Submission to the
Select Committee into the Provision of and Access to Dental Services in Australia, Parliament of Australia
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24th of May 2023

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List of Appended References

Reference No.	Reference Appended to This Document
5	Zoellner, H., *Dental Medicare uptake now up to the profession*, in *Medical Observer*. 2008, Medical Observer. p. 22-23.
6	Zoellner, H., *Dental Medicare a bridge too far*, in *The Weekend Australian*. 2009, The Australian Newspaper. p. 1.
7	Zoellner, H., *The roots of decay (Special Series, 2020 Vision)*, in *Sydney's Child*. 2010: Sydney. p. 26-28.
8	Zoellner, H. Should dentistry be covered by Medicare? *The Sydney Morning Herald*, **2011**
9	Zoellner, H., *How to make public dentistry work*, in *Health Voices*. 2012, Consumers Health Forum of Australia: Deakin, ACT. p. 18-19.
10	Palfreeman, V.; Zoellner, H. Description of comprehensive dental services supported by the Medicare Chronic Disease Dental Scheme in the first 23 months of operation*. Aust N Z J Public Health*, **2012**. *36*,69-75.
11	Association for the Promotion of Oral Health, A.P.O.H., *Ten-point plan for improved oral health in NSW final draft costing, requested by the Health Minister the Hon Moris Iemma*, in *APOH Documents*, H. Zoellner, Editor. 2005: Westmead Centre for Oral Health. p. 65
12	Zoellner, H., *Dental reforms: want a lesson in spin?*, in *Australian Doctor*. 2012. p. 2.
13	Association for the Promotion of Oral Health, A.P.O.H., *Dental education in Australia: Unique opportunities for the University of Sydney*, in *APOH Documents*, H. Zoellner, Editor. 2008: Westmead Centre for Oral health. p. 36.
	The Following Three References (14, 15, 16) are embedded in the folio documents that comprise Reference 13, and can be found out of order at the back of Reference 13
14	Baum, B.J. Inadequate training in the biological sciences and medicine for dental students: an impending crisis for dentistry. *J Am Dent Assoc*, **2007**. *138*,16, 18, 20
15	*$3.5m grant just the drill*, in *Daily Telegraph*. 2997: Sydney.
16	Heath, E., *Finally, a home for the university's dental students*, in *University of Sydney News*. 2007.

List of Figures and Tables

Abbreviations

APOH	The Association for the Promotion of Oral Health
CUDM	Comprehensive Universal Dental Medicare
DVA	Department of Veteran's Affairs
MCDDS	Medicare Chronic Disease Dental Scheme (2007 to 2012)

Executive Summary

I am a senior academic, and worked in the Sydney Dental School for many years. In addition, I was the Chairman of the Association for the Promotion of Oral Health (APOH), which was a think-tank and advocacy group for improved oral health. As such, I am well informed of the issues explored by the terms of reference of this Inquiry.

While I am in complete agreement with all of the opinions and recommendations made in this submission, I stress that they are not the result of my personal enquiry alone, but are the culmination of many years of analysis and collegial discussion within APOH as well as with external stakeholders. As such, all of the arguments and recommendations presented have been carefully considered and reflect the opinion of a broad and informed community with cogent skills and backgrounds. The only exception to this relates to some very recent matters in the Sydney Dental School, where input has been from a smaller circle of academic colleagues.

A brief introduction and foreword that puts my background and the work of APOH in context of the current document is provided, especially with regard to the Medicare Chronic Disease Dental Scheme (MCDDS) that ran from late 2007 to 2011, and delivered comprehensive dental care for about 1.5 million Australians. This is followed by detailed responses to each of the terms of reference of the inquiry.

Comprehensive Universal Dental Medicare (CUDM) is recommended as a key factor for establishment of high quality dental care in Australia. Effects of Federally funded CUDM on improving the quality of care in the State funded public dental services is discussed, as is the further effect of CUDM in supporting redistribution of the dental workforce to metropolitan areas of need. The need for establishment of National guidelines for dental diagnosis and treatment planning, together with central monitoring of CUDM use is detailed. Data from the MCDDS is used to illustrate how a new CUDM program could best be constructed. Data from the MCDDS also demonstrates the falsehood of numerous claims that were used to justify closure of the MCDDS, including that: the scheme was widely abused by greedy dentists; that it was not targeted to real need; and that it was exploited by appreciable numbers of millionaires. Most importantly, MCDDS data is used to show that the costs of CUDM are inherently self-limiting, and that MCDDS data can be used as the basis for planning progressive roll-out of CUDM on a means-tested basis, to eventually include the entire Australian population. A roadmap for CUDM implementation is provided, that would avoid either swamping the available dental workforce or creating fiscally unacceptable cost blow-out.

Related to the CUDM, an alternative approach to improving access to dental services that Federal governments have previously applied, is to simply give States money to support dental public services. While this may be simple and attractive, it has typically failed to achieve significant or lasting improvement and the reasons for this are discussed.

In addition, numerous other recommendations are made, many of which were part of a detailed costing and implementation plan prepared in 2005 on request of then NSW Health Minister M Iemma. The costing and implementation planning document is appended, and also contains numeric projection of the effect of implementation on improved clinical outputs for public dental services, as well as a detailed approach to monitoring the results. Although that document was clearly written for State level service, most recommendations can be readily adapted for implementation at the Federal level, while others could be led by the Federal government in collaboration with the States. Amongst the recommendations in that document are: introduction of dental internships; establishment of competitive wages for public dental clinicians; expansion of the dental and para-dental clinical workforce together with fostering of team-based care; rural and remote dental scholarships; educational building and facilities infrastructure; establishment of conjoint specialist appointments between public dental hospitals and universities; similar establishment of specialist registrar trainee appointments; legislation and support for fluoridation; establishment of a more effective Oral Health Surveillance system; and enhancement funding for education, training and research. Aspects that would specifically enhance access to care in rural and remote areas are discussed. A further recommendation is for the creation of the position of a Federal Chief Dental Officer, together with a supporting office in the Federal Department of Health.

Some general difficulties that undermine the quality and training of the dental workforce are discussed, while a number of specific issues related to the dental school in the University of Sydney, which is the school I am most familiar with, are also discussed. This document is only lightly referenced, although I do append a number of the referenced documents where I believe these have particular value expanding on the text provided, or could not be obtained by any other means.

Introduction and Foreword

I was till recently the Head of Oral Surgery, Medicine and Diagnostics in the Sydney Dental School at the University of Sydney, but perhaps more relevant to the Committee is that I also served as the Chairman of the Association for the Promotion of Health (APOH).

APOH is now discontinued, but for a period of ten years it served as an influential think-tank and advocacy group for improved oral health. A central working group of 8 to 10 dental academics and public health professionals would meet weekly, and were supported by a broad Council of 30 or so stake-holders from across the dental industry and wider community. There was a further general membership of around 350 people. This structure ensured a highly informed discussion, that provided I believe excellent advice to all sides of politics across both State and Federal jurisdictions from 2003 to 2013.

With informed analysis, came active advocacy for the recommendations we formulated. While we advocated numerous recommendations for improved State delivered dental health services, of particular relevance to the current Inquiry was our conviction that Comprehensive Universal Dental Medicare (CUDM) comprised an important part of the matrix of changes needed to address failed dental services in Australia.

We found all sides of Government refractory to interest, but also found that enhanced public concern through an active media campaign heightened both Government and Opposition sensitivity. We were delighted when dentistry became an election issue across jurisdictions, and were even more pleased when the Howard Government introduced the Medicare Chronic Disease Dental Scheme (MCDDS) as a trial of CUDM focused sensibly on people who had medical need for dental care. Less pleasing was closure of the MCDDS by a subsequent government, based on spurious arguments and in frank and opposition to verifiable empirical facts.

It is unfortunate that no one was prepared to accept the leadership of APOH, after I relinquished that position when I left Australia in 2013 for a year and a half to work in the United States. As such, that source of informed and independent analysis and advocacy was lost and has not been re-established.

Nonetheless, I retain a clear understanding of the analysis and arguments upon which APOH recommendations were based. Because little has changed since that time, I do believe that the same advice applies now as then, and I will present APOH recommendations in context of the Committee's terms of reference.

Included with this document is previously unpublished numeric analysis of the discontinued MCDDS, together with data that has been published. This includes numeric demonstration that the cost of the scheme was both reducing and self-limiting, and this provides sound basis for how CUDM could be implemented for the entirety of the public, via a process of slowly expanding eligibility. I also describe how legitimate difficulties that were encountered in the MCDDS, could be sensibly addressed in any new CUDM scheme.

If there is interest, I would be very happy to assist in analysis and modelling of MCDDS data, based on the method I established and have published in a peer reviewed journal. Considering that the MCDDS delivered CUDM for one and a half million Australians, the 2007-2012 trial of dental Medicare was enormous, and the collected data provides a solid basis for proper numeric planning and roll-out for any new CUDM program.

A number of newspaper and magazine articles are attached that clearly explain key APOH arguments in a readily digestible way. With regard to an approach to improving State dental services that the Federal Government could support, I include a detailed costing and implementation plan prepared on request of the then NSW Health Minister in 2003. The costings are clearly out of date, but the formal arguments, implementation plan and projected effects on service outcomes still apply, and could be adapted to needs across any State jurisdiction.

As is evident from the appended newspaper and magazine articles, good policy and Government action in dentistry have been badly undermined by political processes. I write this in the hope that the Committee and current Government will find it possible to rise above entrenched frictions to put the people first, and to deliver dental health care commensurate with that in the rest of our otherwise outstanding health care system.

There remains no biomedical reason for the current separation of dental care from that of the rest of the body. It is grotesque that Medicare covers management of abscesses everywhere, except the mouth. It is obscene that people with facial disfigurement following cancer or accidents, are denied prosthetic reconstruction of the mid and lower face, just because 'that's dentistry'.

Prof Hans Zoellner

24th May 2023

Recommendations Relating to the Terms of Reference

a. The experience of children and adults in accessing and affording dental and related services

The Committee will have received numerous submissions documenting failed access and affordability of dental services.

There is further separate long documentation that spans many decades demonstrating that over a third of the population is unable to access dental care. Additional to the challenges of health service provision in rural and remote areas, cost is a major barrier no matter where Australians live.

Dental infection remains a major cause of preventable hospitalisations, including life-threatening infections. Antibiotics are frequently prescribed by both dentists and doctors to manage dental infections that could easily have been prevented by routine dental care [1]. Dental infection has now been long recognised as a significant contributor to ischaemic heart disease, stroke and low birth weight pregnancies [2], but even these disturbing associations have not jolted successive governments into determined action to control and prevent dental disease for all Australians.

The Committee must be concerned that current circumstances are not appreciably improved from those documented in newspaper and magazine articles almost twenty years ago [3, 4].

Comprehensive Universal Dental Medicare (CUDM) can alleviate this problem, as I outline below and in earlier published articles [1, 5-10].

b. The adequacy and availability of public dental services in Australia, including in outer metropolitan, rural, regional and remote areas

b.i. Low Income Metropolitan Areas Cannot Support Enough Dental Practices to Satisfy Clinical Needs

It remains remarkable that the number of dentists per 100,000 population in South Western Sydney, is comparable to that in most rural areas that are widely acknowledged as having an insufficient dental workforce. The reason for the lack of dentists in South Western Sydney has nothing to do with being rural or remote. The reason is that there is simply not enough cash in peoples pockets to support enough private practice dentists to satisfy health needs. As such, dental health needs are simply not met.

b.ii. Public Dental Services Are Unable to Make Good the Deficit and Deliver Poor Dentistry for Poor People

Although State delivered public dental services are generously available to the 40% or so of people who need them, they remain inaccessible because the public dental service is only able to attract and retain in the order of 10% of the dental workforce. 10% of the workforce can serve at best, just 10% of the public, so 30% must do without.

One result of this is that public dental services are mostly focused on basic dentistry often related to pain relief, and are able to deliver comprehensive and preventive dental care to only some of the patients who attend. Competent and highly dedicated public dental professionals are understandably annoyed when public dentistry is described as 'poor dentistry for poor people'. They serve as best possible in their given circumstances, but that shocking description remains nonetheless essentially correct. Please note the entirely opposite situation when public hospitals and community health care centres are considered instead. In medicine and most areas of health, primary health care is outstanding in the public system.

It is noteworthy that waiting lists and waiting times are chronically long for public dentistry. Most people who may be eligible for treatment simply don't apply, because they have no reasonable hope of being seen in reasonable time, or even of getting reasonable treatment.

Attempts by both Federal and State governments to spend the problem away by giving States more money, have demonstrably failed [9]. No matter how much money is made available, it has remained impossible to significantly increase the number of dental clinicians prepared to forego the financial and professional advantages of working in the private sector, for the rigors and frustrations of working in the public system.

Perversely, in many public dental clinics, additional funding actually reduces the efficiency of the public system. Because additional funding often cannot be fully spent on clinical salaries to deliver more services, patients are issued vouchers by public dental clinicians for treatment in the private sector. Public dental clinicians are thus diverted from actually treating patients, to writing vouchers instead.

In addition, when Federal funds have been made available for State dental services, States have not been obliged to ensure that their own proportionate investment is at least comparable, so that NSW for example has typically committed about half as much spending per head of population, compared with Queensland for example (For a graph illustrating this, please see Page 2 of reference [11] appended) . Federal funding appears to have been used as an excuse to reduce State spending, with impacts that further undermine the State system when Federal funds eventually and inevitably stop cease [9]. For this reason, any Federal funding to States for dental services, should be made contingent on the States first committing to an agreed minimum level of funding per person.

b.iii. Comprehensive Universal Dental Medicare Would Overcome These Problems

Provision of Comprehensive Universal Dental Medicare (CUDM) can address these problems [9] (Please find this reference attached for more detail).

Firstly, CUDM would make it possible for the great majority of those people eligible for public dentistry but unable to get past the waiting list, to simply attend private dental service instead. The waiting list would all but vanish overnight [9].

Further, the public dental service would be relieved of the impossible task of delivering comprehensive dentistry to almost half the population, with just a tenth of the workforce and an even lesser percentage of National dental expenditure. Instead, the public system could focus on delivering comprehensive dental services to the 5% to 10% of the population that has systemic diseases or other health conditions, that make treatment in private dental practices either dangerous or unprofitable. Public dentistry could then become, 'outstanding dental service for those who cannot safely get it elsewhere' [9]. This would also transform the training environment for dentists and other health professionals, who are educated in the public dental system and need to become increasingly competent at safely treating the ageing and progressively more medically complex population, a matter of relevance to term of reference (i), (Section i below).

Also, so long as rebates in CUDM are commensurate with viable private practice, CUDM would make it possible for dental practices to locate and survive in areas of need, such as South West Sydney [9].

Supporting the impact of CUDM on public dental services, is that the waiting public dental waiting list for reduced by about one third during the time of the Medicare Chronic Disease Dental Scheme (MCDDS). That disproportionate beneficial effect was because many people eligible for public dentistry also suffer chronic medical disease that made them similarly eligible for the MCDDS. They could thus access care in private practice, and so were no longer 'on the list'. Closure of the MCDDS restored the public waiting list to its former inflated state.

From the above, introduction of CUDM would not only remove the current cost barrier for primary oral health care, but would also allow transform the public dental services from a state of chronic failure to becoming a successful and effective part of our national health system. CUDM would also support the redistribution of dental workforce needed to satisfy needs of large but currently under-served metropolitan communities.

It is acknowledged, however that CUDM would not necessarily of it's own accord be sufficient to bring services to rural and remote areas. For this, I refer you to some of the recommendations made in an APOH draft costing and implementation plan, requested by former NSW Health Minister Iemma, as described below (Sections b.iv.1, internships with rural rotations and rural clinical mentors; b.iv.4, rural and remote scholarships; and b.iv.7, specialist registrar positions with senior registrars rotating to rural areas).

b.iv. A Set of Ten Recommendations for Improved NSW Public Dental Services Could Be Applied Nationally

Please find attached with this document, a detailed costing and implementation plan for improved oral health that APOH prepared in 2005 on request of then Health Minister Iemma in NSW [11] (document appended).

In that document, we provide details of how and why a series of ten separate but integrated initiatives could be implemented to improve NSW public dental services. We provide detailed costings, an implementation plan, and a structure and strategy for monitoring outcomes relative to investment. We also provide estimates of the numerical impact of our recommendations on increased adult and child general and specialist services [11].

Although the numbers shown are now out of date, the essential recommendations, proportionate costings, implementation plan and projected effects remain sound [11].

Detailed rationales and explanations are provided in the attached document [11]. Nonetheless, I summarise each of the recommended ten points below.

b.iv.1. Introduction of a Dental Internship Program

Currently, dental clinicians are fully registered immediately upon graduation. Unlike medical graduates with comparable responsibilities, dental graduates perform irreversible surgical procedures on patients without supervision the first day they work in practice.

This compromises didactic dental training, because a minimum level of competence requires very large amounts of time to be devoted during training to supervised clinical tuition.

We advocated for introduction of a dental intern program, where graduates would enter a supervised clinical training program in the public service, similar to now long established medical internships [11].

This would not only improve dental clinical and didactic training, but would also expand the size and capacity of the public dental workforce. Training interns would also help attract and retain senior clinicians to the public service, further improving the quality of the public system. In addition, once interns have acquired sufficient skill and experience, they could be safely and sensibly rotated to rural and remote areas, thus improving access to dental care for those communities. Specific rural clinical mentor positions created in support of interns would also expand the rural dental workforce [11].

A detailed plan for introduction of such an initially voluntary intern program for NSW is provided [11], and could be readily applied with Federal leadership at a National level.

Please note that a trial of dental internship has been made, from memory in South Australia. That trial appears to have failed, and the reason for this seems to have been that interns were simply seen as 'cannon fodder' for the public system. We make clear in our detailed document [11], that a structured clinical training program centred in major dental hospitals integrated with general hospitals, is necessary for such a program to be effective.

b.iv.2. Competitive Wages in the Public Dental System

While it is stated that the public system is not liable to ever be sufficiently attractive to gain more than about 10% of dental clinicians, it can be made at least moderately more competitive and significantly more stable, by improving remuneration.

Senior clinicians would be more likely to come and stay in the public system, if their payment is modestly more competitive than is currently the case. Details are provided [11].

Please note that recent changes in the training of dentists in Australia establish further financial disincentives for dentists to work in the public system (Section b.iv.4 below), and this is further reason why salaries for dentists in the public sector must be made more competitive.

b.iv.3. More Dental and Para-Dental Clinicians

By making the public service more attractive for clinicians by improved remuneration (Section b.iv.2), and establishment of expanded scope of practice through improved specialist services (Section b.iv.6 and b.iv.7), as well as through internships (Section b.iv.1), it should be possible to achieve at least modest expansion in public dental clinician numbers, with effect of improving the capacity of the system.

In context of such expansion, we recommend embracing a team model for dental care to maximise service efficiencies [11].

b.iv.4. Rural and Remote Dental Education Scholarships

Since the time of writing (2005), there has been significant changes in training dentists that make establishment of rural and remote dental education scholarships potentially more effective than they would have been had they been introduced at that earlier time.

Many dental degrees in Australia are now 'graduate degrees', where students must first complete an undergraduate program of at least three years length prior to application for four year dental training. In addition, there are now a large proportion of 'full fee' paying positions for dental students. These two changes combined, establish significant financial barriers to dental education, and also for employment in the public sector where salaries are more constrained compared with private practice (Section b.iv.2).

Three strategies that have been employed in Medicine are proposed for dentistry. Two are not specifically targeted to people from rural and remote areas, and are: scholarships to students in return for commitment to serve for a given time in rural areas; and HECS-HELP reimbursement [11].

Students enrolling for dental clinical training from rural and or remote areas, are more liable to return to such areas to practice their professions. On that basis, it seems sensible to establish rural and remote dental education scholarships [11]. A targeted scholarship scheme is also proposed for those students who come from rural or remote areas. Details are provided on Pages 44 to 45 of the attached costing document [11].

b.iv.5. Educational Building and Facilities Infrastructure

Training of the dental workforce can reasonably be expected to require necessary physical infrastructure. It is therefore astonishing that in over 120 years, the Nation's oldest dental school at the University of Sydney, has somehow managed to operate despite absence of any university-owned dental pre-clinical or clinical teaching spaces, or indeed any university owned academic office or research laboratory spaces.

This has only been possible because the Dental School has operated as an effective squatter NSW health facilities, in particular at Sydney Dental Hospital, the Westmead Centre for Oral Health and more recently also at Nepean Hospital.

In absence of university-owned infrastructure, NSW Health has found it expedient to withdraw access to teaching, office and laboratory space at various intervals over the last century. With sale by NSW Health of what was once called 'The MGM building' adjacent to the Sydney Dental Hospital, together with further

expulsions, I estimate that the Sydney Dental School now occupies about 25% of the foot-print that it did in 1980. The number of students being trained, however, has approximately doubled. I am unaware of any other Dental School on the planet, that has somehow struggled along without any university owned infrastructure, and certainly now for over a century.

This clearly undermines education of the dental workforce in NSW, and recommendations made to the NSW Government in 2005 [11], apply even more acutely now upon recent expansion in student numbers.

There is further discussion of this below in response to Term of Reference i (Section i below), especially with regard to the University of Sydney failing to use moneys granted by the Federal Government to construct dedicated dental educational facilities.

b.iv.6. Conjoint Specialist Appointments

Conjoint specialist appointments paid for by hospitals, in which there is obligation to contribute to specialist clinical teaching in universities, are common in Medicine, but far and few in Dentistry.

Establishing such positions as a matter of course would have the dual benefit of strengthening specialist services in the public system, and similarly securing specialist level teaching for universities. Such positions would also provide important support for internships (Section b.iv.1) and registrars (Section b.iv.7), and further make the public system more attractive not only for specialists to work in, but also for non-specialist dental clinicians, thus supporting expansion of the stability of the public system (Section b.vi.3) [11].

Improved clinical research outputs could be expected by such conjoint appointments, and this would benefit the entirety of the community by elevating the standard of care [11]

b.iv.7. Registrar Positions

Paid registrar positions for medical specialist trainees are the norm. In dentistry, however, this is not the case, and specialist dental trainees must further pay for enrolment in three year minimum specialist degrees in accredited university courses. This is a disincentive for specialist clinical training, and imposes costs that must inevitably be passed on to patients seeking specialist dental services.

We recommend establishment of paid registrar appointments, similar to those in Medicine. This would expand the specialist service capacity of the public system, and also ultimately increase the pool of dental specialists available to serve the community [11].

Further, senior specialist registrars in their final year of training, could be rotated to rural and remote areas, thus providing specialist dental services where currently there are none (relevant to Term of Reference a, and Section b.i above) [11].

b.iv.8. More Fluoridation

Water fluoridation is a safe and effective means for halving the rate of dental decay in the community.

While many communities benefit from this long established public health measure, especially in NSW where the great majority of people live in fluoridated communities, much of the Nation does not have access to fluoridated water.

Fluoridation is largely devolved to local government control, and this has resulted in interminable, bitter and fruitless obstruction to improved oral health. We advocated in NSW for State legislation to improve upon this situation [11].

I recommend in this document, that Federal leadership establishing National guidelines and standards for water fluoridation, would be better still. Details for State level recommendations are provided [11], and could be readily applied at the National level.

b.iv.9. Establishment of an Oral Health Surveillance Unit

Oral Health data in Australia is primarily collected by the Australian Research Centre for Population Oral Health. That data is, however, not consistently collected, with self-reporting phone surveys often used. The granularity of data collected is insufficient for advanced oral health planning.

For example, data is not available on the incidence of the following common dental conditions: chronic periapical periodontitis; acute dental abscesses; chronic dental abscesses; or pericoronitis. A recent survey of the literature revealed that there is even insufficient data on preventable dental hospitalizations for proper planning [1]. In absence of these data, it is not possible to have clarity on the number of oral surgeons, maxillofacial surgeons, or endodontists the nation needs, or of the true national cost of managing these conditions.

Similarly, the definitions for early caries or levels of periodontal disease have varied across sequential National oral health surveys, so direct comparison of results and inference of meaningful trends is undermined. Illustrating the difficulty, is that while dire dental workforce shortages were predicted at the turn of the current century, these have not eventuated, reflecting at least in part the mismatch between the thin data collected, and actual clinical realities.

APOH recommended to the NSW Health Minister in 2005, that a discrete Oral Health Surveillance unit be established, that would include a dedicated workforce and three mobile vans for actual physical comprehensive survey of the population. This would have been a significant improvement upon current circumstances and would have provided a valuable and valid numerical basis for public health planning [11].

The attached document contains details for NSW in 2005, that could be readily adapted for the Nation in 2020.

b.iv.10. Enhancement Funding for Education, Training and Research

There are a number of factors that appreciably undermine capacity for dental academia to thrive in Australia, relative to closely aligned academia in medicine. These are detailed in the attached document, and while the specific case made in 2005 related to the University of Sydney, the same underlying challenges are encountered across all Dental schools.

It should be noted, that unlike in any other professional training course, dental students perform irreversible surgical procedures on patients whilst still at the undergraduate student level. This necessitates a high level of clinical supervision that universities are obliged to provide. Notably, while that supervision is paid for by universities, the patients served are 'in the public system' that is the responsibility of the State. This additional cost to dental schools undermines opportunity to thrive relative to other university schools.

It would be rational for there to be Federal instruction for State health departments to pay for the supervision of clinical treatment of public patients. After all, the States do allocate funds for public dental treatment of public dental patients. It is currently illogical, that the treatment of public dental patients in student clinics, is paid for by the Federal Government as well as by the students themselves via their tuition fees.

I recommend that the Federal Government should address this issue with the States, and further suggest that the numerous other recommendations for enhanced education, training and research that are detailed in pages 59 to 61 of the attached document be adapted and applied across Australian dental schools as needed [11].

c. The interaction between Commonwealth, state and territory government legislation, strategies and programs in meeting community need for dental services

Elsewhere in this document, I make the argument that CUDM is required not only to provide access to primary oral health care, but also to improve the quality of the public dental services (Sections a and b above).

I similarly point to inconsistency across State and Territory jurisdictions with regard to dental funding, and how any Federal funding in support for State dental services should be made contingent on States first raising their own funding to an agreed National minimum level (Section b.ii).

The Federal government has responsibility for Medicare, and so should shoulder full responsibility for CUDM.

The State governments are responsible for hospital and other health service delivery, and also have the necessary operational expertise and local knowledge to properly administer these services. For this reason, I do believe that the States should continue to provide public dental services, albeit under guidance of National guidelines aligned with National expectations. Amongst those guidelines, would be clear National guidelines for dental diagnosis and treatment planning, as discussed below (Section d.XXX).

I have outlined a number of detailed initiatives at the State level that the Federal Government could readily take the lead of (Section b.iv), and should at the very least insist on oversight of.

c.1. Creation of the Position of Chief Dental Officer Supported by a Dedicated Unit for Oral Health in the Federal Health Ministry

APOH has advocated to the Federal Government, for creation of an office dedicated to dental health, and establishment of the position of Chief Dental Officer. This would provide a source of information for Government policy, as well as an appropriate administrative for any Federal oral health initiatives. It would also provide a sensible point of contact for Federal liaison with State Chief Dental Officers.

d. The provision of dental services under Medicare, including the Child Dental Benefits Schedule

d.i. Recommendation to Establish Comprehensive Universal Dental Medicare to improve Equity, Access and Quality of the Public Dental Services

I have already indicated my conviction and that of my colleagues in APOH, that I believe CUDM is vitally important to address the current inequities and failures of dental service in Australia (Sections a, b.iii, c).

I have outlined how CUDM would both improve the public dental services (Section b.iii), and this is discussed at length in the attached article [9].

In addition, I have indicated how CUDM would make it possible for dental surgeries to be established in metropolitan areas that have high clinical need, but nonetheless low levels of dental service, thus effecting a necessary redistribution of dental workforce and capacity to areas of clinical need (Section b.iii).

It is self-evident that CUDM would make it possible for over one third of Australians who are currently unable to afford dental treatment, and yet unable access the public dental services due to excessively long waiting lists and times, to access comprehensive dental care in a timely manner via private practice.

In addition to reading the text in this document, I urge the Committee to also consider the perhaps more readable commentary in the appended articles referenced [5-8], where I have made the argument for CUDM in particular context of the MCDDS, a large trial of CUDM for one and a half million citizens.

d.ii. Comprehensive Universal Dental Medicare Would Improve the Quality and Consistency of Dental Treatment

What I have not yet mentioned, is that CUDM would provide a basis for two important innovations improving the quality and consistency of dental services delivered in private practice, as well as in the public service.

d.ii.1. A Need for National Guidelines for Dental Diagnosis and Treatment Planning

Periodically, the public is confronted with a 'harum-scarum media report' of a person presenting themselves to multiple different dental practices, and being given highly divergent advice as to the treatment needed and costs involved. The implication is that those dentists who give 'high quotes' are knowing rip-off merchants.

While it would be foolish to imagine the total absence of such improbity in the profession, I do believe that the great majority of my clinical colleagues serve the public to the best of their ability, even including those who advise 'expensive work' in the face of alternative less expensive treatment plans. I will provide numeric evidence to that effect separately below.

Instead, my conviction is that the apparently unacceptable variability in treatment plans issued, reflects absence of clear clinical guidelines for dental diagnosis and treatment planning.

Dental technology has advanced rapidly over the last forty years, including best practice for the minimally invasive management of early dental disease. The time-lag from basic research, to innovation, to clinical trial, to collegial professional probing of new methods, through to distribution of the technology via continuing professional education and purchase of new equipment is inherently slow, variable and bound to create discontinuities amongst equally dedicated and ethical professionals.

In addition, while current best practice may be established through academic efforts, there is no mechanism for ensuring that promulgation of that practice into every clinic in the land occurs. Individual clinicians must rightly exercise their personal best judgement as to how best to treat individual patients, but there is nothing to stop or identify idiosyncratic and potentially inappropriate patterns of care.

In addition, sub-optimal treatment plans are often implemented by clinicians, simply because patients cannot afford more appropriate but expensive care.

d.ii.2. Comprehensive Universal Dental Medicare would Establish a Basis for National Monitoring of Clinical Practice

Medicare links individual clinicians to individual patients and the specific item numbers and hence treatments delivered. This provides an opportunity for central monitoring of clinical practice and identification of clinicians who may be delivering care highly out of keeping with professional norms.

That is not to say that I encourage application of a 'police state' approach to monitoring dental clinical practice. There are always nuanced differences in the needs of individual patients and population groups that will generate variability in patterns of care needed. However, highly idiosyncratic care that is inconsistent with current best practice could be readily detected by monitoring CUDM records as they are formed, and with this a mechanism for optimising care for the public.

d.ii.3. Establishing National Guidelines for Dental Clinical Diagnosis and Treatment Planning

Such monitoring, however, would be meaningless, if there is no National standard against which to compare. APOH advocated for development and implementation of National guidelines for dental diagnosis and treatment planning, based on current best practice.

These would be established by national collegial agreement amongst a panel of dental academics and clinical professionals, and would be regularly up-dated. Distribution of those guidelines would be to all dental professionals.

By making provision and renewal of CUDM provider numbers contingent on adherence to the National guidelines, as automatically monitored via continuous CUDM item number analysis, it would become possible to ensure that all dental patients in Australia receive dental treatment that accords with current best practice.

d.iii. Dental Medicare Must be Comprehensive, and Not for 'Basic Dentistry' Only

Current best practice is, however, only meaningful if it is funded.

Concerns about the potential cost of Dental Medicare are often moderated with qualification that it should be for 'basic dentistry' only. That is in my view, insupportable for the following reasons.

Firstly, 'basic dentistry' it is inconsistent with the standard of care offered by Medicare elsewhere in our health care system, where medicine is not dispensed and delivered on a 'basic only' basis. Why should disease of the mouth be accorded such low priority, relative to disease of the back of the hand for example?

Part of the thinking that supports 'basic dental Medicare only', is premised on the idea that 'expensive dentistry is best dentistry'. That is not the case at all. In the great majority of instances, especially for early dental disease, the clinically best treatment possible is minimally invasive and low cost, with at times a dab of remineralizing fluoride and improved oral hygiene being even better.

However, when a more expensive procedure like a crown really is technically indicated, why on earth should that not be supported by Medicare in the same way as other expensive surgical procedures? Appropriate care may be expensive 'up front', but so long as it really is appropriate, it is also of appropriate longevity and of modest long-term cost. A well placed crown that lasts for over 20 years and perhaps for life, is more cost effective compared with multiple composite (plastic) fillings that last for much shorter times, and result in progressive removal of sound tooth structure on each replacement.

The National guidelines for clinical diagnosis and treatment planning, together with national monitoring as outlined in Sections d.ii.2 and d.ii.3 above, establish the structural framework for ensuring that CUDM expenditure is clinically justified.

d.iv. A Pre-Approval Process for Some Advanced Dental Clinical Procedures in Comprehensive Universal Dental Medicare, Similar to that Used by the DVA for Dental Services

While CUDM has only been briefly available to a limited population during the period 2007 to 2012, there is another population in Australia that has enjoyed CUDM, gold card military veterans via a scheme administered by the Department of Veteran's Affairs (DVA).

The DVA has for many years supported CUDM, including expensive procedures such as crown and bridgework. Such procedures, however, are subject to a pre-approval process, where a treatment plan is submitted by the dentist that must be agreed to by the DVA, prior to treatment.

That pre-approval process has been effective in ensuring that especially expensive treatments are properly clinically justified, and it does seem sensible for the same to be applied in any new CUDM scheme.

One criticism of the MCDDS that was used to close the scheme, was that there was too much unjustified expensive treatment. That could have been easily addressed by introducing a pre-approval process as per the DVA, and it is unfortunate that the Government of the day refused to implement that simple and effective remedy (documents attached) [7, 8, 12].

d.v. Important Lessons From the Medicare Chronic Disease Dental Scheme, 2007-2012

d.v.1. The Scheme Delivered Care to About 1.5 Million Australians

Figure 1 shows the relative percentage of population that accessed the MCDDS in each State jurisdiction from inception in 2007 to Mid 2012. It is clear that the MCDDS had increasing uptake with time, but that this was restricted mostly to some States, with NSW having the highest uptake. The reason for this, was that APOH was NSW based, so it was in NSW that we were best able to advocate for use of the scheme through our local networks.

Uptake in Victoria, Queensland and South Australia did reach levels in NSW, but only towards the end of the scheme. Unfortunately, citizens in other jurisdictions did not much benefit. I am aware of at least one prominent WA based academic, who actively discouraged use of the Scheme amongst colleagues, promulgating the view that it was in some way immoral or shameful for dentists to treat patients under Medicare.

I remain mystified by my West Australian colleague's sentiment, and still fail to understand his argument that such monies would be better spent through the public dental service. His narrative that the public system can expand in proportion to the funding provided, is in apparent denial of the verifiable facts outlined above (Sections b.i and b.ii), but is nonetheless widely repeated, especially by representatives of the State dental services who do benefit from increased Federal funding of State services.

