterparts regardless of age. The Victorian public sector has a disproportionate number of female dentists compared with the general dentist population, suggesting that there are some intrinsic gender-related factors involved in the recruitment of dentists (7). Female dentists are more likely to work part-time and take time out of the workforce to have children (10), and access to a flexible workplace may make the public sector more attractive to female dentists. However, poor

remuneration compared to male dentists with equivalent experience may lead to greater dissatisfaction and a greater impact on retention.

Public policy makers and directors of public dental facilities need to be acutely aware of the importance of clinical freedom for public sector dentists. Policies that limit, directly or indirectly, the ability for dentists to plan and provide the appropriate treatment to patients are likely to have an adverse impact on recruitment and retention of dentists into the public sector.

Acknowledgments

This study was supported by a grant from the Melbourne Dental School, University of Melbourne.

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