Submission
No 65

# INQUIRY INTO DENTAL SERVICES IN NSW


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**Theme**:

**Summary**

# Association for the Promotion of Oral Health

## Submission To The Inquiry Into Dental Services

**By The**

## NSW Legislative Council Standing Committee on Social Issues

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# 1. BACKGROUND

## 1.1. The Association For The Promotion Of Oral Health (APOH)

APOH is a recently formed independent think-tank and advocacy group. APOH's membership is a representation of the major and minor stake-holders in oral health in NSW. APOH currently has a two-tiered membership structure, comprising a Council, further supported by a broader membership.

Stake holders with individuals having membership in the APOH Council include: academics from the University of Sydney Dental Faculty and from the recently established Newcastle Dental School; the Australian Dental Association; private general and specialist dental practitioners; dental therapists; dental technicians / prosthetists; senior administrative and clinical staff from both dental teaching hospitals in Sydney (Sydney Dental Hospital, Westmead Centre for Oral Health), Westmead Children's Hospital; Council of Social Services of NSW (NCOSS); the Dental Insurance Industry; the Dental Supply Industry; the NSW Dental Board; dental researchers; health consumers; senior general nursing academics; senior medical academics; Indigenous Oral Health Services; health economists and Special Needs Oral Health Services.

This submission is developed from extensive discussion within the APOH Council, and primarily based upon a document ratified by the APOH Council in August 2004. Data provided are derived from a large number of sources including the Centre for Oral Health Strategy (NSW Health Department), and many of the more important publications with original information are referenced at the conclusion of the document.

## 1.2. The Importance Of The Current Inquiry Into Dental Health, Services And Education

### *1.2.1. Oral Health Is Currently Not Sustainable in NSW*

Oral Health in NSW is in a parlous condition, with a significant untreated and apparently growing community disease load. Dentists remain the only health professionals with the specific high level training needed to safely deliver most of the Oral Health care outcomes expected, although para-dental ancillary staff can also make a valuable contribution to dealing

with this demand. Unfortunately, there are not enough dentists or para-dental professionals in the State, while the academic infrastructure for training new professionals is in decline.

In a report prepared by the National Advisory Committee on Oral Health for the Australian Health Minister's Conference (Health Mouths Healthy Lives), it was recorded that by 2010, there will be 1,500 fewer dental professionals, than would have been required to maintain 2004 levels of service in Australia. This is across all dental and para-dental professions, so that the impact of the developing workforce crisis will be across all aspects of dental care, while it is accepted that current levels of dental service have long failed to satisfy community needs.
Looking forward, the most likely outcome is that oral health standards in NSW will drop significantly. There has been no adequate response at either State or Federal level to this developing crisis.

Averting the developing crisis will require cooperative action from the dental profession, dental academics, the Dental Faculty, the University, The Area Health Services, The Dental Hospitals, the NSW Department of Health, State parliamentarians, the Federal Government and its ministries.

### *1.2.2. APOH Welcomes The Upper House Inquiry*

The inquiry into dental health, services and education provides an opportunity for public debate at the highest level about the challenges facing oral health in NSW and is welcomed by APOH.

As outlined elsewhere in this document, significant past achievements in oral health including the reduction in dental caries and increased quality of care are being eroded with a recent increase in disease, particularly in regional and rural areas. Community needs are further increased by an ageing population requiring more complex dental services. Regardless of this, there is no dedicated information service to collect and collate data for effective health planning.

Costs remain a significant barrier to access to oral health care, limiting access to large portions of the community while NSW has the lowest level of funding for public dental services compared with all other Australian States and Territories.

These difficulties are reinforced by an inaccurate perception of dentistry as an ancillary and primarily cosmetic service rather than an integrated and important part of health care.

Although there is growing community need, the number of dental professionals is decreasing and there are insufficient numbers graduating to provide satisfactory levels of health care. Meanwhile, there has been degradation and under-funding of the educational infrastructure needed to regenerate, expand and up-skill the dental workforce.

This document outlines the challenges facing oral health that APOH has identified with particular regard to the terms of reference of the inquiry. In addition, APOH makes a number of recommendations which it believes would successfully address these challenges.

## 1.3. The Role Of Dentistry In Health Care

### *1.3.1. Dentistry Is Not Tooth Carpentry*

Although most people have some idea of what happens in a dental surgery, there is little understanding of the broader role of dentistry in health care. In particular, many view dentistry as a technical repair service for damaged teeth, a form of tooth carpentry. Although much of dental practice involves such technical work, it seems important to briefly outline the scope of dental practice.

### *1.3.2. Filling The Gap*

The medical profession accepts responsibility for management of disease in all parts of the human body other than the mouth. Dentistry evolved to fill this gap in health care.

Caries and chronic periodontitis are the two most prevalent oral diseases and this is what the community traditionally associates with dental practice. However, cystic and inflammatory diseases destroying bones of the jaws are also very common. Similarly, there are many immunological, inflammatory and infectious diseases affecting the oral mucosa for which dentists accept responsibility. Dentists encounter and in the context of specialist practice manage, a wide range of tumours, some of which are unique to the mouth. It bears mentioning that the death rate from oral cancer now surpasses that of cervical cancer, while in Central Sydney, cancer of the mouth is more common than that of the bowel. Finally, a number of important medical conditions present early and primarily in the mouth, and dentists must correctly diagnose these diseases for appropriate and rapid referral to medical colleagues.

Undergraduate medical students have little or no training in the diagnosis and management of oral conditions and there is no medical specialty in oral disease. Dental graduates, through

both general practice and a variety of specialist services, fulfill this small but important niche in health care.

### *1.3.3. Staying Alive*

It is self-evident that dental patients expect to survive dental treatment. There was a time when most dental patients were healthy young people, with extraction of all teeth at an early age ensuring that dentists only rarely performed operative procedures on the frail aged. This has changed enormously in recent times. The effect of fluoridation in NSW is such that the very aged now commonly have most or all of their own teeth. In addition, improvements in medicine now keep many alive who not long ago would have died. Consequently, dentists must now routinely treat patients who are severely medically compromised. The expectation is that this trend will become more pronounced with the ageing population and further improvements in medical science.

Recently, it has been recognized that common dental infection, in particular chronic periodontitis, is an independent risk factor for ischaemic heart disease, stroke and reduced birth weight. Although the basis for this is still not entirely clear, it is increasingly evident that oral sepsis has an indirect but significant effect upon morbidity and mortality from these prevalent medical problems.

Quite separate to these issues, it should also be remembered that many oral diseases, including caries, can be lethal if untreated. It is only the high quality of modern dental care and the judicious use of antibiotics, which has made death from dental infection rare.

## 1.4. Snap-Shot Of Oral Health Training in NSW

### *1.4.1. The Traditional Dental Curriculum, Has Recently Been Phased Out*

As briefly mentioned above, there is only one Dental Faculty in NSW and this is based in the University of Sydney. For most of its 104 year history, the Dental Faculty has admitted students on the basis of high school performance, although more recently, admission has also included interview and a skills test. A traditional five year dental curriculum was taught for many years, with students progressing from study of the basic sciences, such as physics, and chemistry, through to basic biomedical sciences, such as anatomy and pathology, and finally through to the dental clinical sciences, such as operative dentistry or oral surgery. However, this traditional course has come to a close and the last cohort of students trained in this way graduated in 2004.

### *1.4.2. The New Graduate Dental Program, Recently Phased In*

In 2001, the Faculty accepted the first students into a new Graduate Dental Program. These students have all completed a previous undergraduate course, often but not necessarily in science, and are selected on the basis of their academic record, performance in a separate shared examination and interview. The new curriculum is over a four year period, with the first two years largely shared with medical students. Unlike the traditional course outlined above, learning is not in the context of specific subjects, but instead focused about case studies with the intention that the clinical relevance of the basic sciences be more apparent to students during their training. The first cohort of dentists trained in this way graduated in 2004.

### *1.4.3. There Is No Internship Period For Dental Graduates*

Graduates are able to gain full registration in NSW immediately upon graduation, while in contrast to medical students there is no internship period. Because of this, the Dental Faculty has responsibility to ensure a very high level of technical competence before graduation. Almost all the clinical procedures practiced by undergraduate students are irreversible and potentially dangerous, including the use of high-speed rotors in the mouth, extraction of teeth and minor surgical procedures. For ethical and medico-legal reasons, this necessitates a level of student supervision well beyond that required for any other academic discipline.

### *1.4.4. Para-Dental Professionals: Assistants, Therapists, Hygienists, Bachelor Of Oral Health Graduates, Technicians And Prosthetists*

Dentists are supported in their service by a number of para-dental professions. Dental assistants require no formal qualification for work in NSW, but are encouraged to attend a course offered by TAFE. In the current State Award, it is required that dental assistants havfe the TAFE Certificate III in dental assisting.

Dental therapists have been trained over a two year course based at Westmead Hospital to perform routine restorative work on children in the context of the school dental service (Child Oral Health Services). This training has recently been discontinued with the last cohort of graduates being in 2004.

Dental hygienists, who provide oral hygiene instruction and dental cleaning services mostly for adults, contribute primarily to control periodontal disease. There has been no training for dental hygienists in NSW.

However, replacing the dental therapist training and incorporating training for dental hygienist services, are two new training programs leading to the Bachelor of Oral Health. One of these is in Newcastle University and the other is at the University of Sydney within the Faculty of Dentistry. Both programs commenced in 2005, and are three-year full time university courses.

Dental technicians are trained through TAFE and prepare removable and fixed dental appliances under the instruction of dentists and prosthetists.

Dental prosthetists are clinicians who after initially training as dental technicians, receive the additional training required to prepare dentures directly for patients without the otherwise necessary intervention of dental graduates.