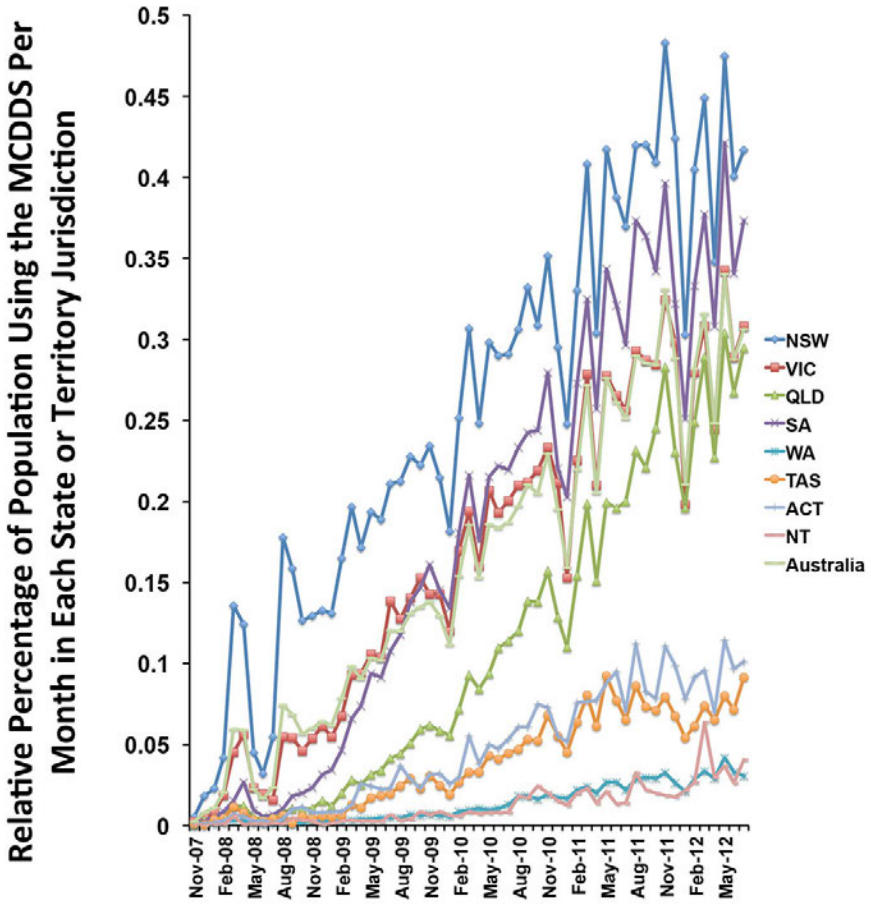

Figure 1. Graph showing the relative percentage of population using the MCDDS across state and territory jurisdictions. Low uptake in WA, TAS, ACT and NT reflect failed advertising of the scheme to eligible patients.

In total, about 1.5 million citizens with medical need of dental treatment accessed comprehensive dental care under the MCDDS prior to closure.

d.v.2. Patients in the MCDDS Moved from Initially High Cost Catch-Up Treatment to Low Cost Maintenance Therapy

Figure 2 shows the relative percentage of MCDDS patients who presented for return check-ups from the period 2007 to mid 2011. It is clear that those entering the MCDDS moved from an initial course of care through to having ongoing maintenance therapy.

It is self-evident that after a prolonged period of time without dental attention, that the initial course of care would be extensive and expensive. Table 1 is taken from our earlier published work showing how the MCDSS scheme was used in it's first 23 months [10] (paper attached).

Although at the time of publication, we were concerned that there appeared to be over-use of expensive crowns in the scheme, we realized with time that the pattern of care delivered was consistent with that to be expected when a cohort of people who had suffered many years of dental neglect, finally get treatment.

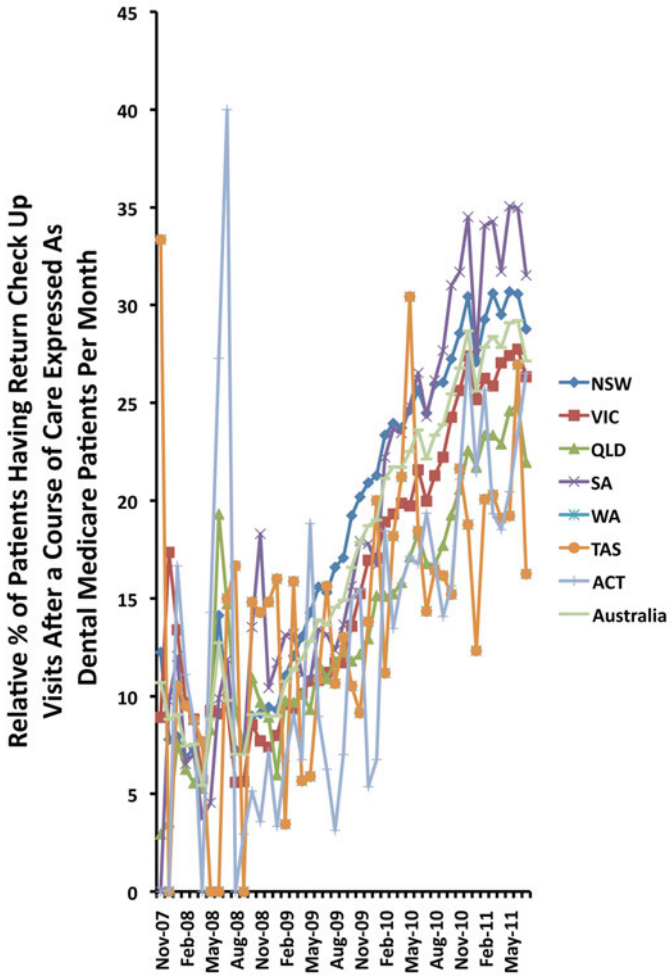

Figure 2. Graph showing the relative percentage of patients in the Medicare Chronic Disease Dental Scheme who returned for a 'periodic oral examination', having enjoyed a complete course of dental care that has managed their back-log of untreated dental disease.

Table 1: **The average number of CDDS services per patient according to type of service delivered, expressed as both services per patient and the relative percentage of services per patient.**

	Services per patient	95% CI	Relative % of services	95% CI
Diagnostic services	1.426	1.423 – 1.429	18.802	18.758 – 18.846
Preventive and periodontal services	1.459	1.456 – 1.462	19.237	19.193 – 19.281
Extractions	0.770	0.767 – 0.773	10.162	10.128 – 10.196
General surgical procedures	0.013	0.012 – 0.014	0.175	0.170 – 0.180
Acute pain and dental emergencies	0.120	0.119 – 0.121	1.588	1.574 – 1.602
Chronic pain management	0.059	0.058 – 0060	0.784	0.774 – 0.794
Endodontic services	0.114	0.113 – 0.115	1.510	1.496 – 1.524
Direct restorations (amalgam and adhesive)	2.269	2.265 – 2.273	29.927	29.876 – 29.978
Indirect restorations (crowns and inlays)	0.478	0.476 – 0.480	6.307	6.280 – 6.334
Bridge pontics	0.102	0.101 – 0.103	1.347	1.341 – 1.353
Osseointegrated implants	0.010	0.009 – 0.011	0.137	0.133 – 0.141
Orthodontic services	0.007	0.006 – 0.008	0.095	0.092 – 0.098
Dentures	0.534	0.532 – 0.536	7.045	7.016 – 7.074
Denture repairs	0.219	0.218 – 0.222	2.883	2.864 – 2.902
Total number of individual procedures performed on a per tooth – patient basis	7.582	–	100.000	–

The average CDDS patient received a wide range of routine and advanced dental services consistent with a backlog of untreated dental disease.

Table 1 is taken from the Australian and New Zealand Journal of Public Health, 2012, 36(1): 69-75, Paper attached [10]. Examination of columns for 'services per patient' and 'relative % of services' against the types of treatment delivered (left hand column), makes clear that most people had two or three fillings, and an extraction together with routine periodontal and preventive treatment. About half of patients had a crown and or dentures made. This is entirely consistent with what would be expected for any group of people who have been denied access to dental care for a long time, and who then suddenly are able to finally access care. The data do not support the idea that the MCDDS (CDDS in this published table) was 'abused by greedy dentists', as was implied by the Government of the time. Please note that the by focusing this analysis on the first 23 months of delivery, the great majority of patients were 'first time users' of the MCDDS, so that data reflect initial patients needs on commencing care.

d.v.3. The MCDDS was Not Systematically Abused

The government of the day argued for and eventually achieved closure of the MCDDS on basis that the scheme: was abused by dentists seeking to maximise their income via Medicare; was used by 'millionaires'; and that it was not adequately targeted to people in need. For the reasons outlined below and detailed in the attached document, I am disagree strongly with that assessment [12].

Firstly, as is evident from Table 1 and briefly mentioned in Section d.v.2, the care delivered under the MCDDS was that expected for patients who entered the scheme with a long back-log of unmet clinical need.

Figure 3 provided below, demonstrates that the cost per patient in the MCDDS was initially high and approached the maximum proposed expenditure per patient per year at $2,125, but then reduced with time to about half that amount. This was due to patients shifting from initially expensive management of entry dental problems (Table 1, Section d.v.2), to low-cost maintenance therapy.

Please note that each MCDDS patient was permitted to access two full years of rebates ($4,250) in a single year, if required for treatment. Maximum expenditure per patient did not, however, ever approach that level. Also, because expenditure per patient dropped to half that when the scheme started, despite most patients still being new and thus accessing high levels of spending in the scheme (Table 1), it is clear that any abuse of the scheme that may have occurred by dentists, must have been limited to only a very few dental rouges [12].

From the above, the available data show that it is numerically impossible for there to have been widespread abuse of the MCDDS by patients or dentists, irrespective of narrative spread by the

Government of the day, and echoed I believe in a highly uninformed way by those who have not wrestled with the numeric facts as here shown [12].

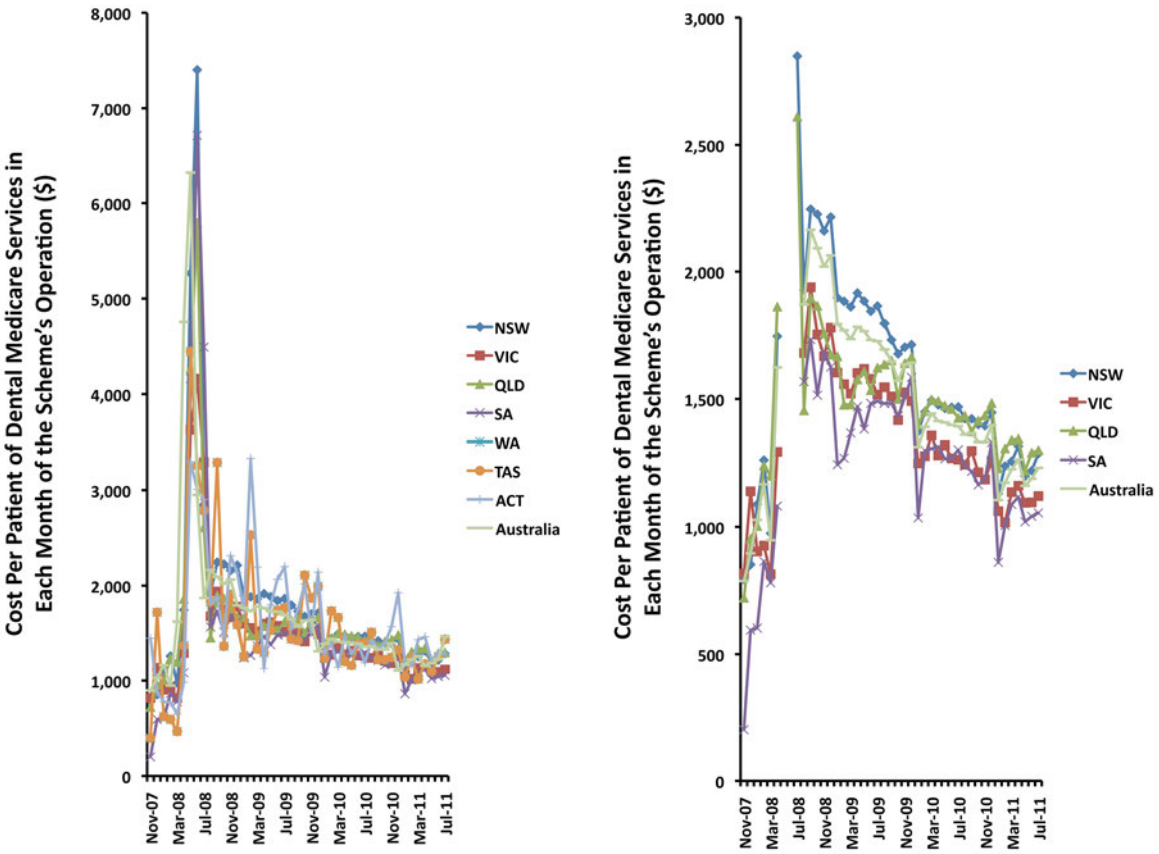

Figure 3. Graphs showing the cost per patient in dollars in each month of operation of the MCDDS, with the graph on the left showing all months, and the one of the right focusing on those months for which statistical data was not distorted by cessation of new patients due to Federal Government misinformation. The cost of the scheme almost halved on a per patient basis by mid 2011, despite that at that time greatly increasing numbers of new patients entered to commence expensive initial care (Figure 1, Table 1).

Further, notwithstanding the argument made by then successive Health Ministers, millionaires were not major beneficiaries of the MCDDS. Over 80% of patients were healthcare card holders, and thus were by definition not 'millionaires' but were instead people with limited financial means. Also, there is ample data showing that most wealthy people are able to afford access to dental care, and so have very low dental treatment needs. It is inconceivable that any millionaires were 'hanging-out' for dental Medicare, to pay for their teeth [12], and it is further numerically impossible that any millionaires who may have had MCDDS service, will have had major call on the system.

With regard to targeting, the MCDDS was laudably targeted to those who had medical need of dental treatment, so there is no demonstrable failure to target supposedly limited funds in the MCDDS [12].

It must also be noted that the fundamental premise of Medicare, is that it is universal and not means tested. In this way, the wealthy have 'skin in the game', and through their taxes and Medicare rebates, the wealthy pay for the Medicare services accessed by less well-off fellow citizens. It is illogical for a Health Minister responsible for administering Medicare, to advocate for an opposite scheme, where only the poor pay for their own treatment.

All in all, I do believe that the arguments for closure of the MCDDS were: inconsistent with demonstrable empirical facts; motivated by political purpose; and were against the better interests of the Nation [12].

d.v.4. The MCDDS was Self-Limiting in Cost, with Cost Per Patient Halving Before Closure, and Costs For Return Patients Being Very Low

It must be remembered that the low levels of MCDDS expenditure per patient shown at late time points in Figure 3, do not separate those patients who entered the scheme for the first time and so needed lots of dental treatment (Table 1), from those patients who returned for low cost maintenance therapy (Figure 2). Access to that level of granularity in data has not been available to me.

However, it was possible to make a reasonable estimate of the projected cost of maintenance therapy for the entire 1.5 million patients treated in the MCDDS, after initial care.

I estimated at that time, that had the scheme been permitted to continue, all patients would have been maintained in a state of good dental care for a total cost of $350 million per year.

As described below (Section g), this provides the basis for a sensible planed roll-out of CUDM for the entire Nation.

e. The social and economic impact of improved dental healthcare

There is extensive data demonstrating monstrous oral health inequity amongst Australians.

I and others have written on this as well as on the impacts of poor oral health in the articles attached [1-9, 12], and I have made further mention of this in Sections a to d above.

There is little point me labouring the point further, other than to emphasise that: the great bulk of dental treatment is not 'cosmetic'; crowns are not 'for looks' but are required to properly restore badly damaged teeth; dental disease causes pain, general health, social stigma and is occasionally life threatening; and that much of the Australian population is unable to access primary health care for the mouth, inconsistent with primary health care for other part of the body.

f. The impact of the COVID-19 pandemic and cost-of-living crisis on access to dental and related services

I have no special data relating to the impact of the recent pandemic on access to dental care.

However, it is unequivocal that cost is a major barrier to accessing dental services, and given now long stagnant wages coupled with inflation, and rising costs of maintaining viable private dental practice, it is inevitable that the most vulnerable people in Australia, will be even harder pressed to access timely dental care than in the recent past.

I point to the demographic shift, as people age and enter retirement on limited income, who are unlike earlier generations in having a full set of often filled teeth. APOH and others predicted 'a tsunami' of untreated dental disease almost 20 years ago [9]. It brings me no pleasure to see the tide of that prediction rising in absence of the structures we advocated for to address it [3-9, 11, 12].

I urge the Government to embrace the recommendations APOH made at both State and Federal levels (Sections b.iii, b.iv, c.i, d, g, h and i).

g. Pathways to improve oral health outcomes in Australia, including a path to universal access to dental services

g.i. A Roadmap For Establishing Comprehensive Universal Dental Medicare Based on Experience From the MCDDS

g.i.1. A Need for Phased Introduction of a CUDM

Immediate introduction of CUDM for the entire Australian population would be problematic for two reasons. Firstly, given that much of the population continues to live with a backlog of unmet dental need, the current dental workforce simply doesn't have capacity to deliver comprehensive dental care for all citizens who might present overnight.

Secondly, even if there were physical capacity for everyone to be treated at once, the sudden expenditure would be high and problematic from a budgetary perspective.

However, the MCDDS data shown in Sections d.v.1 to d.v.4 form the basis for a rational road-map for introduction of CUDM, that would neither swamp the workforce or break the budget.

g.i.2. The MCDDS Provides Key Data for Sensible Phased Introduction of CUDM that is Truly Comprehensive

The MCDDS showed that a restricted population, in that case made eligible via cumbersome entry through the Enhanced Primary Care Scheme in Medicare, could receive comprehensive dental care sufficient for their needs via CUDM. The MCDDS made clear, that there is no need for any dental Medicare to be restricted to 'basic dentistry', so that I strongly recommend that any CUDM that might be introduced, should be truly comprehensive (Section d.iii).

g.i.3. Pre-Approval for Advanced Procedures in a CUDM

A pre-approval process for advanced procedures was not in place for the MCDDS, and may not be necessary, but nonetheless does seem sensible and is consistent with arrangements in the DVA which is a further scheme that demonstrates viability and utility of a CUDM scheme (Section d.iv). I recommend that the mechanisms currently used by the DVA, be extended for a CUDM scheme.

g.i.4. Planning for Roll-Out of CUDM on a Means-Tested Basis to Eventually Include All Citizens, Based on MCDDS Data

The MCDDS provides a very rich data set, that if properly analysed would permit excellent modelling of the costs of a new CUDM. With that data in hand, it is possible for Government to make a properly informed decisions on the yearly expenditure it is able to commit for phasing in of CUDM.

Figure 3 shows that CUDM is inherently self-limiting in cost (Section 4.v.4), so armed with costings and projections derived from the MCDDS, Government can plan which proportion of the population it could to provide access to CUDM in the first year. Eligibility might sensibly be focused initially on medical need for treatment, similar to the MCDDS, but could also be expanded on basis of means-testing. This is especially appropriate, given that most dental disease is suffered by people with the lowest levels of income.

As patients move from intensive and expensive initial care, onto low-cost maintenance therapy, the cost of CUDM for that initial cohort of patients would drop (Figure 3), Section 4.v.4. This would free up CUDM funds to permit access for a wider cohort of patients on basis of need, presumably defined by income. Successive rounds of eligibility, with planed expansion of the scheme titrated to need, would eventually include all Australians in CUDM. Notably, most expenditure is always going to be for those on lower incomes, because as mentioned above, rich people tend to have better teeth.

g.i.5. Benefits for the Public Dental Service and Redistributed Dental Workforce Would Emerge

The benefits of a redistributed dental workforce and improved public dental services, would emerge as the CUDM expands to include the entirety of the population (Section b.iii).

g.i.6. Establishment of Rebates Through Liaison with Professional Associations Informed of Practice Costs
Please note that these advantages require that rebates for CUDM be consistent with viable private dental practice. This fact is made more evident by current difficulties in bulk-billing medical practice, where rebates have not kept proper pace with expanding practice costs.

I recommend the Australian Dental Association, the Australian Dental and Oral Health Therapists Association, and the Australian Dental Prosthetists Association, as natural partners with whom the Federal Government should partner to establish appropriate CUDM rebates that will properly support the scheme.

g.i.7. Establishment of a National Panel for Dental Diagnosis and Treatment Planning and CUDM Monitoring
I further recommend that there be establishment of a National panel of dental clinical and preventive academics and experienced senior clinicians, who work towards establishing, maintaining and promulgating a set of National guidelines for dental diagnosis and treatment planning, as outlined in Section d.ii.3.

It is logical for the same group to liaise with the Department of Health in monitoring and interpreting data collected through Medicare on use of CUDM (Section d.ii.2). This would permit sensible interpretation of data relevant to guidelines, and adaptation of guidelines in a timely and flexible way dependent on outcomes and feedback.

g.ii. Federal Leadership for Initiatives Described at the State Level
I have provided an outline of recommendations for improved public dental health at the State level (Section b.iv), and appended a relevant costing and implementation plan for NSW [11].

I suggest that the Federal Government consider ways in which it could show leadership for implementation of those recommendations, in liaison with State and Territory Governments as may be appropriate.

g.iii. These Recommendations are the Product of Many Minds over Many Years
These recommendations (Sections b.iv, g.i, g.ii), would transform oral health in Australia, and bring dental health into alignment with the rest of our otherwise excellent health care system.

I am personally enthused by that possibility, and having struggled for many years to improve oral health in Australia, both through my service as an academic and via chairmanship of APOH, I sincerely hope that the Federal government takes the current opportunity to fully engage with all of the recommendations made in this document.

I stress that they are not the product of my own fevered mind alone. These recommendations are the outcome of extensive collegial discussion and argument in APOH amongst many academics, public health colleagues and stakeholders across the professions and community, over many years.

h. The adequacy of data collection, including access to dental care and oral health outcomes
I have outlined above (Section b.iv.9), how improved Oral Health Surveillance is important for proper planning and administration of oral health services.

I have described very briefly shortfalls of now long established approaches, that have long documented the unfolding disaster, without providing sufficiently detailed data for detailed planning of workforce or funding.

i. Workforce and training matters relevant to the provision of dental services

i.i. I Served as a Dental Academic for Most of my Institutional University Career (1986-1988; 1995-2021)

I served for many years as a full time academic in the Sydney Dental School, and am well placed to identify significant challenges that undermine the quality of the dental workforce.

With the briefest of exceptions, that service was in Australia's largest and oldest dental School at the University of Sydney. As such, I am best placed to comment regarding concerns as they relate to that School.

i.ii. APOH Identified Several General Difficulties Relating to Dental Education Across the Nation

I have already briefly described the tension between didactic and clinical training in absence of a dental internship, and related that to the need to introduce dental internships in Australia. (Section b.iv.1).

I also outlined the uncommon cost of supervising clinical treatment by dental students, and how that is an impost on dental schools not suffered by other university units with effect of undermining their success (Section b.iv.10).

I similarly pointed towards problems with dental educational infrastructure in Sydney (Section b.iv.5).

The beneficial impact of conjoint appointments of specialist clinicians and registrar positions for dental education were outlined (Sections b.iv.6 and b.iv.7).

Requirement for enhancement funding for dental academia has been outlined (Section b.iv.10).

These aspects are further developed and detailed in an assembly of documents that were prepared for the information of then new Vice Chancellor Michael Spence on his arrival at the University of Sydney in 2008, and are attached to this document for detailed consideration [13] (Please find document attached).

That document also includes discussion of the further general challenges for dental education that the Federal Government should be aware of:

- There is a widely recognised shortage of dental academics
- Expansion of dental schools has not been accompanied by expanded training and support for dental academics
- Establishment of new dental schools unsupported by medical schools badly undermines the quality of dental education possible. This is especially concerning given the well accepted fact that medical training for dentists must be higher than in the past in order to safely treat the aging and increasingly medically complex population [14]
- There is growing variation in the quality and type of dental education offered across dental schools
- Dental students are used as unpaid workforce by under-staffed public dental services, in a way that undermines dental education

I refer the Committee to the attached document for details [13].

i.iii. The University of Sydney has Failed in Responsible Stewardship of the Sydney Dental School

i.iii.1. The University of Sydney has Knowingly Failed to Provide Necessary Educational Infrastructure, Despite Award of a Federal Grant Dedicated to that Purpose

As outlined above, the Sydney Dental School is uniquely disadvantaged by absence of any physical infrastructure (Section b.iv.5), a status that has resulted in progressive reduction in School foot-print despite increasing student numbers and that undermines capacity for teaching and research.

APOH brought this legitimate concern to then Vice Chancellor Gavin Brown in 2006, and it was pleasing that he responded by making arrangements for the University's then Chief Finance Officer and Pro-Vice

Chancellor for Infrastructure to address this deficiency. Further meetings followed with agreement across all stakeholders for construction of dedicated dental educational facilities at Westmead Hospital [13].

Funding in support for building was sought and obtained from the Federal Government, as published by the Daily Telegraph [15] and the University of Sydney News [16] (both articles included in the attached document, [13]).

Unfortunately, at that point, a new Vice Chancellor joined the University (Dr Michael Spence), and although fully informed of the infrastructure needs and acquired funding [13] (please attached collection of relevant documents), the new Vice Chancellor failed to spend the Federal funds for the purpose for which they were awarded, and the Sydney Dental School remains without infrastructure. This is despite numerous new buildings having been constructed by the University during the tenure of Vice Chancellor Spence.

i.iii.2. The University of Sydney has Knowingly Tolerated a Dental Dean who Fails to Accord with Academic Values and Falsified His Academic Record to Obtain His Position

Professor Heiko Spallek was appointed as Pro-Dean of the Sydney Dental School in 2016. An advertised essential requirement for that position was to have a PhD or equivalent qualification. He was subsequently advanced without advertising or competition to the position of full Dean in 2018, also requiring a PhD.

As Dean, it soon became clear that Heiko Spallek acted without reference to widely accepted academic values. Whenever convenient, he would abuse staff with false accusations. He exercised irrational autocratic decision making, and suppressed freedom of speech and academic discourse. Professional advancement and promotion, as well as strategic and operational decisions on research and curriculum, became linked with proximity and loyalty to the Dean, and were disassociated from: professional performance; empirical facts; academic needs; and collegial reasoned argument. Those who objected were systematically abused and or expelled from employment, and this entrenched a culture of fear and intimidation for both staff and students.

Examination of Heiko Spallek's curriculum vitae identified some inconsistencies in training dates, and further investigation revealed that he had falsified his curriculum vitae and initial job application, claiming a PhD that he did not have.

A PhD is a full time three year minimum training in research, that can only be conducted as a post-graduate degree after completion of an undergraduate course. Heiko Spallek has no post-graduate research training at all. His only research training was in an undergraduate research project, while he was studying dentistry. Most dental students conduct such projects, and most would also laugh if anyone claimed that gave them a PhD. In Heiko Spallek's home country, undergraduate research projects may be recognised by award of a 'Dr Med Dent'. The Dr Med Dent in his home university, equates to one Semester and 5 Credit points, while the PhD requires six Semesters minimum and is awarded 30 Credit points.

Heiko Spallek did acquire a Dr Med Dent, but substituted 'PhD' for 'Dr Med Dent' in his curriculum vitae and job application. Until very recently, he consistently spoke of his 'PhD in Materials Science'.

Heiko Spallek further embellished his training by making claims of being a specialist in periodontics (a clinical qualification requiring three years of full time study for registration), and a computer scientist (a further high-level technical degree). He has no qualification to support of either of these claims, although he has completed a Master of Business Analytics.

I discovered these deceptions, and brought the facts together with concerns about his performance to the Executive Dean Robyn Ward, then Vice Chancellor Michael Spence, and subsequent Acting Vice Chancellor Stephen Garton.

Evidence for Heiko Spallek's deceptions are incontrovertible, and would in any other circumstance result in immediate dismissal and possible legal action, this especially since Heiko Spallek would have obtained his

visa to work in Australia on basis of his false declaration of qualification. The University of Sydney senior Management, however, has defended Heiko Spallek and his false appointment.

His continued employment makes a mockery of not only the University of Sydney's advertising and appointments processes, but also of it's fundamental probity and commitment to academic standards.

Heiko Spallek is the primary supervisor for PhD research students, and this breaches the expectation that a supervisor should have a qualification equivalent to or higher to that which they supervise. The standard for the PhD and PhD supervision is undermined in a manner that seems formally fraudulent.

i.iii.3. The Unqualified Dean Has Appointed a Person who Has Been Falsely Registered as a Specialist Clinician

Heiko Spallek appointed as his a deputy Dean Axel Spahr, who also has a Dr Med Dent but has in addition completed Habilitation, a qualification that together with the Dr Med Dent can be considered equivalent to a PhD. Please note that Heiko Spallek has not completed Habilitation.

Of concern, however, is that Axel Spahr has been falsely registered as a specialist clinical periodontist in Australia, despite not having completed a minimum three year full-time training program comparable to that required for such specialization in this country. Axel Spahr leads the University of Sydney clinical specialist training program in periodontics and supervises students for clinical specialist training, despite not having a comparable qualification himself. Similar to Heiko Spallek, this again breaches the expectation that a supervisor should have an equivalent or higher qualification to that which they supervise.

Axel Spahr was appointed without advertising or competition to the position of Deputy Dean and full professor, with the University applying a special case policy for people with 'special skills'. Such special skills or specially high attainments are not, however, readily apparent from Axel Spahr's record.

The public is endangered not only by Axel Spahr practicing as a specialist clinician in absence of specialist clinical training, but also by degradation in the quality of specialist training that is offered by the School. The Australian Health Practitioners Registration Authority has shown no interest in pursuing the matter of this clinical registration error.

It is reasonable to ask if other similar errors in registration have been ignored by the regulatory authority, and the Committee should be concerned for the possible impact of this on the quality and safety of service delivered to the public.

Vice Chancellors Spence, and Garton, and also Executive Dean Ward, have been fully informed of Axel Spahr's false registration, but to my knowledge have taken no action to address the issue.

i.iii.4. Knowing Acceptance and Cover-Up of Improbity Undermines Confidence in Dental Education

As outlined above (i.iii.2, i.iii.3), the University of Sydney Management has knowingly tolerated significant improbity and professional misconduct by both Heiko Spallek and Axel Spahr.

The recently appointed new Vice Chancellor Mark Scott is also now fully informed. I am unaware of any action having been taken, other than that Heiko Spallek has corrected his on-line curriculum vitae on the University website to now no longer refer to his PhD. He seems to have also stopped talking about his 'PhD', as well as about being a computer scientist and periodontist. In addition, he has stopped wearing the PhD gown during graduation ceremonies. None of these changes comprise an adequate response to misrepresentations and professional performance of Heiko Spallek and Axel Spahr.

Tolerance of documented improbity in the University of Sydney undermines the standing and quality of dental education in the Nation's oldest dental School.

i.iii.5. The Dean has Badly Damaged the Quality of Dental Education and Put the Public at Risk Through his Unqualified Leadership

In addition to the culture of fear and intimidation created by Dean Heiko Spallek, the weak leadership appointments that he has made coupled with suppression of collegial academic discourse for decision making, and targeted expulsion of those who raise concerns, has badly eroded capacity of the School to train a competent and safe dental workforce, as well as to conduct research.

The example has also been set to dental students, that abuse, misrepresentation and denial of empirical facts are acceptable professional behaviour; an example that should not be made anywhere, let alone in a clinical School.

Important Academic Disciplines for safe dental training now lost to the School are: Oral Pathology; Oral Microbiology; Orofacial Jaw Function; and Dental Behavioural Sciences. Furthermore, almost all fundamental laboratory science as it pertains to dentistry, has been scrubbed from the School. This comprises a shocking waste of many decades of public investment, developing the School.
Ongoing degradation includes: **i)** A valuable clinical mentoring program has been greatly constrained and now has limited effectiveness. **ii)** Student numbers have almost doubled to enhance School income, but clinical facilities and staffing to support their training have not expanded accordingly. **iii)** Efforts have been all but abandoned to ensure that all students have comparable rotation through integrated and specialist clinics. **iv)** Clinics are chronically under-staffed and often have inappropriate teaching staff who lack clinical experience. **v)** Clinical teaching staff no longer receive calibration or training prior to teaching in the clinics. **vi)** Professionalism standards to guide development of professional behaviour are not upheld in the clinics. **vii)** A new curriculum that was assembled by the Dean's inner circle of mostly under-experienced people has been introduced in 2023, and reports are that it is both chaotic and unintelligible. This is to be expected since there has been little or no input by the wider expertise of the School collegiate, in stark contrast to previous highly successful curriculum reviews, where the academic and operational expertise of the entire School had been engaged in a process that would take a couple of years. **viii)** A new simulation clinic has been designed, but not with the expert advice of clinical teaching staff. **ix)** Research seminars have ceased. **x)** No one can be assured that every graduate from the School has completed prior to graduation, a pre-determined minimum number of common procedures under supervision, because such requirements have been entirely disposed of in the third year of the DMD course, and are considerably reduced relative to former standards in the fourth and final year of training.

With regard to the new curriculum, it is noteworthy that the time devoted to biomedical sciences is significantly reduced, and this is in opposition to the needs of the ageing and increasingly medically complex demographic [14]. The reduced commitment to science in the new Sydney dental curriculum, might reflect that control of the curriculum has been given to a person who's most recent clinical experience appears to have been as a naturopath, a domain with: noted antipathy to objective science; a commitment to magical thinking; and commonly associated with dangerous quackery.

it is reasonable to conclude that the damage wrought by Dean Heiko Spallek, undermines the quality of dental education in a way that reduces the safety of dental treatment for the public, and that this has undone public investment and the work of generations of dedicated dental academics who built the Sydney Dental School. Others have come to the same conclusion.

i.iii.6. Dean Heiko Spallek's Tenure Has Been Accompanied by Reduced Rankings of the Sydney Dental School

The degradation I describe for the Sydney Dental School during Heiko Spallek's tenure as Dean, is reflected by changes in International rankings, and is illustrated in Figure 4.

In the Period 2015 to 2018, the Sydney Dental School Ranked between the 42nd and 33rd 'best dental Schools' (QS Ranking).

From 2019 to 2021, the School fell in QS Rankings below the '70 best' threshold for reporting. In 2022, it reappeared in 63rd place.

In the Shanghai Ranking relating mostly to research, the Sydney School had performed well, at 73rd and 74th 'best' amongst the top 300 Dental Schools in 2017 & 2018, and favourably relative to most Australasian dental schools. Considering that there are several thousand dental schools across the globe, that was reasonably laudable, especially given absence of any university owned research infrastructure. Research performance as reflected by the Shanghai Ranking has had a downward trend since 2018 (Figure 4).

Comparable Australasian Schools have been steady and or improving during recent years.

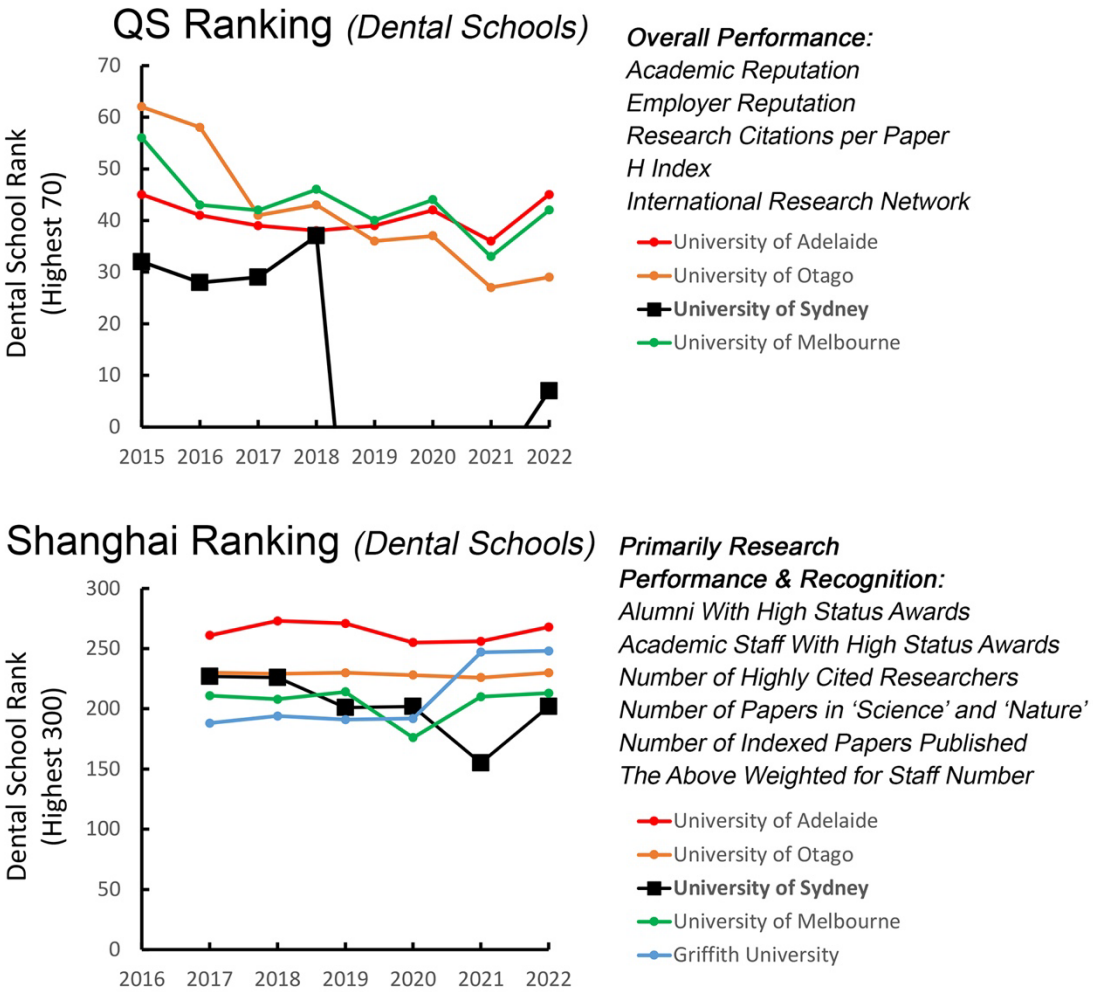

Figure 4. The University of Sydney Dental School has reduced in both overall International rankings (QS ranking) and international research ranking (Shanghai Ranking), while other Australasian dental schools have been stead or improved their relative rankings.

i.iii.7. The University of Sydney Management is Fully Informed of These Matters, But Has Been Negligent in Their Responsibility to Address Them

The University of Sydney Management has been fully informed of both dental school infrastructure needs [13] (Section i.iii.1), and recent dental school leadership problems (Section i.iii.2, i.iii.3., i.iii.4, i.iii.5, i.iii.6).

The University of Sydney Management has failed to provide physical infrastructure for the Sydney Dental School in over 120 years, with Vice Chancellor Michael Spence apparently redirecting to other purpose Federal funds that were granted towards correcting that deficiency (Section i.iii.1) [13, 15, 16].

The University management has knowingly tolerated and even defended a Dental Dean who is both unqualified and acquired his position by falsifying his record and job application (Section i.iii.2), and has further failed to address the serious improbity of employing as a senior academic, a person who misrepresents himself as a clinical specialist, despite absence of clinical specialist training (Section i.iii.3).

The University management has overseen the consequent degradation of the dental School, demonstrable both qualitatively and quantitatively (Sections i.iii.3, i.iii.4, i.iii.5, i.iii.6) (Figure 4).

Numerous complaints have been made to the University of Sydney management, both by seasoned academics in the School, as well as from the School's Alumni who have expressed their objections via multiple channels. In one instance, the management elected to ignore a petition signed by over 1000 Alumni who sought to defend the Basic Sciences and Oral Pathology, now closed in the Sydney dental school [17].

The quality of dental education and research in Australia's oldest and largest dental school is evidently degraded. This is a direct consequence of the negligent and failed stewardship of the University of Sydney's senior management over many years.

I believe that the Committee and Government should insist on an improved quality of governance and stewardship, and should also demand correction of both long-standing and current failings.

It is not clear that the Australian Dental Council that is responsible for accrediting dental schools, will either identify these issues or address them.

j. International best practice for, and consideration of the economic benefit of, access to dental services

Australia's healthcare system is different to those in other countries.

It is highly cost-effective, but more importantly, it has proven itself effective in delivering comprehensive health care for the great bulk of the Australian population. Notwithstanding some deficiencies, occasional failures and a need for constant improvement, I do believe that successive Australian governments can be congratulated in having achieved great success constructing a unique and high quality health care system.

Rather than attempt to ape anything achieved in Dentistry elsewhere, my strong sense is that Dentistry should be brought into line with current arrangements for Medicine in Australia.

All of the recommendations made in this document, as well as by APOH across the years, are in keeping with that core conviction.

k. Any related matters.

I am an experienced senior academic, devoted to reasoned numeric analysis, and with evidenced commitment to dental health and education.

I make myself available to the Committee and Government to assist in any way possible, to advance the cause of dental health and the recommendations made in this document.

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Dental Medicare uptake now up to the profession

Associate Professor Hans Zoellner

Chair, Association for the Promotion of Oral Health; Head, Oral Pathology and Oral Medicine, Faculty of Dentistry University of Sydney

WHILE Medicare helps protect Australians from medical bankruptcy, dental bills commonly cause financial distress.

Since 35% of Australians cannot afford dental care, 25% of adults have untreated caries and there are about 50,000 preventable dental hospitalisations yearly.

The argument that dentistry should be excluded from Medicare because most dental disease is preventable seems foolish, considering similarly preventable diseases such as diabetes, ischaemic heart disease and cancers are included.

Similarly, the current national dental expenditure of about $6 billion a year cannot significantly blow out if dental Medicare was made universal, because dentistry is primarily surgical and dental clinicians can only use two hands at a time.

Oral disease is similar to disease elsewhere in the body, and objections to dental Medicare seem ill founded.

Workforce shortages makes it impossible for the public system to attract more than 10% of dental clinicians, while up to 50% of the population is eligible for public dentistry.

The public dental system is doomed to perpetual failure, unless Medicare funds dentistry in the private sector where 90% of dentists actually work.

Public dentistry has become the failed emergency service for the poor, but with dental Medicare could become the high-quality service for patients too medically compromised for private practice.

The recent increase of the dental Enhanced Primary Care (EPC) Medicare rebate to $125 may not be perfect, but does fund medically necessary dental services.

EPC dental funding can help control infection in immune compromise, including diabetes. Because periodontitis undermines diabetic control, and diabetes predisposes to periodontitis, dental treatment can improve diabetic outcomes.

Periodontitis also predisposes to ischaemic heart disease, stroke and low birth weight, while preventive dental services are important for preventing infective endocarditis in at-risk patients, and likely also bisphosphonate-associated osteonecrosis of the jaw.

People with xerostomia due to head and neck cancer irradiation require preventive dental services to protect from osteomyelitis, while other causes of xerostomia also result in severe dental infection.

Dental pain and facial disfigurement may contribute to mental health problems, and there is no doubt poor oral health predisposes to aspiration pneumonia in people with dementia. The EPC at last brings comprehensive dental care within financial reach of these needy people.

Government attempts to axe the dental EPC have twice been blocked by a Senate unlikely to change its mind.

Senators have recognised that the government's alternative offer of $14.63 per eligible

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patient in the public dental system would fail to replace dental Medicare.

The confusion created by health minister Nicola Roxon's refusal to promote dental Medicare has hindered uptake of the scheme, and 75% of all dental Medicare services have been in NSW, where our association has its best contacts.

Ms Roxon has succeeded in undermining dental Medicare, but at substantial patient cost.

Any legitimate concerns regarding over-servicing, patterns of referral, or a cumbersome bureaucracy should be addressed through reform, and not destruction of the scheme.

We urge the medical profession to embrace dental Medicare, and believe this is the best defence for oral health.

Dental Medicare a bridge too far

HANS ZOELLNER

AUSTRALIANS have good equity in health, but not for diseases of the mouth. Although it is worrying that dental disease worsens diabetes, heart disease and stroke, it is shocking that at least 30,000 Australians are hospitalised yearly for preventable dental infection.

Almost half the population cannot afford private dentistry, while the public system, with less than 10 per cent of the nation's dentists, cannot cope with demand. People suffering dental infection but unable to afford a dentist get prescriptions for antibiotics via Medicare from doctors, and this drives the emergence of increasingly antibiotic-resistant bacteria that later threaten the community.

The Association for the Promotion of Oral Health argues that inclusion of dentistry in dental Medicare would address these problems. Importantly, since November 2007 dental Medicare has been available for up to 10 per cent of Australians and apart from some teething problems has worked well.

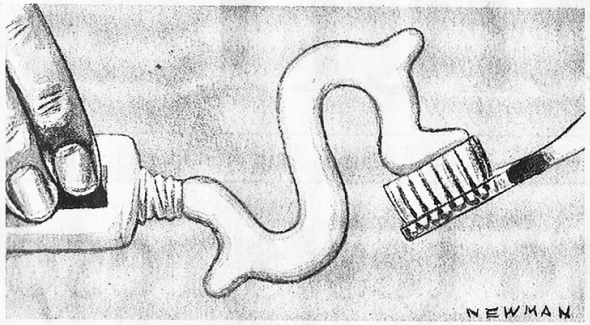
The present dental Medicare program was established in the dying days of the Howard government within the Enhanced Primary Care scheme for people with chronic diseases such as diabetes. To access the scheme, patients need a care plan from their doctor, which acts as a referral to a dentist to deliver treatment for which Medicare rebates of up to $4250 can be claimed every two years.

More than 150,000 people have been treated and our most recent analysis demonstrates the clear public need. The average dental Medicare patient has one treatment for pain or surgical procedure and also usually has an extraction. Most people receive two to three fillings, while about 80 per cent of patients also have denture services. About 14 per cent of dental Medicare patients have had root canal therapies to save teeth. These statistics demonstrate sensible use of the dental Medicare service for people with a backlog of untreated dental disease.

Unfortunately, further dental Medicare statistics suggest over-servicing for crown and bridgework, and a need for government regulation of the scheme.

We are concerned that 16 per cent of dental Medicare patients have had bridges and 46 per cent have had crowns separate to bridgework. It is important that any crown and bridgework be clinically appropriate, and we would be surprised if most of these treatments were clinically justified or appropriate. Frustratingly, we have long advised government that regulation is needed.

Federal Hansard records that the reason regulation has not been introduced is that the Rudd government intends to axe dental Medicare and apparently considers the effort of regulation unnecessary. Astonishingly, the government has issued letters incorrectly advising patients using dental Medicare that the scheme is closed and has further refused to advertise the present entitlement of chronically ill people for dental service.



The only reason dental Medicare still exists is that the Coalition, the Australian Greens, Family First and independent Nick Xenophon voted against the government in the Senate and refused to axe dental Medicare for replacement by an ill-considered government alternative termed the Commonwealth Dental Health Program.

More than $350 million has been spent on dental Medicare since November 2007, exceeding the $100m a year proposed for the CDHP. Notably, the CDHP would deliver just $15 for each public dental patient to each state each year to support public dental services.

In this way, the government wishes to replace $2125 for each patient of dental Medicare to see any private dentist, with only $15 a patient to join the state public dental waiting list. Nationally, about 500,000 people are waiting for state public dental service, so it is clear that states can't cope with present or any increased demand. The CDHP would not be a fair swap for dental Medicare.

States have highly variable public dental funding, with NSW, for example, spending about $64 for each public patient, compared with $138 in the ACT or $108 in Queensland.

Because of this, if the $15 a patient CDHP money were distributed, NSW and Victorian public dental patients would be rated by federal government as deserving about half the public dental funding as similar Queenslanders and ACT residents. The Senate represents state interests and it is hardly surprising senators could not justify axing dental Medicare in support of the government's proposal.

To address overservicing, some have suggested simply removing crowns and bridges from the dental Medicare schedule.

But this would fail to provide such treatment when really needed and would punish the public for the government's failure to enact appropriate regulation.

We suggest regulation of dental Medicare by a system in which any dentist wishing to do crown or bridgework would first provide a treatment plan to Medicare for approval.

A similar approach has worked well in the Department of Veterans Affairs, which provides comprehensive dental care for returned soldiers. Also, we see that it makes sense for dental Medicare to include those people who have dental problems needing antibiotics or who are hospitalised with dental infection.

With time, we believe dental Medicare should become available to all Australians.

Finally, we suggest any federal funds supporting state public dental services should be contingent on the states first increasing their own funding to an agreed minimum national level.

We believe dental Medicare is important for the health of the nation and hope the government can be brought to share our view.

Hans Zoellner chairs the Association for the Promotion of Oral Health and heads oral pathology and oral medicine at Sydney University's faculty of dentistry.

E-scripts off and running

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software arm, Fred Health, is managing the process with partner Simpl, a New Zealand firm specialising in e-health systems, and Microsoft Australia.

In the other corner, the GPs' professional bodies are supporting MediSecure, originally built for an e-prescribing trial in the Northern Territory, conducted by the local General Practice Network on behalf of the federal government. MediSecure chief executive Phillip Shepherd says pharmacists are on the phone wanting to sign up as the project moves out of its extended pilot phase.

"Our rollout plan is to add 96 general practices in the next three weeks and there are another 130 practices scheduled for rollout next month," he says.

"Once a local pharmacist knows local doctors are going to use MediSecure, they want to come on board. So, no, we don't believe we'll have trouble getting our software into pharmacies. We already have more than 700 pharmacy licences out there."

Shepherd says MediSecure has differentiated its market position through its governance arrangements, in particular by establishing an advisory board chaired by the RACGP to advise on ethical issues.

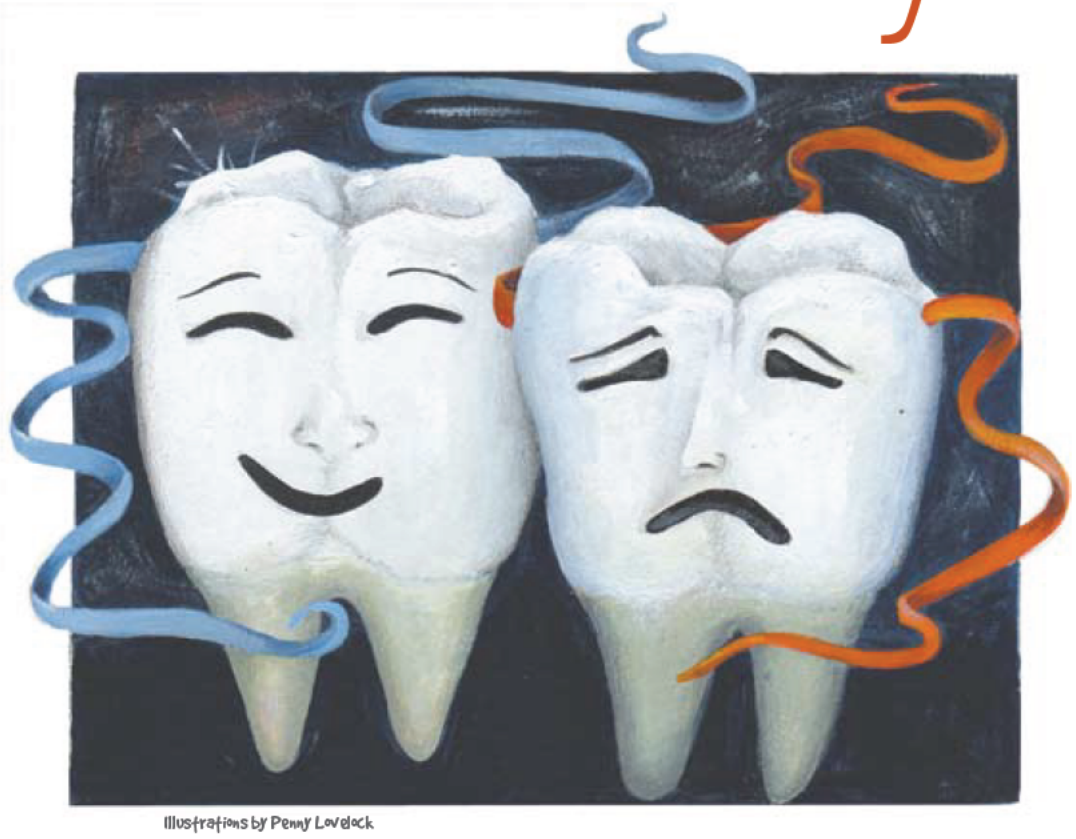
"We've made a firm contractual commitment that no prescribing data will be used for any commercial purpose but there will be huge demand for research use," he says. "Our view is that these questions need to be resolved by the professional organisations."

IT consultant and Standards Australia e-prescribing committee chairman Pat Gallagher sympathises with the frustration that

2020 VISION

The Roots Of Decay

It is time for the provision of dental care to be brought into line with that of medical care, writes Hans Zoellner.



Illustrations by Penny Lovelock

When it comes to dental health, there are two Australias: one that has it and the other that doesn't. The comfortable Australia, inhabited by people who can afford increasingly elaborate dental services, does not perceive dental health as a problem. Then there is the other Australia: the cash-strapped, sore-mouthed, bad-breathed, bleeding-gummed, snaggle-toothed Australia, with poor employment prospects, and which has seen little improvement over decades. Rotting teeth stigmatise not only the poor, but also those caught somewhere between dire poverty and financial comfort. This dental inequity has been apparent for decades, with numerous surveys reporting worse dental health for families on low incomes who are dependent on public dental services. The dental health of Aboriginal Australians and people living in rural areas has also long been recognised as much worse than that of non-Aboriginal city dwellers.

Given the absence of adequate dental services for all Australians, families struggling with the costs of housing, food and clothing have difficulty finding the additional funds for dental services. With early dental intervention being unaffordable, the even higher cost of treating advanced dental disease further isolates such families from good dental health. Children carry for life the effects of inadequate dental care in their early years. All this sits poorly with our nation's sense of equity, and irrationally separates disease of the mouth from disease of the rest of the body, which is supported by Medicare and the public hospital system.

Appended Reference Number [7]

Several years ago, I and a number of other dental academics, clinicians and community stakeholders formed the Association for the Promotion of Oral Health (APOH), a think tank and advocacy group. Our mission is to develop solutions to the nation's dental problems, and to drive politicians to implement our proposals. One of our objectives is for Medicare to include dental treatment. We find that none of the reasons put forward against the inclusion of dentistry in Medicare stand up to critical examination. One view has been that because dental disease is largely preventable, it is thus uninsurable and inappropriate for Medicare. This may have seemed reasonable in the early 1970s, at which time lifestyle factors contributing to dental disease were known whereas those contributing to most medical diseases were unknown. Since then, however, type 2 diabetes, ischaemic heart disease, stroke and many cancers have been discovered to be equally as preventable as dental disease. If these significant medical conditions are to remain covered by Medicare, even though they are preventable, why do we still exclude dentistry?

Some have also suggested that Commonwealth dental funding should be targeted to the poor rather than being squandered on the wealthy via Medicare. Although appealing to a populist perception of class struggle, means-testing Medicare would break the current universality of the system. Importantly, competition imposed by bulk-billing strongly contains private-practice medical fees, and if families are to benefit from the same type of competition in dentistry, then the universality of Medicare entitlement would need to be extended to dentistry in the same way that it applies to medicine. The potential cost of dental Medicare is a reasonable concern to have. However, just changing the way dentists are paid doesn't increase the amount of

Given the absence of adequate dental services for all Australians, families struggling with the costs of housing, food and clothing have difficulty finding the additional funds for dental services.

work they can do, so the maximum possible cost of dental Medicare is limited to the current total national dental expenditure of about $6 billion yearly, which is modest compared with total Australian health spending of $100 billion. Importantly, bulk-billing competition, the exclusion of purely cosmetic services, and proper regulation would likely contain total national dental Medicare costs to levels well below $6 billion.

The greatest barrier to bringing dentistry into Medicare might be the peopling of parliaments and bureaucracies by those who, comfortably well off, enjoy good dental health. Showing a photograph of a swollen face to a past State ministerial advisor on dentistry, I was briefly speechless when he told me he did not believe the image shown, because he didn't have any friends who looked like that. Those with direct influence on policy seem selected from the wrong group to take dental disease seriously. Their own dental problems are typically controlled before bone destruction, abscesses, facial swelling or extractions occur. When dental disease is advanced, they receive timely service and have no conception of the chronic pain suffered by those less fortunate.

There are at least 30,000 hospitalisations per year for preventable dental infection in Australia. Most dental hospitalisations are for planned multiple extractions, but some are for emergency patients treated over days and weeks with intravenous antibiotics, surgical drainage and airway maintenance, who would otherwise die of their dental infections. Deeply sheltered ministers and bureaucrats rarely see the consequences of their neglect of dentistry, and seem indifferent to distressing reports by clinicians and patients of real human need. Health officials witter intolerable nonsense about 'prioritisation', 'rationing' and 'limited resources', while denying their patently obvious ignorance about the impact of dental disease.

Patients in desperate pain but unable to afford dental treatment often visit doctors in bulk-billing practices for antibiotics and painkillers. Unfortunately, antibiotics alone ultimately fail, because the source of infection must be removed by filling, root-canal therapy or extraction. It defies logic for Medicare to support ultimately ineffective visits to doctors to obtain these painkillers and antibiotics, but not the preventive and definitive treatments dentists and other oral-health professionals alone can deliver. Also, ineffective and excessive prescription of antibiotics fosters development of antibiotic-resistant bacteria, increasing potential for life-threatening antibiotic-resistant sepsis.

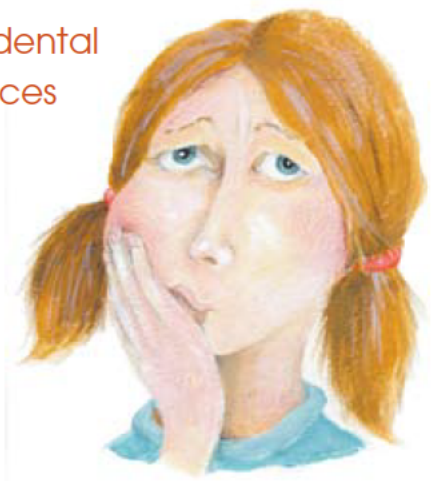
Children can particularly benefit from pit and fissure sealants and local fluoride applications. Were Medicare to fund such intense preventive treatment, much more destructive and expensive disease would be avoided in later life.

Despite ample evidence from numerous surveys, reports and commissions that Australia's dental health needs attention, government efforts have been token, piecemeal and ineffective. For example, in the early 1990s, the Keating

Government gave the States about $100 million per year to top up public dental services. Although this sounds like a lot of money, it was insufficient to bring about lasting change, and led to some States opportunistically reducing their own public dental spending. When the Howard Government closed the scheme, NSW, for example, failed to make up the difference and now spends about half of what other States spend, per capita, on public dentistry. The Rudd Government did not honour its 2007 election promise to restore Keating's dental scheme, but this probably doesn't matter because the original scheme achieved little and the promised restoration didn't even allow for inflation.

One token program that was delivered by the Rudd Government is Teen Dental, which mails $157 vouchers for dental examination and some preventive service to families with teenagers, on a means-tested basis. By mailing vouchers to eligible families, Teen Dental is very effective at advertising government concern, but it is appallingly ineffective at actually helping families, because no money is provided to treat any disease found.

Patients in desperate pain but unable to afford dental treatment often visit doctors in bulk-billing practices for antibiotics and painkillers. Unfortunately, antibiotics alone ultimately fail, because the source of infection must be removed by filling, root-canal therapy or extraction.



Seemingly responding to the anachronism of dental exclusion from Medicare, the dying Howard Government took the first major step towards universal dental Medicare by initiating what is in effect an important and ongoing trial, the Medicare Chronic Disease Dental Scheme. Since November 2007, people with life-threatening chronic conditions have been entitled to a $2,125 Medicare rebate for private dentistry per year for two consecutive years. Treatment is accessed through the Enhanced Primary Care scheme, under which a doctor writes a referral to a dentist for service. This Medicare scheme has been successful and popular, treating more than 577,000 people and spending $973 million since its inception. 'Teething problems' have emerged, with some dentists, for example, apparently abusing the scheme by over-servicing in crown and bridgework. Nonetheless, the scheme has successfully trialled dental Medicare and provides a starting point that, with modification, could be carefully expanded to include the entire population. Most unhappily, the Rudd/Gillard government was inexplicably hostile to dental Medicare, so this important initiative has been under threat. The Rudd/Gillard government blamed the Senate and Opposition for blocking the government's intended restoration of Keating's old scheme supplementing State dental funding. It would be more accurate to say that the Senate twice refused the Government's insistence that the current generous Medicare Chronic Disease Dental Scheme be axed before the somewhat stingy 'Keating scheme' was restored. The Greens have put forward an impressive policy to bring dentistry into Medicare, and APOH hopes other political parties will come to agree with them.

Although the recent National Health and Hospitals Reform Commission report did propose universal dental-health insurance, the government ignored this key recommendation. One reason for this might be that the specific insurance model proposed by the commission was highly experimental. The commission's suggestion was that the government should collect a 0.75 per cent tax levy, and then distribute the money either to public dental services or insurance companies as dental-insurance premiums. Patients with private insurance would incur a gap payment and be treated by private dentists. Patients unable to afford the gap payment would be eligible for 'free' dental treatment in the public system. Only very basic services were to be covered by the commission's proposal, and this would have locked those accessing care via the public system into a basic dentistry-only service. Despite welcoming the commission's commitment to universal dental insurance, APOH could not support the detailed model proposed because of its intrinsic inequity.

It seems important to recognise that public hospitals fulfil critical roles that private medical services cannot. In contrast to the straightforward and lucrative work delivered by private hospitals, public hospitals typically manage patients who have health problems either too complex or too expensive to treat in the private sector. In addition, public hospitals provide universal access irrespective of wealth. This provides a rich training environment, and also makes the public system attractive to talented senior medical specialist clinicians, who by participating in training and research programs improve the quality of our health-care service. I describe this system, so effective in medicine, in some detail, because dentistry is pointedly excluded from it.

While the public medical system provides high-quality service for the most difficult and interesting cases, public dentistry is mostly an emergency service for the poor. The difference is explained as follows. State governments have responded to the large number of people unable to afford private dentistry by providing eligibility for public dental services on a means-tested basis. Dependent on State jurisdiction and socio-economic circumstances, up to half the population may be eligible for public dentistry, but because public dentists' wages cannot compete with private-practice salaries, fewer than 10 per cent of dentists work in the public sector. It is impossible for 10 per cent of dentists to care properly for up to 50 per cent of the population. The waiting lists are consequently too long for public patients to have dental disease controlled at an early stage. So dentists in the public system find themselves overwhelmed with emergency service, and are rarely able to deliver the comprehensive treatment needed to avoid future dental problems. Without universal dental Medicare, the public dental service is structurally committed to perpetual failure. In NSW, all children are formally eligible for public dental treatment, so can register for assessment and treatment, but few can actually be seen because the public system is already swamped. With dental Medicare, most people could access treatment in private practice where 90 per cent of dentists work. The public system would then be liberated to concentrate on high-quality service for people too medically fragile for safe treatment in private practice, as well as on training the dental workforce, similar to the existing arrangements in medicine.

I'm an academic teaching and researching in the area of oral pathology, and I do understand the annoyance some of my clinical colleagues express when they hear me publicly pressing for changes that could affect their practice. Nonetheless, like most dentists, I, too, have been happy to treat occasional emergency patients who were unable to pay. While charity gives us all a warm inner glow, it is an unsustainable, ineffectual and ultimately undignified national strategy for dental health. Academics are paid to teach, to be harmlessly engaged in research and, when needed, to alert the community to ways in which we might do things better.

My hope is that by 2020, there will be no difference between the mouths of rich and poor, we will have dental Medicare, and public dental services will be comparable to those for medicine. These are small and achievable dreams to have for a rich country, but only public insistence on government action can bring these small hopes to reality. ■

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The Question

Should dentistry be covered by Medicare?

Yes – it's an overdue necessity which is causing real distress, say some. Others fear the costs would be crippling.

THE ACADEMIC
HANS ZOELLNER

EXCLUSION of the mouth from Medicare denies anatomical logic, abandons people in need, protects private dentistry from competition, and concentrates the dental workforce in wealthy suburbs.

Roughly half the country cannot afford private dentistry, and state public dental services are overwhelmed. The Keating government tried to supplement public dentistry with $100 million a year but this could not overcome the problem of a swamped public system. John Howard discontinued the scheme, but introduced a different program for people with chronic disease. This failed due to a lack of funding. But in November 2007, something huge happened.

As health minister in the dying Howard government, Tony Abbott significantly expanded the failed Howard chronic-disease scheme to fund comprehensive dental care up to $2125 a year via Medicare. At the time, his staff assured me this was a limited trial of dental Medicare, to identify difficulties and underpin eventual expansion towards universal dental insurance.

Regrettably, the then Labor opposition vehemently criticised the trial. The rhetoric of opposition has carried into government, which now seems obsessed with axing Abbott's scheme. Labor's alternative was announced as a Kevin Rudd election promise – to resurrect the $100 million Paul Keating scheme, a sum unchanged since its axing in 1996. Not mentioned in the campaign was that the scheme was contingent on the closure of Abbott's dental Medicare trial. The senate knew this was a bad deal, and has twice refused to comply.

Accused of being exploitable by millionaires, Abbott's scheme, by definition, targets medically necessary dentistry and is used, mostly, by low-income elderly people. The government cites patchy uptake of dental Medicare and its low use by children, although it refuses to advertise eligibility and few children suffer chronic disease.

The Abbott scheme is troubled by excessive bureaucracy, administrative error and overservicing. But rather than addressing these issues, the government has relied on the scheme discrediting itself to justify closure.

The government's Teen Dental scheme, which issues means-tested Medicare vouchers for teen examinations, is an expensive way to do nothing. No funding exists for treatment. An expanded Abbott scheme, for the entire population, is the only long-term solution.

Hans Zoellner is chairman of the Association for the Promotion of Oral Health, and the head of oral pathology and oral medicine at the University of Sydney.

How to make public dentistry work

Associate Professor Hans Zoellner, Association for the Promotion of Oral Health

State and Territory governments are responsible for delivering public dental services, but the national public dental waiting list hovers around 500,000. Especially daunting is that this figure underestimates actual demand because many who are eligible for public dentistry have no serious expectation of ever being seen, so don't register for appointments.

This would be damning of those responsible for public dentistry, were they not given excuse by being asked to do the numerically impossible; that is to deliver comprehensive dental care to almost 50 percent of the population with less than 16 percent of the nation's dental workforce. The psychology of failure is insidious, because when nothing can be done, nothing becomes expected.

The proportional imbalance between public dental workforce and eligible patient population forces public dentistry to focus on emergency-style treatment, rather than delivery of comprehensive dental care. The sense that public dentistry is 'poor dentistry for poor people' may be galling for many dedicated public dental clinicians, but it is nonetheless a truthful assessment of the facts.

Dental clinicians working in the public sector have salaries lower compared with income in private practice, while the focus on basic and emergency dentistry undermines satisfaction in work, and hence the capacity to attract and retain the public dental workforce.

One approach to correcting the imbalance between service capacity and demand in the public sector is to simply put more money into the public dental system. Salaries can be raised, and more clinicians may be employed. While this is superficially attractive, it unfortunately doesn't work. Proof of this unpalatable fact lies in simple comparison of public dental spending across State and Territory jurisdictions. NSW, for example, spends close to half per public dental patient compared with many other states such as Queensland and Western Australia. Public dental waiting lists, and the type of service offered in these more richly funded states, however, are not appreciably better than in NSW. Separately, there are numerous rural incentive schemes to attract public dental clinicians to more isolated areas, but these programs are generally unsuccessful in redistributing workforce. Money simply doesn't seem to be enough.

During the Keating years, an increase in public dental spending was made through yearly Federal grants to the States. Although this was welcome, State services did not have internal capacity to spend the money, with much Federal funding directed to private dentists via vouchers. It is saddening that some States used the Federal funds to reduce their own dental investment, with the effect of overall reduced government dental spending when the Keating scheme was eventually closed by the Howard Government.

In our free-market economy where remuneration and conditions are more attractive in the private sector, it is unlikely that it will ever be possible to expand the size of the public dental workforce sufficiently to meet demand, unless the public system is structurally changed.

Another approach to supporting public dentistry has been to reduce eligibility criteria and tightly ration services. While this certainly makes public system statistics look better, it nonetheless fails dismally in actually providing care to people who cannot afford private dental practice. Of particular concern is Australia's demographic profile of an ageing population, where most people have their natural teeth and require life-long dental maintenance therapy. We thus face a tsunami of demand for public dental service by ageing people on limited incomes, who will be increasingly unable to access public dental care in a progressively overwhelmed system.

All of this might sound hopeless, but I do believe there is a sensible solution that can be implemented in reasonable time to accommodate our rapidly ageing demographic. The solution is not to try and prop up the current public dental service, but to instead redefine the role of the public system by creation of universal dental Medicare. By providing access to private dental services via Medicare, public dental services would be liberated from their currently impossible task of serving half the community with a smattering of dental clinicians. Instead, public dental services could concentrate on those patients who have medical or other problems too difficult or expensive to be provided by private dental practitioners. This would properly match public dental workforce to demand, and ensure that everybody who can be safely seen by private dentists has access to such service.

'We face a tsunami of demand for public dental service by ageing people on limited incomes, but who will be unable to access public dental care in an overwhelmed system.'

Precedent is well established in medicine. Despite occasional grumbles about public hospitals, the fact remains that they successfully deliver comprehensive and complex medical care to patients who are

simply too difficult or too expensive to treat in private hospitals. Consultant physicians and surgeons derive high status from their public hospital appointments, as it is understood that only the better clinicians are able to cope with the complex needs of public hospital patients. The wide range of difficult cases encountered in public medical services also provides a rich educational environment for medical students, interns and specialist trainees. Note, this is the complete opposite to current arrangements in dentistry, where the public system has become largely limited to basic dentistry, and it is in the private sector where most advanced dental services are delivered.

Putting dentistry into Medicare would not only make it possible for almost everyone on the public dental waiting list to be seen immediately by private dentists, but would also create a market in outer metropolitan suburbs for private dentistry. Currently, there are less than half as many private dentists in outer metropolitan areas compared with the wealthier suburbs, despite the greater clinical need in poor areas. This maldistribution of the dental workforce is at least in part because more people in the poorer suburbs don't have the money for private dentistry, so there is no market to support new dental practices. Universal dental Medicare would create such a market, and help redistribute dental workforce to where it is actually needed. Some have argued that dental Medicare should be means tested. This would, however, be a mistake, not only because it is inconsistent with the rest of Medicare, but also because universality is needed for bulk-billing dental practices to become established, and push down the prices in private dental practices charging a gap above the Medicare schedule.

Were dental Medicare introduced, as is the current Federal Greens policy and the Coalition's stated ambition, there would be no public dental waiting list, a shift in public dental services from emergency and basic dentistry to high quality service for complex and difficult patients, and creation of a public dental service attractive for the very best dental clinicians to exercise their skills. The public system can be saved, but only by investing in private dental service via Medicare.

Description of comprehensive dental services supported by the Medicare Chronic Disease Dental Scheme in the first 23 months of operation

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Abstract

Objective: Australia's Medicare universal insurance system has supported comprehensive dental service through the Chronic Disease Dental Scheme (CDDS) since November 2007. Public debate opposing CDDS includes claims of over-servicing, calls for expansion to universal eligibility, and government threat of closure. Here we examine CDDS services over the first 23 months of operation.