With the exception of Bachelor of Oral Health candidates, all of these para-dental staff are trained outside of the University of Sydney, although occasionally dental academic staff are invited to contribute to specific courses.

### *1.4.5. The Dental Hospitals*

There are two dental hospitals in NSW, being Sydney Dental Hospital opposite Central Railway station and the Westmead Centre for Oral Health based at Westmead Hospital. Both institutions strongly support dental education by providing facilities and some teaching for the dental students. In addition, the Faculty is housed by the hospitals, having no rooms or buildings within the University itself. Each of the hospitals is able to contribute different and highly specialised learning experiences for the students, with Sydney Dental Hospital being well placed to provide community based dental training, and Westmead uniquely able to provide students with experience in dealing with medical in-patients. Because the two hospital environments offer very different learning experiences, all dental students spend time in both hospitals, unlike medical students who become attached to a single hospital during their training.

## 1.5. The Underlying Causes Of Current Difficulties Are Closely Related

Although the current inquiry properly addresses different aspects of the challenges facing oral health, it is important to recognize that the underlying causes of current difficulties are closely related.

It is suggested that the current problems are due to the combined effects of:

- (a) an undersupply of clinical personnel at all levels of oral health services
- (b) insufficient incentive for clinical personnel to work in the public system
- (c) insufficient incentive for clinical personnel to work in rural and remote settings.
- (d) under-funding of the academic infrastructure and inability to attract academic staff
- (e) inadequate monitoring of the population with regard to current and projected oral health needs
- (f) degradation of advanced clinical training programs with a loss of specialist skills and the capacity to renew specialist services
- (g) the ageing population demographic together with increased health expectations
- (h) increased tooth retention into old age
- (i) incomplete fluoridation and insufficient oral health promotion activities

It seems important to outline some of the close relationships between these different difficulties.

For example, the undersupply of clinical personnel (a) reflects under-funding of the academic infrastructure. The inability to attract academic staff (d) helps degrade advanced training programs (f) so that specialist services become under-manned.

The ageing demographic (g) and greater tooth retention (h) increases the demand for, and complexity of, dental services. This particularly affects the public system (b), upon which the aged become dependent on retirement (g). The ageing demographic of clinicians themselves (g) contributes to the eroding workforce (a) at a time of increasing need. The lack of fluoridation and oral health promotion activities (i) fosters a concentration of disease in populations unable to gain access to adequate services, particularly in rural and remote areas (a,b,c,f,h).

Workforce shortages (a) allow clinicians to be highly selective in seeking advantageous working conditions and locations, so that both the public system (b) and rural and remote areas (c)

become uncompetitive, because incentives are lower and working conditions more difficult. This increases pressure upon academic institutions, where there is even less incentive for clinicians to work (d), exacerbating the workforce shortage (a) and further undermining specialist training programs (f).

Although there is a demonstrable shortage of workforce (a,b,c,d,f), even if the current difficulties were overcome, they will likely recur unless mechanisms are put into place to ensure the system is responsive to changing community need. The absence of adequate oral health surveillance mechanisms (e) makes the system highly unresponsive to changing demographics and disease loads. It is suggested that if there had been adequate oral health monitoring in the past (e), together with improved prevention strategies (i), many of the current problems could have been averted by both reducing disease load, as well as matching workforce and infrastructure to need (a,b,c,d,f,g,h).

# 2. Submission Regarding Term of Reference (a)

# "the quality of care received in public dental services"

## 2.1. There Have Been Substantial Past Achievements In Oral Health Care, Including In Public Dental Services

### *2.1.1. Reduction In Caries Compared With Previous Generations*

The reduction in dental caries relative to that experienced by past generations in Australia represents a significant achievement in public health. This has been built upon significant research and is largely due to fluoridation of water supplies, the use of fluoride toothpastes and improvements in service delivery by oral health professionals.

### *2.1.2. Improved General Health Due To Improved Retention Of Teeth*

Tooth loss has declined and people are retaining their teeth into old age, with edentulousness being much less common than it was only thirty years ago. There has also been an increased public perception of the importance of good oral health, with its social benefits of an attractive appearance and the functional benefits of being able to eat a balanced range of foods without pain or difficulty.

More recent dental research also underlines the importance of a healthy dentition for maintaining good general health. Periodontitis, a common cause of tooth loss due to chronic inflammation of the gums, is now thought to contribute to ischaemic heart disease, strokes and low birth weight. Major scientific bodies throughout the world regard oral health as integral and essential to general health.[i,2]

### *2.1.3. Expanded Scope And Quality Of Dental Services*

The scope and quality of dentistry available to the public has greatly increased. Patients now enjoy the benefits of painless dentistry, under sedation if needed. Improvements in dental restorative materials have also been significant, while complex restorative treatments such as crown and bridgework and intra-osseous implants are replacing the need for dentures in many patients. Further, development of advanced surgical techniques for correcting jaw deformities and gross malpositioning of teeth are now available from dental specialists, with excellent results.

### *2.1.4. Establishment Of Oral Medicine And Oral Pathology Services*

As recently as the last 15 years, training and service in the separate dental specialties of Oral Pathology and Oral Medicine have been established in NSW, providing improved expertise in the histopathological diagnosis of oral disease and management of oral ulceration and infection, or the detection of the oral signs of systemic disease or adverse drug effects.

### *2.1.5. Establishment Of Two Major Dental Hospitals*

NSW is unique in Australia, in that it enjoys the benefit of having two separate major dental hospitals, these being the long established Sydney Dental Hospital in Surry Hills and the Westmead Centre for Oral Health, integrated with Westmead Hospital and established only 25 years ago. These two major centres for service delivery of oral health provide both general and specialist dental services to significant numbers of patients, and also create the opportunity for dental students to experience clinical service in different clinical environments. In this way, Sydney Dental Hospital is particularly well placed for student experience in community based care with the full support of specialist services, and Westmead Centre for Oral Health is uniquely sited for experience with severely ill patients in a general hospital environment and in integration with medical services.

## 2.2. These Advances In Oral Health Care Are Available To Only A Small Proportion Of The Community, And Are Unevenly Distributed Across The State

### *2.2.1. Inequitable access and availability for oral health services*

Improvements in oral health have only been enjoyed by some people. Dental disease, particularly a high experience of dental caries, is prevalent in disadvantaged groups in our community, including children from socio-economically disadvantaged families, recent unskilled immigrants, people with physical or intellectual disabilities or with mental health issues, and the elderly who may be house-bound or institutionalized. Oral cancer is similarly a disease of the disadvantaged. Publicly funded dental services, including those from the two major dental hospitals, are overstretched and do not provide comprehensive care for these high-risk groups. Difficult as this is in capital cities and other major centres, these problems are much greater in rural and regional areas.

### 2.2.2. General Dental Services Are Extremely Limited In Most Area Health Services

Although the quality of care delivered in the two dental hospitals is high, only a small proportion of public patients have direct access to these services. This is because eligibility for dental service in the two dental hospitals is dependent upon residence in one of the two Area Health Service areas which house the hospitals (Sydney South West Area Health Service and Sydney West Area Health Service). Residents who have the misfortune of living in other Area Health Service areas can only access general public dental services in the few public clinics within their respective Area Health Service area.

### 2.2.3. Specialist Dental Services Are Also Extremely Limited

There are very few dental specialists employed by the public health system, and these are almost exclusively within the two dental hospitals. Because of this, most patients requiring dental specialist services need to travel to one of the two main dental hospitals for service.

Efforts have been made for some specialist practitioners to rotate to a few regional centres. However, there are insufficient numbers of specialists available to provide regular specialist dental services across most of the State, and only a few specialist disciplines are represented in current rotations.

The two dental hospitals accept patients requiring specialist service from outside of their own Area Health Services, but funding to the hospitals does not appear to fully recognize this State-wide function.

# 3. Submission Regarding Term of Reference (b)

# "the demand for dental services including issues relating to waiting times for treatment"

## 3.1. There Is A Significant Projected Increase For Demand Of Dental Services In NSW

A study examining dental workforce in NSW (Spencer J, 2002, NSW Oral Health Workforce Project) concluded that relative to 2000, by 2010 there would be an increase in:

- Public sector demand for dental services of 29.5%
- Private sector demand for dental services of 21.8%

The report indicated that approximately 391 additional dentists, 13 hygienists, 26 therapists and 32 prosthetists would be required to maintain then current levels of service.

## 3.2. Late Presentation Of Disease

### *3.2.1. Uneven Access To Dental Care Results In High Levels Of Disease For Some Communities*

The uneven access to regular dental care in the community (outlined above in the submission to term of reference a) has meant that socio-economically disadvantaged patients frequently present to hospitals with severe dental infections or abscesses requiring prolonged oral surgical treatment, often as in-patients. The severe effect of neglected teeth on these patients' general health as detailed above, is an even more important consideration. There is inadequate availability of public dental services[16], and access to them is determined by criteria relating to the acuity of treatment needs while management of most oral disease is hampered due to lengthy waiting lists, thus presentation with more severe disease progression.

Between 1994 and 1999, there was an increased level of negative social impact of oral health reported by people dependent upon publicly funded dental services. In particular, they experienced more toothache, increased discomfort with their oral appearance, and avoided some foods.

Also, in the same period (1994-1999), more people entitled to public dental services reported increased financial burden caused by seeking extractions by private dentists.

There is about twice the rate of edentulism amongst people with socio-economic disadvantage.

### *3.2.2. Hospitalizations For Dental Treatment Have Increased*

A 2003 survey revealed an increase in the number of hospitalizations for dental treatment for both children and adults between 1989 and 2003. This was quite pronounced in children less than 5 years of age, who suffered a 58% rise, while in children aged between 5 and 14 years, there was a rise of over 80%. Amongst adults, hospitalizations increased by about 55%.