Methods: CDDS statistics on patient age, gender and item numbers claimed from November 2007 to December 2009 from Medicare were subjected to analysis.

Results: The distribution of 404,768 total CDDS patients varied across Australia from 3.6% of the population in NSW to 0.07% in NT, while uptake increased over time. The average patient had 7.58 dental treatments, and the most common were: direct restorations (2.27), preventive and periodontal services (1.46), diagnostic services (1.43), extractions (0.77), and new dentures (0.53). Crown and bridgework appeared over-represented (0.48).

Conclusion: Although data do suggest over-servicing in crown and bridgework, there also appears to be significant community need for the CDDS.

Implication: Clear guidelines for dental clinical diagnosis and treatment planning, as well as a pre-approval process for crown and bridgework is suggested to improve the CDDS, and this could form the basis for expansion to universal eligibility for dental Medicare.

Key words: dental, medicare, chronic disease, over-servicing, treatment planning

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There is evidence for association between dental infection and several systemic conditions including: central and peripheral vascular disease, diabetes, poor birth outcomes and aspiration pneumonia.[1-6] Although mechanisms are unclear, some animal and human intervention studies suggest a causative contribution of oral infection to these systemic conditions,[2,7-14] so that improved control of dental infection may reduce the burden of separate systemic disease. Dental infection also contributes substantially to preventable hospitalisation.[15,16] Despite these broad health implications, dental services are not included in Australia's Medicare universal health insurance system, and the cost of private dental services significantly limits access.[17]

In November 2007 the Enhanced Primary Care Dental Initiative, which provided limited dental funding, was expanded to become the Medicare Chronic Disease Dental Scheme (CDDS). Under the CDDS, eligible patients may receive Medicare benefits of up to $4,250 for eligible services provided under the CDDS during two consecutive calendar years. Eligibility for CDDS is determined by general medical practitioners, who identify the presence of a chronic systemic disease that may be adversely affected by the patient's dental condition. Medical practitioners are required to prepare multidisciplinary care plans including dental treatment, in order for patients to access the CDDS.

Although the Federal Government elected in December 2007 indicated cessation of CDDS, the scheme has continued with the support of the Senate. The public availability of data on CDDS service provision provides an unprecedented opportunity to examine patterns of private dental service heavily subsidised by the Australian Federal Government via Medicare.

A brief review of common dental disease and treatment is necessary. Caries involves bacterial invasion and destruction of tooth structure, and is treated by removal of infected tissue followed by 'filling' with dental restorations. In untreated caries, bacteria invade the vascular dental pulp with an eventual spread to bone at the root apex (Figure 1). The spread of infection to soft tissues may be followed by life-threatening sepsis. Restorations may be either direct into teeth, or alternatively 'indirect restorations' cemented into place after preparation using plaster models. Direct restorations may be of amalgam, mostly used in posterior teeth, or of adhesive tooth-coloured material. Although adhesive materials are aesthetically pleasing, amalgam has greater longevity.[18,19] When tooth structure is severely compromised, it becomes necessary to 'cut the tooth back' to a thimble shape to accept indirectly prepared crowns enclosing the entire tooth surface (Figure 1). Inlays are smaller indirect restorations of gold or porcelain. Most restorations eventually require replacement

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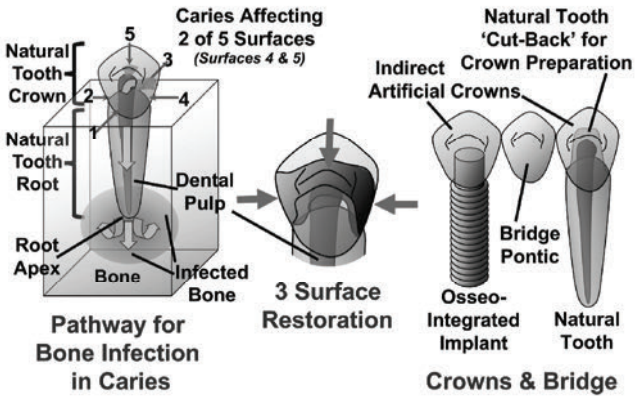

Figure 1: Diagrams illustrating: spread of caries infection to apical bone via the pulp; the 5 separate tooth surfaces susceptible to disease; a three surface restoration; osseointegrated implants; a bridge pontic; crowns; and the typical thimble-shaped preparation of a natural tooth needed to make a crown.

accompanied by additional loss of tooth structure, so that a conservative approach is preferred. If caries infection has spread to the pulp or bone, the tooth must either be extracted, or an endodontic procedure performed to remove infected dental pulp and obturate the pulp chamber with a 'root canal filling' (Figure 1).

In periodontitis, irritant plaque destroys the periodontal ligament and bony tooth support with eventual tooth loss. Treatment includes improved oral hygiene, curettage, and surgical tissue remodelling.

When only some teeth are lost, they may be replaced using either bridges or partial dentures. A bridge consists of a false tooth 'pontic' held in place by two crowns on either side of the offending gap. While bridges are permanently cemented into place, partial dentures are removable and fixed by clasps grasping natural teeth. Denture clasps may be part of a cast metal framework, or alternatively just wires embedded in a resin base. Partial dentures with a cast metal framework are generally preferred over those with an acrylic base because of greater comfort and longevity. While any ill-fitting partial denture may traumatise gingiva and act as a plaque and food trap, these problems seem less pronounced when cast metal frameworks rather than acrylic bases are used.

When all teeth are lost, replacement is with a full denture. Osseointegrated implants may be used to anchor full dentures, partial dentures and also crowns or bridges.[20]

General dental practitioners and specialists deliver the full range of dental services, while prosthetists with dental technician background and additional clinical training are able to make dentures and denture repairs.

There has been public discussion of possible over-servicing in the CDDS,[21-23] while the federally appointed National Health and Hospital Commission recently recommended a separate universal dental health insurance program,[24,25] and the Greens political party has announced a policy of expanding the CDDS to include the entire population.[26,27] This study aims to describe patterns of service delivered under the CDDS over the first 23 months of implementation, both in light of and to inform public discussion.

Methods

Collection of data

Data on services defined by specific item numbers between November 2007 and December 2009 was from the Medicare website (http://www.medicareaustralia.gov.au). Table 1 shows the item numbers used and grouped for analysis in this study. Item numbers were selected to avoid double counting, as item numbers for services intermediate in the restoration or root canal − endodontic therapy of individual teeth were excluded from the analysis, as were item numbers for intermediate steps or components of prosthetic, surgical and preventive services. Item numbers were grouped to facilitate analysis of treatment type, and were indicative of the number of: diagnostic; preventive and periodontal; extraction; general surgical; acute pain and dental emergency; chronic pain management; endodontic; direct restorative; indirect restorative; bridge; implant; orthodontic; denture; and denture repair services on a per tooth or patient basis. The Medicare website provides data using a similar but less comprehensive grouping, which has the disadvantage of 'double counting' on a per tooth or patient basis, but is nonetheless more helpful with regard to determining the total cost of treatment. For this reason, where costs are compared in the current study, these data were obtained directly from the Medicare website according to the grouping used by Medicare. Patient number was estimated from those item numbers used for diagnostic examination, while the study was limited to the first 23 months of the CDDS to minimise the likelihood of including patients returning after an initial course of care for maintenance therapy.

Statistical analysis

Statistical analysis assessed data from those who have accessed CDDS services with reference to the wider population who are eligible, but who may not have not used the scheme. The chi-square test was used to evaluate the statistical significance of differences in proportion between groups,[28] and binomial analysis of proportion by approximation was applied in considering single statistics using the calculator available at http://faculty.vassar.edu/lowry/binomialX.html, assuming an expected proportion of 0.5. Confidence intervals (CI) are indicated at the 95% level and were calculated without correction for continuity.

Results

The distribution of CDDS patients across Australia

The total number of CDDS patients treated as well as the number of discrete treatments according to type is shown in Table 2. Of the Australian population, 1.8% accessed CDDS, although this varied between state jurisdictions ranging from a maximum of 3.6% of the New South Wales (NSW) population to 1.8% in Victoria; 1.4% in South Australia (SA); 0.57% in Queensland; 0.34% in the Australian Capital Territory (ACT); 0.28% in Tasmania; 0.08% in Western Australia (WA); and 0.07% in the Northern Territory (NT), with differences all statistically significant to $p<0.001$ with the exception of that between WA and NT. A separate table showing state-level data is available at the University of Sydney website (http://hdl.handle.net/2123/7744).

Table 1: Medicare Item Numbers used for analysis grouped according to the type of service delivered (X- is 85- for general dental practitioners, 86- for specialist dental practitioners, and 87- for prosthetist delivered services).

Item No. Suffix	Treatment Description
Patients Treated	
X-011, X-012, X-013, X-014, X-015	Comprehensive, Periodic, and Limited (Emergency) Oral Examination, and Consultations
Diagnostic Services	
X-022, X-025, X-031, X-035, X-036, X-037, X-038, X-039, X-051	Intraoral, Extraoral, Temporomandibular Joint, Cephalometric, Panoramic, Hand-Wrist and Skull Tomographic Radiology, and Biopsies
Preventive and Periodontal Services	
X-047, X-111, X-113, X-114, X-115, X-117, X-121, X-123, X-131, X-141, X-161, X-171, X-221, X-222, X-225, X-231, X-232, X-233, X-234, X-235, X-236, X-238, X-241, X-245	Caries Activity Testing, Scaling, Cleaning, Recontouring Restorations, Internal Bleaching, Remineralisation, Dietary Advice, Oral Hygiene Instruction, Fissure Sealing, Odontoplasty, Periodontal Recording, Root Planing and Curetage, Non-Surgical Periodontal Therapy, Soft Tissue and Bone Surgical Periodontal Therapy Including Grafts and Gingivectomy
Extractions	
X-311, X-314, X-316, X-322, X-323, X-324, X-326	Simple, Sectional and Surgical Extractions Including Removal of Root Fragments and Bone
General Surgical Procedures	
X-331, X-332, X-337, X-338, X-341, X-343, X-344, X-345, X-371, X-373, X-375, X-376, X-377, X-378, X-379, X-381, X-382, X-384, X-385, X-388, X-389, X-391, X-393, X-395	Bone and Soft Tissue Plastic Surgery including Grafts and Hyperplastic Tissue, Repositioning Muscle Attachment, Cysts and Tumours, Removal of Scars, Salivary Duct and Gland Surgery, Removal of Foreign Bodies, Cyst Marsupialisation, Surgical Exposure and Ligation of Teeth, Repositioning Teeth, Transplantation of Teeth or Tooth Bud, Isolation and Preservation of Neurovascular Tissue, and Surgery Involving the Maxillary Antrum
Acute Pain and Dental Emergencies	
X-213, X-386, X-387, X-392, X-412, X-419, X-911, X-927, X-986	Acute Periodontal Infection, Splinting Displaced Teeth, Drainage of Abscess, Endodontic Emergency, Palliative Care, Prescription
Chronic Pain Management	
X-165, X-394, X-926, X-965, X-966, X-968, X-971, X-972, X-981	Desensitisation, Surgery for Osteomyelitis, Occlusal Splint and Adjustment, Physiotherapy, Splinting and Stabilisation
Endodontic Services	
X-414, X-417, X-431, X-432, X-433, X-434, X-436, X-437, X-438, X-457	Pulpotomy, Peri-Radicular Surgery and Apicectomy, Apical Seal, Treatment of Perforation and Resorption
Direct Restorations (Amalgam and Adhesive)	
X-511 to 5, X-521 to 5, X-531 to 5, X-576	Posterior Amalgams, Posterior Adhesive and Anterior Adhesive Restorations with from 1 to 5 Surfaces, and Stainless Steel Crowns
Indirect Restorations (Crowns and Inlays)	
X-541 to 5, X-551 to 5, X-613, X-615, X-618	Indirect Inlays with 1 to 5 Surfaces, and Crowns (Metal, Porcelain, Veneered)
Bridge Pontics	
X-642, X-643	Pontics for Bridges (For Analysis 2 Crowns are Assumed Needed Per Pontic)
Osseointegrated Implants	
X-661, X-664, X-666, X-671, X-672, X-673, X-684, X-688	Implant Abbutments, Bars and Crowns Attached to Implants, Two and One Stage Implants
Orthodontic Services	
X-811, X-821, X-823, X-829, X-831	Removable and Fixed Appliances, Partial and Full Banding
Dentures	
X-711, X-712, X-719, X-721, X-722, X-727, X-728	Full Dentures, Partial Resin Dentures, and Partial Metal Framework Dentures
Denture Repairs	
X-741, X-743, X-744, X-745, X-746, X-751, X-752, X-753, X-761, X-762, X-763, X-764, X-765, X-767, X-768, X-769	Adjustment, Relining, Remodelling, Cleaning and Polishing, Reattaching and Replacing Teeth and Clasps, Repairing Broken Base, and Adding Teeth

The item numbers selected for analysis provide information at the level of services per tooth (extractions, endodontic services, direct restorations, indirect restorations) or per patient (diagnostic services, preventive and periodontal services, general surgical procedures, acute pain and dental emergencies, chronic pain management, bridge pontics, osseointegrated implants, orthodontic services, dentures, and denture repairs). The range of dental services supported by the CDDS is extensive and permits comprehensive dental care of patients

Table 2: The number of CDDS supported patients and services according to treatment type.

	General dental practitioner services	Specialist services	Prosthetist services	Total services for all practitioners
Patients treated				
Services	352,298	6,282	46,188	404,768
95% CI	351,879-352,717	6,128-6,436	45,792-46,584	-
Diagnostic services				
Services	568,015	9,122		577,137
95% CI	566,682-569,348	8,935-9,309		575,795-578,479
Preventive and periodontal services				
Services	581,224	8,456		589,680
95% CI	579,879-582,569	8,276-8,636		588,327-591,033
Extractions				
Services	305,281	6,587		311,868
95% CI	304,253-306,309	6,428-6,746		310,831-312,905
General surgical procedures				
Services	4,958	338		5,296
95% CI	4,820-5,096	302-374		5,153-5,439
Acute pain and dental emergencies				
Services	48,361	362		48,723
95% CI	47,933-48,789	325-399		48,294-49,152
Chronic pain management				
Services	23,677	388		24,065
95% CI	23,377-23,977	349-427		23,762-24,368
Endodontic Services				
Services	44,992	1,344		46,336
95% CI	44,579-45,405	1,272-1,416		45,917-46,755
Direct restorations (amalgam and adhesive)				
Services	916,834	1,631		918,465
95% CI	915,262-918,406	1,552-1,710		916,893-920,037
Indirect restorations (crowns and inlays)				
Services	193,261	293		193,554
95% CI	192,427-194,095	259-327		192,719-194,389
Bridge pontics				
Services	41,295	47		41,342
95% CI	40,899-41,691	34-60		40,946-41,738
Osseointegrated implants				
Services	2,657	1,559		4,216
95% CI	2,556-2,758	1,482-1,636		4,089-4,343
Orthodontic services				
Services	1,977	934		2,911
95% CI	1,890-2,064	874-994		2,805-3,017
Dentures				
Services	158,767	459	56,998	216,224
95% CI	158,007-159,527	417-501	56,534-57,462	215,345-217,103
Denture repairs				
Services	62,960	239	25,281	88,480
95% CI	62,473-63,447	209-269	24,971-25,591	87,905-89,055
Total number of individual procedures performed, per tooth – patient basis				
Services	2,954,259	31,759		3,068,297
95% CI	2,953,610-2,954,908	31,412-32,106		

The majority of CDDS patients were seen by general dental practitioners only, although prosthetists and dental specialist practitioners also provided an appreciable number of services.

The rate of CDDS uptake significantly increased towards the end of the study period (Figure 2). While the absolute percentage of state population using CDDS in the month of December 2009 in WA and NT remained much lower than all other states (0.006% and 0.008% respectively, $p<0.001$), there was increased use in Tasmania (0.02%), ACT (0.03%), Queensland (0.06%), Victoria (0.14%), and SA (0.15%) ($p<0.05$), and NSW residents had the highest percentage population use of CDDS per month at the end of the study period (0.21%) ($p<0.001$). Of note is a brief dip in CDDS use from April to June 2008.

The age and gender of CDDS patients

Figure 3 illustrates the number of CDDS patients according to age group, gender and whether seen by prosthetists or dentists. More women were treated than men by both prosthetists and dentists ($p<0.001$), while dentists treated substantially more patients compared with prosthetists ($p<0.001$) (Table 2, Figure 3). Although most patients were over the age of 54 ($p<0.001$), and prosthetists treated an older cohort compared with dentists ($p<0.001$), 1,449 patients were under the age of 15.

Patterns of service delivered under the CDDS

Similar patterns of treatment were seen across states and territories (data available at the University of Sydney website, http://hdl.handle.net/2123/7744). Of 7.580 average dental treatments per patient across Australia, the most common services were: direct restorations (2.269, 95% CI 2.265-2.273); preventive and periodontal services (1.457, 95% CI 1.455-1.462); diagnostic

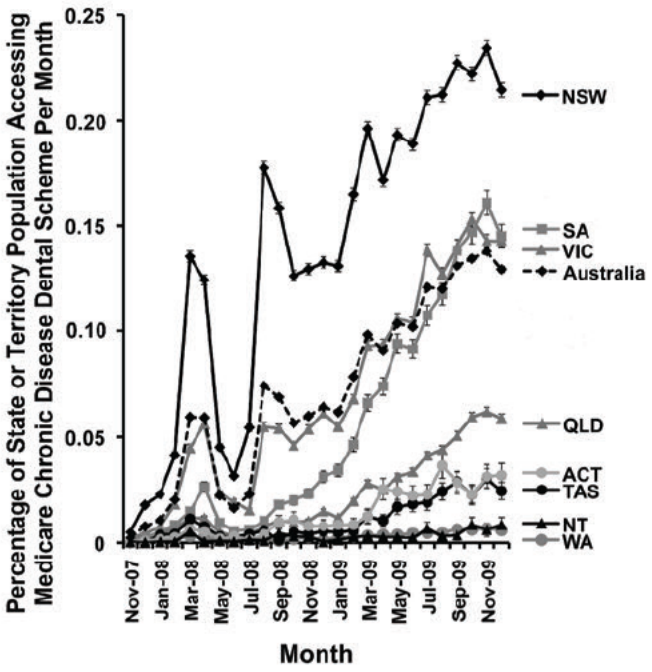

Figure 2: Graph showing the percentage of total state, territory or national population undergoing dental examination in the CDDS per month from November 2007 to December 2009. There was steadily increasing use of the CDDS, although uptake varied greatly between jurisdictions.

services (1.426, 95% CI 1.422-1.429); extractions (0.770, 95% CI 0.768-0.773); new dentures (0.534, 95% CI 0.532-0.536); and indirect restorations (0.478, 95% CI 0.476-0.480).

Among all restorations placed, there were proportionately more direct (82.6%, 95% CI 82.5-82.7) than indirect restorations (p<0.001) (Table 3). Comparing jurisdictions, however, while NSW (20.0%, 95% CI 19.9-20.1) and Tasmania (18.9%, 95% CI 17.6-20.2) had comparable rates of indirect restorations, these two states delivered proportionately more indirect restorations compared with other states and territories considered together (12.7%, 95% CI 12.6-12.8) (p<0.001, data available at the University of Sydney website, http://hdl.handle.net/2123/7744) where the proportion ranged from 16% in WA to 5% in NT. Separately, there were proportionately more crowns related to bridges in NSW and Victoria (43.9% of crowns, 95% CI 43.6-44.2), than in other states considered together (31.2% of crowns, 95% CI 30.5-31.9) (p<0.001, data available at the University of Sydney website, http://hdl.handle.net/2123/7744). Adhesive materials were used in the great majority of posterior restorations (92.1%, 95% CI 92.0-92.2) in preference to amalgam (p<0.001). Oral hygiene instruction was delivered to only 59,374 patients comprising 14.7% of all patients (95% CI 14.6-14.8). Most patients receiving dentures required partial (66.4%, 95% CI 66.2-66.6) as opposed to full dentures (p<0.001), while 68.0 % of full dentures (95% CI 67.6-68.4) and 45.2% of partial dentures (95% CI 44.9-45.5) were for the upper jaw (p<0.001). The great majority of partial dentures made had cast metal frameworks (81.4%, 95% CI 81.2-81.6) as opposed to resin bases (p<0.001).

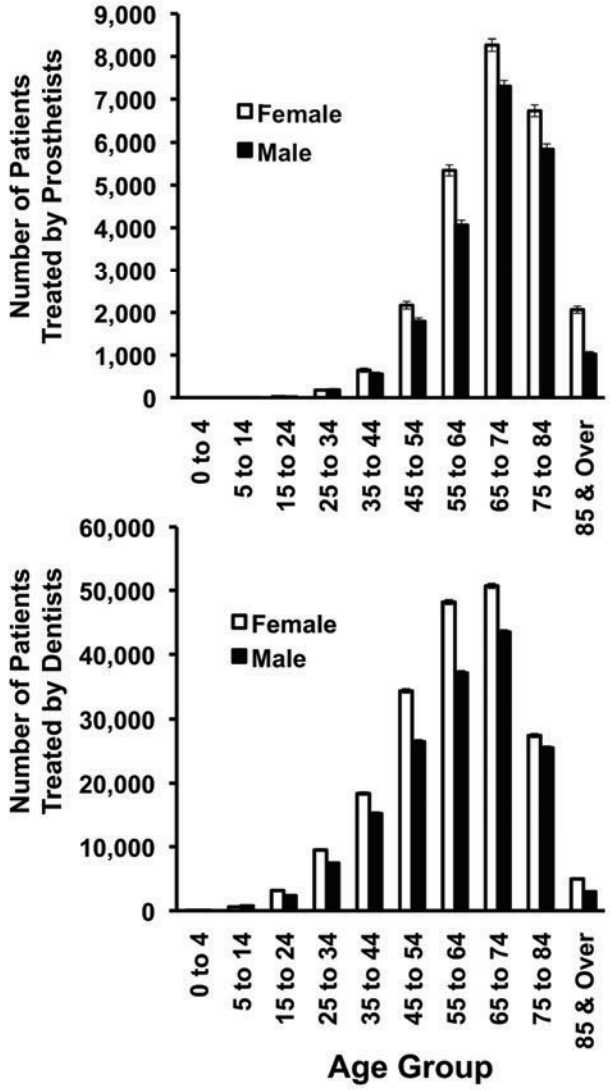

Figure 3: Histograms showing the number of patients treated by prosthetists as well as by general and specialist dental practitioners combined, according to age and sex. There was a slight female preponderance amongst patients in the CDDS, while patients seen by dentists were generally younger than those seen by prosthetists.

The cost of CDDS services

Total expenditure from November 2007 to December 2009 was $731,907,788, with an average expenditure per patient of $1,808. Considering the percentage of total expenditure according to treatment type, denture services (33.88%, CI ± 0.01%) accounted for the largest proportion of cost, followed by crown and bridge (30.32%, CI ± 0.01%), direct restorative (16.33%, CI ± 0.01%), diagnostic (4.94%, CI ± 0.01%), oral surgical (4.76%, CI ± 0.01%), endodontic (3.66%, CI ± 0.01%), preventive (2.80%, CI ± 0.01%), periodontic (2.20%, CI ± 0.01%), general (0.76%, CI ± 0.01%), and orthodontic (0.35%, CI ± 0.01%) services.

Discussion

There are recent reports of patterns of private dental service in Australia,[29-31] but these suffer from the necessary sampling limitations of mail surveys to busy clinicians. The data readily extracted on CDDS services, however, provides a patient sample size and level of detailed information on precise treatments delivered, which appears unprecedented for Australian private dental practice. The current study is only of clinicians and patients participating in the CDDS, so conclusions about patterns of private dental practice can not be readily made regarding wider practice beyond the scheme. Nonetheless, the current study does illustrate the potential power of Medicare records for analysis and practice monitoring, were the CDDS expanded to eventually include all citizens. Some over-estimation of patient numbers is likely in the current study, because many patients presenting to specialist dental clinicians will have also attended general dental surgeries. However, the comparatively small number of diagnostic examinations by specialists suggests the effect of this is negligible. Also, it is impossible to determine from the available statistics what proportion of patients presenting to prosthetists also attended general or specialist dental practitioners, but any 'double counting' effect of this is likely to be small because prosthetist patients comprised only 11% of total patients served. Most preventive services such as fluoride application, scaling teeth and oral hygiene instruction at least partly reverse existing disease and also prevent new lesions from arising. Separately, many operative dental procedures such as restorations and endodontic services simultaneously manage current disease and rehabilitate oral function. To facilitate numerical analysis in the current study,

Table 3: The average number of CDDS services per patient according to type of service delivered, expressed as both services per patient and the relative percentage of services per patient.

	Services per patient	95% CI	Relative % of services	95% CI
Diagnostic services	1.426	1.423 – 1.429	18.802	18.758 – 18.846
Preventive and periodontal services	1.459	1.456 – 1.462	19.237	19.193 – 19.281
Extractions	0.770	0.767 – 0.773	10.162	10.128 – 10.196
General surgical procedures	0.013	0.012 – 0.014	0.175	0.170 – 0.180
Acute pain and dental emergencies	0.120	0.119 – 0.121	1.588	1.574 – 1.602
Chronic pain management	0.059	0.058 – 0060	0.784	0.774 – 0.794
Endodontic services	0.114	0.113 – 0.115	1.510	1.496 – 1.524
Direct restorations (amalgam and adhesive)	2.269	2.265 – 2.273	29.927	29.876 – 29.978
Indirect restorations (crowns and inlays)	0.478	0.476 – 0.480	6.307	6.280 – 6.334
Bridge pontics	0.102	0.101 – 0.103	1.347	1.341 – 1.353
Osseointegrated implants	0.010	0.009 – 0.011	0.137	0.133 – 0.141
Orthodontic services	0.007	0.006 – 0.008	0.095	0.092 – 0.098
Dentures	0.534	0.532 – 0.536	7.045	7.016 – 7.074
Denture repairs	0.219	0.218 – 0.222	2.883	2.864 – 2.902
Total number of individual procedures performed on a per tooth – patient basis	7.582	–	100.000	–

The average CDDS patient received a wide range of routine and advanced dental services consistent with a backlog of untreated dental disease.

we have sought to avoid possible ambiguity by classifying treatment with primary regard to the operative service delivered, rather than with reference to the potentially preventive, disease management or rehabilitative overall clinical objectives. Unfortunately, data available through the Medicare Australia Website permits only determination of the mean number of services per patient, and not the specific proportion of patients who received any given treatment. We are, however, hopeful that the more detailed data needed to evaluate the distribution of services across the patient population may be made available by Medicare at some future time.

It is interesting to observe patterns of uptake of the CDDS across state and territory jurisdictions. Because of government intentions to discontinue CDDS services, there has been no formal advertising to the target population with chronic systemic disease of their eligibility. We speculate that the much higher uptake in NSW relative to other states reflects the combined effect of local CDDS promotion by a NSW-based oral health advocacy group (The Association for the Promotion of Oral Health) via local community groups, as well as active advice from NSW Health to potentially eligible patients to seek CDDS services. There was a marked reduction in new CDDS patients in May and June 2008 across all state and territory jurisdictions, followed by a steep growth in uptake of the scheme. The brief fall in patient numbers seems due to Federal Government announcements and letters to health professionals, enrolled patients and the media that the CDDS was closing, although subsequent Senate action prevented this from happening. It has been argued that the CDDS does not benefit children,[32] however, since comparatively few children suffer chronic systemic disease it is not surprising that the CDDS benefits mostly older people. It should be noted that children with chronic disease are also eligible for CDDS support and the current data indicate use of this scheme in such circumstances.

Data are consistent with a significant burden of untreated dental disease in CDDS patients, but in the absence of data on individual patients, it is impossible to be confident that services delivered were all appropriate to patient need. Indirect restorations including bridges do, at first sight, appear over-represented, and also account for a significant proportion of cost. Regulation of CDDS via a pre-approval process for crown and bridge services would seem reasonable to ensure these services are all clinically appropriate. Importantly, similar regulation has proven effective in dental services supported by the Department of Veteran's Affairs. Despite the high cost of indirect restorative procedures, we see that many teeth would be lost without such service and that any savings would be eroded by the further cost of replacement. In addition, we argue that exclusion of advanced dental service from this Medicare scheme would be inconsistent with the wider established principle that Medicare supports 'all' and not just 'basic' medical services.[21]

While it seems reasonable to question if all expenditure on indirect restorations is justified in terms of potential health outcomes, it is also clear that improving timely access to dental services offers significant health and cost benefits with regard to diabetes, vascular disease, infective endocarditis, aspiration pneumonia, and preventable hospitalisations.[1-16] Also, it is common for those unable to afford private dental service to seek immediate relief from dental abscesses and cellulitis from antibiotics and analgesics prescribed by medical general practitioners. By subsidising attendance for these medical services, Medicare has long provided indirect dental support, and it is particularly unfortunate that antibiotic therapy alone is ineffective because only dental surgical intervention can remove the cause of dental infection (Figure 1). A less wasteful and more effective use of Medicare funds would be to support access to the necessary dental services, at least at the time of acute pain, but preferably before infection spreads to bone and soft tissues. We also have concern that the medical prescription of antibiotics unsupported by dental surgical intervention increases the community load of antibiotic-resistant organisms, hastening

tread into the post-antibiotic era. Without access to more detailed Medicare data, it is not possible to properly evaluate the wider health and cost benefits of the CDDS, but further research in this area seems warranted.

Differences between states regarding the use of indirect restorations and bridges were marked in the current study, and may reflect differences in treatment needs and or cultures. Separately, in light of the longer clinical survival of amalgam as opposed to adhesive restorations,[18,19] the proportionately much greater use of adhesive posterior restorations over amalgam suggests a clinically inappropriate imbalance between the use of these materials. Similarly, the data indicate only very limited use of oral hygiene instruction, which should ideally be an important component of any treatment plan for patients suffering significant dental disease.

An apparently excessive variation in treatment planning has been of concern for some time,[33-36] although it is possible to reduce this with standardised training.[37] The variability in treatment planning seen across state jurisdictions in the current study may reflect the lack of national standards for dental diagnosis and treatment planning, and we suggest that application of such standards to the CDDS would improve outcomes. Clear guidelines regarding the suitability or otherwise of crown and bridgework for given clinical settings would also likely greatly reduce the costs of the CDDS.

The average cost of CDDS services was significantly less than the maximum permitted per patient, so current arrangements appear sufficiently generous to fund services required. With progression of patients from acute through to maintenance service, the per-patient cost of CDDS is expected to reduce. Establishment of pre-approval for some services, together with inclusion in the CDDS of dental therapists and hygienists able to deliver more preventively orientated services at lower cost would help contain expense, were the program expanded to include the entire Australian population.

Competing interests

The second author is the chairman of the Association for the Promotion of Oral Health, which has advocated strongly for retention and improved regulation of the CDDS, as well as for expansion to eventually include the entire Australian population.

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Chairman, A/Prof H Zoellner

Mr M Iemma
The Minister for Health
NSW Parliament

Dear Mr Iemma

Thank you for your time during our meeting on the 8th of March 2005, at which we presented an integrated Ten-Point Plan for improving Oral Health in NSW. We were most grateful for your request that we prepare a draft costing of the plan with the assistance of your Departmental staff, as well as for your undertaking to consider this costing for inclusion in the current 2005-2006 budget.

We now submit the requested estimate for your consideration, together with appendices detailing individual elements of the costing.

To assist in your considerations, we have suggested an implementation strategy that we believe overcomes legal, industrial, administrative, legislative or technical barriers which might otherwise prevent progress. We have particularly sought to ensure that the recommended actions are within the scope of current NSW Health structure and the State Awards.

The assumptions upon which the costings are based are clearly indicated, while figures are tabulated to facilitate re-calculation should your staff wish to examine the effect of costing with different assumptions.

Although individual components of the costing are readily identified, it is stressed that there are strong synergies between individual elements of the Ten-Point Plan, so that piecemeal funding would provide significantly less benefit than full funding.

We provide estimates of the effect of implementation upon service delivery, and demonstrate increases in general adult and child occasions of service of 1.6 and 1.8 fold respectively during the first five years. The most significant increase in service anticipated is in specialist areas, with a 5.9 fold increase in specialist occasions of service provided.

Of greater importance, however, is that implementation will establish mechanisms for substantially improving the quality of oral health in an enduring way. We believe the outcome of this will be world-class oral health and service, while the recurrent expenditure involved is still modest by comparison with other States.

It is clear that you and your Departmental staff may identify alternative, or less expensive, ways to mediate components of the Ten-Point Plan. We are supportive of this, so long as the functionalities of each component of the plan are effectively implemented.

To help clarify any questions you may have, as well as to outline suggestions for possible alternative funding mechanisms, we would like to meet with you some time soon, in time for you to incorporate the suggested funding into the 2005-2006 budget.

With thanks for your interest in our suggestions and looking forward to meeting with you soon.

Sincerely

A/Prof H Zoellner
15th April, 2005

Association for the Promotion of Oral Health

Ten-Point Plan for Improved Oral Health in NSW

Final Draft Costing

Requested by the Health Minister,
The Hon. Morris Iemma

15th April 2005

Ten-Point Plan for Improved Oral Health in NSW – Final Draft Costing
The Association for the Promotion of Oral Health, April 15, 2005

1. Executive Summary

1.1. The NSW Minister For Health Has Requested This Document.

Major deficiencies in the delivery of oral health services have become apparent. In context, these are related to significantly lower funding for oral health services than in other Australian States and Territories.

APOH has proposed a Ten-Point Plan to the Minister. Implementation of this plan will overcome the matrix of deficiencies in an enduring way that is also responsive to future changes in need.

The Minister requested a detailed costing of this plan from APOH, with the assistance of NSW Health. APOH has prepared this costing, primarily based on data provided by the Minster's staff at the Centre For Oral Health Strategy.

1.2. Objectives Of The Ten-Point Plan

The Ten-Point Plan proposes additional funds to overcome the inadequate dental workforce, particularly in the public system with a focus on rural and remote areas. Enhanced workforce will be complemented by coordinated implementation of available preventative strategies.

To meet these objectives, the plan also includes actions for enhancement of education, training and research infrastructure. It further recommends the necessary capital works together with an administrative and clinical structure for enduring and sustainable high quality service, training and research.

1.3. Implementation Strategy

An implementation strategy is detailed to assist the Minister in his considerations.

Since the plan involves significant structural and cultural change, a coordinated governance structure is proposed as necessary for effective implementation. Guidelines are suggested for a more centralized governance mechanism, consistent with current NSW Health structure.

Similarly, recognizing both the need for urgent action and the necessity of working within the context of current Award arrangements, consideration has been given to mechanisms for enhancing wages for improved workforce recruitment and retention that are within the legal and administrative capacity of NSW Health. The current DORIS and GRIP allowances are both recruitment and retention allowances targeted for rural service. Importantly, neither of these allowances are mentioned in State Awards, and both establish the administrative, legal, technical, industrial and strategic precedent for establishment of a Dental Recruitment and Retention Allowance (DRRA) proposed by APOH. This allowance is suggested as an interim measure while a more suitable State Award is negotiated.

The costing reflects a phased introduction of the Ten-Point Plan, with initial establishment expenses giving way to on-going salary and maintenance costs.

A series of input, output, outcome, and quality measures are proposed, with the intention of using these for monitoring and benchmarking to ensure funds allocated are used effectively for the people of NSW.

This will form the basis for refinement of the Ten-Point Plan and re-evaluation of funding priorities after a four year period.

The first Bachelor of Oral Health (BOH) graduates will become available in 2008, facilitating development of a dental team model for service delivery, which should be developed during the implementation period.

Some projections are made of the immediate impact of implementation of the Ten-Point Plan on available measures of input, output, outcome and quality.

The complex interaction of multiple causes of the current challenges facing dental health are briefly examined.

Similarly, the need that this imposes on the Ten-Point Plan for implementation in its entirety is discussed, and it is emphasized that only a highly integrated set of actions can overcome the highly integrated problems addressed.

It is stressed that the proposed increased investment in dental education and training is very much less than is currently accepted and invested for medical education and training, an area prioritized by the State.

1.4. Detailed Costing

Each element of the Ten-Point Plan is costed separately, and details of this are provided in Section 5 of the appendices. A summary of the costing for each point of the Ten-Point Plan is provided below (1.5).

1.5. Summary of Costing of the Ten-Point Plan Over 5 Years of Implementation

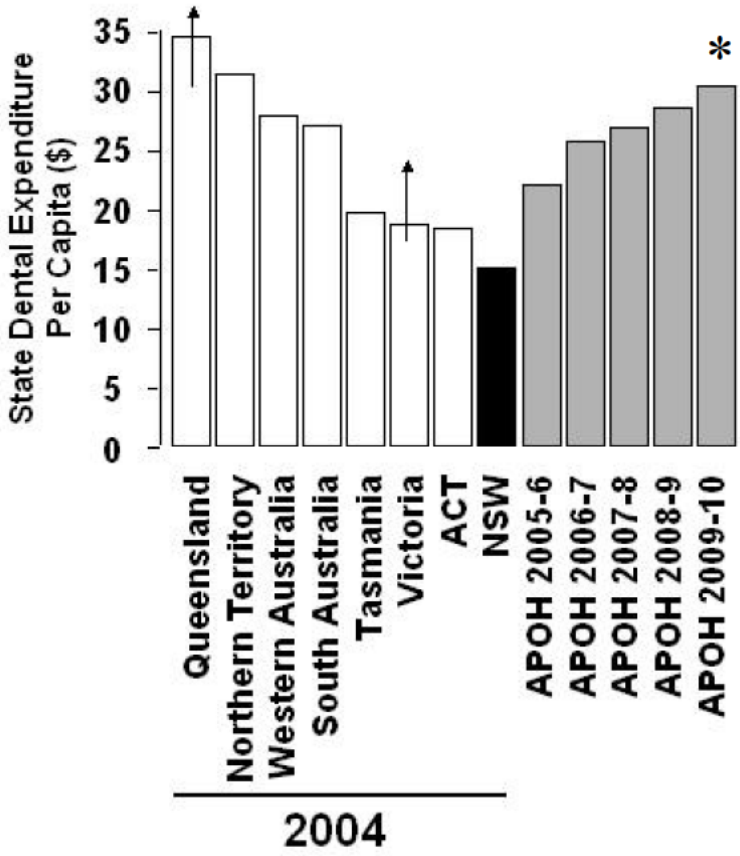
Together with continued current support & implementation costs
(Funding Required Expressed in $ Millions)

		2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
1) ***Dental internship***, to improve training and immediately increase the public workforce. *(New program requiring new funding, including clinical and mentoring support staff) Table 3, Page35*	**Recurrent**	**4.07**	**12.74**	**18.14**	**22.35**	**25.85**
2) ***Competitive wages*** in the public service. *(Additional funds needed for current staff only, not counting new staff indicated in Points 1,3,6&7, Increase Only) Table 6, Page39*	**Recurrent**	**9.56**	**9.94**	**10.34**	**10.34**	**10.34**
3) ***More dental and para-dental clinicians***, attracted and enlisted over time as work in the public system becomes more attractive. *(New positions not including those indicated for in Points 1,6&9) Table 7, Page 43*	**Recurrent**	**1.88**	**2.50**	**5.40**	**18.84**	**29.61**
4) ***Rural And Remote dental education scholarships***, to generate dentists dedicated to rural and remote service. *(New program requiring new funding) Table 8, Page 45*	**Recurrent**	**0.72**	**0.84**	**0.96**	**1.08**	**1.20**
5) ***Educational building and facilities infrastructure***, to establish an academic hub for the integrated training of dental teams. *(New infrastructure required to house clinical and training activities) Table 9, Page 48*	**Recurrent**	**0**	**0.50**	**1.50**	**1.50**	**1.50**
	Capital	**15.40**	**14.00**	**5.70**	**0**	**0**
6) ***Conjoint specialist appointments*** between the University and Teaching Hospitals, to build up specialist services and strengthen educational integration. *(New program requiring new funding) Table 10, Page 51*	**Recurrent**	**1.57**	**6.55**	**6.55**	**6.55**	**6.55**
7) ***Registrar positions*** for specialist training, to create a pool of senior registrars for rural and remote rotation service and supply specialists to the public and private sector. *(New program requiring new funding) Table 12, Page 54*	**Recurrent**	**5.27**	**13.90**	**16.97**	**17.30**	**17.30**
8) ***More fluoridation*** and oral health promotion activities. *(Expansion of current activities, together with the necessary legislative changes) Table 13, Page 56*	**Recurrent**	**1.88**	**1.95**	**2.03**	**2.07**	**2.07**
	Capital	**1.20**	**1.20**	**1.20**	**1.20**	**16.00**
9) ***Establishment of an oral health surveillance unit*** to ensure that planning for dental services and workforce are tied to real community need. *(New program requiring new funding) Table 14, Page 58*	**Recurrent**	**1.85**	**1.45**	**1.50**	**1.52**	**1.52**
10) ***Enhancement funding for***, education, training and research to facilitate workforce development by attracting and retaining the necessary academics and researchers. *(New program requiring new funding) Table 15, Page 62*	**Recurrent**	**2.30**	**3.00**	**3.05**	**3.10**	**3.15**
Coordinated administrative structure necessary for successful implementation of the Ten-Point Plan ***Page 65*** **Recurrent**		**1.40**	**1.40**	**1.40**	**1.40**	**1.40**
Sub-Total Showing Increased Funding for Ten-Point Plan	***Recurrent***	***30.50***	***54.77***	***67.84***	***86.05***	***100.49***
	Capital	***16.60***	***15.20***	***6.90***	***1.20***	***16.00***
Current Base-Line Funding By NSW Health		**105.00**	**105.00**	**105.00**	**105.00**	**105.00**
Total Per Financial Year (No Indexing Assumed)		**152.1**	**174.97**	**179.74**	**192.25**	**221.49**
Total Assuming 4% Indexing Per Year			181.97	194.41	216.25	259.11

a) *Funds are calculated for financial year periods, although new staff will often commence work in January, representing the beginning of academic and clinical training years.*
b) *A phased expansion in staff numbers is expected, due to the effects of internships, the BOH program, conjoint appointments and registrar positions. This is anticipated to approach plateau around 2010, with any further increase requiring an expansion in the number of training positions for BDent and para-dental professionals.*
c) *Details of how these figures are derived are provided in Section 5 of this document – Refer to tables given.*

1.6. Funding Required For Implementation Of The Ten-Point Plan Is Modest In Comparison With Dental Expenditure In Other States

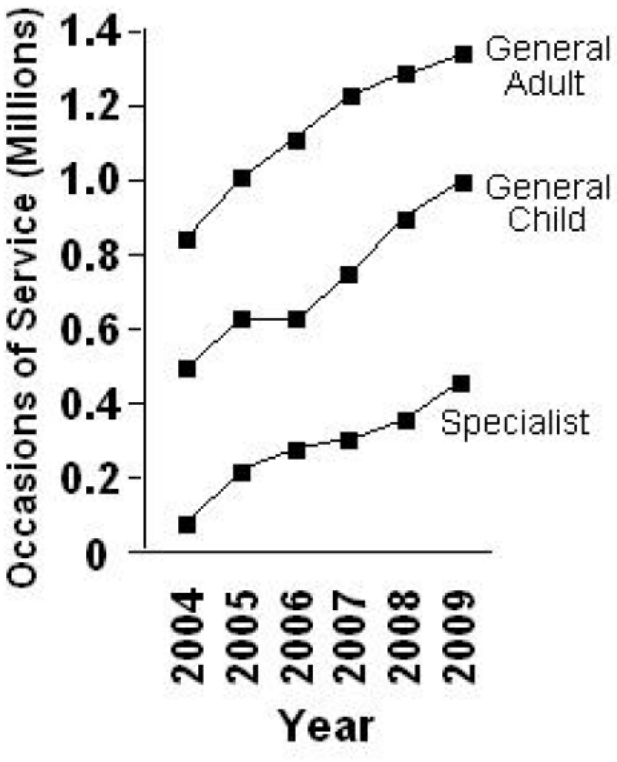
The upper graph provided shows the per-capita spending on dental services in all states and territories in Australia, as well as the projected investment in NSW with full implementation of the Ten-Point Plan. (*2009-20010 bar does not include fluoridation capital which is dependent upon legislative change)



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.

The graph at the bottom of the page shows a prediction of the effect that the proposed investment will have upon the occasions of service for general adult, general child and specialist services. Improvements will be most marked in rural areas, where service is currently severely limited.

Of at least equal importance, is that the quality of care will increase upon implementation of the Ten-Point Plan, because of the improved educational and monitoring mechanisms which will be established. The very great expansion of specialist services in particular, will make complex care widely available in the public system. In addition, the proposed enhancements will ensure renewal of the workforce and continued high quality service for the future.



Implementation of the Ten-Point Plan will establish NSW as the national leader in oral health, delivering a world class service to the people of this State.

The funding required to make these substantial improvements in NSW oral health is modest by comparison with that invested in other states.

1.7. Details Of This Costing Must Be Interpreted In A Flexible Way, With Implementation Adjusted Over Time In Response to Developing Outcomes

It must be recognized that the costing provided, as well as the projections made, are the best possible estimates that could be made in the time available. This was clearly understood by both APOH and the Minister at the time he requested this costing, while it was also accepted that in order to inform current budget considerations, the figures and projections made would have to be provisional.

The proposed models and outcome projections for enhancement of governance, workforce, service delivery, infrastructure and training are recognized by APOH as based upon numerous assumptions, so that some divergence in eventual outcomes from estimates is expected.

Nonetheless, APOH believes that the costing demonstrates a clear pathway through which substantial improvement in oral health can be achieved, within the limits of current structural norms of NSW Health.

APOH has confidence that the broad strategy proposed will significantly improve oral health in NSW, while a flexible approach is recommended throughout the implementation period.

Review of the Ten-Point Plan is suggested as important in the fourth year of implementation, with outcomes evaluated against investment made.

Appendices To The Costing Of The Ten-Point Plan

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2. Background

2.1. Request By Minister Iemma For Preparation Of This Document

Significant problems have been identified in NSW dental services, particularly in rural and remote areas and the public system.

At a meeting of APOH with the NSW Minister for Health The Hon. Morris Iemma on the 8th of March 2005, the Minister agreed that these problems were significant and that something had to be done.

It was accepted that NSW spending on dental health was well behind that of other States, with Queensland and South Australia investing approximately twice per capita as compared with NSW.

The Minister was familiar with an APOH discussion document dated August 17th 2004 "Achievements, Challenges and Opportunities for Improvement for Oral Health".

The 2004 APOH document was recognized as the basis for a proposal submitted to the Minister of a "Ten-Point Plan" for enduring improvement in NSW oral health (Below in 2.2.c).

The Minister expressed interest in the Ten-Point Plan and requested a costing from APOH, to be prepared with the assistance of the Minister's department.

This document is the response to the Minister's request.

2.2. APOH Recommendations Of The Ten-Point Plan

2.2.a. The Principal Recommendation To The Minister

It is recognized that there are significant current difficulties facing NSW dental health, while dental funding per capita in NSW is approximately half that in other States (Qld, NT, WA and SA).

Benchmarking against these other States, APOH suggests that increased NSW expenditure, targeted at improving dental health, can be readily justified to the levels of up to twice current funding.

2.2.b. Objectives Of The Increased Funding

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.

Ten-Point Plan for Improved Oral Health in NSW – Final Draft Costing
The Association for the Promotion of Oral Health, April 15, 2005

2.2.c. Ten Point Plan For An Enduring Solution To NSW Oral Health Problems

1) ***Dental internship***, to improve training and immediately increase the public workforce.

2) ***Competitive wages*** for all dental professionals in the public service, to align remuneration more closely with the private sector and other health care providers in the public sector, initially as a 30% retention and recruitment loading, with a detailed schedule to follow.

3) ***More dental and para-dental clinicians***, attracted and enlisted over time as work in the public system becomes more attractive.

4) ***Rural And Remote dental education scholarships***, to generate dentists dedicated to rural and remote service.

5) ***Educational building and facilities infrastructure***, to establish an academic hub for the integrated training of dental teams.

6) ***Conjoint specialist appointments*** between the University and Teaching Hospitals, to build up specialist services and strengthen educational integration.

7) ***Registrar positions*** for specialist training, to create a pool of senior registrars for rural and remote rotation service and supply specialists to the public and private sector.

8) ***More fluoridation*** and oral health promotion activities

9) ***Establishment of an oral health surveillance unit*** to monitor oral health and ensure that planning for dental services and workforce are tied to real community need.

10) ***Enhancement funding for***, education, training and research to facilitate workforce development by attracting and retaining the necessary academics and researchers.

3. Objectives Of The Ten-Point Plan

3.1. Overall Objectives

The Ten-Point Plan is an integrated set of actions, each one of which must be implemented for enduring and sustainable improvement in NSW oral health. The outcome will be a dental service and education system in NSW which is both effective and responsive to changing community needs.

The Ten-Point Plan is designed to overcome the inadequate dental workforce, especially in the public system and rural and remote areas.

The plan includes actions for overcoming the inadequate educational infrastructure for creating and maintaining this workforce.

The Ten-Point Plan also establishes the necessary building, administrative and clinical infrastructure for enduring and sustainable high quality service and education.

Although the workforce, educational arrangements and infrastructure necessary for a dental team model of service delivery are not yet established, the Ten-Point Plan provides the basis for dental teams so that formation of dental teams would become possible by the fifth year of implementation.

3.2. Specific Objectives Of Each Point Of The Ten-Point Plan

3.2.a. Point 1: Dental Internship, To Improve Training And Immediately Increase The Public Workforce

- Increase the number of dental clinicians in the public health system.
- Provide interns for rotation to rural and remote areas to increase rural and remote service provision.
- Create incentives for retention of dental staff in the public system, as the presence of interns will create opportunity for senior clinicians to enjoy more diverse, interesting and rewarding mentoring work.
- Create incentives for both public and private clinical staff to work in rural and remote areas, as interns rotating to rural and remote areas will provide significant professional stimulation.
- Improve the quality of dental training, increasing both academic and clinical competency.
- Increase experience level and develop a common philosophy of care to more appropriately meet needs of the population.
- In later stages of implementation of the Ten-Point Plan, dental interns and residents will lead dental teams.

3.2.b. Point 2: Competitive Wages For All Dental Professionals In The Public Service

- Create incentives for clinicians to stay in the public system.
- Support a career structure in the public system to which junior clinicians can commit.

3.2.c. Point 3: More Dental And Para-Dental Clinicians, Attracted And Enlisted Over Time As Work In The Public System Becomes More Attractive

- Increase the number of dental clinicians in the public system.
- Form the basis for formation of dental teams, to be established by the fifth year of implementation of the Ten-Point Plan.
- Clinicians trained to work in teams will deliver increased volumes of service for relatively less cost.
- Increased workforce in the public system will reduce strain on current clinicians and increase the incentive for retention in the public service.

3.2.d. Point 4: Rural And Remote Dental Education Scholarships, To Generate Dentists Dedicated To Rural And Remote Service

- Increase the number of both public and private dental clinicians working in rural and remote areas.
- Increase the incentive for current rural and remote private practitioners to keep rural and remote practices open as business assets.

3.2.e. Point 5: Educational Building And Facilities Infrastructure, To Establish An Academic Hub For The Integrated Training Of Dental Teams

- Consolidate the currently dispersed and undermanned dental faculty.
- Establish facilities for integrated training of dental teams.
- Establish a centre for training at all levels in specialist clinical disciplines.
- Increase access to specialist expertise for the public system.
- Provide a basis for specialist mentoring of interns and public dental clinicians.
- Improve opportunities for clinical research and through this provide incentive for retention of clinicians in the public system.

3.2.f. Point 6: Conjoint Specialist Appointments Between The University And Teaching Hospitals, To Build Up Specialist Services And Strengthen Educational Integration

- Strengthen specialist services in the public system.
- Provide a career structure for specialists which retains expertise for both education and service.
- Increase the number of specialists available for service, teaching and mentoring.
- Increase clinical research with consequent advantages to public and private clinical services.

3.2.g. Point 7: Registrar Positions For Specialist Training, To Create A Pool Of Senior Registrars For Rural And Remote Rotation And Supply Specialists To The Public And Private Sector

- Remove the current strong disincentives for specialist training.
- Increase the opportunity for specialist training.
- Increase the number of specialists available for both public and private practice.
- Provide senior registrars for service in rural and remote rotations.
- Establish a mechanism for renewal of specialist workforce in NSW.

3.2.h. Point 8: More Fluoridation And Oral Health Promotion Activities

- Establish the legislative framework necessary for mandatory fluoridation.
- Deliver known effective oral health promotion services.
- Minimize the community dental disease load.

3.2.i. Point 9: Establishment Of An Oral Health Surveillance Unit

- Ensure that planning for dental services and workforce are tied to real community need.
- Adjust workforce training and infrastructure to current and projected community need.
- Ensure that access and availability to service is equitable across the State.
- Monitor the effectiveness of the Ten-Point Plan and preventive measures.

3.2.j. Point 10: Enhancement Funding For Education, Training and Research

- Facilitate workforce development by attracting and retaining the necessary academics.
- Provide the academic framework for internships.
- Provide the academic framework for conjoint appointments.
- Provide the academic framework for senior registrar appointments.
- Increase incentive for public and rural and remote clinicians by involvement in research and education.

4. Implementation Strategy

4.1. The Need For Coordinated Administration For Implementation Of The Ten-Point Plan

4.1.a. The Ten-Point Plan Involves Profound Structural Change

Significant changes in dental education and service are involved with the Ten-Point Plan, including introduction of an internship, establishment of conjoint and registrar appointments, rural and remote rotations for interns and registrars as well as on-going oral health monitoring. Critically, the Ten-Point Plan will permit development of a dental team service delivery structure. Implementation will involve cultural change throughout the public service, education sector and private practice.

4.1.b. Successful Implementation Will Require Centralization Of The Dental Budget With Modification Of Current Governance Mechanisms To Ensure Prioritization Of Oral Health

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

It seems reasonable to suggest that the low spending on dental services in NSW in part reflects the low priority afforded dental service at the Area Health Service Level.

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

Changes to the current governance arrangements are proposed (5.11), which will ensure that oral health receives adequate prioritization for proper service delivery.

Importantly, changes suggested are consistent with the current overall structure of NSW Health.

4.2. The Absence Of Organizational Or Industrial Barriers For Implementation Of The Ten-Point Plan

APOH recognizes that the Minister may encounter administrative, industrial and legislative barriers, and has framed the current costing and detailed proposals in a way to assist the Minister in implementation.

4.2.a. The Proposed Governance Model Is Consistent With Current NSW Structure

Importantly, the need to maintain consistency and continuity with current NSW Health structure is understood, so that the guidelines proposed for governance take current arrangements into account, and will not pose any significant barriers for implementation.

4.2.b. The Proposed Wage Rises Are Within The Current Award and Enhancement Structures

4.2.b.i. Mechanism For Wage Enhancement : Dental Recruitment and Retention Allowance (DRRA)

Recognizing the difficulty in establishing new awards, as well as the urgency for implementing competitive dental wages, it is proposed that the wage increases necessary for successful implementation of the Ten-Point Plan be at first established by introduction of a Dental Recruitment and Retention Allowance (DRRA).

This would be modeled upon current recruitment and retention allowances (DORIS/GRIP), which establish precedent for DRRA.

4.2.b.ii. Precedent For A Dental Recruitment And Retention Allowance Is Established In NSW Health

It is noted that both DORIS and GRIP are established separate to the State awards, so that the precedent established by these current schemes demonstrates the absence of any significant administrative, legal, technical or industrial barrier to implementation.

4.2.b.iii. The Dental Recruitment And Retention Allowance Should Be Interim To Establishment Of A New Award Structure

The proposed enhancement is available within the current industrial arrangements, allowing implementation of Point 2 of the Ten-Point Plan, in advance of detailed industrial negotiations.

It is also strongly suggested that the proposed DRRA be viewed only as an interim measure in response to the current acute workforce shortage, with negotiations for a new and more appropriate State award commencing at the soonest possible opportunity.

This is particularly important with regard to defining salaries for prosthetists and Bachelor of Oral Health Graduates, neither of whom have current State awards.

4.2.b.iv. Main Assumptions Made In Calculation Of Wages In This Costing Document

- Wages include implementation of the 4% per year wage increase till 2007-2008 as in the current awards
- 30% DRRA increase for dentists, prosthetists, and therapists is applied
- Hygienists are suggested as requiring payment as therapists
- BOH graduates will require a new award, but for the purposes of calculation, are assumed to be paid at the same rate as therapists, starting at Level 2 in recognition of the higher level of training of BOH graduates
- Technicians receive only a 12% DRRA because of a recent 18% increase
- Dental assistants receive no DRAA because of a recent 18% increase
- No DRAA applies to administrative staff
- Prosthetists receive a 30% DRAA
- More detailed justification for these figures is provided in later appendices.

Table 1 showing wage values used throughout this document in the preparation of costings including the Dental Recruitment and Retention Allowance (DRRA) where appropriate.*
$ in Calendar and (Financial years)

Calendar Yr (Financial Yr)	2005	2006 (2005-6)	2007 (2006-7)	2008 (2007-8)	2009 (2008-9)	2010 (2009-10)
First year Interns Grd1Yr1*	65,974	68,613 (67,294)	71,357 (69,985)	74,212 (72,785)	74,212 (74,212)	74,212 (74,212)
#Second Year Interns Grd1 Yr2*	70,990	73,803 (72,397)	76,783 (75,293)	79,855 (78,319)	79,855 (79,855)	79,855 (79,855)
Residents Grd 2 Yr 1*	99,854	103,849 (101,852)	108,003 (105,926)	112,323 (110,163)	112,323 (112,323)	112,323 (112,323)
Post Resident Dentists Grade 4*	112,398	116,894 (114,646)	121,570 (119,232)	126,433 (124,002)	126,433 (126,433)	126,433 (126,433)
Mentors Grade 4*	112,398	116,894 (114,646)	121,570 (119,232)	126,433 (124,002)	126,433 (126,433)	126,433 (126,433)
Rural Mentors Grade 4 + DORIS*	132,398	136,894 (134,646)	141,570 (139,232)	146,433 (144,002)	146,433 (146,433)	146,433 (146,433)

Program Managers Grade 5*	118,673	123,420 (121,047)	128,357 (125,889)	133,491 (130,924)	133,491 (133,491)	133,491 (133,491)
Specialists +Allow Yr4*	154,171	160,338 (157,254)	166,751 (163,545)	173,421 (170,086)	173,421 (173,421)	173,421 (173,421)
Registrars Grade 3*	107,880	112,195 (111,037)	116,683 (114,439)	121,351 (119,017)	121,351 (121,351)	121,351 (121,351)
Dental Assistants Grade 1 Yr 4	39,228	40,797 (40,012)	42,429 (41,613)	44,126 (43,278)	44,126 (44,126)	44,126 (44,126)
Dental Technicians Grade 3 Yr 2*	60,077	62,480 (61,278)	64,980 (63,730)	67,578 (66,279)	67,578 (67,578)	67,578 (67,578)
Prosthetists Tech Grd 4*	74,311	77,283 (75,797)	80,374 (78,826)	83,589 (81,982)	83,589 (83,589)	83,589 (83,589)
Therapists Grade 1 Yr 4*	56,644	58,909 (57,777)	61,266 (60,088)	63,716 (62,491)	63,716 (63,716)	63,716 (63,716)
Hygienists Therap Grd1Yr4*	56,644	58,909 (57,777)	61,266 (60,088)	63,716 (62,491)	63,716 (63,716)	63,716 (63,716)
Bachelor of Oral Health Therap Grd2 Yr 1*	62,903	65,419 (64,161)	68,036 (66,728)	70,757 (69,397)	70,757 (70,757)	70,757 (70,757)
Oral Health Promotion Officer CDHPO	61,827	64,300 (63,063)	66,872 (65,586)	69,547 (68,209)	69,547 (69,757)	69,547 (69,757)
Health Ed. Officer HEO Yr9	89,604	93,188 (91,396)	96,916 (95,052)	100,792 (98,854)	100,792 (100,792)	100,792 (100,792)
Aboriginal Liaison Officer AHEO Yr 9	50,911	52,947 (51,929)	55,065 (54,006)	57,268 (56,117)	57,268 (57,268)	57,268 (57,268)
Clerical Admin Officer Level 1 Yr 4	41,274	42,925 (42,100)	44,642 (43,783)	46,428 (45,535)	46,428 (46,428)	46,428 (46,428)

#A more appropriate payment for second year interns would be Grade 1 Year 5, but there is no flexibility in the Award to allow this.

4.2.c. Fluoridation Programs Can Continue On Their Current Basis While Legislative Change Is Enacted

The Fluoridation Act will require modification for maximal levels of fluoridation to be achieved. However, while this is being mediated it will be possible to work towards increased fluoridation by local campaigns led by Centre of Oral Health Strategy staff and Oral Health Promotion Officers at the council level.

For the purposes of the current costing document, it has been assumed that the necessary legislative changes will be enacted by the final year of implementation.

4.2.d. Phased Increase In Expenditure Assists The Minister

Recognizing the difficulty of increasing the budget for dental services to the eventual levels required levels in one step, it should be noted that the proposed funding is phased over a number of years.

4.3. Phased Introduction And Costing Of The Ten-Point Plan

Implementation of the proposed plan will increase the dental workforce and provide the physical and academic infrastructure for sustained service delivery.

Nonetheless, workforce will take time to develop, which is why dental teams can not yet be formally established, while academic and infrastructure needs will vary during implementation of the plan, with the effect that funding will vary over time.

The costing provided reflects the phased introduction of the Ten-Point Plan, with infrastructure costs being higher at earlier times, and workforce expenses increasing towards a sustained level.

4.4. Phased Introduction Of A Dental Team Model For Education And Service Delivery

Dental teams comprised of several para-dental professionals working together under the 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.

The Ten-Point Plan establishes the centralized educational infrastructure necessary for development of dental teams, and also provides opportunity to develop and trial these teams during the five year implementation period.

BOH graduates will form an important component of dental teams, while the first of these graduates will be available in 2008. Trial dental teams should be established by this time, and it is anticipated that by 2010, dental teams should be able to deliver service to the community on a larger scale.

4.5. Monitoring And Benchmarking Of Output, Outcome And Quality Measures Relative To Inputs

4.5.a. Requirement For Monitoring During And After Implementation

In light of the specific objectives of the Ten-Point Plan (3.1, 3.2), it is important to ensure that the actions taken are successful in both addressing community need and ensuring a sustainable supply of service.

Establishment of an Oral Health Surveillance Unit (Point 9 of the Ten-Point Plan), will permit collection of data necessary not only for future planning exercises, but also to monitor the effectiveness of the Ten-Point Plan. This will need to be together with changes in standard clinical data collection, including improving ISOH data input and accessibility.

Current data is surprisingly limited, even with regard to such basic concerns as 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. Further, because methods for collecting this data vary in comparison with other States, it is not directly comparable for the purposes of benchmarking.

For these reasons, the proposed implementation strategy for the Ten-Point Plan includes establishing measures for input, output, outcome and quality. These are proposed with benchmarking in mind, to allow future comparisons to be made with confidence.

Clear definition and resource planning should comprise an important aspect of the evaluation and refinement process for the Ten-Point Plan.

4.5.b. Measures Comparable To Those In Other States Should Be Used For Benchmarking

In the 2004 Annual Report, from the Dental Health Services Victoria, a number of measures for dental outcomes and care were reported including: DMFT (Decayed, Missing and Filled Teeth, a widely used measure for dental health), number of Services per 100 patients, the number and type of health care workers employed, the length of treatment waiting lists, number of individuals treated, the average time waited for the next person removed from the waiting list, and the percentage of children with no caries experience.

It is proposed that these and similar measures should be used to facilitate benchmarking with Victoria and other Australian states. An important first task for the Oral Health Surveillance Unit, once established (Point 9), will be to confirm the utility of these proposed measures, define any additional measures required for proper monitoring, and establish the mechanisms for collection of this data. This work will be in collaboration with the already established Centre for Oral Health Strategy, who currently access some of the data relevant to these measures.

Queensland has recently introduced the ISOH system, and this provides an opportunity to develop joint benchmarking systems together with Queensland and perhaps also Victoria, where detailed data is also collected. It should be noted that the National Oral Health Plan recommends a joint approach to benchmarking across States.

4.5.c. Proposed Input Measures

- Number of dental internships funded
- Investment in competitive clinical wages and increased number of clinicians
- Number and type of clinical staff
- Number and type of administrative and support staff
- Number of rural and remote dental education scholarships
- Investment in building and equipment infrastructure
- Number of conjoint specialist appointments funded
- Number of registrar positions funded
- Investment in fluoridation and oral health promotion activities
- Establishment and funding of the oral health surveillance unit
- Investment in academic enhancement
- Establishment and funding of a centralized administrative structure for implementation

4.5.d. Proposed Output Measures

- Number and type of occasions of general and specialist dental services in both metropolitan and rural and remote areas
- Number and type of courses of dental care completed in both metropolitan and rural and remote areas
- Number of completed prosthetic services in both metropolitan and rural and remote areas

For the purposes of benchmarking, it may be valuable to express some or all of these measures using the format employed in Victoria: (output measure) per 100 patients.

4.5.e. Proposed Outcome Measures

The structural changes of the Ten-Point Plan will have significant long term outcome effects, with many changes only seen after ten or more years of implementation. Nonetheless, many parameters are expected to show substantial improvement even during the first four years of implementation of the Ten-Point Plan.

These short term (during the first four years of implementation) outcome measures include:

- Reduced number of untreated dental lesions across age groups, rural and remote/metropolitan residence and social demographics
- Reduced number of emergency dental services required across age groups, rural and remote/metropolitan residence and social demographics
- Reduced number of residents with dental pain or discomfort across age groups, rural and remote/metropolitan residence and social demographics
- Number of junior dental interns electing to stay in the public service as senior interns / residents
- Number of dental residents electing to stay in the public system as senior clinicians
- Number and type of dental clinical professionals working in the public system
- Number and type of private dental clinical professionals working in the private system
- Number and type of dental clinical professionals working in rural and remote areas
- Number and type of dental academics working in NSW
- Number and type of dental teams working in NSW

Other more long term (ten or more years) outcome measures expected to change only after a prolonged period of implementation of the Ten-Point Plan include:

- DMFT across age groups, rural and remote/metropolitan residence and social demographics
- Percentage of edentulousness across age groups rural and remote/metropolitan residence and social demographics
- Percentage of nursing home and other marginalized NSW residents requiring no or minimal dental surgical intervention
- Percentage of children with no caries experience across rural and remote/metropolitan residence and social demographics
- Number of general anesthetic procedures performed across age groups, rural and remote/metropolitan residence and social demographics
- Clinical Tumor/Node/Metastasis stage of oral cancer upon first diagnosis, and survival rates of treatment
- Improved outcomes in target groups including Aboriginal, Non English Speaking and Low Socio-Economic groups.

4.5.f. Proposed Quality Measures

Similar to the outcome measures described above, some quality measures are expected to show improvement during the first four years of implementation of the Ten-Point Plan, while other parameters are expected to only show measurable improvement once the plan has been implemented for some time.

Quality measures expected to improve during the first four years of implementation include:

- Length of examination and treatment waiting lists for general and specialist services
- Time spent on waiting lists for general and specialist services
- Average time waited for the next person removed from the waiting list
- Number of research projects undertaken by clinicians within the public system
- Number of research projects, grants and publications undertaken by academics
- Number and effectiveness of health promotion activities engaged in the public system
- Satisfaction ratings of clinical staff working in the public system
- Satisfaction ratings of patients receiving treatment in the public system

Quality measures which are expected to show improvement only after a longer time of implementation of the Ten-Point Plan include:

- Length of time spent disease free following completed courses of care
- Longevity of dental fillings and dentures
- Number of new clinical procedures and or preventive initiatives introduced

4.6. Measures Of Output, Outcome, Quality And Community Need Should Be Used To Re-Evaluate Input Funding Priorities For The Ten-Point Plan After Four Years Of Implementation

As mentioned above, there is currently insufficient information on community disease load to make accurate predictions of future needs, and this is the main reason why an Oral Health Surveillance Unit is proposed (Point 9 of the Ten-Point Plan).

By the fourth year of implementation of the Ten-Point Plan (2008-9), sufficient data should have been collected to re-evaluate the distribution of resources within the Dental Service, with the aim of maximizing community benefit from dental investment.

Similarly, by the fourth year of implementation, output, outcome and quality measures collected as indicated above (4.5.d,e,f), should be used to guide refinement of the Ten-Point Plan.

For these reasons, it is proposed that the Ten-Point Plan be evaluated in the fourth year of implementation, with input funding priorities and action strategies re-assigned according to identified measures of output, outcome, quality and community need.

4.7. Short Term Projections Of The Impact Of The Ten-Point Plan Upon Some Parameters Of Input And Output

Although data is currently not available for most of the above suggested measures of input, output, outcome and quality, some information is available regarding the number of occasions of service, and predictions for these over the first five years of implementation of the Ten-Point Plan are made in the table provided below.

It should be noted that the significant increase in staff is predicted to produce a proportionate increase in output.

The quality of care is also expected to improve significantly, because of the improved educational and health surveillance mechanisms created through the Ten-Point Plan.

Assumptions made in preparing this estimate are:

- All elements of the Ten-Point Plan are implemented
- The number of interns, residents, post-residents, international dentists, mentors, conjoint appointees, registrars, therapists, technicians and BOH graduates entering and remaining in the public system follows as predicted elsewhere in this document
- The starting figures provided for 2004 are accurate
- Occasions of service per staff member will not change from current levels
- Occasions of service by specialists are primarily delivered by specialists employed by NSW Health, with only minimal contribution by current specialist trainees
- Adult general dental occasions of service are delivered primarily by general practitioners employed by NSW Health, with only a negligible contribution by undergraduate level students
- Child general occasions of service are delivered primarily by therapists, while BOH graduates will at first contribute in an equivalent way to therapists
- The number of occasions of service for general adult dental procedures is proportionate to the number of general practice dentists working in the public system
- The number of occasions of service for specialist procedures is proportionate to the number of specialists and registrars working in the public system
- Conjoint appointees and registrars will provide approximately half the number of occasions of service compared with currently employed full time specialists

Table 2 comparing the projected effect of implementation of the Ten-Point Plan upon some currently available measures of input and output for public dental services in NSW.