During the same time period (2001-2003), dental conditions were the eighth most common reason for preventable hospitalizations (around 32,000 hospitalizations, 160/100,000 population). These preventable dental hospitalizations were almost twice as frequent in rural areas as compared with metropolitan areas.

### *3.2.3. The Frequency of Toothache And Other Dental Problems:*

Dental disease is the most prevalent health problem in Australia, with caries being the most prevalent, edentulism being third and periodontal disease the fifth most prevalent health problem in this country.

In people having teeth, around 15% of males and 17% of females report toothache during a 12 month period. This is an average, with rates varying greatly with age. Amongst 16-24 year olds for example, about 23% of females report toothache over 12 months (1997-1998).

Also between 1997 and 1998 in people having teeth, oral health problems other than toothache and concerning either teeth or gums, were reported more frequently than toothache. Almost one-quarter of males and females reported suffering these other oral health problems in the previous 12 months.

### *3.2.4. Patients Dependent Upon The Public System Access Dental Services Much Less Than Those Able To Afford Private Dental Services*

It is estimated that about 2 million people in NSW are eligible for public dental care. Also, it is estimated that there are about 2.2 million people who have at least one tooth visit the dentist in NSW per year (1998 NSW Health Survey). Of these, approximately 190,000 attend public clinics or hospitals. From this, there is about an 11 fold lower access to dental care by patients dependent upon the public system as compared with those accessing the private system.

## 3.3. An Increased Prevalence In Oral Disease With Simultaneous Decrease In Dental Professionals

While the incidence of oral disease is growing, there has been a simultaneous reduction in oral health workforce, particularly in the public sector. This is especially acute in rural communities. The private sector is also challenged by a variety of factors undermining its sustainability and availability. Insufficient numbers of dentists are graduating to replace those currently leaving the workforce[14]. Projections are for these problems to become more acute with the ageing population and retirement of dentists in the baby-boomer demographic. There are few incentives for general and specialist dental practitioners to join the public system, while there are increasing disincentives for private practitioners to work in rural and regional areas[14]. Related to this are demonstrable disincentives for dentists to engage in specialist training.

One estimate suggests an increase in projected demand for dental services in NSW, based upon both population increase and the ageing population at between 20% and 30% by 2010.

## 3.4. Lack Of Integrated Care Initiatives

Integrated care initiatives that would see a partnership of dentists with para-dental personnel may partially address the developing workforce crisis. However, the necessary infrastructure and formal collaborative mechanisms between dentists and the para-dental professions for safe, proper and sustainable teamwork are not as yet in place. Similarly, there is insufficient collaboration between established dental services and other health services. The lack of integration of "oral health teams" with the broader health care community including medical practitioners and general nurses results in lack of appropriate referral and sub-optimal health care.

The separation of Dentistry from the integrated Medical team has meant that many public patients with medically important oral health care problems are left without adequate dental care.

## 3.5. Lack Of Integration Of Private With Public Oral Health Services

Although private sector dentists could provide oral care to eligible public patients, there is currently no satisfactory mechanism to do this. To make up for the shortfall in public dental services, there is a Voucher system (Oral Health Fee for Service Scheme). There are

approximately 1,100 private dentists registered in this scheme, with about 42,000 vouchers issued per year.

One difficulty is that once receiving a voucher, patients may have difficulty finding a participating dentist. The current voucher system leaves public patients caught between private dentists unwilling to treat them and public waiting lists too long for timely care. Even if there were a more satisfactory mechanism, there are simply not enough dentists in rural and regional NSW to improve the availability of oral care for either private or public patients.

The community oral disease load is exacerbated by the lack of implementation of known effective public health measures such as fluoridation, preventive oral health education and oral health promotion.

## 3.6. Lack Of Oral Health Information Services

### *3.6.1. NSW Requires A Comprehensive Oral Health Surveillance Mechanism*

There is substantial national evidence for a very large and growing community oral disease burden, including the common oral disorders of caries, periodontitis and associated bony infections, as well as oral pre-cancer and cancer[11,12].

However, the available data are insufficient to plan accurately for future workforce and oral health infrastructure needs. Examples of data which seems currently not available include: the number of dental chairs available in NSW, the condition of surgical and operative equipment, the incidence of dental caries across the community or the number of completed courses of dental treatment performed in the public system.

### *3.6.2. Current Data Are Insufficient For Detailed Workforce And Service Planning*

There has been no substantially complete survey of national population oral disease load and treatment needs since the 1987 National Oral Health Survey[13]. Consequently, all that can be said regarding future community needs in oral health is that they are significant and growing. Although APOH recognizes and supports the importance of the approaching National Oral Health Survey and other initiatives by the Australian Research Centre for Population Oral Health (ARCPOH) and the NH&MRC, these national level surveys will likely require supplementation with additional information to effectively plan and allocate resources at state and territory level.

NSW requires its own comprehensive oral health surveillance mechanism. A database must be established which collates information from all dental public health services. ISOH, which is a computerised data-base into which all dental clinical procedures are logged in NSW Health, will require modification for this to be effective.

In addition, since the public service only samples a highly selective portion of the population, mechanisms need to be established to survey NSW residents irrespective of access to public service and address.

This will involve travel across the State, enlistment and training of dental and para-dental staff for examining patients for the purpose of surveys, and further collation of data.

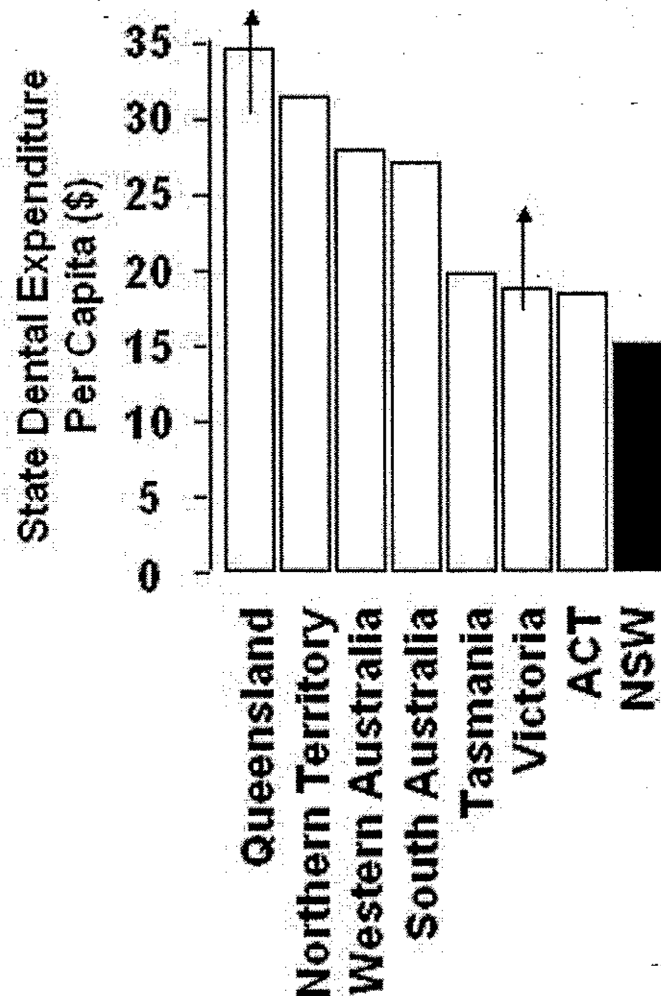
### *3.6.3. NSW Needs To Develop And Apply Measures Of Input, Output, Outcome And Quality For Dental Services To Properly Monitor Services And For Benchmarking*

Because methods for collecting clinical data vary in comparison with other States, it is not possible to undertake a direct benchmarking approach. The ISOH system contains limited information on disease occurrence, and is currently not configurated to facilitate interrogation for statistical information on treatment provided.

There is a need to establish clear measures for input, output, outcome and quality. These should be developed with benchmarking in mind, to allow future comparisons with other States to be made with confidence.

# 4. Submission Regarding Term of Reference (c) "the funding and availability of dental services"

## 4.1. Low Levels Of Public Oral Health Funding As Compared With Other States And Territories




Low delivery levels of oral care in NSW are reflected by low levels of public funding of oral health compared with other States as well as the absence of clear public policy in this area.

The graph provided shows the per-capita spending on dental services in all states and territories in Australia. It is clear that NSW has the lowest public spending of all States and Territories, being less than half that in Queensland and the Northern Territory.

Note that both Queensland and Victoria plan to substantially increase dental spending over the next four years (arrows), so that the contrast with NSW will be even greater than indicated.

## 4.2. NSW Does Not Officially Record Dental Waiting Lists But An Estimated 20,000 Patients Have Been Waiting For Access In One Area Health Service

Perhaps because the lack of available services in most Area Health Service areas, NSW is unique amongst States and Territories in no longer recording or reporting waiting lists for dental treatment.

However, about 20,000 patients have been quoted as an unofficial figure for the number of patients waiting for dental service at Westmead Hospital, while this hospital was only offering comprehensive dental care to the people residing in the former Western Area Health Service. This number would be significantly increased by the recent amalgamation of Area Health Service areas.

Although there is little or no service for which patients might wait in most other Area Health Services not enjoying the benefit of a dedicated dental hospital, it seems reasonable to assume that community needs will be at least comparable in these other under-serviced areas.

## 4.3. Replacement And Maintenance Of Public Dental Equipment Is Inadequate

There is currently little provision for ongoing maintenance and replacement of equipment in public dental services. It must be born in mind that most dental services are dependent upon the availability of adequately maintained equipment so that it is common for public dental clinicians to feel constrained by insufficient equipment resources. The effect of this is that available treatment infrastructure is inadequately utilized.

## 4.4. Funding For Dental Infrastructure Is Required Separate To Area Health Services

Although the dental hospitals both offer state-wide service for specialist services and education, they are funded at the Area Health Service level. Similarly, there is little or no consistency between Area Health Services with regard to investment in dental infrastructure, with each area defining different priorities. This has resulted in significant under-investment in dental infrastructure.