Input or Output Measure	Current	Projected Value				
		2005-6	2006-7	2007-8	2008-9	2009-2010
INPUT MEASURES						
Number of Public General Dentists	219	267	291	317	338	356
Number of Public Dental Specialists	22	62	79	88	110	132
Number of Public Dental Therapists	154	164	164	164	164	164
Number of Public Dental Hygienists	1	2	3	4	5	6
Number of Public Dental Technicians	71	78	82	86	89	93
Number of Public BOH Graduates	0	0	0	32	67	94
Number of Public Dental Prosthetists	11	12	13	14	15	16
OUTPUT MEASURES						
Number of Adult General Dental Occasions of Service	844,665	1,029,800	1,122,400	1,222,600	1,303,600	1,373,000
Number of Child General Dental Occasions of Service	550,900	632,534	632,534	755,955	890,900	995,100
Number of Specialist Dental Occasions of Service	76,509	215,616	274,700	306,000	382,500	459,000
Number of Denture Services	206,238	226,600	238,200	249,800	258,500	270,100

The Ten-Point Plan will significantly increase public service delivery in NSW during the time of implementation, and also provide the infrastructure necessary for an enduring service, responsive to community need.
*OoS = Occasions of Service
Note that for the purposes of calculating productivity, specialist registrars and conjoint appointments are counted only as 05 in this table, as numerical productivity is assumed to be half that of full time fully trained specialists.
Note also that BOH graduates are assumed to be primarily engaged in child dental service, although these graduates will also contribute to adult services.

4.8. Successful Implementation Requires All Elements Of The Ten-Point Plan

4.8.a. The Underlying Causes Of Current Difficulties Are Closely Related

The difficulties towards which the Ten-Point Plan are directed are complex and due to the combined effect 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

There are close relationships between each of these underlying issues.

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 undermanned.

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 demographics 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 locales, so that both the public system (b) and rural and remote areas (c) become uncompetitive, because incentives are lower and working conditions more straightened. 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).

4.8.b. Piecemeal Implementation Of The Ten-Point Plan Would Fail

Because the causes of the current difficulties are highly related (4.8.a), it is not possible to achieve an enduring solution, responsive to changing circumstances, without addressing these issues in an integrated way.

The Ten-Point Plan is designed with this in mind, and it is strongly argued that successful improvement in NSW oral health requires implementation of all aspects of the Ten-Point Plan in a coherent manner. The close interdependence of different sections of the plan is detailed below (4.8.c).

4.8.c. Major Interdependencies Within The Ten-Point Plan

Because of the complex relationships between each point of the Ten-Point Plan, it is not possible to act on individual points alone without severely compromising the effectiveness of other point actions.

Below are summarized some of the major independencies for each point of the Ten-Point Plan, while other important interdependencies are illustrated in the detailed costing notes (5.1-10).

4.8.c.i. Point 1 Of The Ten-Point Plan, Dental Internships

Currently, internship is not required for registration as an independent dentist in any State in Australia. Because of this, new graduates will simply elect to leave NSW unless the internship is perceived as lucrative, interesting and supportive of career development. Similarly, the internships require sufficient clinical mentoring and academic staff to deliver the necessary support.

As a consequence, increasing salaries (Point 2) for both interns and mentors, establishment of the specialist conjoint appointments (Point 6), and enhancement funding for the University (Point 10) are vital for success of this part of the Ten-Point Plan.

4.8.c.ii. Point 2 Of The Ten-Point Plan, Competitive Wages

Without competitive wages, it will not be possible to retain interns, residents, registrars, specialists or paradental professionals in the public system.

A failure to adequately address the issue of remuneration would undermine the objectives of most other point actions of the Ten-Point Plan.

4.8.c.iii. Point 3 Of The Ten-Point Plan, More Dental and Para-Dental Clinicians

An increase in dental and para-dental clinicians in both public and private sectors requires establishment of the necessary training opportunities as well as incentives to work in the public system.

For this reason, internships (Point 1), increased salaries (Point 2), conjoint appointments (Point 6) and establishment of registrar appointments (Point 7) are critical for success in increasing the workforce. Similarly, this workforce expansion is both unlikely and unsustainable without the necessary physical and academic infrastructure (Points 5 and 10).

4.8.c.iv. Point 4 Of The Ten-Point Plan, Rural And Remote Dental Education Scholarships

Sustained rural and remote service delivery and mentorship of interns working in rural and remote areas is dependent upon development of a core of rural and remote area based clinicians. The experience is that those students entering the professions from rural and remote areas, are more likely to return to comparable rural and remote communities after graduation.

For this reason, apart from improving rural and remote dental services, the establishment of rural and remote dental education scholarships will also strongly support the success of both internships and registrar appointments (Points 1 and 7).

4.8.c.v. Point 5 Of The Ten-Point Plan, Education Building And Facilities Infrastructure

Expanded clinical training and service requires expansion of currently limited physical infrastructure.

Consequently, the internships (Point 1), increase in workforce (Point 3), and expanded specialist services and training (Points 6 and 7) will not be possible without adding to current infrastructure. Similarly, increased academic activity (Point 10) will not be possible without supporting this point action.

4.8.c.vi. Point 6 Of The Ten-Point Plan, Conjoint Specialist Appointments

The acute shortage of specialists in both the public and private systems is a major challenge for oral health in NSW. Conjoint appointments will both increase access to specialist services within the public system, and also greatly improve the capacity to train new specialists.

Failure to establish the necessary conjoint appointments would reduce the attractiveness of senior internships (Point 1), make increased registrar training impossible (Point 2), and undermine attempts to increase workforce (Point 3) and strengthen academia (Point 10).

4.8.c.vii. Point 7 Of The Ten-Point Plan, Registrar Positions

Registrar appointments are specifically intended to train increased numbers of specialists.

Without these appointments, few established specialists would be attracted to conjoint appointments (Point 6), while specialist mentoring of both interns (Point 1) and provision of rural and remote specialist services will likely fail.

4.8.c.viii. Point 8 Of The Ten-Point Plan, More Fluoridation and Health Promotion

The importance of these actions in preventing disease would seem self-evident.

However, what may be less apparent is that by reducing the magnitude of the community disease burden, interns and other oral health professionals will be able to attend to more complex and interesting work, greatly increasing the attractiveness of entering the professions and working in the public system (Points 1,3 ,6 and 7).

4.8.c.ix. Point 9 Of The Ten-Point Plan, Establishment Of An Oral Health Surveillance Unit

Proper planning and the capacity to respond to community need are central to the intended outcomes of the Ten-Point Plan.

Without establishment of an office dedicated to determining ongoing community needs, it will not be possible to target investment in training, service and infrastructure (Points 1-8,10) to properly address changing community needs.

4.8.c.x. Point 10 Of The Ten-Point Plan, Academic Enhancement

Dental training is severely compromised by insufficient academic staff. The Ten-Point Plan recognizes and addresses this limiting factor.

A failure to implement the necessary academic enhancement funding will undermine all efforts to train and expand the workforce (Points 1,3,4,6,7).

5. Details Of Costing For Each Point Of The Ten-Point Plan

5.1. Point 1 Of The Ten-Point Plan: Dental Internship, To Improve Training And Immediately Increase The Public Workforce

5.1.a. Internships Must Be Made Highly Attractive For New Graduates

NSW will be showing national leadership in implementation of the Ten-Point Plan, and this is particularly so in the area of the internships fundamental to success of the plan. In this way, despite much earlier discussion at a national level, as well as international example of the success of dental internships, NSW will the be the first Australian State to implement this important initiative.

Regardless of the clear advantage for NSW health of dental internships, implementation requires some thoughtful planning, to ensure that NSW is not disadvantaged by its leadership.

This is because other States recognize degrees from NSW, and it is possible that unless internships are made attractive to graduates, they will simply move inter-state. It is clear that unless perceived as both lucrative and strongly supportive of career development, the internship program would fail. It would also undermine public service morale and the intention of retaining dental graduates in the public system, if interns felt disadvantaged by their compulsory service.

5.1.b. Proposed Structure Of Internships Necessary For Success

5.1.b.i. Initially Voluntary Basis For Internships With A Target For Mandatory Internships From 2010 Onwards

Initially, the program needs to be voluntary, as it is both impossible and unfair to press currently enrolled dental students into NSW public service without prior knowledge of this as a requirement for completion of training.

Instead, it is proposed that entry to the internship program be voluntary for the first four years of introduction.

It is targeted that from January 2010 onwards, completion of the first year of the internship program should be required for dental registration of all new NSW graduates. Similarly, any new graduates from other States seeking registration in NSW, but not having completed an equivalent internship program, should be required to also commence work as interns.

It must be stressed, however, that the year for introduction of mandatory internship may not be 2010, dependent upon the rate of growth in uptake of the voluntary internship program. This will be monitored over time and the target date for mandatory internships adjusted according to need.

For the purposes of this costing, it is assumed that by 2010, the internship program and mentoring staff generated through this will be sufficiently well developed to justify mandatory internship. It is also assumed that a total of 60 local graduates per year will be able to enter internship at that time.

5.1.b.ii. A Two Year Internship Program, With The Second Year Being Voluntary

The internship program should be of two years duration, with all interns completing the first year of the program and the second year of the program being voluntary.

The first year of the program would be targeted towards the strengthening of general dental skills as well as service to areas of need in the community.

The second year of the program would be entirely voluntary and on a competitive basis, with entry as a senior intern being recognized as a matter of achievement. Senior interns would have opportunity for rotation through a wider range of specialist clinics, and be encouraged to develop specialist interests. Significantly, senior interns would enjoy a wage rise relative to first intern year.

5.1.b.iii. Internships Should Lead To Residency In The Third Year Followed By Opportunity For Further Career Development

Those senior interns showing interest and ability, will be encouraged to remain in the public system as residents, with increased time spent in areas of specialist clinical interest. This would also be accompanied by a significant rise in status and income.

Upon completion of the third year, residents interested in further career development within the public system will be able to compete for registrar appointments in clinical specialties, or enter a number of other public service streams as detailed below.

5.1.b.iv. Structured Training During Internships and Resident Appointments

Internship will be a period of structured training together with service. This is important not only to ensure that the skills of new graduates are honed in a constructive and directed way, but also to help make internships attractive for new graduates relative to the lack of structured training entailed in private practice elsewhere.

Training will consist of the following main elements:

- Academic
  - Didactic lecture and tutorial series (four hours every two weeks)
  - Journal presentations and discussion (two hours every two weeks)
- Professional Development
  - Formal case discussions with mentors, based on a clinical log-book (two hours every two weeks)
- Clinical
  - Rotation in general practice clinics
  - Rotation to specialist clinics
  - Rotation to rural and remote clinics

Additional elements of training which will be voluntary and determined by individual interests, but which will also be supported by freeing interns and or residents from some clinical service responsibilities:

- Attendance of continuing education courses, and this is in the current award structure
- Attendance of the lecture and tutorial series in preparation for the primary examinations of the Royal Australasian College of Dental Surgeons
- Sitting the primary examinations for membership of the Royal Australasian College of Dental Surgeons (Primarily for Senior Interns but also possible for first year interns)
- Participation in research projects (Especially for BDent graduates with previous BSc Hons or PhD training). This could be part of a defined program for second year interns and residents.
- Sitting the final examinations for membership of the Royal Australasian College of Dental Surgeons (Residents Only)
- Experience in administration (Residents Only)
- Experience in mentorship (Residents Only)

Three program managers will be required to coordinate the internship program. These will be senior staff with extensive clinical experience.

5.1.b.v. Responsibilities Of The University In The Structured Training Program

The University, with the assistance of conjoint specialist appointees, will be responsible for delivery of the didactic lecture series.

University academics will also be responsible for structuring and leading discussion in journal presentations.

Finally, research projects will be directed by university academics.

An emphasis upon clinically directed research is expected, and it is suggested this will lead to improved clinical outcomes and quality of service.

5.1.b.vi. Responsibilities Of Mentors In The Structured Training Program

Mentors will play a central role in the personal and professional development of interns, providing both role models for professional practice and direct clinical assistance as required.

Mentors will be responsible for the day to day clinical supervision of interns in general practice clinics as well as in rural and remote rotations.

Mentors will also discuss intern log-books in formal clinical log book reviews.

In General Practice Clinics, there will be one mentor for every six interns.

In Rural And Remote Rotation Clinics, because of the greater clinical vulnerability entailed in rural and remote service, there should be no fewer than one mentor per three dental interns.

5.1.b.vii. Responsibilities of Conjoint Specialist Appointees And Senior Registrars In The Structured Training Program

Conjoint specialists will contribute to the didactic lecture series.

Conjoint specialists will also contribute to structuring and leading discussion in journal presentations.

Conjoint specialists will play a central role in mentoring interns, residents and registrars in specialist clinics.

Conjoint specialists will also have a central role in the training of specialist registrars.

Conjoint specialists will contribute to the development of clinical research projects within their defined specialty areas.

Specialist registrars will play a role in supporting conjoint specialists in the supervision of interns and residents in specialist clinics, as well as contribute to the lecture series and journal discussions, dependent upon the progress of individual registrars.

5.1.b.viii. Responsibilities Of The Two Dental Hospitals In The Structured Training Program

The two dental hospitals (Sydney Dental Hospital, Westmead Centre for Oral Health), will be individually responsible for providing the physical clinical and educational infrastructure for interns.

The Hospitals will be responsible for arranging the rotation of interns and residents through general practice, specialist and rural and remote clinics. Program managers will need to be funded to assist in this process.

In cases where unique training opportunities are available in one or the other of the two dental hospitals, exchanges of interns, residents, and registrars may be arranged to provide the maximum possible training benefit without interrupting service provision.

5.1.b.ix. Clinical Rotations During The First Year Of The Internship Program

- 6 Months In General Practice Clinics
- 3 Months In Specialist Clinics Rotating Through:
    - Emergency Dentistry
    - Paediatric Dentistry
    - Oral and Maxillo-facial Surgery
    - Special Care

- 3 Months In Rural And Remote Practice

5.1.b.x. Clinical Rotations During The Second Year Of The Internship Program

- 3 Months in General Practice Clinics
- 6 Months of Specialist Clinic Rotations (1 Month Each), Options Determined By Interest
    - Endodontics
    - Periodontics
    - Oral and Maxillo-facial Surgery
    - Fixed and Removable Prosthodontics
    - Paediatric Dentistry
    - Orthodontics
    - Special Care
    - Oral Medicine
    - Oral Pathology
    - Sedation
- 2 Months in Rural And Remote Practice

5.1.b.xi. Rotations During The Resident (Third) Year

This would represent expansion of the current Westmead Centre for Oral Health Residency Program to include Sydney Dental Hospital, and involve three rotations of four months duration in the choice of the following specialist clinics:

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

Or 12 Months of Residency In:

- Administration / General Practice for those interested in management
- General Practice with mentoring for those interested in advanced general dentistry

5.1.b.xii. Career Development Opportunities Available After The Resident Year

The internship program is designed to lead naturally to the residency program, with the intention of providing a strong basis for retention and further career development in the public system. This would significantly address many of the complex difficulties facing oral health in NSW, already discussed at length in earlier documents.

After completing the residency year, residents would be prepared to pursue one of the following options in the public system, or alternatively to serve in private general dental practice:

- Specialist training as a registrar
- Mentoring in general practice
- General practice in the public system
- Junior management position
- Academic training through PhD or MScDent candidature

5.1.c. Locations For Rural And Remote Rotations

Rural And Remote rotations of first year interns will be to sites with stronger support, while second year interns who have demonstrated greater clinical independence will be able to rotate to more isolated practices having less mentoring support.

Below are suggested some possible rural rotations for interns. It should be noted, however, that the precise locations for rural rotations will be defined on the basis of community need together with the level of support available for interns in different sites. Implementation will require further discussion with rural centres as well as establishment of the necessary mentoring and physical infrastructure.

First Year Interns based at Westmead Centre for Oral Health will rotate to the following centres:

- Durri AMS / Kempsey Hospital (1-2 interns per rotation)
- Moruya Hospital / Katungal AMS (1-2 interns per rotation)
- Armidale / Armidale AMS (1-2 interns per rotation)
- Orange / Bathurst Hospital (2 interns in most rotations)
- Katoomba / Lithgow Hospitals (1-2 interns per rotation)

First Year Interns based at Sydney Dental Hospital will rotate to the following centres:

- Wagga Wagga (2 interns in most rotations)
- North Coast (1-2 interns per rotation)
- Illawarra (1-2 interns per rotation)
- Southern Highlands (1-2 interns per rotation)

Second Year Interns based at Westmead Centre for Oral Health will rotate to the following centres in addition to those visited by first year interns:

- Broken Hill (including the Royal Flying Doctor Service) (1-2 interns per rotation)

Second Year Interns based at Sydney Dental Hospital will rotate to the following centres in addition to those visited by first year interns:

- New England (1-2 interns per rotation)

As the internships and rural and remote rotations become more established, it will become increasingly possible to rotate interns to centres other than those indicated above.

5.1.d. Conditions for Mentor Positions

Mentors would hold senior dental officer appointments and usually be full time employees of the public system. On occasion, however, mentor positions may be shared between several clinicians working part time in both private and public practice. In addition, prosthetists would contribute to mentoring in the area of prosthodontics.

It is important that inducements be found to retain mentors of suitably high calibre to lead interns. The following are suggested:

- The opportunity for up to 8 hours per week of private practice
- Support for attendance of continuing education programs

5.1.e. Salaries Of Interns, Residents And Mentors Are Initially Proposed Within The Current Award Structure Together With A Dental Retention And Recruitment Allowance

As noted above (4.2.b), APOH suggests use of a recruitment and retention allowance, increasing wages 30% above current levels. Precedent for granting such recruitment and retention awards is established through the DORIS and GRIP schemes, so that there is no structural or industrial barrier to application of this strategy as an interim measure while a new State award is negotiated during implementation of the Ten-Point Plan.

5.1.f. The Number And Cost Of Dental Interns, Residents, Dentists Retained Following Residency, Mentors, Dental Assistants And Dental Technicians Over Five Years Of Implementation Of The Ten-Point Plan

Assumptions Made In Preparing This Aspect Of The Costing:

- First year intern appointments will be voluntary until 2010
- Second year internships and residencies are voluntary
- No more than 32 first year graduates are likely to volunteer for internship in 2006
- The Sydney Dental Hospital is currently able to accept 12 first year interns in 2006
- The Westmead Centre for Oral Health is currently able to accept 20 first year interns in 2006
- With increasing numbers of interns, mentors and interns will staff community health centres in metropolitan areas, and also provide increased service in rural and remote areas
- Approximately half of first year interns will be retained for second year internships
- Approximately half of second year interns will be retained for residency
- Approximately half of residents will be retained post-residency
- One mentor per six interns is required in metropolitan areas
- There is at least one mentor in each rural and remote setting, looking after no more than three interns
- The number of voluntary first year internships will grow at a rate of 8 interns per year due to increased demand as the training program acquires a strong reputation and more status. This will be due to both increased demand by NSW graduates as well as by graduates from inter-state.
- 10% of residents completing training elect to remain in the public system as potential mentors
- Each dental intern, resident and mentor will require one dental assistant
- One dental technician is required per 6 dentists
- Two dental technicians are required per prosthetist
- One clerical assistant is required per 6 dentists
- Three program managers will be required to coordinate the internship program
- On-Costs for salaried staff represent an additional 12% on top of salary expenditure
- Goods and services required cost 20% of the salary expenditure
- Salaries are as indicated in Table 1

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The Association for the Promotion of Oral Health, April 15, 2005

Table 3 showing the projected number and cost of interns, residents, mentors and support staff required over the five years of the Ten-Point Plan. Note, Costs are for financial years 2005-6 etc.

Staff	2006 (2005-6)		2007 (2006-7)		2008 (2007-8)		2009 (2008-9)		2010 (2009-10)	
	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)
First Year Interns	32	1,097800	40	2,799,400	48	3,493,700	56	4,155,900	64	4,749,600
Second Year Interns			16	1,204,700	20	1,566,400	24	1,916,500	28	2,235,900
Residents					8	881,300	10	1,123,200	12	1,347,900
Post Residency							4	505,700	5	632,200
Metropolitan Mentors	5	292,200	5	596,200	7	868,000	7	885,000	8	1,011,500
Rural And Remote Mentors	5	342,200	6	835,400	8	1,152,000	9	1,317,900	10	1,464,300
Program Managers	3	185,100	3	377,700	3	392,800	3	400,500	3	400,500
Dental Assistants	42	840,300	67	2,788,100	91	3,938,300	110	4,853,900	127	5,604,000
Dental Technicians	7	218,700	11	701,000	15	994,200	18	1,216,400	22	1,486,700
Total Dentists	42		67		91		110		127	
Clerical Support	5	107,300	8	350,300	10	455,400	12	557,100	14	650,000
Salary Sub-Total		*3,083,600*		*9,652,800*		*13,742,100*		*16,932,100*		*19,582,600*
On Costs (12%)		370,000		1,158,300		1,649,000		2,031,800		2,349,900
Goods & Services (20%)		616,700		1,930,600		2,748,400		3,386,400		3,916,500
Total Cost		**4,070,300**		**12,741,700**		**18,139,500**		**22,350,300**		**25,849,000**

Note, the projected increase in staff may vary from actual uptake of internships by new graduates, dependent upon the level to which it is perceived by graduates that the internship provides adequate monetary reward and professional advancement.
Also, it is expected that the number of interns and dentists retained will stabilize around 2010, as this is limited by the number of local / Australian resident graduates from the University of Sydney.

5.2. Point 2 Of The Ten-Point Plan: Competitive Wages For All Dental Professionals In The Public Service

5.2.a. 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 practicing dentists in NSW working in the public service.

Table 4 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.

5.2.b. 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.

For this reason, a salary increase is only recommended for therapists, hygienists, technicians and dental graduates, with no change proposed for dental assistants.

5.2.c. Dental Prosthetists Do Not Have An Appropriate Wage Structure

Although there are currently 11 prosthetists working in the public sector, there is currently 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.

It is suggested that prosthetists should receive a full 30% DRRA.

5.2.d. Recent Substantial Increases In Awards For Dental Technicians

There has recently been an increase of 18% awarded to dental technicians, while it is suggested that with a further increase of 12%, wages for dental technicians will become competitive with those available in private practice. This is in addition to the ongoing 4% increase across all dental and para-dental professionals up to 2008.

For this reason, it is proposed to increase wages for this group by only 12%, bringing the increase to a total of 30% for 2005-2006, in line with that suggested for other dental and para-dental professionals.

Table 5 showing projected cost of salaries for current clinical staff at current pay rates including the planned increases of 4% per year till 2008-9 as defined in the recently negotiated Award. This does not include the projected increase in staff number calculated separately for other point actions of the Ten-Point Plan. Costs are Expressed in $ for financial years 2005-6 etc.

		2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
Category of staff	**No.**	**Cost**	**Cost**	**Cost**	**Cost**	**Cost**
General Practice Dentists	218.7	17,767,500	18,478,200	19,217,300	19,217,300	19,217,300
Specialist Dentists	21.7	2,558,000	2,660,300	2,766,800	2,766,800	2,766,800
Therapists	142.4	7,119,000	7,403,800	7,700,000	7,700,000	7,700,000
Hygienists	1.4	54,100	56,300	58,500	58,500	58,500
Technicians & Prosthetists*	71.6	3,659,600	3,805,900	3,958,200	3,958,200	3,958,200
Dental Assistants	594.4	33,193,200	34,521,000	35,901,800	35,901,800	35,901,800
Total		64,351,400	66,925,500	69,602,600	69,602,600	69,602,600

Staff Numbers are average for 2004.
There is an agreed 4% increase per year across all categories up to and including 2008-9.
There are 11 prosthetists, included with technicians because there is no current Award separate to technicians

5.2.e. Increases In Salaries Can Be Accommodated Within Current Award Structures

Recognizing that it may be difficult for the Minister to increase salaries outside of current industrial agreements, APOH proposes that in the first instance, increases in wages be mediated by application of a Dental Recruitment and Retention Allowance (DRRA), using the DORIS and GRIP incentive schemes as established models of such an allowance scheme.

This is, however, proposed only as an interim measure, with renegotiation of the State awards required in the long term.

5.2.f. Costing For The Effect Of Increasing Wages Of Therapists, Hygienists, Technicians, Prosthetists And Dentists By A Dental Recruitment and Retention Allowance Upon The Total Dental Salary Costs Of NSW Public Health

Assumptions Made In Preparing This Aspect Of The Costing:

- Only current positions are included in this calculation, with new interns, residents, registrars, mentors, technicians and dental assistants costed for the internship program excluded from this aspect of the costing
- Dentists will receive a 30% DRRA
- Dental technicians will receive a 12% DRRA, recognizing the recent 18% increase enjoyed by this group
- Dental prosthetists would receive a 30% DRRA, in recognition of the extended training and private practice earning potential of this group, as well as the absence of a current Award.
- Dental Therapists, and Hygienists Would Be Awarded The Same Scale until a final award scale is negotiated.
- Dental assistants are suggested as not requiring a DRRA, because of a recent 18% increase
- On Costs for salaries are assumed to be 12%
- No additional goods and services will be required by these existing staff

Table 6 showing additional funding required for current clinical staff to receive a Dental Recruitment and Retention Allowance as proposed by APOH. This does not include the projected increase in staff number calculated separately for other point actions of the Ten-Point Plan.
Costs are Expressed in $ and are for financial years 2005-6 etc.

		2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
Category of staff	**No.**	**Cost**	**Cost**	**Cost**	**Cost**	**Cost**
General Practice Dentists	218.7	5,330,200	5,543,400	5,765,200	5,765,200	5,765,200
Specialist Dentists	21.7	767,400	798,100	830,000	830,000	830,000
Therapists	142.4	2,135,700	2,221,100	2,310,000	2,310,000	2,310,000
Hygienists	1.4	16,200	16,900	17,500	17,500	17,500
Technicians & Prosthetists*	71.6	439,100	456,700	475,000	475,000	475,000
Dental Assistants	594.4	0	0	0	0	0
Sub-Total		*8,688,600*	*9,036,200*	*9,397,700*	*9,397,700*	*9,397,700*
On-Costs		868,900	903,600	939,800	939,800	939,800
Total		9,557,500	9,939,800	10,337,500	10,337,500	10,337,500

Staff Numbers are average for 2004.
There is an agreed 4% increase per year across all categories up to and including 2008-9.
There are 11 prosthetists, included with technicians because there is no current Award separate to technicians
Technicians have recently received an 18% wage increase. For this reason, an increase in salary of only 12% is suggested for this group.
* Prosthetists have no proper award, so that they are inappropriately included with technicians in this costing

5.3. Point 3 Of The Ten-Point Plan: More Dental And Para-Dental Clinicians, Attracted And Enlisted Over Time As Work In The Public System Becomes More Attractive

5.3.a. Much Of The Increase In Dental Clinicians For The Ten-Pont Plan Is Costed Elsewhere In This Document

The major driver for increasing dental and para-dental clinicians is establishment of the internship program, costed in Point 1. To avoid counting these costs twice, these new staff are not included in the costing for Point 3.

For the same reasons, the increase in staff entailed in establishment of conjoint appointments (Point 6), and registrar positions (Point 7), is not included in calculations for Point 3.

It is stressed, however, that without implementation of any of points 1,6 or 7, increases in clinical staff numbers will be marginal and relatively ineffective for improving service.

5.3.b. Increased Numbers of Para-Dental Professionals

5.3.b.i. 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, however, many therapists have family commitments which preclude moving to new towns where they would be able to find employment. Also, despite needs in metropolitan areas, there is insufficient funding to employ therapists to work in communities with need.

For this reason, it is proposed to create additional positions for dental therapists, in metropolitan as well as in rural and remote areas.

5.3.b.ii. 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.

Here it is proposed to create dedicated positions for prosthetists, with the aim of reducing the waiting list for dentures.

It is also noted that wages in the public system are very low as compared with those available in private practice, so that the increase in wages indicated in Point 2 is important for successful recruitment of prothetists.

5.3.b.iii. 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.

Nonetheless, there was until recently only one dental hygienist employed by NSW Health, while this person has just resigned. It is suggested that positions 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 the increase in wages indicated in Point 2 is important for successful recruitment of hygienists.

5.3.b.iv. Bachelor of Oral Health Graduates Will Become Available In 2008

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 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.

Accepting that it may be necessary to work within the current award structure for these graduates in the first instance, it is proposed that BOH graduates be paid on a similar basis to therapists, with the difference that they will enter the scale as senior therapists, with a DRRA enhancement proceeding proceeding in the same way as for hygienists after this.

It is proposed that there be an active policy of recruitment to the public system, with the objective of trialing and establishing dental teams using BOH graduates, as well as available therapists and hygienists.

5.3.b.vi. 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.

It is suggested that such graduates enter the system working as interns, senior interns and residents, with full registration for independent practice being available only after successfully completing this training period and the ADC examinations.

An important consideration is that internationally trained dentists should not compete with NSW dental graduates for intern positions, as the first priority should be to complete clinical training of local graduates. Also, discussions with the ADC and NSW Dental Board will be necessary to define the details of supervision and training for internationally trained dentists.

5.3.b.vii. Enlistment Of Specialists Across Discipline Areas

A severe shortage in specialists is evident across the public and private system. One objective of the Ten-Point Plan is to train more clinical specialists for both public and private service.

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

Although it is currently extremely difficult to attract specialists to the public service, especially in view of the widespread shortage of specialists, it is suggested that with the increased wages offered through Point 2, it may be possible to attract some specialists recently having completed training.

For this reason, funding for at least one specialist appointment in each discipline should be made available during the first three years of the program. In the fourth year of implementation of the Ten-Point Plan, funding for two appointments in each specialty should be made available in each discipline, to accommodate new specialist graduates, one in each teaching hospital. In the fifth year, an additional two appointments for newly released trainees should also be made available on the same basis.

In this way, it should be possible to significantly improve specialist services within the public system within five years.

5.3.c. Costing for Point 3: Increased Numbers of Dental And Para-Dental Clinicians

Assumptions Made In Preparing This Aspect Of The Costing:

- It is possible to recruit up to 2 internationally trained dentists per year
- Internationally trained dentists will commence work as Year 1 interns
- Internationally trained dentists will complete three years of intern and resident training as well as ADC examinations before receiving full NSW registration
- Internationally trained dentists require mentoring of a similar level to interns
- 25% of internationally trained dentists will be retained by the public system after the third year of service
- 50% of BOH graduates will elect to join the public system
- There will be an attrition rate of 25% per year in BOH graduates two years after working in the public system
- One dental prosthetist is recruited per year
- One dental hygienist is recruited per year
- Ten currently unemployed dental therapists will enter employment if given the opportunity
- The wage changes suggested in Point 2 are implemented
- One dental assistant is required for each dentist
- Two dental assistants is required for three hygienists, therapists or BOH graduates
- One technician is required per six dentists
- Two technicians are required per one prosthetist
- It will only be possible to attract half the number of specialists to the public system required over the first three years of implementation
- One graduating specialist will be attracted into the public system in each discipline in the fourth year of implementation, with a further specialist entering in the fifth year
- Internationally trained dentists will work for three years on the same basis as interns and residents (as outlined for Point 1)
- Wages are as indicated in Table 1on a financial year basis
- On-Costs for salaried staff represent an additional 12% on top of salary expenditure
- Goods and services required cost 20% of the salary expenditure

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Table 7 showing the projected number and cost of overseas trained dentists, therapists, hygienists, BOH graduate and prosthetists employed in Point 3 of the Ten-Point Plan. Note, Costs are for financial years 2005-6 etc.

Staff	2006 (2005-6)		2007 (2006-7)		2008 (2007-8)		2009 (2008-9)		2010 (2009-10)	
	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)
First Year Int. Dentists	2	134,600	2	140,000	2	145,600	2	147,400	2	147,400
Second Year Int. Dentists	0		2	150,600	2	156,600	2	159,700	2	159,700
Third Year Int. Dentists	0		0		2	220,300	2	224,646	2	224,646
Retained Int. Dentists	0		0		0		1	126,400	2	252,900
Mentors	1	114,600	1	119,232	1	124,002	2	252,900	2	252,900
Dental Therapists	10	577,800	10	600,900	10	624,900	10	637,200	10	637,200
Dental Hygienists	1	57,800	2	120,200	3	187,500	4	254,900	5	318,600
BOH Graduates	0		0		32	1,110,300	67	4,740,700	94	6,651,200
Dental Prosthetists	1	75,800	2	157,700	3	246,000	4	334,400	5	417,900
Specialists	0		0		0		22	3,815,300	44	7,630,500
Dental Assistants	10	400,120	13	541,000	28	1,211,800	78	3,441,800	127	5,604,000
Dental Technicians	1	61,300	1	63,700	1	66,300	2	135,200	2	135,200
Sub-Total		***1,422,000***		***1,893,300***		***4,093,300***		***14,270,600***		***22,432,100***
On Costs (12%)		**170,600**		**227,200**		**491,200**		**1,712,500**		**2,691,800**
Goods & Services (20%)		**284,400**		**376,700**		**818,700**		**2,854,100**		**4,486,400**
Total Cost		**1,877,000**		**2,499,200**		**5,403,200**		**18,837,200**		**29,610,300**

* Total clinical staff does not include dental assistants.
The large number of BOH graduates provides the opportunity to develop dental teams in the later years of the initial five year implementation plan. These teams will greatly increase clinical output as well as improve outcome and quality measures.

5.4. Point 4 Of The Ten-Point Plan: Rural And Remote Dental Education Scholarships, To Generate Dentists Dedicated To Rural And Remote Service

5.4.a. Rural And Remote Education Scholarships Are Already Established For Medicine

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.

5.4.b. Each Of The Three Mechanisms Currently Employed By Medicine To Encourage Commitment To Rural And Remote Practice Is Appropriate For Dentistry

All three approaches indicated above would be appropriate for dental education in NSW.

Targeting scholarships to students from rural and remote areas is most likely to be effective, and APOH recommends this as having the highest priority for implementation. In line with medical students, a scholarship of $10,000 annually to assist with ongoing accommodation, travel and living expenses during the period of study is appropriate.

Similarly, graduates would be eligible for HECS-help relief if returning to rural practice, in a similar way to medical graduates committing to rural and remote practice.

Rural And Remote scholarships of $20,000 per year should also be made available for any students committing to rural and remote practice, however, similar constraints should be placed upon these scholarships as are already in place for Medicine.

5.4.c. Recipients Of Rural And Remote Scholarships Should Be Able To Complete Intern, Resident And Registrar Training Without Prejudice

It is important that recipients of such rural and remote scholarships not be discouraged from further training. For this reason. For this reason, recipients should not feel forced to repay their debt through rural and remote service until they have completed post-graduate training.

Similarly, any rural and remote practice during this training, on rural and remote rotations for example, should be counted towards their repayment of service.

5.4.d. Costing for Point 4: Rural And Remote Education Scholarships

Assumptions Made In Preparing This Aspect Of The Costing:

- 5 dental students per year from rural and remote and regional areas enrol per year and receive a $10,000 / year scholarship
- 5 dental students per year commit to rural and remote / regional practice receive a $20,000 / year competitive scholarship
- 5 dental graduates per year commence work in regional / rural and remote areas and seek HECS relief without having previously received a rural and remote scholarship
- All graduates committing to rural and remote practice remain in regional areas for at least five years
- HECS-help debt is paid at the rate of one fifth of the total debt per year, with no interest accrued
- HECS-help will be claimed by 15 graduates in the first year, with this rising by 15 in each year till 2009-2010
- HECS relief will be at the value of $8,018 per year
- Currently enrolled students will apply for these scholarships
- Newly graduating dentists will apply for HECS relief

Table 8 showing the projected number and cost of dental students and graduates receiving rural and remote scholarship support over the first five years of implementation of the Ten-Point Plan. Note, Costs are for financial years 2005-6 etc.

Staff	2006 (2005-6)		2007 (2006-7)		2008 (2007-8)		2009 (2008-9)		2010 (2009-10)	
	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)
Rural And Remote Student	20	200,000	20	200,000	20	200,000	20	200,000	20	200,000
Rural Commitment Scholarship	20	400,000	20	400,000	20	400,000	20	400,000	20	400,000
HECS Relief for Graduates	15	120,270	30	240,540	45	360,810	60	481,080	75	601,350
Total Cost		**720,300**		**840,500**		**960,800**		**1,081,100**		**1,201,400**

5.5. Point 5 Of The Ten-Point Plan: Educational Building And Facilities Infrastructure, To Establish An Academic Hub For The Integrated Training Of Dental Teams

5.5.a. Funding For Dental Infrastructure Is Required Separate To Area Health Services

5.5.a.i. Dental Hospitals Have A State Wide Functionality But Are Funded At The Area Health Service Level, Resulting In Under-Resourced Dental Infrastructure

Although the dental hospitals both offer state-wide service, they are funded at the Area Health Service level. This has resulted in significant under-investment in dental infrastructure, while it will be argued as unreasonable by both Area Health Services involved, to bear the full cost of infrastructure benefiting areas not having this state-wide role.

5.5.a.ii. 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 required to strengthen dental education is much less than that currently committed to medical education, so that so 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.

5.5.a.iii. Specific Funding For Dental Infrastructure Is Required To Overcome Neglect Of Dental Services At An Area Health Service Level

APOH is aware that 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.

These differences together with the low priority accorded dental health by many Area Health Services severely erode the capacity to deliver adequate dental services, and are reflected in the low per-capital expenditure on dentistry in NSW compared with any other State or Territory in Australia.

Considering the State-wide responsibility that is required for dental education and service in the dental hospitals, it is unacceptable that funds be insufficient or expended in ineffective ways.

5.5.b. Construction Required At Westmead Centre For Oral Health In Establishment Of An Academic Hub

The wide dispersion of the comparatively small staff of the dental faculty across multiple sites compromises training. It is also argued as important to bring education of all paradental professionals together with that of dentists to facilitate the formation of dental teams, while further integration into a major medical hospital is also required.

Currently, Westmead Centre for Oral Health provides the opportunity to achieve such an academic hub. The major accommodation requirements of the academic hub can be satisfied, by building an additional level onto the current building.

An analysis of the cost for this has been performed by Thiess and this is used as the basis for the current costing.

5.5.c. Repair, Replacement And Upgrading Of Current Equipment

Current equipment including dental chairs and instruments, in both the Sydney Dental Hospital and Westmead Centre For Oral Health, requires upgrading and replacement. In addition, there are expenses related to improving clinical infrastructure in regional and rural and remote areas.

5.5.d. Computer And Communications Infrastructure

There are further expenses relating to establishment of computer and communications facilities for education and support of interns in rural and remote areas.

5.5.e. Ongoing Maintenance Expenses

There is currently little provision for ongoing maintenance and replacement of equipment, and for this reason, this is also included in the current costing.

5.5.f. Costing for Point 5: Increased Numbers Of Dental And Para-Dental Clinicians

Assumptions Made In Preparing This Aspect Of The Costing:

- The academic hub will be established at Westmead Centre for Oral Health
- The academic hub will be prepared for centralization of dental education
- Ongoing maintenance and replacement expenses will amount to approximately $1M per year
- Rural and Remote infrastructure will require one half of the cost of maintenance and upgrading as the average of the two hospitals alone.
- The costs of establishing communications equipment for rural and remote services is approximately $600,000

Building Infrastructure – Establishment of Academic Hub At Westmead (Costed by Thiess)

- Trade and installation costs, $11,858,576
- Construction Costs With Scaffold Craneage & Temporary Works, and Design Construction Contingency, and Escalation to midpoint of construction Dec 2006 (26%), $17,781,627
- Professional Fees, $2,133,795
- Other Consultancies, $100,000
- DA and Section 73 fees, $150,000
- Relocation Costs, $100,000
- Asbestos Removal, $80,000
- Clinical Cleans by Hospital, $20,000
- FF and E (10%), $1,778,163
- Thiess Subcontractor Fee, $444,541
- Thiess Consultant Fee, $3,000
- Construction Management Fee, $2,214,359
- Productivity Allowance at $2 per hr, $430,315
- WIN Project Director Services PFP/PDP, $200,000
- Special Items, Dental Chairs, Lights, etc., $900,000
- OSM Units, $500,000
- Ongoing Maintenance Costs, $1,000,000

Individual Expenses Identified For Sydney Dental Hospital

- Central sterilizing unit, $1,520,000
- Special care dentistry refurbishment – 8 chairs and renovations, $ 320,000
- Ceramics laboratory refurbishment – $ 250,000
- Clinical computer facilities, workstations and renovations – $ 193,000
- Endodontic microscope, $ 35,000
- Handpiece replacement, $ 22,000

Individual Expenses Identified For Westmead Centre For Oral Health

- Chair replacement, $2,800,000
- Clinical Computers, $300,000

Table 9 showing the cost for infrastructure in establishing the academic hub and the other clinical and educational equipment required. Note, Costs are for financial years 2005-6 etc.
Costs Expressed in $M

Infa-structure	2006 (2005-6)	2007 (2006-7)	2008 (2007-8)	2009 (2008-9)	2010 (2009-10)
Construction of Academic Hub	8,000,000	14,000,000	5,700,000	0	0
Ongoing Maintenance for New Bldg	0	0	1,000,000	1,000,000	1,000,000
Upgrading equipment at SDH	2,340,000	0	0	0	0
Upgrading equipment at WCOH	3,100,000	0	0	0	0
Upgrading Rural And Remote Equipment	1,360,000	0	0	0	0
Communic. Equipment for Rural And Remote	600,000	0	0	0	0
Equipment Maintenance /Replacemt	0	500,000	500,000	500,000	500,000
Sub-Total Recurrent	***0***	***500,000***	***1,500,000***	***1,500,000***	***1,500,000***
Sub-Total Capital	***15,400,000***	***14,000,000***	***5,700,000***	***0***	***0***
Total Cost	**15,400,000**	**14,500,000**	**7,200,000**	**1,500,000**	**1,500,000**

5.6. Point 6 Of The Ten-Point Plan: Conjoint Specialist Appointments Between The University And Teaching Hospitals, To Build Up Specialist Services And Strengthen Educational Integration

5.6.a. Conjoint Appointments Between Hospital And University Will Strengthen Specialty Services And Education

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.

Conjoint appointments, which would be well paid, have high professional status, provide the opportunity to engage in clinical research, and contribute strongly to teaching at all levels, will largely overcome these problems.

5.6.b. Conjoint Appointees Will Have Clearly Defined Teaching And Service Responsibilities

Conjoint appointees will comprise the principal reservoir of higher knowledge in specialty clinical areas. From this, conjoint appointees will have an important role in teaching undergraduate students, as well as in specialist training programs.

Conjoint appointees will also be required to undertake clinical service within the public system.

As part of the responsibilities to the University, conjoint appointees will be expected to contribute to clinical research.

Responsibilities for academic leadership will vary from discipline to discipline. However, it is expected that full time academics should bear the main responsibility for academic leadership and direction of discipline research programs, leaving conjoint appointees free to concentrate on discipline teaching and service provision.

5.6.c. Each Clinical Specialty In Each Teaching Hospital Should Have One Conjoint Appointment

Conjoint appointments are required across all clinical specialties, with one in each discipline in each hospital, the only exception to this being in oral pathology, where one conjoint appointment is already established at Westmead Centre for Oral Health. A new appointment in oral pathology would likely work primarily at Royal Prince Alfred Hospital, servicing the Sydney Dental Hospital and wider area through the anatomical pathology service.

On this basis, new funding is required for two conjoint appointments in the following disciplines:

- Orthodontics
- Paediatrics
- Fixed Prosthodontics
- Removable Prosthodontics
- Periodontics
- Oral Medicine
- Special Care
- Endodontics
- Conservative Dentistry

- Oral and Maxillo-facial Surgery
- Conscious Sedation and Pain Management

New funding for a single conjoint appointment is required only for:

- Oral Pathology

5.6.d. The Level Of Appointment For Conjoint Appointees Must Be Comparable To The Income Available In Private Practice

Training for specialist practice currently requires from 10 to 13 years, while remuneration in private practice is in the range of $300,000 to $500,000.

It is not necessary to compete for appointees on a purely financial basis, however, it is estimated that wages in conjoint appointments must be at least two thirds of those available in specialist practice.

It is suggested that appointment should be awarded with the title of either Associate Professor or Professor, dependent upon previous academic experience, and that a Level 2 Staff specialist Medical Award, $208 000, before on-costs, will be required to attract individuals of suitable caliber.

5.6.e. Funding Is Possible Within The Current NSW Awards

Conjoint appointments are common in Medicine, while the funding for the comparatively few positions required in dentistry is very modest in comparison.

Appointment within the medical scale for these positions should be possible on the basis of at least one such appointment being current.

Ideally, responsibility for conjoint appointments would be shared between hospital and university. However, APOH understands that there are instances of NSW Health bearing the full cost of medical conjoint appointments and this will likely be required in the current circumstance.

It is stressed, that without establishment of these appointments, the Ten-Point Plan will not be successful.

5.6.f. Costing for Point 6: Conjoint Appointments

Assumptions Made In Preparing This Aspect Of The Costing:

- Two conjoint appointments are required for each discipline, one at each teaching hospital
- One conjoint appointment is already established in Oral Pathology at WCOH
- NSW Health will carry the full cost of conjoint appointments
- Conjoint appointees will receive Level 2 Staff specialist Medical Award, $208,000, before on-costs
- On-Costs for salaried staff represent an additional 12% on top of salary expenditure
- Goods and services required cost 25% of the salary expenditure (Note, more than for general staff because of the specialized equipment and materials required)
- No additional dental assistant staff are required for these appointments
- Only half the conjoint appointments will be filled in the first year of implementation
- Conjoint appointments will be filled only from January 2006 onwards
- In the second year of implementation, all conjoint appointments will be filled, often by applicants from inter-state who would recognize the potential offered by investment in the Ten-Point Plan

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Table 10 showing the projected number and cost of conjoint appointments over the first five years of implementation of the Ten-Point Plan. Note, Costs are for financial years 2005-6 etc.

Staff	2006 (2005-6)		2007 (2006-7)		2008 (2007-8)		2009 (2008-9)		2010 (2009-10)	
	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)
	11	1,144,000	23	4,784,000	23	4,784,000	23	4,784,000	23	4,784,000
On Costs		137,300		574,100		574,100		574,100		574,100
Goods & Services		286,000		1,196,000		1,196,000		1,196,000		1,196,000
Total Cost		**1,567,300**		**6,554,100**		**6,554,100**		**6,554,100**		**6,554,100**

Conjoint appointments in the first year will be filled on the basis of available suitable applicants from January 2006 onwards, while in the second year, it is expected that remaining positions will be filled.

5.7. Point 7 Of The Ten-Point Plan: Registrar positions for specialist training, to create a pool of senior registrars for rural and remote rotation service and supply specialists to the public and private sector

5.7.a. Specialist Training Is Currently Strongly Discouraged

Currently, specialist training involves completion of a three year MDSc course, costing $62,000, together with hospital service which is often paid at only $ 35,000. In many instances, there is no "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 time spent working as a "senior registrar", often 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.

The proposal below will create a pool of senior registrars working in the public system, and also greatly strengthen specialist practice in NSW.

5.7.b. Registrar Appointments Should Be At A Level Above Resident

For these reasons, registrar appointments across all disciplines are required to cover both the cost of university fees and full living expenses.

Assuming that the DRRA as outlined for point 2 is implemented, it is suggested that payment at Grade 3. This will deliver, after payment of mandatory Masters Degree fees to the University, a wage comparable with that of a resident. It is suggested that this would be reasonable, considering the significant training component of the work, as well as the specialist service that registrars will provide.

After completion of MDSc training, registrars would progress to senior registrar status for a further year of supervised work in the public system, rotating to rural and remote and regional areas as required. Because there would be no further university fees for senior registrars to pay, there would be an effective wage rise without the necessity for changing payment by NSW Health. Senior registrars would enjoy a salary increase recognizing their increased levels of responsibility.

5.7.c. Registrar Appointments Are Required For Different Numbers Of Positions Across Disciplines

Different disciplines have differing capacities to train registrars, dependent upon the type of training and the community demand for service.

Table 11 showing the number of registrar appointments required for each discipline and cohort of registrars commencing training per year.

Clinical Discipline	Number of Registrar Positions Required
Orthodontics	15 (divided over 4 years)
Paediatric Dentistry	10 (divided over 4 years)
Prosthodontics	15 (divided over 4 years)
Periodontics	10 (divided over 4 years)
Oral Medicine	5 (divided over 4 years)
Oral Pathology	2 (divided over 4 years)
Endodontics	8 (divided over 4 years)
Special Care	12 (divided over 4 years)
Oral and Maxillo-facial Surgery	16 (divided over 4 years)
Conservative Dentistry	10 (divided over 4 years)
Conscious Sedation and Pain Management	5 (divided over 4 years)
Total Number of New Registrars	**108**

Registrar appointments would be highly competitive, while in some years the distribution of registrar appointments may vary across disciplines according to demand

5.7.d. Registrar Positions Are Already Established For Medicine

Registrar positions are already established for Medicine, and the investment in dental training at registrar level is considerably less than that already supported for Medicine, the only other health service with comparable training and responsibility.

5.7.e. Dental Registrar Appointments Can Be Within Current Award Structures

To facilitate introduction of the registrar appointments, it is proposed that registrars be at Grade 3.

This will be sufficient for registrars to both cover the cost of their MDSc tuition fees, and have a personal salary comparable with Medical registrars.

Upon completion of MDSc training, registrars would move from being "junior registrars" to become "senior registrars". This would not necessitate any change in award, as MDSc fees would cease and result in an effective substantial increase in personal salary without increased State expenditure.

5.7.f. Costing for Point 7: Registrar Appointments

Assumptions Made In Preparing This Aspect Of The Costing:

- Registrars will work at both dental hospitals
- Registrar appointments will be filled in proportion to the necessary conjoint appointments
- Registrar positions will be highly competitive
- Registrar appointments will progress over four years at Grade 3 with a DRRA
- Salaries are as indicated in Table 1
- On-Costs for salaried staff represent an additional 12% on top of salary expenditure
- Goods and services required cost 20% of the salary expenditure
- All University and College fees will be covered by the registrar, with progression to senior status being a time of relative increase in salary, without increased State expenditure.
- All registrars will complete training
- All registrars will remain for senior registrar training
- Current trainees will be eligible to apply for and be successful in gaining registrar appointments
- In the first year, registrar appointments will commence in January 2006
- In the first year, only 70% of registrar appointments will be filled
- In the second year, only 85% of registrar appointments will be filled
- In the third year, all registrar appointments will be filled

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Table 12 showing the projected number and cost of registrars over the first five years of implementation of the Ten-Point Plan. Note, Costs are for financial years 2005-6 etc.

Staff	2006 (2005-6)		2007 (2006-7)		2008 (2007-8)		2009 (2008-9)		2010 (2009-10)	
	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)
Registrars	72	3,997,300	92	10,528,400	108	12,853,800	108	13,105,900	108	13,105,900
On Costs		479,700		1,263,400		1,542,500		1,572,700		1,572,700
Goods & Services		795,500		2,105,700		2,570,800		2,621,200		2,621,200
Total Cost		**5,272,500**		**13,897,500**		**16,967,100**		**17,299,800**		**17,299,800**

* Please note that this assumes the Award increase in wages as well as the 30% increase in wages (Point 2)

5.8. Point 8 Of The Ten-Point Plan: More fluoridation and oral health promotion activities

5.8.a. 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.

5.8.b. 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 of 1ppm.

5.8.c. Oral Health Promotion Activities

5.8.c.i. Principles for Oral Health Promotion

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.

In estimating costs for oral health promotion it is important that costs reflect the priorities and goals of the National Oral Health Plan and the strategic directions for oral health in NSW. The following budget estimates have been based on an existing successful Area Health Service model for Oral Health Promotion.

5.8.c.ii. Staffing Requirements For Oral Health Promotion

It is suggested that each Area Health Service will require the following staff for effective oral health promotion activities to be enacted:
1 Oral Health Promotion Officer
1 Aboriginal Liaison Officer
0.2 Health Education Officer
0.8 Senior Dental Therapist
0.2 Paediatric Dental Specialist

In addition, it is proposed that the current positions devoted to oral health promotion be maintained.

5.8.d. Costing for Point 8: Fluoridation And Oral Health Promotion

Assumptions Made In Preparing This Aspect Of The Costing:

- Existing oral health promotion activities are not included in this costing, but are included as part of base-line expenditure (Executive Summary)
- Three councils per year are persuaded to employ fluoridation
- Fluoridation of each council will cost $400,000
- Legislative change mandating fluoridation across all councils occurs by 2009, with mandatory fluoridation being in place in 2010
- The current cost of fluoridating all of NSW would be $20 M
- Each area health service is supported by an oral health promotion team as suggested above
- The wages applied are those in Table 1
- On-Costs for salaried staff represent an additional 12% on top of salary expenditure
- Goods and services required cost 20% of the salary expenditure

Table 13 showing the projected number and cost of new oral health promotion staff and new fluoridation projects over the first five years of implementation of the Ten-Point Plan. Note, Costs are for financial years 2005-6 etc.

Staff	2006 (2005-6)		2007 (2006-7)		2008 (2007-8)		2009 (2008-9)		2010 (2009-10)	
	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)
Oral Health Promotion Officers	8	504,500	8	524,700	8	545,700	8	558,100	8	558,100
Aboriginal Liaison Officers	8	415,400	8	432,000	8	448,900	8	458,100	8	458,100
Health Education Officers	1.6	146,200	1.6	152,100	1.6	158,200	1.6	161,300	1.6	161,300
Dental Therapists	0.8	46,200	0.8	48,100	0.8	50,000	0.8	51,000	0.8	51,000
Paediatric Dental Specialists	1.6	251,600	1.6	261,700	1.6	272,100	1.6	277,500	1.6	277,500
Sub-Total		*1,363,900*		*1,418,600*		*1,474,900*		*1,506,000*		*1,506,000*
On-Costs		163,700		170,200		177,000		180,700		180,700
Goods & Services		272,800		283,700		295,000		301,200		301,200
New Fluoridation		1,200,000		1,200,000		1,200,000		1,200,000		16,000,000
Project Funds		80,000		80,000		80,000		80,000		80,000
Sub-Total Recurrent		***1,880,400***		***1,952,500***		***2,026,900***		***2,067,900***		***2,067,900***
Sub-Total Capital		***1,200,000***		***1,200,000***		***1,200,000***		***1,200,000***		***16,000,000***
Total Cost		**3,080,400**		**3,152,500**		**3,226,900**		**3,267,900**		**18,067,900**

Note that the capital fluoridation cost of $16 M in 2009-10 assumes introduction of necessary legislation

5.9. Point 9 Of The Ten-Point Plan: Establishment of an oral health surveillance unit to ensure that planning for dental services and workforce are tied to real community need

5.9.a. Current Data On Community Burden Of Dental Disease Is Inadequate For Planning

The need for improved data on dental disease is apparent, and while the National Oral Health Survey will provide some information, this will be insufficient for detailed planning and monitoring of outcomes in implementation of any plan for improving oral health.

NSW requires its own comprehensive oral health surveillance mechanism, and this is the reason for establishing an appropriate oral health surveillance unit.

5.9.b. The Surveillance Unit Must Establish A Database And Mechanisms For Harvesting Information

A database must be established which collates information from all dental public health services. ISOH 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.

5.9.c. The Surveillance Unit Requires The Leadership Of An Experienced Oral Health Epidemiologist And Sufficient Support Staff To Perform Field Surveys

A director with advanced qualifications in public health epidemiology or equivalent is required. The director would be supported by two research officers, also with dental public health qualifications.

In addition, a statistician will be required and two administrative assistants.

Providing the necessary workforce for dental examination in oral health surveys, will be five therapists, hygienists or BOH graduates.

To establish mechanisms for interrogating the ISOH system, a full time computer programmer is required.

5.9.d. The Surveillance Unit May Be Accommodated Within The Currently Established Centre For Oral Health Strategy

Although the functionality of detailed oral health surveys is not currently in place within the Centre for Oral Health Strategy (COHS), it would seem sensible for the funding and positions required for this function be included in that COHS, with oral health surveillance becoming a major function of the currently established centre.

5.9.e. Costing for Point 9: Oral Health Surveillance Unit

Assumptions Made In Preparing This Aspect Of The Costing:

- A director, and suitable support staff can be found for this office within the first year
- Travel costs including accommodation will amount to $50,000 per year
- Three portable dental units will be required for surveys. Each portable unit will include: one dental chair, one dental stool, one dental light, one dental X ray unit, one dental unit (water, air, suction). The cost of each unit is approximately $15,000
- Maintaining this portable equipment will require 10% of purchase cost ($4,500 for 3 units)
- On-costs for salaried staff represent an additional 12% on top of salary expenditure
- Goods and services required cost 20% of the salary expenditure
- The Director will be employed at the same level as a conjoint appointment ($208,000)
- The statistician will be employed at level of a senior analyst ($73,297)

- The public health specialists will be employed at the level of clinical specialist ($154,170)
- The supporting survey staff will be employed at the level of dental therapist as per Table 1
- The computer programmer will be employed at level 5 ($56,762)

Table 14 showing the projected number and cost of staff and equipment needed for oral health surveillance. Note, Costs are for financial years 2005-6 etc.

Staff	2006 (2005-6)		2007 (2006-7)		2008 (2007-8)		2009 (2008-9)		2010 (2009-10)	
	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)
Director	1	208,000	1	208,000	1	208,000	1	208,000	1	208,000
Public Health Graduates	2	314,500	2	327,100	2	340,200	2	346,800	2	346,842
Dental Therapists	5	288,900	5	300,400	5	312,500	5	318,600	5	318,600
Statistician	1	73,297	1	76,200	1	79,300	1	79,300	1	79,300
Clerical Staff	2	84,200	2	89,300	2	91,100	2	92,900	2	92,900
ISOH Computer Programmer	1	56,762	1	59,000	1	61,400	1	61,400	1	61,400
Sub-Total		*1,025,700*		*1,060,000*		*1,092,500*		*1,107,000*		*1,107,000*
On Costs		123,100		127,200		131,100		132,800		132,800
Goods & Services		205,140		212,000		218,500		221,400		221,400
Portable Equipment		45,0000		4,500		4,500		4,500		4,500
Travel		50,000		50,000		50,000		50,000		50,000
Total Cost		**1,853,900**		**1,453,700**		**1,496,600**		**1,515,700**		**1,515,700**

It is assumed the unit can be functional within the first year of operation.

5.10. Point 10 Of The Ten-Point Plan: Enhancement funding for, education, training and research to facilitate workforce development by attracting and retaining the necessary academics and researchers

5.10.a. 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. The Ten-Point Plan involves strengthening dental education and training, so that significant academic enhancement is required.

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.

5.10.b. 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 required to strengthen dental education is much less than that currently committed to medical education, so that so 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.

5.10.c. Parity With Medical Clinical Loadings For Dental Academics Is Required

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.

Enhancement funding is required to achieve parity with medical graduates working in the University.

5.10.d. Recruitment and Retention Allowance

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.

Enhancement of academic salaries is required to attract and retain both junior and senior dental academic staff and ensure continuing renewal of the Faculty.

An across the board wage enhancement of 20%, together with the above suggested parity with medical clinical loading, should be sufficient to make employment in the Faculty of Dentistry more attractive, whilst also providing proportionately more support to junior academic staff for whom wage disparity is most acute.

5.10.e. Support For Research Activity Is Required

Funding mechanisms for research activity within the University system are increasingly slated 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.

Enhancement funding for research is required to provide clear opportunity for dental academics to fulfill career ambitions, and so make dental academic work in NSW more attractive.

5.10.f. Support For Continuing Education And Conference Participation Is Required

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.

Enhancement funding for conference travel and professional continuing education courses will both strengthen the quality of academic work, and also help attract academics to this State.

5.10.g. Funding For Clinical Mentors And Problem Based Tutors Is Required

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, 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.

Enhancement funding is required to attract more clinical mentors as well as problem based tutors. This includes funding for direct salaries as well as funding to support participation in continuing education courses.

5.10.h. 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.

For this reason, enhancement is needed to both achieve fiscal balance and competitive wages.

It is stressed that in the absence of the requested academic enhancements, the Faculty will be unable to train the dental workforce required for NSW.

5.10.i. The Funding For This Enhancement Can Be Distributed With Existing NSW Health Mechanisms

Dental academics are invariably based in one of the two major dental hospitals, and have current honorary appointments within these institutions.

It will be possible for the requested wage enhancements to be made as fractional paid appointments within the hospitals hosting individual academics.

It should perhaps be noted that dental academics routinely contribute expert clinical advice and often direct clinical service in the context of their academic work. Academics have never sought payment for these services. However, the requested fractional positions would in general represent modest payment for clinical service long rendered.

Similarly, support for research activity can be provided in the form of direct research funds again administered through the hospitals, while this is routine throughout much of NSW Health.

5.10.j. Costing for Point 10: Academic Enhancement

Assumptions Made In Preparing This Aspect Of The Costing:

- Dental academic loadings will be doubled to achieve parity with medicine
- The Faculty of Dentistry has 40 FTE academic staff, of whom 21 are full time
- A research infrastructure and consumables enhancement of from $300,000 to $500,000 per year would be distributed within the Faculty on a needs basis
- Increased funding from $300,000 for research infrastructure and consumables would be dependent upon demonstration of productive use of the research funds provided
- Academic staff with clinical training would receive a retention and recruitment allowance of 20%
- Total academic staff costs are approximately $3,500,000
- Clinical mentors will receive payment on a pro-rata basis at the rate of $100,000 per year
- Non-clinical PBL tutors will receive an income commensurate with the lecturer scale ($60,000)
- 10 clinical mentor positions are required
- 5 PBL tutor positions are needed
- Funding for continuing education of mentors of $100,000 per year would be distributed on the basis of need and merit to support teaching activities
- Funding to support continuing education and conference participation of academics and post-graduate research students of $150,000 per year would be distributed on a per needs basis

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Table 15 showing the projected costs for the academic enhancements required. Note, Costs are for financial years 2005-6 etc.

Enhance-ment	2006 (2005-6)		2007 (2006-7)		2008 (2007-8)		2009 (2008-9)		2010 (2009-10)	
	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)	Staff	(Cost)
PBL Tutors	5	150,000	5	300,000	5	300,000	5	300,000	5	300,000
Clinical Mentors	10	500,000	10	1,000,000	10	1,000,000	10	1,000,000	10	1,000,000
Clinical Loading Parity	40	400,000	40	400,000	40	400,000	40	400,000	40	400,000
Retention & Recut All	40	700,000	40	700,000	40	700,000	40	700,000	40	700,000
Cont Ed.		100,000		100,000		100,000		100,000		100,000
Conf & Ed		150,000		150,000		150,000		150,000		150,000
Research Support		300,000		350,000		400,000		450,000		500,000
Total Cost		**2,300,000**		**3,000,000**		**3,050,000**		**3,100,000**		**3,150,000**

Note, this funding supplements and does not include current University funding for the Faculty of Dentistry

5.11. Administrative Structure Necessary For Successful Implementation Of The Ten-Point Plan

5.11.a. Governance Structure Required For Implementation Of The Ten-Point Plan

5.11.a.i. The Need For A New Governance Model For Oral Health With Priority For Oral Health

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%.

To provide equity of care to all patients across the State, a new governance model is required.

5.11.a.ii. Evidence That Oral Health Has Been Accorded A Low Priority In The Current Governance Arrangement

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 Western Sydney 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.

5.11.a.iii. A Centralized Governance Mechanism Is Required

The significant changes proposed by the Ten-Point Plan require establishment of a suitable governance structure.

A new Governance model for Oral Health Services in NSW is strongly suggested to ensure adequate priority is given to oral health, as well as to mediate implementation of the Ten-Point Plan and delivery of the improved health outcomes intended. The eventual budget would see Oral Health being of similar size to a rural AHS.

There are various governance models the Health Department could consider, while some guidelines are suggested below, consistent with current NSW structure.

5.11.b. The Principles That APOH Considers A Governance Model Must Achieve

- A single line accountability for all public oral health service delivery across Health is proposed.
- The Chief Dental Officer should be responsible for ensuring equitable delivery of the highest possible quality of dental care and preventive programs across all Area Health Services.
- To mediate this responsibility, there should be direct accountability to the Chief Dental Officer for service delivery and budgetary reporting.
- The Chief Dental Officer should be supported by a suitably resourced administrative team, led by an Executive Officer / General Manager, to facilitate proper management of oral health resources across the State.
- The Deputy Director-General should be responsible for the implementation of the ten point plan through the Chief Dental Officer and Area Health Service Chief Executives.
- The Chief Dental Officer should report, like the Area Health Service Chief Executives, directly to the Deputy Director-General, Population Health.
- The Centre for Oral Health Strategy should retain is current role in policy development, and be expanded in the area of surveillance/survey and health promotion, with inclusion of the proposed oral health survillance unit.
- The structure should continue to recognize the role of oral health in General Health.
- The structure should recognize and reflect oral health as an integral part of the public health system.

5.11.c. The Expected Effect Of Application Of These Governance Principles

Area Health Services should continue to be responsible for service delivery through ongoing development of the Oral Health Networks. However, there will be greater accountability of Clinical Directors/AHS Managers to the Chief Dental Officer for:

- Service Delivery, Planning and Implementation
- Budget/Activity Performance Implementation
- Integration with other service providers and within the Oral Health Service
- Management of service

5.11.d. Preservation And Expansion Of The Existing Oral Health Branch/Centre For Oral Health Strategy

The currently established Oral Health Branch, recently renamed the Centre for Oral Health Strategy (COHS), should be preserved and expanded to manage the existing portfolio of responsibilities in oral health policy and planning, Population Health initiatives including fluoridation, and Ministerial/Commonwealth Liaison.

The proposed Oral Health Surveillance Unit outlined in this paper would sensibly form part of an expanded COHS.

The separation between the service delivery and policy arms of Oral Health is currently established through the model wherein individual Oral Health Services are part of Area Health Services with the COHS reporting directly to the Deputy Director General, Population health for State-wide Policy matters. This division in roles is supported by the IPART review of NSW Health in 2004 and would be enhanced by application of the governance model principles proposed by APOH.

5.11.e. A New Governance Structure With Discrete Funding For Effective Function

Funding will be required to properly support a new governance structure, responsible for ensuring equitable delivery of dental health services across NSW.

It is estimated that an administrative team of about 16, comprising senior managerial administrators, senior clinically trained administrators and administrative assistants, would be required to properly manage State-wide oral health services.

It is estimated that such a team will require between $1M and $1.4 M per year for funding. For the purposes of the current costing, the higher cost of $1.4M per year is assumed to apply.

Dental reforms: want a lesson in spin?

3 September, 2012 Professor Hans Zoellner 3 comments

The Federal Government's $4 billion dental reforms recieved near universal adulation from health groups and went largely unquestioned in the media last week.Over the next year patients will see cuts to Medicare funded dental services of around $1 billion.

For Associate Professor Hans Zoellner, chairman of the Association for the Protection of Oral Health, it has been an object lesson in political spin. Here he explains why.

Imagine the unimaginable - that the government suddenly declared it was going to restrict Medicare to children living in low income families, and that it was going to pay them rebates for "basic medicine only".

Even a committed political spin doctor would find that a hard sell, in the face of what would be near universal outrage.

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But then what would happen if ministers fronted the media to declare that dental Medicare is being restricted to children living in low income families, and that they are to get only "basic dentistry". That is what the government did last week to near universal jubilation.

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How did Government quell what should have been an outraged response?

- ignorance of the nature and impact of dental disease
- deliberate maladministration of the chronic disease dental scheme which made it difficult for clinicians and patients to use
- ministers exaggerating the scale of the alleged rorts which were relatively few at one per 1,500 chronic disease patients
- systemic hectoring of dentists for administrative errors in the scheme
- exploitation of vague sentiments about children and class warfare

All this fuelled with ministerial suggestions that the chronic disease scheme was 'open to millionaires' in the face of the more mundane fact that 80% of patients have been Health Care

Card holders.

Basic children's dentistry — the only sort of dentistry the federal government says it will now fund for children from 2014 - is cheaper than comprehensive care for chronically ill patients. It guarantees a lesser spend.

The problem is that it fails to address the main community dental disease burden. That lies in the ageing adult population - the population that to a large extent the chronic disease scheme was targetting.

Sadly, the hand-full of children who have been dependent on $2,125 annual support available through the chronic disease dental scheme, will now only access $500 per year for "basic" dentistry.

The government has successfully silenced concerns about the 1.5 million chronic disease patients now denied Medicare support, by pointing to an extra $1.3 billion for state public dental services. That sounds substantial — but remember it only starts flowing in 18 months time, it is over six years and amounts to just $216 million per annum.

Although representing 33% increased public dental spending, it will make little real difference because public services are unable to attract significant additional workforce to increase service output.

We know this because there are similarly dismal public dental outcomes across Australia, despite widely differing state spending. Public dentistry is overwhelmed and emergency focused, irrespective of jurisdiction.

For example, Tasmania and NT both spend more than twice as much per capita as NSW, while Queensland, SA, WA and Victoria spend somewhere between. However, it will be no surprise to any GP, that no matter where you are being a public dental patient involves long waiting lists and mostly basic and emergency treatment.

After NSW and Victoria receive their portion of the government's increased funding, spending will still be less in those states than it already is elsewhere in Australia.

While it is absurd to suggest that patients who were supported by the chronic disease dental scheme will be adequately supported by the additional public dental funding, it is true that the scheme helped reduce public dental waiting lists.

This was because chronically ill public patients could be seen in private practice. NSW for example has enjoyed a 34% reduction in its waiting list, but must now anticipate longer waiting lists and obviously worse health outcomes.

Had the government properly administered the chronic disease dental scheme by establishing clear clinical guidelines for diagnosis and treatment planning (as well as a pre-approval process for some advanced procedures), up to $330 million per year could have been saved. That would have been significant in a scheme whose annual cost was beginning to nudge $1 billion.

And as people shift from initial expensive treatment to low-cost maintenance, the cost per patient has fallen - from an initial high of $2,204 in it's first year to $1,117 during the last 12 months. Given the opportunity, the chronic disease scheme should have cost only $340 million per year within two years.

Although this is easy to demonstrate numerically, we will never really know, because the government has mastered spin, and not substance.

The scheme that has delivered dental care to a million plus patients will be scrapped on 1 December.

Read more about:

Dental, MBS

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Related articles

Appended Reference Number [15]
(References [14], [15] and [16] Embedded)

The Association for the Promotion of Oral Health
Westmead Centre for Oral Health
Westmead Hospital, Westmead NSW 2145
Ph: + 61 2 9845 7892; FAX: + 61 2 9893 8671

Chairman, A/Prof H Zoellner,

Prof. M Spence
Vice Chancellor Elect
The University of Sydney

Dear Professor Spence

This letter and collection of documents are to welcome you to the University of Sydney, and to provide you with some background that we hope you find helpful.

By way of introduction, the Association for the Promotion of Oral Health (APOH), is an independent think tank and advocacy group for improved dental health and education. We have a think-tank Council of 35 people drawn from across a wide range of experts and stake-holders in dentistry as well as community groups. The Council is supported by a wider general membership of about 300.