## 4.5. More Standardized Funding For Dental Infrastructure and Service Is Required To Overcome Neglect Of Dental Services At An Area Health Service Level

There are substantial differences in the distribution and use of funds, as well as the levies imposed upon dental services for infrastructure and administration between different Area

Health Services. This results in great variability in the availability and access to dental services across Area Health Services.

## 4.6. Cost As A Barrier To Accessing Dental Care For Public And Private Patients

### *4.6.1. The Voucher System Is Approximately Seven Times More Expensive Than Public Service Delivery*

The cost of regular high quality dental care in the private sector is too expensive for people with low incomes. Patients eligible for public dental care are issued with vouchers for treatment by private dental practitioners on occasions where no public service can be provided, and this is usually because of the absence of the necessary dental personnel. The vouchers offered for dental treatment to health care card holders allow them to have little more than relief of pain or other emergency dental treatment.

APOH estimates that the cost of providing service using vouchers is approximately seven times that of delivering the same service with public health staff.

### *4.6.2. There Is Inadequate Internal Funding For Medically Complex Dental Patients*

Medically necessary dental services to hospital in-patients are not recognized in the "Case Mix" formula, reflecting an artificial separation of oral from general health services and limiting the funding necessary for proper patient service. There are no refunds for cosmetic maxillofacial restorations, required by those who have had major trauma or cancer surgery.

### *4.6.3. Public Dental Expenditure Is Greatly Out Of Proportion To Public Dental Needs*

In one estimate, $3.7 billion is spent on oral health in Australia per year. Of this only about 16% is public expenditure. An ageing population and decreasing tooth loss are combining to increase the demand for dental care, yet funding is not increasing proportionately. [18]

### *4.6.4. Private Dental Insurance Is Inadequate For Most Private Patients*

There is a similar insufficiency in availability and access to private dental care, particularly in regional and rural areas. This is through a combination of inadequate numbers of dentists and the absence of insurance mechanisms consistent with viable private dental practice. The separation of oral health care from medical and general health care is reflected in dental insurance mechanisms, leaving much of the population without any dental insurance.

This is particularly difficult for medically compromised patients, who require routine dental work but have difficulty finding private dentists prepared to spend the necessary time to safely deliver treatment to medically fragile patients. Again there are no item numbers, and hence no refunds, for the facially disfigured patient.

A change in the pattern of private and public dental funding to reflect the time and complexity of service for medically compromised and other patients with special needs would help address this difficulty.

# 5. Submission Regarding Term of Reference (d)

# "access to dental services, including issues relevant to people living in rural and regional areas of New South Wales"

## 5.1. Rural And Remote Areas Have Very Limited Access To Both Private And Public Dental Services

Although Sydney has about 58 dentists per 100,000 residents, rural and remote areas have relatively few dentists with Central West Area Health Service having only 17.3 dentists per 100,000 population. This compares unfavorably with the OECD average of 56 dentists per 100,000 population. In some rural and remote areas, there is no dental service available.

The effect of this is that oral health is worse in rural and remote areas as compared with metropolitan areas. For example, people in rural areas are more likely to be edentulous, with the highest rates in the Northern Rivers Area (Males around 9%, Females around 18%), and the lowest rates in the South Eastern Sydney Area (Males around 2%, Females around 8%). This from 2 to 4 fold difference probably reflects lack of access to dental services as well as better preventive services such as fluoridation. Similarly, people in rural areas are about 50% more likely to have extractions as treatment than people in metropolitan areas while children in metropolitan areas are more likely to receive orthodontic treatment than children in rural areas.

For indigenous people in NSW, hospitalisation rates for removal or restoration of teeth are substantially higher in rural than in urban areas, and this increased over the period 1993 to 1999. (1993 Urban Aboriginals: 44.8 / 100,000, 1993 Rural Aboriginals: 106.2 per 100,000, 1999 Urban Aboriginals: 103.8/100,000, 1999 Rural Aboriginals: 271.5 / 100,000).

## 5.2. Access Is Limited In Many Areas Because Of Inadequate Funding

As indicated in the submission to (c) above, inadequate funding at an Area Health Service Level has resulted in highly inequitable access to dental services in regional and rural areas.

## 5.3. Inadequate Utilization Of Paradental Professionals And The Need To Develop A Dental Team Model For Education And Service Delivery

### *5.3.1. Fewer Than 10% Of Dentists Are Available To Serve Over 30% Of The Population Eligible For Public Dental Care*

There are insufficient incentives for dentists and other oral health professionals to be retained in the public sector, such that in the order of only 10% of dentists are available to serve the 30%-40% of citizens eligible for public dental services. This greatly limits access to dental services for a substantial proportion of the population.

### *5.3.2. Dental Teams Have The Capacity To Increase Service Levels But Are Not Properly Established*

Dental teams comprised of several para-dental professionals working together under the clinical leadership of a dentist have the potential to greatly increase service delivery for significantly less cost. Unfortunately, the educational, clinical and legislative infrastructure required for these teams to operate properly are not yet established. It is of note that NSW has the lowest number of dental therapists and hygienists per 100,000 population of all Australian States.

## 5.4. Rural And Remote Education Scholarships Are Already Established For Medicine But Do Not Exist For Dentistry

A precedent is established in medicine for the use of rural and remote education scholarships as a device for increasing service to rural and remote areas. The evidence in both medicine and dentistry is that those students coming from rural and remote areas, are more likely to return to rural and remote areas for practice after graduating.

Three main strategies have been implemented in Medicine. Firstly, scholarships of $20,000 per year (indexed annually and tax-free) are offered to new medical students in return for a commitment to practice in rural and remote and regional areas for at least six years after completing post graduate training. A range of conditions are applied to these scholarships, with breach of contract requiring payment of the scholarship with interest. The cost of this scheme across Australia is approximately $32.4 million.

A second approach has been HECS-help reimbursement, with graduates committing to rural and remote practice having one fifth of their HECS-help debt paid off for each year of service. After five years, the debt is paid and any interest owing forgone. The cost of this is $4.3 million.

The third main strategy has been establishment of the RAMUS scheme (Enhanced Rural And Remote Australian Medical Undergraduate Scholarships). This is specifically targeted towards rural and remote and regional students, who receive financial assistance during student years on the understanding they will return to rural and remote areas after training.

Unfortunately, none of these mechanisms is available for development of the rural dental workforce.

## 5.5. Current Governance Mechanisms Fail To Ensure Equitable Access To Public Service Across All Area Health Services, Particularly In Regional And Rural Areas

### *5.5.1. Insufficient Priority For Oral Health In Area Health Services*

Current governance mechanisms fail to apportion sufficient priority to oral health for proper and sustainable service.

Separately, the State-wide functions of both dental hospitals are not recognized by the current Area Health Service level funding and administrative model.

Supporting the suggestion that the current governance arrangements are insufficient to ensure proper prioritization of funding are the following points:

- The per capita spending on oral health in NSW is the lowest compared with any other State or Territory, while a more centralized structure for oral health service planning and delivery is seen in some other states.
- Oral health is incongruous with other areas (Drug & Alcohol, Mental Health, Aboriginal Health, Infectious Diseases) in that it is devolved to an Area Health Service.
- Since the devolvement of the Oral Health Branch from NSW Health to Sydney West Area Health Service and the establishment of the NSW Centre for Oral Health Strategy, oral health has only a limited presence in the administrative centre of NSW Health for planning and policy development.

- Since establishment, the Centre for Oral Health Strategy has been unable to directly access the TRIM system for monitoring the progress of internal documents within NSW Health, indicative of an unacceptably peripheral status.
- Oral health has not had a permanent Chief Dental Officer for some years, although this is currently being rectified with the appointment of Prof C Wright in July 2005.

### *5.5.2. Current Governance Mechanisms Fail To Deliver Consistent Oral Health Care Across The State*

As noted above, oral health spending in NSW is the lowest per capita of any State or Territory in Australia.

Responsibility for the delivery of Oral Health Services is divested to Area Health Services. There are differences in the mechanisms of service delivery between Area Health Services due to different:

- Philosophies of care
- Priorities for care
- Treatment requirements
- Ability to recruit and retain staff

In addition, Area Health Services levy oral health services varying percentages of their quarantined budget as a facilities fee. According to the 2003 Auditor Generals' Report into Oral Health Services this may be a high as 16%.

The governance model for public dental services should be reviewed to provide equity of care to all patients across the State.

# 6. Submission Regarding Term of Reference (e)

# "the dental services workforce including issues relating to the training of dental clinicians and specialists,"

## 6.1. There Is A Substantial Shortfall In Dental Workforce And This Is Worse In Rural And Remote Areas

### *6.1.1. Australia Has Fewer Dentists Per Population Than The Average For OECD Countries*

The OECD average for the number of dentists per 100,000 population is 56. In Australia, the average is below this (43), although levels in capital cities approach the OECD average (51.2), with rural areas having a much lower average (28.7). In Sydney, there are sufficient dentists to supply demand in the private sector (58.4/100,000) in some areas, but public dental services are understaffed and there are still some metropolitan areas with relatively few dentists, for example, South Western Sydney. A marked difficulty is seen in some rural areas where there may be as few as 16 or 17 dentists per 100,000 population.

It has been estimated that an additional 437 public and private sector dentists would be required to have 50 dentists for every 100,000 persons resident in the State. A further estimate has been that a rate of 60 dentists per 100,000 population would require recruiting another 1083 dentists.

### *6.1.2. There Are About Twice As Many Dentists Per Population In Metropolitan Areas Than In Rural Areas*

The table provided below on the next page, shows the availability of both public and private dentists considered together and separately in each of the Area Health Services prior to their recent amalgamation.

Please note that these figures are derived from a compilation of statistics from 2000 through to 2004, and will contain inaccuracies because of the need to combine figures across years. Nonetheless, the data shown provides a fair impression of the current situation with regard to the distribution of dentists across the State.

Table Showing The Number Of Private And Public Dentists (counted together in 2002), and The Number Of Public Health Dentists (counted alone in 2004) In Each Area Health Service, As Compared With Total Population (in 2000).

| Area Health Service | Number of Dentists in 2002 | Number of Public Health Dentists in 2004 | Population in 2000 | Public Health Dentists Per 100,000 population (2004) | Dentists per 100,000 population (2002) |
|---|---|---|---|---|---|
| Central Coast | 78 | 8.6 | 292,540 | 2.93 | 26.66 |
| Central Sydney | 224 | 54.4 | 492,401 | 11.05 | 45.49 |
| Hunter | 157 | 15.1 | 540,731 | 2.79 | 29.03 |
| Illawarra | 103 | 8.9 | 347,914 | 2.56 | 29.61 |
| Northern Sydney | 528 | 16.4 | 779,690 | 2.10 | 67.72 |
| South Eastern Sydney | 690 | 9 | 775,552 | 1.16 | 88.97 |
| South Western Sydney | 251 | 19.7 | 782,717 | 2.52 | 32.07 |
| Wentworth | 99 | 5.9 | 313,725 | 1.88 | 31.56 |
| Western Sydney | 265 | 45.8 | 689,998 | 6.64 | 38.41 |
| ***Total Metropolitan Areas*** | ***2395*** | ***183.8*** | ***5,015,268*** | ***3.66*** | ***47.75*** |
| Far West | 10 | 0.5 | 47,563 | 1.05 | 21.02 |
| Greater Murray | 64 | 5.7 | 254,960 | 2.23 | 25.10 |
| Macquarie | 17 | 2.6 | 102,813 | 2.53 | 16.53 |
| Mid North Coast | 72 | 7.8 | 260,432 | 2.99 | 27.65 |
| Mid Western | 42 | 4 | 166,507 | 2.40 | 25.22 |
| New England | 52 | 5.1 | 173,193 | 2.94 | 30.02 |
| Northern Rivers | 92 | 10.2 | 259,324 | 3.93 | 35.48 |
| Southern | 50 | 2.4 | 182,439 | 1.31 | 27.41 |
| ***Total Rural Health Services*** | ***399*** | ***38.3*** | ***1,447,231*** | ***2.65*** | ***27.57*** |
| ***Total NSW*** | ***2794*** | ***222.1*** | ***6,462,499*** | ***3.44*** | ***43.23*** |

Rural areas have very much less access to dentists as compared with metropolitan areas. Notably, the number of public health dentists is very restricted in both rural and metropolitan areas, with some areas having proportionately more public health dentists than others. Source: Dentist Labour Force in NSW – 2002 and CHO Report 2002, and NSW Health - Centre for Oral Health Strategy 2005.

A marked asymmetry between metropolitan and rural areas is apparent such that there are almost twice as many dentists working in metropolitan areas as compared with rural Area Health Services.

### *6.1.3. Proportionately Few Dentists Work In The Public System*

Separately, it is clear that there is a disproportionate distribution of dentists between public and private systems, with some areas having not only few dentists, but as few as 5% of resident dentists available for work in the public system (Far West, Northern Rivers).

It should be noted that although the precise proportion of the population eligible for comprehensive public dental care is not known, it is estimated to be at least 30% and is likely significantly higher.

#### *6.1.4. An Inequitable Distribution Of Public Health Dentists Across The NSW Population*

Similarly, an inequitable distribution of public health dentists across the NSW population is also clearly seen. For example, residents of Central Sydney and Western Sydney Area Health Services, who are eligible for comprehensive public dental care, have access to substantially more public health dentists on a population basis (11.05 and 6.64 dentists per 100,000 population respectively), than those of other area health services, where as few as 1.05 public dentists per 100,000 may be available (Far West). However, it should be noted that a substantial proportion of treatment occasions of service delivered in the teaching hospitals are in specialist areas and so available to patients outside of the respective area health services.

This maldistribution of public workforce is not confined to rural areas, as some metropolitan areas have fewer public health dentists on a population basis when compared with some rural areas. For example, South Eastern Sydney has only 1.16 public health dentists per 100,000 population, and compares unfavourably with most rural areas. On the other hand, the Northern Rivers area enjoys 3.93 public dentists per 100,000 population, and with the exception of the two area health services containing dedicated dental hospitals (Central and Western Sydney), appears proportionately better served in this regard than any of the other Area Health Services.

These distributions are difficult to understand, but likely reflect different priorities and policies for oral health service in different areas, while Central Area Health Service has accepted responsibility for delivering comprehensive care to adult patients resident in the northern sector of South Eastern Sydney.

## 6.2. Shortages In Dental Workforce Already Affect Private Dental Patients In Rural Areas And This Will Eventually Occur In Metropolitan Areas

As mentioned earlier in this document, It is estimated that by 2010, there a shortfall of approximately 1,500 dental clinicians in Australia, that would be required to maintain already inadequate current levels of service.

The workforce shortages in rural areas and the public system reflect the fact that clinicians generally choose to work in areas which are more lucrative and pleasant. There is a current misconception amongst some that the workforce shortages only impact upon the public system. However, private dental patients are already affected in rural and remote areas, and it is only a matter of time until difficulty is encountered in accessing private dental practices in metropolitan areas.

## 6.3. Current Arrangements Do Not Permit Full Utilization Of Para-Dental Professionals

As indicated in the submission to (d) above, dental teams are not yet properly established in NSW, although this has the potential to significantly improve access to dental services.

### *6.3.1. Bachelor Of Oral Health Graduates Are Not Recognized In The Current Award Structure And Provision Has Not Been Made To Utilize These Para-Dental Professionals*

BOH graduates will have the skills of both therapists and hygienists. As such, the public system will be competing for BOH graduates against a private system paying in the order of $80,000 for hygienist services.

The first NSW trained BOH graduates will become available in 2008. There is no current award for these graduates, but unless salaries appropriate for a three year university degree are offered, BOH graduates will not enter the public system. There appear to be no clear plans for the utilization of these important para-dental professionals.

### *6.3.2. Dental Therapists Are Currently Underutilized*

Despite the significant community demand for the services of dental therapists, it is surprising that many therapists are unable to find work.

Most available positions are in rural and remote areas. It would seem sensible to create additional positions for dental therapists, in communities with need, as well as to establish incentives for dental therapists to work in rural areas.

### *6.3.3. Dental Prosthetists Require Dedicated Positions*

It is accepted that dental prosthetists have the potential to significantly reduce waiting lists for dentures. However, there are no formal guidelines on the employment, utilisation, pay rate or career structure for prosthetists.

For these reasons, it is necessary to create dedicated positions for prosthetists, with the aim of reducing the waiting list for dentures.

### *6.3.4. There Are Very Few Dental Hygienists Available In The Public System*

Dental hygienists have a valuable role to play in delivering preventive services as well as in controlling periododontal disease and supporting, special needs, aged care and orthodontics. For example in Victoria hygienists are able to work independently in nursing homes.

There are currently no dental hygienists providing clinical service in NSW Health. It is suggested that positions with sufficiently attractive conditions and remuneration be created.

It is also noted that wages in the public system are very low as compared with those available in private practice, so that establishment of appropriate wages structures is important.

## 6.4. Insufficient Incentives To Attract And Retain Dental Clinical Staff In The Public System

### *6.4.1. An Inability To Fill Vacant Positions In The Public System*

There are consistently about 60 vacant positions for general dentists in the public system, while few specialist practitioners are attracted to the public service (Table Below). Similar shortages are seen for para-dental professionals while it is currently almost impossible to attract dental hygienists to the public system.

In June 2004, 15% of metropolitan dentist positions remained unfilled, while in rural areas, there 27% of the available positions for dentists remained vacant.

*Table Showing Clinical Staff Vacancies in NSW Public Dental Services in December 2002*

| Staff | Number of Positions Available | Vacancies | Percentage of Positions Vacant |
|---|---|---|---|
| **Specialist Dentists** | 32.7 | 5.5 | 16.8% |
| **General Dentists** | 342.8 | 69.2 | 20.2% |
| **Dental Therapists** | 162.4 | 16.7 | 10.3% |
| **Dental Assistants** | 544.1 | 49.3 | 9.1% |
| **Dental Technicians & Prosthetists** | 71.6 | 4.2 | 5.9% |

NSW Health is unable to compete successfully for dental clinical staff

### *6.4.2. Salaries For Dental Professionals In The Public Service Are Uncompetitive With Private Practice*

Salaries for dentists, dental hygienists, technicians and prosthetists are not competitive in the public system as compared with those available in either institutional or small private practices.

For example, a new dental graduate without previous professional experience commencing work as a general practitioner for an insurance company can expect to earn in the order of $80,000 to $90,000 per year. A general dental practitioner working in private practice can expect to earn between $100,000 and $250,000 per year, while specialists in private practice can earn up to $500,000 per year.

Similarly, dental hygienists earn between $60,000 and $80,000 in private practice, while dental technicians can also earn from $60,000 to $100,000 in commercial practice.

This and similar disparities for prosthetists contribute directly to the currently high vacancy rate for these professions in the public system and it is for this reason that a substantial increase in salary is proposed. A table is provided below illustrating the starting and maximum salaries currently offered by the public system to dental professionals.

It should be noted that a dental specialist will usually have had 5 years of undergraduate training, 3 years of general practice experience, 3 years of MDSc training, 2 years of senior registrar level training and will also have achieved membership of a specialist college through examination.

The low salaries available, account for the large number of vacancies in the public service, with only 231 of the approximately 3,500 registered dentists in NSW working in the public service.

*Table showing current starting salaries as well as the maximum salary currently available under existing State Awards, as at 1 July 2004.*

| | Dental Assistant | Dental Therapist | Dental Hygienist | Dental Technician | Dental Officer | Dental Specialist |
|---|---|---|---|---|---|---|
| Starting Salary | $36,588 | $38,015 | $34,130 | $40,084 | $50,749 | $102,408 |
| Maximum Salary | $44,133 | $54,284 | $37,062 | $57,162 | $91,287 | $118,593 |

Although dental assistant salaries are comparable to those available in private practice, other professional salaries are significantly lower. **Also please note that prosthetists do not have an award.**

### *6.4.3. Loss Of Wage Comparability Between Dental Assistants And Dental Therapists, Hygienists, Technicians and Prosthetists Requires Targeted Wage Increases*

Despite the overall shortage of dental personnel, however, there has been a recent increase of 18% in the salaries of dental assistants, and this has significantly relieved previous shortages for dental assistants in the public service.

An unfortunate effect of this pay rise, however, is that dental hygienist, therapist, technician and prosthetist salaries now compare unfavorably with those of less highly trained dental assistants, and this is seen in the table above.

### *6.4.4. Dental Prosthetists Do Not Have An Appropriate Wage Structure*

Although there are currently 11 prosthetists working in the public sector, there is no award for this group of professionals. Incomes are significantly lower in the public sector for prosthetists as compared with those available in private practice.

Further, it is accepted that prosthetists greatly increase the clinical productivity of dental services by liberating dentists from direct patient contact in the preparation of straight forward dentures and also produce more dentures.

Currently, prosthetists are paid on an ad hoc basis by different public institutions. Prosthetists have two additional years of training and a higher qualification compared with technicians. This qualifies prosthetists to work in the mouth, so that they have clinical treatment responsibilities independent of dentists.

### *6.4.5. Recruitment Of Internationally Trained Dentists*

There has been significant earlier discussion of recruiting overseas trained dentists to work under supervision in the public system. A number of such dentists are already employed by NSW health, and expansion of this program is suggested.

It is stressed, however, that the highest priority is to ensure maintenance of standards at least equivalent to those currently expected of Australian trained graduates. To facilitate this, as well as to assist dentists entering the service in this way, overseas trained dentists should receive supervision and opportunity for continuing education. There is, however, little provision for supporting such overseas trained dentists.

### *6.4.6. A Significant Shortage of Dental Specialists*

Notwithstanding the difficulties in attracting general dental practitioners and academics to the public service and university, it is particularly difficult to attract specialist practitioners to either of these settings.

The effect of this is that training in specialist areas for undergraduate students, post-graduate students, and specialist trainees is severely compromised. This has progressed to the extent that there is now an acknowledged shortage of specialists in most areas of dentistry.

This shortage is most keenly felt in the public system, where wages and conditions are less attractive than in private practice, while rural and remote and regional areas have only extremely limited access to specialist services.

The shortage in specialists is due to the combined effects of:

- The absence of fully funded registrar positions
- The absence of sufficient consultant specialists in the public system to provide training
- Insufficient staffing and infrastructure in the Faculty of Dentistry
- Significant fees charged by the University for specialist training in dentistry
- Inadequate remuneration in the public system

### *6.4.7. There Are Significant Disincentives For Specialist Training*

Unlike medical specialist training, dental specialist training is not College based, but is rather through a University program. However, it should be noted that there are two exceptions in that both Oral Pathology and Oral-Maxillofacial surgery have a College based training system.

Currently, specialist training in most areas of dentistry involves completion of a three year MDSc course, costing around $62,000 in University fees. Hospital service is an important part of the training, and in some cases this is paid by hospitals at the level of a half time dental officer (about $35,000). In many instances, there is no such "registrar" payment, and specialist trainees must incur significant debts for university fees and living expenses. Additional expenses and training are expected through examination for membership of a specialist college, and often time spent working as a "senior registrar", usually paid as a dental officer without specialist qualifications.

This establishes strong disincentives for specialist training, and also makes the further prospect of working in an underpaid public appointment very unattractive.

It should be noted that few specialist trainees are retained in the public system at the current time, while not all specialist trainees work as senior registrars for more than a minimum period.

Clinical disciplines requiring additional staff are:

- Orthodontics
- Paediatrics
- Fixed Prosthodontics
- Removable Prosthodontics
- Periodontics
- Oral Medicine
- Oral Pathology
- Special Care
- Endodontics
- Conservative Dentistry
- Oral and Maxillo-facial Surgery

## 6.5. Inadequate Dental Education And Training Infrastructure

### *6.5.1. A Degrading Dental Educational Infrastructure*

Despite the central role of professional dental education and training in workforce development, the funding and infrastructure for this development has been greatly eroded and is currently unsustainable. In NSW for example, there has been a reduction in the dental academic workforce by more than two thirds over the last twenty-five years, particularly in specialist areas of clinical and academic expertise. Combined with the limited resources available to Australian universities, limited research opportunities, and a world shortage of dental academics, it is increasingly difficult to attract educational staff with the necessary specialist clinical and academic skills to deliver high quality educational and training programs.

### *6.5.2. Limited Clinical Training Time In Undergraduate Level Dental Curricula*

There is only limited time available for clinical training in any dental curriculum, while there is a focus upon technical skills development due to the need for students to be eligible for registration immediately upon graduation. Academic competency is seen to be sacrificed during the undergraduate years. Despite this, however, it is understood that full technical competency is only achieved through extensive practical work in the immediate post-graduation period[17]. This situation undermines the academic basis upon which dental graduates must build their subsequent clinical practice.

These circumstances are in stark contrast to medical practitioner training, where students assume little or no responsibility for patient care during the undergraduate years and devote almost their entire educational experience to academic work. In contrast to dental students, medical students enter a structured internship program after graduation and only then first accept clinical responsibilities and undertake clinical training.

### *6.5.3. Lack Of Integration Of Dental Education With Para-Dental And Other Health Services*

Although establishment of university level training for para-dental professionals provides the opportunity to incorporate integrated oral health teams into dental education, there is little or no integration of para-dental with dental education. Similarly, there is little integration of dental education with that of the wider health team. This limits subsequent effectiveness of oral health

services and fails to take advantage of the opportunity for improved oral health services through engaging the assistance of medical, nursing and other health professionals.

### *6.5.4. A Small Dental Faculty Divided Across Four Teaching Sites*

Although there is only one Dental Faculty in NSW with about 20 full time academics, the Faculty is split between two main teaching hospitals as well as the main campus. In 2005, the Faculty commenced training for the new degree of Bachelor of Oral Health, which is largely taught in Lidcombe at the College of Health Sciences. This introduces unproductive divisions and inefficiencies within this small academic workforce and compromises the provision of quality teaching, learning, and associated assessment.

Although medical faculties are traditionally divided across multiple hospitals, this is not a comparable situation to that of the University of Sydney Dental Faculty. The medical academic community is sufficiently large to ensure that each teaching hospital has enough staff to cope without travel between sites, so that medical academic staff are in general unburdened by the difficulty of working regularly across two teaching hospitals and a central university campus.

In NSW, the dental academic shortfall is currently supported by part time academics and a number of unpaid honorary staff. However, it is generally understood within the dental academic community that this reflects an unsustainable configuration; one that lacks capacity to expand and up-skill the dental workforce in proportion to community need.

### *6.5.5. Academic Wages and Conditions Are Insufficient To Attract And Retain Academic Staff*

There is an international shortage of dental academics. This contributes to difficulty in attracting academics to the dental faculty in NSW, as wages are comparatively low and support for research and conference travel lacking.

Despite the central role of the University in development of both workforce and improved clinical procedures, university funding for dentistry remains inadequate.

As mentioned elsewhere in this document, recent graduates in dentistry are able to earn over $100,000 per year, while specialists may earn from three to five times this amount in private practice. Although not low by wider community standards, academic wages do not compare

favorably with these professional norms, with senior academics earning wages comparable to recent graduates not having any further training. Australian academic wages are low in comparison with international standards.

Although academics are generally prepared to accept significant limitation in income for the sake of pursuing research and higher learning, the wages disparity has combined with limiting working conditions to impede recruitment and retention of academics. A notable example is the recent refusal to accept a position as full Professor in the University of Sydney by an academic working in a provincial university in South Africa.

#### *6.5.6. Dental Educational Infrastructure Is Not Supported To The Same Extent As Medical Educational Infrastructure*

Although dental trainees deliver significant clinical work at the under-graduate level, have an academically equivalent level of training to medicine, and bear similar clinical responsibilities to medical graduates, the State level of support for dental education is significantly lower than that for medical education.

The total funding committed to dental education is much less than that currently invested in medical education, so that as long as NSW Health accepts the responsibility for supporting medical education at its current level, it seems difficult to understand why dental education should not receive similar, albeit modest, support.

It is stressed that there is only one Dental Faculty in NSW, and this unique status compared with any medical faculty would seem to make the adequate support of dentistry a matter of special State priority.

#### *6.5.7. There is No Parity With Medical Clinical Loadings For Dental Academics*

The clinical loading of approximately $10,000 available to dental academics is one half that afforded medical graduates with similar training and responsibility. It should be noted that in comparable countries, such as the United Kingdom, there is parity between medicine and dentistry.

#### *6.5.8. Junior Dental Academics Have Exceptional Difficulty*

The income differential between private practice and academic salaries is most significant for junior academics, who are employed at associate lecturer or lecturer level with about half the

salary attainable in private practice. It is particularly demoralizing for junior academics to find they earn significantly less than the newly graduating students they have personally tutored.

### *6.5.9. There Is Insufficient Support For Research Activity*

Funding mechanisms for research activity within the University system are increasingly aligned towards support of large groups and institutions. This significantly disadvantages the Faculty of Dentistry because of its small size. The consequent lack of research funding undermines academic work, recruitment and retention.

### *6.5.10. There Is No Support For Continuing Education And Conference Participation*

Despite comparatively low wages as compared with clinical colleagues, dental academics in NSW typically bear the full cost of conference travel and continuing professional education. A lack of funding for these activities undermines academic activity and provides further disincentive for dental academics to come to NSW.

### *6.5.11. Dental Academics Bear A Disproportionate Teaching Load*

Dental academics carry a disproportionate student teaching load in large part because of the intense student supervision required for clinical training. This greatly exceeds that in other university clinical courses, as dental students are unique in performing irreversible surgical procedures on patients during their undergraduate course.

Clinical mentors have proven highly effective in carrying much of this burden, but are very difficult to attract given current academic funding mechanisms. Few mentors are prepared to work for the University more than half time while funding for these positions is uncompetitive with wages in private practice. Finally, there is insufficient funding to employ enough clinical mentors.

Similarly, suitably trained "problem based" tutors are important for delivery of the current Problem Based curriculum. Attempts to engage such tutors on a purely honorary basis have had very limited success, while paid tutors have proven extremely helpful in this part of the curriculum.

Funding dedicated to supporting clinical mentors and problem based tutors does not seem, however, readily available in the context of current university funding formulae.

### *6.5.12. Despite Currently Inadequate Funding, Expenses For The Faculty Are Approximately 23% Above Income*

Regardless of the restricted academic funding indicated above, Faculty expenditure is approximately 23% above income.

### *6.5.13. A Relative Reduction In The Proportion Of Local Dental Students*

With reducing university funding, there has been an increased reliance upon fee paying international students. APOH recognizes the importance of this both in fulfilling Australia's responsibilities in international development, as well as in maintaining the financial viability of the dental faculty. However, there is concern that many international students will leave NSW after graduating from dentistry to work in their home countries, and this may undermine attempts to develop the local dental workforce.

### *6.5.14. University Internal Redistribution Of Funding Appears Excessive With Regard To Facilities Provided For Dental Education*

Federal funding of universities is recognized as having become significantly restricted in comparison with past and present needs. Seemingly in response to this, internal taxation mechanisms have evolved within the University, which ensure funding of central facilities and services. The effect of this is that, depending upon the source of funding, significant monies attracted or awarded to the Faculty of Dentistry for its activities from Government, fee paying students or other sources, are withheld by the University and thus not directly available for dental education.

Although the necessity for internal taxation arrangements is readily apparent, details of these internal redistributions are not readily available. In some circumstances, funding in the order of 50% is directed towards central rather than dental activities.

It must be appreciated that there are no dedicated Faculty offices or teaching facilities on the main campus, and that these are entirely provided by the two dental hospitals. Similarly, all teaching for the two senior years is in the hospitals, while in the two junior years, less than 9 out of an approximate 22 Hr of teaching per week is spent on campus away from the hospitals.

A review of internal taxation by the University reflecting the structural configuration could improve the resources available for dental education in NSW.

## 6.6. The Absence Of Mandatory Continuing Education For Oral Health Professionals

There is a significant need for skills enhancement throughout the entire dental workforce in order to ensure the safe delivery of dental services to the increasingly aged and medically compromised population, as well as to develop oral care teams enlisting para-dental personnel. Despite this growing need, in most Australian states and territories there is no mandatory requirement for continuing education by members of the dental workforce, including registered dentists[15]. This suggests a need for uniformity in mandatory continuing education in the oral health sector at the national level.

# 7. Submission Regarding Term of Reference (f)

# "preventive dental treatments and initiatives, including fluoridation and the optimum method of delivering such services"

## 7.1. Fluoridation Is Not Universally Available

### *7.1.1. Fluoridation Is Currently At Council Level And Establishment Fully Subsidized By NSW Health*

Fluoridation is not mandatory across NSW, with individual councils determining whether or not fluoride is included in the water supply.

NSW Health carries 100% of the initial capital costs for fluoridation plants, but councils bear the subsequent maintenance expenses. Maintenance expenses vary from 40c to $4.00 per rate payer per year.

### *7.1.2. Legislative Change Is Necessary To Expand Fluoridation Across All NSW Councils*

It is recommended by the National Oral Health Plan that councils having populations of over 100,000 have fluoridated water.

Ideally, legislative change would be enacted, removing the responsibility for fluoridation from councils, and mandating this as a NSW Health responsibility. In this way, legislation would be mandating rather than enabling.

One possible approach would be to make fluoridation of both public supplies and bottled water a legal requirement for the licensing of water authorities and bottled water producers. This may be done under the new revision of the NSW Public Health Act or Water Licensing Act. Once this is done, the 1957 Fluoridation of Public Water Supplies Act could then be repealed.

Further, NSW could propose to the NH&MRC that their Drinking Water Standards must now include a requirement for fluoride content at an appropriate level.

## 7.2. Oral Health Promotion Activities

A strong focus on the promotion of health, and prevention and early identification of disease must underpin any funding initiative for oral health. Broad population measures, such as fluoridation of water supplies, can lead to dramatic improvements in oral health and savings in dental treatment costs. For example, in the US, for large communities of more than 20,000 people, it costs about 50 cents per person to fluoridate the water. Every $1 invested in this preventive measure yields $38 savings in dental treatment costs (National Centre for Chronic Disease Prevention and Health Promotion 2004, *Improving Oral Health*, Centre for Disease Control and Prevention, Atlanta, USA).

To make sustainable gains in oral health, consumers and communities must be involved in making choices and participating in decisions about oral health. This requires education to achieve an appropriately skilled workforce and communities that are empowered to support and promote oral health.

APOH estimates that substantial gains could be made in oral health if each area health service employed an oral health promotion team of from two to four people. This, however, is currently not the case, with only a patchy commitment by different Area Health Services to oral health promotion activities.

# 8. Submission Regarding Term of Reference (g) "any other relevant matter"

## 8.1. Inaccurate Perception Of Dentistry

The current difficulties facing dentistry appear at least in part to reflect misunderstandings by decision makers and the wider community of the scope and importance of oral health.

Fluoridation is incorrectly thought to have totally overcome the problem of caries, while dentists are largely considered to be "tooth carpenters" delivering primarily cosmetic services. As detailed above in the "Background" section of this document, dentistry is currently perceived as an ancillary health service rather than a core health service. The lack of integration of dental services with general health services at all levels, including education, service, insurance, administration and government, has resulted in an overall decrease in the health status of the population. Oral health is only occasionally and peripherally recognized as an ancillary health service.

An improved appreciation by political and health leaders of the extent and significance of oral disease is important for enduring improvement to be possible in this area of health.

## 8.2. There Have Been Numerous Oral Health Reports And Very Little Action Taken

### *8.2.1. Numerous Reports With Significant Overlap*

There have been at least 7 reports relating to oral health available to the NSW Health since 2000.

There is great overlap in the content and recommendations of the reports, which generally indicate a need to build up workforce, invest in training, spend more money on services and deliver more preventive services.

A Workforce Group is currently convened and will most likely generate very similar recommendations.

A list of reports is provided below:

1) DENTAL LABOUR FORCE, AUSTRALIA 2000, DN Teusner, AJ Spencer, AIHW (Indicates the need to increase workforce)
2) DRAFT REVIEW OF STATEWIDE AND SPECIALTY ORAL HEALTH SERVICES 2002 (39 Recommendations made, 1 Recommendation has had either significant progress made or been completed)
3) REVIEW OF DENTAL EDUCATION AND TRAINING IN NSW, ISSUES PAPER, SEPT. 2002. NSW HEALTH. A working party similar to the current Workforce Group. (6 Recommendations made, 2 Recommendations have had either significant progress made or been completed)
4) THE 2002 NSW ORAL HEALTH WORKFORCE PLANNING PROJECT. A draft report to the NSW Dept. of Health, Oral Health Branch from AIHW. April 2002 (This report has never been released, but may be published some time in the near future - 16 Recommendations made, 0 Recommendations have had either significant progress made or been completed)
5) NATIONAL ORAL HEALTH PLAN 2004. Prepared by the National Advisory Committee on Oral Health. Established by the Australian Health Ministers Conference. (7 Recommendations made, 0 Recommendations have had either significant progress made or been completed)
6) NSW WORKFORCE ACTION PLAN 2004. (15 Recommendations made, 3 Recommendations have had either significant progress made or been completed.)
7) NSW ORAL HEALTH PROMOTION: YOU CAN'T BE HEALTHY WITHOUT GOOD ORAL HEALTH. NSW Health, Oral Health Promotion Statewide (NSW) Steering Committee (2004) (Mentioned above. Many recommendations, which can be summarized into 3 Major Recommendations made, 0 Recommendations have had either significant progress made or been completed.)

#### *8.2.2. Of 86 Separate Recommendations, Only 7 Have Had Substantial Action*

Despite significant discussion and reportage to NSW Health, of the 86 separate recommendations made across all reports, only 7 have had substantial progress. It must be noted, however, that there is substantial overlap amongst these reports, and that most of the recommendations where action has been taken relate to the recently introduced Bachelor of Oral Health and are essentially the same action.

# 9. Recommendations By APOH For Substantial And Enduring Improvement In NSW Oral Health

## 9.1. Strategic Investment In Oral Health

APOH suggests that increased funding is required to overcome the challenges faced by oral health in NSW. Funding should particularly be targeted towards:

1) Overcoming the inadequate dental workforce (especially in rural and remote areas)

2) Capacity Building:

a) Overcoming the inadequate educational infrastructure for creating and replenishing this workforce

b) Establishing the necessary building, administrative and clinical infrastructure for enduring and sustainable high quality service and education.

## 9.2. Some Specific Funding Initiatives

The following recommendations are representative of APOH members, and form the direction in which APOH believes the oral health agenda must move for success. APOH suggests a number of inter-connected and integrated actions addressing the identified challenges in a coherent and cost-effective manner. It is APOH's belief that if the following recommendations made were to be fully implemented, there would be a demonstrable improvement in the provision and quality of dental services throughout suburban, rural, and regional areas within three years. More importantly, long-term sustainability of private practice, public service, and the education and training of the professional dental workforce would be achieved.

### *9.2.1. Develop And Implement Improved Oral Disease Preventive Programs To Reduce Community Disease Load*

In particular, this would involve the expansion of fluoridation of water supplies to areas currently without this amenity, and the development and implementation of preventive educational programs for the common oral diseases. Also, there should be development of effective oral health promotion campaigns. These should be integrated with other

community general health initiatives wherever synergies in efficiency and or effectiveness seem apparent.

***9.2.2. Develop Oral Health Information Services To Address The Uncharted Increase In Health Problems And Aid In Assessing Treatment Needs And Resource Allocation***

*9.2.2.a. Further Development Of The National Oral Health Survey As Well As Expansion Of This At The State And Territory Level*

Although current data indicate a growing need for oral health services, additional data is required for proper health planning with regard to needs in both public and private sector oral health services. The proposed survey should be in collaboration with and complement the currently planned National level surveys, and result in establishment of a database that will be appropriate to use as a basis for planning and policy development for all aspects of dental service provision and related dental workforce development.

*9.2.2. b. Institute A Mechanism For The Collection Of Routine Dental Data*

This will enable the monitoring of oral health status, oral care outcomes, and facilitate planning and policy development.

*9.2.2.c. Establish An Office In The Federal Department Of Health Dedicated To Oral Health*

This will improve the quality of information and advice available to the Health minister with regard to oral health and also provide increased opportunity for oral health to benefit from wider National level health initiatives.

***9.2.3. To Address The Insufficient Dental Workforce And Increase Access To Dental Care***

*9.2.3.a. Expand Current Public Dental Services At Major Teaching Hospitals And Community Based Dental Service Centres*

To improve availability of public oral health services, the treatment potential of current major infrastructure building infrastructure should be enhanced by expansion of existing

major dental hospitals, with strengthened specialist services. This should be extended to expand existing and new community dental clinics, particularly in regional and rural areas. Also, oral health services should become integrated with other community and hospital based health services as part of the broader health team.

*9.2.3.b. Expand The Dental Workforce Through The Training Of Increased Numbers Of Dental And Para-Dental Professionals, Proportionate To Community Need*

In particular, workforce numbers should be based upon combined current and projected oral health needs and demands for the delivery of preventive, curative, and palliative services. To address the current imbalance between the proportion of the population eligible for public dental service and the number of oral health professionals within the public sector, much of this workforce expansion should be within the public health services. This would include the development of suitable incentives for retaining oral health professionals in the public sector, as well as expansion of both current dental hospitals and existing community dental clinics, particularly in regional and rural areas.

### *9.2.4. Implement A Dental Team Model For The Safe And Appropriate Deployment Of Para-Dental Personnel*

APOH suggests the development of dental teams consisting of para-dental professionals, led by dentists and these would work in the context of the broader health team. Dentists would be responsible for oversight of diagnosis and treatment planning, delivery of complex treatment, and management of medically compromised patients, but would deliver much of their treatment by prescription to para-dental personnel who would have an expanded role relative to that currently held.

The lower costs associated with service delivery by such oral care teams would facilitate the delivery of public dental services utilizing private practice infrastructure and also make more comprehensive private dental insurance possible. The creation of such oral care teams also has implications for expanding the dental workforce in rural and remote areas, thus increasing the availability of, and access to, dental services. Specific recommendations for the training and specialist support of these teams are made below.

### *9.2.5. Develop Improved Payment, Insurance, And Taxation Regimes, More Consistent With Sustainable High Quality Public And Private Practice*

In particular, it is suggested that payment schedules for dental services be shifted from an "occasions of service" and a "piece-work" based system in public and private sectors respectively, to one reflecting the complexity of services delivered. There should also be inclusion of dental services in the case mix formula for hospital in-patients, increasing the viability of high quality hospital based oral health services. Improved comprehensive dental insurance mechanisms should be developed as well as taxation mechanisms, which support continuing education and practice sustainability, particularly in regional and rural areas. Combined with and supporting these changes, there should be improved public funding for dental services as well as for the professional education and training of all categories of dental workforce personnel. Further, improved remuneration and other incentives, including access to continuing education and professional development, must be established to improve retention of dental and para-dental professionals in the public health system, particularly in regional and rural areas.

### *9.2.6. APOH Recommends The Following Changes To Address Professional Education, And Training Infrastructure Deficiencies*

#### *9.2.6.a. Include The Study Of Oral Diseases In The Core Curricula Of Medical And Other Health Professionals*

This should include the basic skills of oral screening for pre-cancer and cancer, as well as diagnostic skills for the more common oral diseases and learning in appropriate principles of management. In addition, there should be training in the principles of preventive oral care. APOH will also encourage integration of oral health services with the broader community and hospital based health services. Similarly, through continuing education for the current medical practitioner workforce, APOH will encourage the introduction of programs that will include the basic principles of oral disease prevention, diagnosis and management in relation to common oral problems, including dental emergencies.

*9.2.6.b. Uniform Introduction Of Mandatory Continuing Education For Professional Dental And Para-Dental Personnel*

To facilitate progressive enhancement of dental services, mandatory continuing education for all registered dentists, and other professional dental workforce personnel should be introduced. This should include the important and growing areas of management of the aged and medically compromised, as well as in detection and management of oral pre-cancer and cancer.

*9.2.6.c. Introduction Of An Improved Educational Model*

In this model, as suggested above and detailed below, there will be interns, registrars and para-dental professionals, working in oral care teams. The implication of this model is an expansion of the dental workforce in a highly cost-efficient manner. The establishment of such integrated oral care teams would greatly increase service availability and access in regional and rural areas.

*9.2.6.d. Introduction Of Vocational Training Equivalent To The Medical Internship Period Following Undergraduate Level Dental Training*

These trainees would work in hospitals, community health centres, and in selected private practices, thus greatly expanding the available dental public health workforce. More senior trainees would also be available for service in regional and rural areas on a rotational basis where they would be incorporated within oral care teams.

Importantly, by relieving the need to achieve registrable technical skills prior to graduation, this model would enable dental students to focus better upon achieving higher levels of academic competency. In this way, dentists would be better prepared to manage patients with complex medical conditions as well as to lead teams of professional para-dental personnel safely.

To support this, APOH will seek support at the Federal level for this model, to facilitate the necessary national level policy for effective implementation of a vocational training year.

9.2.6.e. Expand Conjoint Appointments In Clinical Specialties Between The Universities And Dental Hospitals, With Concomitant Introduction Of Fully Paid Registrar Appointments

This will strengthen the clinical specialties and help ensure maintained access to high quality specialist staff for both the Faculty and Hospital. Fully paid registrar positions under the supervision of specialists with conjoint academic and hospital appointments would make specialist training more attractive to talented graduates and also help ensure the sustainable future of specialist services. Importantly, this would greatly expand the available specialist services in the public system, with senior registrars being available on a rotational basis to regional and rural areas. Such rotations could be integrated with those of interns, providing mechanisms for high-level supervision of interns in otherwise professionally isolated environments. Because registrars are paid at a lower rate relative to specialist consultants, the cost of specialist service delivery will be reduced.

9.2.6.f. Integrate Education And Training For All Oral Health Professionals In Oral Care Teams, Based At Major Central Academic Hubs

These teams would include dentists, dental specialists, dental assistants, dental hygienists, dental prosthetists, dental technicians, and dental therapists. These teams are also envisaged as working together with the broader health team in community and hospital settings.

In this context, it is understood that dental therapists would continue their current role in the diagnosis and treatment planning for children, with referral to dentists for complex treatment. It is also envisaged that there would be expanded practice of dental therapists with delivery of restorative dental services to adults upon prescription by dentists within teams. Similarly, dental hygienists would also continue work in a similar capacity to that which is current, and essentially in the context of dental teams delivering treatment on prescription by dentists. Also, dental prosthetists currently work in independent practice, while involvement in dental teams will be via referral.

By ensuring close collaboration and referral between dentists and para-dental professionals, particularly with regard to diagnosis, treatment planning, and management of complex cases, this model would ensure safe but greatly increased rates of delivery of dental services, at a lower community cost than would be possible by dentists acting alone.

*9.2.6.g. Academic Hubs Should Be Located At Dental Hospitals With Full Specialist Services And Fully Integrated With Major Tertiary Referral Medical Teaching Hospitals*

This model will not only facilitate high quality dental education and training, properly integrated into general health education, but also provide opportunity for coordinated clinical, laboratory and public health research.

Academic hubs so located would expand opportunities for continuing education of dental and para-dental personnel in the management of medically complex patients, and provide opportunities for integrated training of medical and para-medical personnel in oral health prevention and screening, as well as the management of common dental emergencies. This model would also improve the efficiency and reduce costs of dental education, currently fragmented across multiple sites.

Such academic hubs will facilitate high quality teaching and also have the effect of helping to attract and retain high quality academic staff as well as improve the ability of academics to undertake basic and clinical research.

In NSW, the proposed academic hub integrated with a general medical hospital, could be newly built into an existing general hospital, or alternatively, could be formed within the context of the Westmead Centre for Oral Health associated with Westmead Hospital. Regardless of the location of the hub, senior students in all of the oral health professions would be expected to work on a rotational basis in both of the major dental teaching hospitals. This would take advantage of the differences in case load and demographics of the two institutions such that students would benefit from the experience of working in different clinical environments, and acquire skills in independent team-based work while safely supported by a major dental hospital.

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