We have performed an analysis of the challenges facing oral health and education in Australia, and have developed a strategy which we believe will substantially overcome these difficulties. Over the last five years, we have been active in advocating for implementation of the strategy we have developed.

It is our duty to raise public awareness of dental health issues through the media, with the objective of increasing political sensitivity sufficient to mediate the necessary reforms. We have had some success in establishing a constructive dialogue with government to drive reform, so that we are optimistic for the future of dental health.

Recognizing the key role of the University of Sydney in dental education and research, we have sought to support the University in our representations to government, while we have made separate representations to the University.

Our advice to the University has been with regard to strategic and structural issues in dental education. In addition, we have sought to inform the University of any dental media or political events, which we feel might impact on the University.

Greatly facilitating our assistance to the University, has been a constructive relationship with Vice Chancellor Brown, and we sincerely hope that we are able to continue this relationship throughout your tenure as Vice Chancellor.

APOH wishes to assist you in any way possible, and we are keen to arrange a formal meeting between some of the senior members of our Council and yourself at a time of your convenience.

With congratulations for your new appointment and very best wishes

A/Prof H Zoellner
15 May, 2008

Appended Reference Number [15]
(References [14], [15] and [16] Embedded)

Dental Education In Australia

Unique Opportunities for The University of Sydney

Prepared for the Advice of
Professor Michael Spence
Vice Chancellor Elect
The University of Sydney

May 2008

Association for the Promotion of Oral Health

Appended Reference Number [15]
(References [14], [15] and [16] Embedded)

Dental Education: Opportunities for The University of Sydney
The Association for the Promotion of Oral Health
May 2008, Page 1 of 11 Pages

Executive Summary

The Faculty of Dentistry at the University of Sydney is uniquely placed to take advantage of strategic advantages not available to other universities. While other universities have difficulty reconfiguring to train a dental workforce appropriate for an ageing and medically complex population, the University of Sydney already has major elements in place.

- Integration of undergraduate training with Medicine.
- Co-location of a dental hospital with most dental specialties integrated into a major medical teaching and research hospital.
- The opportunity for multi-disciplinary research between medicine and dentistry that co-location creates.
- Despite some gaps, the most complete specialist staff profile of any Australian dental faculty.
- Confluence of BDent, specialist MDSc, BOH Therapist/Hygienist, MBBS, and medical registrar training in one site, with opportunity to train integrated clinical teams - the future of health services.
- Some already established con-joint specialist and registrar-MDSc appointments.

The University can exploit these unique advantages to establish its dental faculty as the leading school in Australia, and amongst the best in the world. This especially in light of the "out-sourcing" of senior students by other schools, which undermines their status, as well as newly established rural schools which lack medical faculties, dental hospitals, attached specialists, or research campuses.

The potential of the dental faculty is undermined by the:

- Absence of dedicated university infrastructure. The University has failed to provide staff and students with a place of work and study. Academic staff are significantly distracted by frequent necessity to negotiate these fundamental resources with NSW Health.
- Fragmentation of the Faculty across multiple sites, creating inefficiencies in time and resource allocation.
- Funding which fails to recognize the staffing and resource requirements of dental training.
- Inability to attract appropriate research orientated academic staff due to inadequate infrastructure, and unattractive working conditions relative to opportunities within and outside of the university.
- Teaching workloads and resource limitations precluding exploitation of research opportunities.

The University is unable to take advantage of a growing market for dental workforce and continuing education (shortage of at least 1,500 clinicians by 2010). A 40% increase in student intake in 2007 had to be cut to just 10% in 2008, because of insufficient infrastructure. Lack of infrastructure also undermines the international undergraduate and post-graduate market. Continuing education for dental graduates will likely soon become mandatory, but current faculty resource limitations preclude exploitation of this opportunity.

Suggested University strategic initiatives permitting the dental faculty to rapidly achieve its potential as a national and world leader are:

- Consolidating the Faculty together with the Westmead Medical Clinical School, in a dedicated University owned research and teaching facility adjacent to the Westmead Centre for Oral Health.
- Investment in conjoint appointments for specialists across all clinical disciplines at Westmead Hospital in collaboration with NSW Health. Some disciplines have successfully trialed this approach.
- Encouragement of State and Federal governments to improve funding as well as establish dental internships and registrar-MDSc appointments. This will reduce undergraduate teaching load, strengthen post-graduate and under-graduate training, and also support research.
- Development and reconfiguration of the dental academic workforce, separating purely clinical tutelage from academic research active appointments. Collaboration with NSW Health is needed.
- Discontinuation of rural rotations which fragment and undermine academic activity, and fail to deliver advantage to the University. Rural rotation creates unfruitful competition with new rural dental schools, while more appropriate competition would be with major metropolitan and international schools.
- Establishment of key shared appointments between medicine and dentistry for medical training of dental students, development of health team structures, and establishment of multi-disciplinary research programs.

APOH Seeks to Continue a Constructive Relationship with the Vice Chancellor:
Has assisted the University through a constructive relationship with Vice Chancellor Brown, and we seek a continuation of this relationship with the new Vice Chancellor.

THE ASSOCIATION FOR THE PROMOTION OF ORAL HEALTH

APOH is an independent think tank and advocacy group, with a wide representation of stake-holders including professional and community groups.

APOH aims to improve oral health in Australia through analysis of the challenges, development of strategies for overcoming these difficulties, and advocacy for implementation of the developed strategies. It is APOH's duty to raise public awareness of issues related to oral health through the media, as well as to work constructively with Government and other stake-holders to improve dental services and training.

This document outlines analysis and proposed strategies relevant to dental training at the University of Sydney. Some supporting documents are appended, which might be otherwise difficult to obtain.

APOH seeks to support the University in improving dental education and training, and can be best contacted via the Chairman, A/Prof Hans Zoellner as indicated below.

A/Prof Hans Zoellner
Chairman of the Association for the Promotion of Oral Health
Westmead Centre for Oral Health
Westmead Hospital
Westmead, NSW 2145
02 9845 7892

BACKGROUND - DENTAL EDUCATION IN AUSTRALIA

Dental Services are Critical for Public Health

Although some think of dentistry as an ancillary rather than core health service, the common dental diseases of caries and chronic periodontitis cause extensive deep bony and soft tissue infection, resulting in at least 32,000 preventable hospitalizations per year, particularly affecting people with underlying systemic disease such as diabetes.[1,2]

Dental Services are Failing

Over several decades, a disparity has emerged between community needs and the capacity to deliver dental services. This is in part due to improved tooth retention in a growing and ageing population, but also because the number of dental clinicians has remained static while training positions and resources have reduced. Many currently practicing baby-boomer dentists are soon to retire, so that compared with the year 2000, demand for dental services in 2010 will increase by 21% and 29% in the private and public sectors respectively.[3]

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[1] Zoellner, H. (2006). "Oral problems in patients with diabetes." *Diabetes Management Journal*, 14, 19-20.
[2] Standing Committee on Social Issues. (2006). "Dental services in NSW (Report 37)." NSW Parliament, Legislative Council.
[3] NSW Government. (2006). "Report on inquiry into dental services in NSW."

Growing public concern is reflected by intense media interest, as well as the submissions made by individuals and community groups to recent Senate and NSW Upper House Inquires.[4],[5] The bipartisan parliamentary committees clearly recognized the severity of the situation.

Dental Training Requires Higher Levels of Supervision than in Other Areas of Health

Because dental graduates must be "registration ready" upon graduation, there is a necessary emphasis upon clinical experience during undergraduate training. This requires an exceptionally high level of supervision for undergraduate students, because undergraduate dental students perform irreversible surgical procedures on patients while still at university. Also, there is a need for dental students to acquire clinical skills to the level needed for independent practice, so that the number of hours of clinical patient contact for dental students exceeds those in other areas of health. [6,7]

Ethical and medico-legal considerations demand intense student supervision by experienced clinicians. Despite the higher cost involved with dental training, no additional funding appears available to support dental faculties.

Dental Faculties are Failing and the Quality of Training is Under Threat

There is an international shortage of dental academics, while dental student intake reduced by approximately one third over a thirty year period. During this time, there appears to have been a disproportionate reduction in the training of dental academics.[8]

Established dental faculties are staffed by an increasingly aged and retiring population of academics, while dental schools no longer have full time staff teaching and researching in all of the distinct dental clinical specialist disciplines. In some cases, there are no part-time academic staff available to teach discrete clinical disciplines.[9,10]

The effect of this is that undergraduate training is impoverished in all dental schools in differing specialist areas. Related to this, post-graduate specialist training and research is non-existent in different disciplines in different dental schools.

Increasingly heavy teaching loads coupled with uncompetitive salaries compared with even public sector clinical practice, have eroded the capacity of universities to attract and retain junior dental academic staff.

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[4] Ibid.
[5] Senate Committee Of The Australian Parliament. (1998). "Public Dental Services." Parliament of Australia.
[6] APOH. (2005c). "Submission to the NSW Upper House Inquiry into Dental Services." The Association for the Promotion of Oral Health.
[7] APOH. (2005d). "Ten-point plan for improved oral health in NSW. Final draft costing requested by the Health Minister, The Hon. M Iemma." The Association for the Promotion of Oral Health.
[8] APOH. (2005a). "The National Oral Health Plan: Proposals for implementation." The Association for the Promotion of Oral Health.
[9] Ibid.
[10] Council Of The Heads And Deans Of Dental Schools. (2007). "Summary of Dental Educational Staffing and Students."

Promotion within universities is tied to research productivity, as is funding to faculties. However, within the constraints of current arrangements, it is almost impossible for dental academics to be both competitive for external research funding, and deliver high quality clinical education. These factors conspire to deeply erode morale, the quality of dental education, and the role of dental faculties in generating new knowledge. A more detailed discussion is provided in the attached document.[11]

A Vicious Cycle Reduces Levels of Clinical Specialist Expertise in Australia and there is No Mechanism Guaranteeing Up-Dated Generalist Skills

It is important to note that specialist clinical training in dentistry is not through a College system as in medicine, but instead is acquired through completion of clinical Masters programs in dental faculties. Because many clinical disciplines lack appropriately trained full time academic staff, all states in Australia lack the capacity to train clinical specialists across the full range of clinical disciplines. This has resulted in a profound workforce shortage of dental clinical specialists.

In addition, because clinical specialist Masters programs involve substantial fees, and there is an absence of paid registrar appointments, few dental clinicians are attracted to train in the specialty areas. This adds to the difficulty of finding suitable clinical academic staff for undergraduate and post-graduate training, establishing a vicious cycle of ever reducing national clinical expertise.[12,13]

In addition, there is no mandatory continuing education for dental graduates in most Australian states, a situation which undermines the quality of service provision. APOH suggests Federal legislative leadership could address this issue.

Establishment of National Dental Board registration in 2008 affords an opportunity to establish mandatory continuing education for dental graduates, as well as for other initiatives such as dental internships, and national standards for dental curricula and specialist training.

Recent Expansion in Dental Schools is Inadequately Supported by Academic and Clinical Facilities

The dental workforce shortage has been recognized by State and Federal governments by the creation of new dental faculties as well as by increasing student intakes in established dental faculties. However, the academic and clinical support required is demonstrably insufficient.

For example, the dental school recently established at LaTrobe University and intended to train dentists and BOH graduates (therapists/hygienists), currently has only 3.4 full time equivalent academic staff, while Newcastle training hygienists only has 5.3 Full time

[11] APOH. (2005d). "Ten-point plan for improved oral health in NSW. Final draft costing requested by the Health Minister, The Hon. M Iemma." The Association for the Promotion of Oral Health.
[12] Ibid.
[13] APOH. (2005a). "The National Oral Health Plan: Proposals for implementation." The Association for the Promotion of Oral Health.

equivalent academic staff.[14] It seems impossible for schools with such low numbers of staff to teach across the full range of dental disciplines usually expected for clinical training. APOH argues that such schools require substantial further support in order to ensure high quality dental education, while established schools also require significant support to rebuild staff across disciplines.

Mechanism must be established to facilitate support of newly formed dental schools by established dental faculties. This may include expansion of specialist academic staff numbers in the existing schools, who would have dedicated responsibility to contribute to dental curricula in developing faculties. Similar mechanisms may be applied where established dental faculties have gaps in academic expertise.

The Dental Faculty at the University of Sydney is Uncommonly Disadvantaged by a Lack of Dental Educational Infrastructure

A separate difficulty is faced by the University of Sydney, where a 2007 40% increase in student number is not supported by a necessary increase in clinical training facilities. Although the University has committed to building additional academic facilities,[15,16] there is a short term crisis in accommodating dental students into current clinical facilities, greatly stretching available academic staff as well as students. Because of the failure to accommodate students, the 2008 intake was reduced, so that there is once again failure to expand the workforce.

It has been argued that dental training at the University of Sydney might fail unless necessary educational infrastructure is put in place. The Faculty of Dentistry in Sydney is uniquely disadvantaged, in that it has no dedicated physical infrastructure. This is particularly unfortunate, in view of the recent sale by NSW Health of a building previously occupied by the Faculty of Dentistry, with consequent reduction in clinical training facilities. APOH questions the probity of this sale by NSW Health, and wonders if the building was originally purchased with Federal funds.

Establishment of New Dental Faculties Independent of Medical Schools Places Australian Dental Training at the Bottom of International Standards

Of particular concern is that Charles Sturt University, as well as La Trobe University appear to be establishing dental curricula independent of the support of a medical faculty. This is out of keeping with international practice, and will fail to prepare graduates for the management of dental patients with increasingly complex medical problems.

Medical school support is required at both pre-clinical and clinical stages of dental training. It has been argued that established nursing schools in these universities are able to provide the necessary pre-clinical training for dental students. However, such a view does not recognize the qualitative and quantitative difference between teaching in the pre-clinical sciences as

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[14] Council Of The Heads And Deans Of Dental Schools. (2007). "Summary of Dental Educational Staffing and Students."
[15] Faculty of Dentistry. (2006). "Faculty of Dentistry Infrastructure Planning. Progress report for Chief Operating Officer and Deputy Vice Chancellor." The University of Sydney.
[16] APOH. (2006a). "Record of Meeting Between the University of Sydney, NSW Health and APOH Regarding Infrastructure Development for Dental Education."

practiced in nursing training compared with medicine and dentistry. There is a significant risk that the quality of pre-clinical dental training will be undermined.

Regarding clinical training, APOH believes that the support of a medical school is required to assist dental students in learning how to safely treat medically compromised patients.

Establishment of dental schools independent of medical school support will put Australia at the bottom of the international scale for dental training. This must be considered in light of increasing international awareness of the need for improvement in training in the basic sciences and medicine (please see the attached document)[17].

APOH argues strongly that both Charles Sturt University and LaTrobe be further supported by establishment of medical schools.

There is Growing Inconsistency Between Dental Schools with Regard to the Identity and Clinical Scope of Training Provided

There is growing discrepancy between the titles of degrees awarded to dental graduates and the scope of clinical practice for which graduates are prepared.

For example, a Bachelor of Oral Health Graduate from Newcastle is only trained to work as a dental hygienist, and lacks dental therapy skills which are taught within all other BOH programs.

Separately, while a BDent graduate from the University of Sydney will have completed a minimum of three years undergraduate study, followed by a further four years as a graduate BDent student in order to work as a dentist, training as a dentist at LaTrobe will involve firstly a three year BOH degree followed by two years in a clinical Masters program. However, in other schools, a Masters title indicates a minimum of three years clinical specialist training, after at least two to three years experience as a general practitioner dentist. This inconsistency seems particularly worrying in light of the very limited clinical academic staff available to LaTrobe to teach undergraduate dental students.[18]

Charles Sturt University on the other hand, intends to train dentists by firstly, completion of a targeted BOH program, followed by a two year Graduate Diploma.

The strategy employed by both LaTrobe and Charles Sturt Universities appears to ensure an ability to charge substantial fees to dental students in the final two years of clinical training, confining the less lucrative HECS level funding to the less expensive pre-clinical years. Although perhaps legally permitted, this does seem unfair to the students involved because it is out of keeping with dental training in other schools, as well as with medical training.

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[17] Baum, B. (2007). "Inadequate training in the biological sciences and medicine for dental students. An impending crisis for dentistry." *Journal of the American Dental Association*, 138, 16-25.

[18] Council Of The Heads And Deans Of Dental Schools. (2007). "Summary of Dental Educational Staffing and Students."

Also, APOH anticipates that dentists graduating from such high fee Masters or Graduate Diploma programs will be unwilling to work in the rural public sector because of their inevitably high debt burden. This would undermine one of the stated objectives of these newly established schools. APOH suggests greater alignment with arrangements in other dental schools may be necessary.

Dental Students are Used as Unpaid Clinical Workforce by State Governments Failing to Attract and Retain Fully Trained Clinical Staff

Unlike undergraduate students in other clinical areas, dental students treat patients and make direct contribution to State clinical services.[19] State governments unwilling to properly fund state public services and unable to attract clinical staff, appear to have identified dental students as a free workforce.

Undergraduate dental students from many dental schools are farmed out to relatively isolated and unsupported rural and community clinics to gain clinical experience. APOH questions the quality of dental education available in such environments. It is of particular concern, for example, that the new school to be established at Charles Sturt University will be distributing students across five separate towns into clinics not necessarily integrated with local base hospitals and almost certainly having little access to specialist dental academics. Nonetheless, this appears to be the practice at some established dental schools such as in Adelaide, West Australia and Queensland.

APOH is concerned that universities accommodating State Governments in this way may be undermining the educational opportunities of their students. Also, there is a question whether this is appropriate use of Federal education funds.

APOH congratulates the University of Sydney for not succumbing to a degraded distributed model of dental education, and believes that this will eventually help distinguish the University of Sydney as a leading school.

The argument has been made that in the absence of adequate State public dental workforce, the public requires use of undergraduate level students in this way. APOH does not accept this proposition, and notes that undergraduate students may spend up to four or five hours delivering a single filling to a patient, so that the public would seem to be particularly poorly served if students rather than fully trained dentists are used as public dental workforce.

[19] APOH. (2005c). "Submission to the NSW Upper House Inquiry into Dental Services." The Association for the Promotion of Oral Health.

OPPORTUNITIES FOR DENTISTRY AT THE UNIVERSITY OF SYDNEY

The Faculty Of Dentistry at The University Of Sydney Is Uniquely Placed to Take Advantage of Strategic Advantages Not Available to Other Universities. While other universities have difficulty reconfiguring to train a dental workforce appropriate for an ageing and medically complex population, the University of Sydney already has major elements in place, including:

- Integration of undergraduate training with Medicine.
- Co-location of a dental hospital with most dental specialties integrated into a major medical teaching and research hospital.
- The opportunity for multi-disciplinary research between medicine and dentistry that co-location creates.
- Despite some gaps, the most complete specialist staff profile of any Australian dental faculty.
- Confluence of BDent, specialist MDSc, BOH Therapist/Hygienist, MBBS, and medical registrar training in one site, with opportunity to train integrated clinical teams - the future of health services.
- Some already established con-joint specialist and registrar-MDSc appointments.

The University Can Exploit These Unique Advantages to Establish its Dental Faculty As the Leading School in Australia, and Amongst the Best in the World

The University of Sydney has thus far resisted the temptation to "out-source" their students to serve an apprenticeship in the public system. APOH strongly supports this principled position. Notably, from the perspective of the University, "out-sourcing" of senior students by other schools, undermines the status of their curricula. Also, it should be noted that the lack of medical faculties in rural universities trying to establish dental curricula makes the position of the University of Sydney demonstrably preferable.

The Potential of the Dental Faculty is Undermined by a Lack of Infrastructure, Academic Staff Profile, Teaching loads, and Fragmentation Across Sites

Despite the native advantages of the University of Sydney, the Faculty of Dentistry is undermined by some significant structural problems including:

- Absence of dedicated university infrastructure. The University has failed to provide staff and students with a place of work and study. Academic staff are significantly distracted by frequent necessity to negotiate these fundamental resources with NSW Health.
- Fragmentation of the Faculty across multiple sites, creating inefficiencies in time and resource allocation.
- Funding which fails to recognize the staffing and resource requirements of dental training.
- Inability to attract appropriate research orientated academic staff due to inadequate infrastructure, and unattractive working conditions relative to opportunities within and outside of the university.
- Teaching workloads and resource limitations precluding exploitation of research opportunities.

The University is Unable to Take Advantage of a Growing Market for Dental Workforce and Continuing Education

While there is an widely discussed shortage of dental clinicians, a 40% increase in student intake in 2007 had to be cut to just 10% in 2008, because of insufficient infrastructure.

Lack of infrastructure also undermines the international undergraduate and post-graduate market.

Continuing education for dental graduates will likely soon become mandatory, but current faculty resource limitations preclude exploitation of this opportunity.

APOH Suggests Strategic Initiatives for the University Permitting the Dental Faculty to Rapidly Achieve its Potential as a National and World Leader

There are a number of initiatives that APOH recommends which if implemented would allow the University of Sydney to lead at national and international levels.

- Consolidating the Faculty together with the Westmead Medical Clinical School, in a dedicated University owned research and teaching facility adjacent to the Westmead Centre for Oral Health.
- Investment in conjoint appointments for specialists across all clinical disciplines at Westmead Hospital in collaboration with NSW Health. Some disciplines have successfully trialed this approach.
- Encouragement of State and Federal governments to improve funding as well as establish dental internships and registrar-MDSc appointments. This will reduce undergraduate teaching load, strengthen post-graduate and under-graduate training, and also support research.
- Development and reconfiguration of the dental academic workforce, separating purely clinical tutelage from academic research active appointments. Collaboration with NSW Health is needed.
- Discontinuation of rural rotations which fragment and undermine academic activity, and fail to deliver advantage to the University. Rural rotation creates unfruitful competition with new rural dental schools, while more appropriate competition would be with major metropolitan and international schools.
- Establishment of key shared appointments between medicine and dentistry for medical training of dental students, development of health team structures, and establishment of multi-disciplinary research programs.

APOH Strongly Encourages State and Federal Governments to Improve Resource Allocation for Dental Education and the University of Sydney

APOH has been active in raising public awareness of the need to strengthen dental education and services, with the objective of increasing political sensitivity.

There has been a measure of success in these objectives, and APOH has an active dialogue with the relevant Health and Education Ministries.

APOH will continue to support the University in efforts to improve dental education.

APOH Has Had a Constructive Relationship with Vice Chancellor Brown and Seeks a Continuing Similar Relationship with the New Vice Chancellor

APOH has in the past had discussions with Vice Chancellor Brown regarding dental education.

The relationship has been constructive, particularly with regard to commitment for improved dental education infrastructure (please see attached documents).

In light of the role of APOH in encouraging public and political discussion of dental health and education, APOH has endeavored to ensure that the University is properly informed of matters which could impact upon its public standing and relationship with government.

APOH seeks a similarly constructive relationship with the new Vice Chancellor.

Appended Reference Number [13]
(References [14], [15] and [16] Embedded)

Minutes of the Meeting of APOH with the CFO and PVC for Infrastructure, The Uni. of Sydney

15th Sept, 2006, *Page 1 of 2 Pages*
The Association for the Promotion of Oral Health

Record of the meeting of APOH representatives with Mr B Kotic, The Chief Financial Officer, and Prof A Brewer, The Pro-Vice Chancellor for Infrastructure, The University of Sydney on 15.9.2006, 4.30 to 5.30.

Present from APOH: A/P Hans Zoellner, Chair; Prof Neil Hunter

1. Brief overview of the background and context of APOH
HZ provided a synopsis of the mission of APOH as a think-tank and advocacy group. The growing disparity between community needs and dental workforce capacity was briefly described. Details of membership and activity in promoting the cause of oral health through the media were presented. Also outlined was the consensus built by APOH amongst major stake-holders for an improved model of service, and of training aligned with that established in Medicine. The role of APOH in stimulating media activity with consequent Government responses, including an Upper House Inquiry was briefly described, as was support for major elements of APOH policy expressed through the recommendations of the Inquiry, NSW Ministerial announcements, and by NSW Opposition parties. A growing level of Federal political support was also briefly mentioned. The central role of the University in workforce development was recognized.

2. With regard to shortfalls in dental training infrastructure
2a. A small fragmented faculty requiring consolidation in a major hospital
HZ outlined the challenge of delivering high quality dental education by a Faculty with few academic staff travelling frequently across the three main teaching sites of the Central Campus, Sydney Dental Hospital and Westmead Centre for Oral Health. The location of most full time academic staff at Westmead was noted by NH, while HZ referred to the strategic plan articulated by the former College as well as by the Faculty to centralize the Dental Faculty at Westmead. Support for such an initiative by Sydney West Area Health Service was reported by HZ.

The desirability of the University securing its foot-print at Westmead, particularly with regard to research was suggested by NH and acknowledged by BK and AB, while HZ emphasized the opportunities for improved coordination of dental with medical training afforded by location of the Faculty at Westmead. The necessity for Faculty to be co-located with a major dental and medical teaching hospital was recognized by all present.

2.b. The absence of secure physical infrastructure limiting successful development of the Dental Faculty
In addition, HZ and NH described the absence of secure tenure for the Faculty in either Sydney Dental Hospital or Westmead. The effect of this was illustrated by describing the recent sale of the “Faculty Building” at Sydney Dental Hospital, as well as re-allocation of space at Westmead, with consequent displacement of Faculty and loss of offices, laboratories, common rooms, computer facilities and library space. The impossibility of successful development of the Faculty in the absence of secure lodgings was stressed.

2.c. An acute short-term deficit in clinical and other training facilities for the expanded 2007 student intake
An acute short-term lack of facilities to accommodate the projected 40% increase in student intake for 2007 was outlined by HZ. This acute shortage was indicated as including physical clinical and class room facilities, as well as the necessary academic staffing.

HZ outlined the findings of an analysis by Dr J Kenny, the Clinical Director of Westmead Centre for Oral Health, and requested by the Faculty, which revealed a shortage of dental

Appended Reference Number [13]
(References [14], [15] and [16] Embedded)

chairs across both dental teaching hospitals necessitating construction of at least 6 more 8 chair clinics.

No analysis of further associated infrastructure shortages was available, but it appeared clear that increased class rooms, laboratories, office space and academics would also be required to accommodate the expanded student numbers.

AB and BK expressed surprise at the reported acuity of infrastructure shortages, and expressed a strong desire for these infrastructure needs to be addressed.

3. With regard to the perception by Area Health Services of a lack of University commitment to Dentistry

HZ reported that in the absence of any University owned infrastructure, and at a time the Faculty was increasingly dependent on the Area Health Services for support, there was simultaneously a perception by senior administrative officers of Area Health Services that the University was not committed to the Faculty of Dentistry.

AB expressed further surprise at this, while BK indicated that by accepting increased student numbers, the University had demonstrated significant support for the Faculty. HZ reassured both BK and AB that although APOH understood this to be the case, that a lack of University investment as well as recent comments by the Provost had led to this impression in the Area Health Services. NH further commented that this perception had been reinforced by Prof. R Jeremy at an earlier meeting at Westmead, while BK and AB indicated this was not their understanding of Prof. Jeremy's opinion, and that irrespective of any previous perceptions, it was more important to now work constructively towards addressing Faculty infrastructure needs. HZ expressed gratitude for the positive approach adopted by both BK and AB.

4. With regard to urgently addressing dental infrastructure needs

BK and AB both indicated strong in-principle support for appropriate infrastructure development of the Faculty of Dentistry, and also suggested that this would be timely in that the University was currently engaged in extensive planning for infrastructure. BK and AB also indicated that they were glad APOH had provided this advice before finalization of the broader University infrastructure planning.

To that end, AB suggested that an urgent meeting be held between AB, BK, the Deans of Dentistry and Medicine, APOH, as well as any other representatives AB, BK and APOH felt appropriate. AB also requested that APOH provide a document summarizing the dental infrastructure needs of the Faculty, including the recent analysis of shortages in clinical dental chairs.

HZ indicated that this document would be prepared quickly, but that there was some urgency for communication with the Health Minister's office because of the anticipated release by the 29th of September of the Government Response to the Upper House Inquiry Report on Dental Services. BK indicated that he could readily make appropriate representations during one of his frequent discussions with the Minister's office.

The meeting concluded at 5.30 with agreement to meet in the near future.

Appended Reference Number [13]
(References [14], [15] and [16] Embedded)

The Association for the Promotion of Oral Health
Westmead Centre for Oral Health
Westmead Hospital, Westmead NSW 2145
Ph: + 61 2 9845 7892; FAX: + 61 2 9893 8671

Chairman, A/Prof H

Mr B Kotic, Chief Financial Officer
Prof A Brewer, Vice Chancellor for Infrastructure
The University of Sydney

Dear Mr Kotic and Professor Brewer

Thank you for meeting with Prof Hunter and myself on the 15th of September to discuss infrastructure needs for the Faculty of Dentistry.

At that time you requested APOH prepare an outline of the major infrastructure requirements for the Faculty of Dentistry. This was to refer to both immediate acute needs arising through the expanded student numbers for 2007, as well as the more strategic and long-term objective of accommodating the Faculty at Westmead Hospital in a configuration optimal for teaching and research.

Please find a brief analysis following this covering note in which the main challenges are outlined, together with a series of recommendations by APOH. Also appended are tables summarizing an analysis of the number of dental chairs required by the 140 projected dental students on each day of the week, if the current curriculum structure and time-table is retained.

Please do contact me at any time should you wish to have any further information or clarification of the suggestions made.

We very much look forward to working with you in support of the Faculty of Dentistry

Sincerely

A/Prof H Zoellner
18th September 2006

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Background

A small fragmented faculty requiring consolidation in a major hospital

Teaching of dental students occurs in three main sites being: The Sydney Dental Hospital, The Westmead Centre for Oral Health, and the Main Campus. In addition, BOH students also attend the Lidcombe Campus. Because there are few academic staff in the Faculty of Dentistry and these are housed both at Sydney Dental Hospital and Westmead, staff and students must travel frequently between these venues as well as the Main Campus, sometimes twice in one day. This results in time lost through travel, as well as the predictable disruption of being isolated from office and laboratory space. Importantly, this undermines research productivity and the delivery of high quality dental education.

For some time, it has been recognized that centralization of the Faculty to a single venue would increase the efficiency and productivity of the Faculty, while there is a clear need to be co-located with a dental hospital. There are further advantages to co-location with a major medical teaching and research hospital, and the Strategic plans of both the former College and the Faculty include the long term objective of drawing the currently fragmented Faculty of Dentistry together at Westmead Hospital.

The absence of secure physical infrastructure limits successful development of the Dental Faculty

There is an absence of secure tenure for the Faculty in either Sydney Dental Hospital or Westmead, while the Faculty of Dentistry is unique in that there is no University owned physical infrastructure.

The detrimental effect of this is illustrated by the recent sale of the “Faculty Building” by Sydney Dental Hospital, as well as re-allocation of space at Westmead, with consequent displacement of Faculty and loss of offices, laboratories, common rooms, computer facilities and library space. In addition, a major research unit (The Biomaterials Research Unit), recently lost a significant period of productive time due to an inability to pay for separate rented laboratory space. The lack of secure physical tenure for the Faculty is a significant barrier to success.

A growing imbalance between student intake and academic staff levels, particularly in specialist areas

Because dental clinical training involves students performing irreversible surgical procedures on patients, an uncommonly high level of individual student supervision is required. This difficulty is compounded by an insufficient number of dental academic staff to supervise students.

Seemingly to try and cope with the past shortfall in dental academic staff, there was a reduction in student intake to a low point of 44 first year students in 1996. It appears that the consequent reduced Faculty income then stimulated an increase in student numbers to the 2006 student intake of 100. Unfortunately, there has not been a corresponding increase in academic numbers, while in 2007, a further increase of 40% to 140 first year students is expected.

With regard to specialist areas of dental practice, such as endodontics, periodontics, oral surgery, fixed prosthodontics, or oral medicine, it is apparently not possible to attract academic staff with the necessary specialist clinical skills for undergraduate and post-graduate training. The effect is that for many specialist areas, there are no full time academic staff, and no post-graduate students or active research programs.

An acute short-term deficit in clinical and other training facilities for the expanded 2007 student intake

Of particular concern, is an acute short-term lack of facilities to accommodate the projected 40% increase in student intake for 2007. This acute shortage includes physical clinical and class room facilities, as well as the necessary academic staffing.

An analysis by Dr J Kenny, the Clinical Director of Westmead Centre for Oral Health, and requested by the Faculty, reveals a shortage of dental chairs across both dental teaching hospitals necessitating construction of at least 6 more 8 chair clinics.

In brief: Dr Kenny recognized that student clinics operate efficiently in groups of 8 students per clinic, and assumed that the current curriculum Block structure will be maintained as well as the current weekly time-tabling pattern. She also assumed that there would be only 96 dental students rather than the projected 100, as this appeared to provide a convenient multiple of 8 students per clinic for analysis. Further, it is important to note that Dr Kenny included all dental chairs available for student use in both Sydney Dental Hospital and Westmead Centre for Oral Health in her calculations.

Based on these assumptions, and as detailed in tables appended to this document, the following shortfall in dental chairs would occur on each of the following days of the clinical training week:

21 dental chairs on Mondays
55 dental chairs on Tuesdays
1 dental chair on Wednesdays
86 dental chairs on Thursdays
49 dental chairs on Fridays

If the Block structure for curriculum is disposed of, as well as the current weekly time-table, and student clinics spread evenly throughout the week, then the following calculation applies:

Calculating the number of chairs short over 5 days:
21+55+1+86+49 = 212 chairs short in total over 5 days.

Dividing these evenly over the 5 days : 42.4 chairs. Rounding up 43 new chairs are needed per day.

Two new community clinics are being built in Nepean and Blacktown, so that it will be possible to roster up to 16 students to these two venues per clinical day

Subtracting the 16 chairs from community clinics, 27 new chairs would be required at one or both of the teaching hospitals.

Recognizing, however, that clinics must be in groups of 8 chairs, and that the above calculations were based on only 96 rather than 100 dental students, then a minimum of 4 new 8 chair clinics (32 chairs in total) are required in the teaching hospitals.

It would be educationally desirable, however, for students not to be rostered to distant community clinics, and on this basis, a minimum of 6 new 8 chair clinics (48 chairs) is optimally required in a hospital setting.

No analysis of further associated infrastructure shortages is available, but it appears clear that increased class rooms, laboratories, office space, academics, dental assistants and technical support staff are also required to accommodate the expanded student numbers.

Relating to this, it is important to note that increased student numbers will of necessity reduce already limited opportunity for attendance of specialist clinics by undergraduate students. This significantly compromises the quality of the curriculum.

Recommendations by APOH to Address the Infrastructure Needs of the Faculty of Dentistry

Addressing the requirement for consolidation of the Faculty at one site associated with a major medical and dental teaching hospital with extensive research facilities

Phased transfer of Executive and Other Offices from Sydney Dental Hospital to Westmead

APOH recommends the phased consolidation of Faculty at Westmead Hospital, with the executive Faculty offices currently housed at Sydney Dental Hospital being readily accommodated in new facilities recently built at the previous "Dental Therapy School" at Westmead. Remodelling of the same building would likely accommodate remaining Faculty offices at Westmead, together with offices currently being vacated in the Westmead Centre for Oral Health by SMADEC.

Remodelling of Westmead Student Technical Laboratory Space to Research Laboratory Space

The laboratory space required by the Biomaterials Science Unit, currently at Sydney Dental Hospital, is potentially available through remodelling of under-utilized student technical laboratory space at Westmead.

Construction of New Teaching Facilities at Westmead

The Dental library would require transfer to Westmead, while additional tutorial rooms would also likely be required. In addition, recognizing that the buildings at Westmead were constructed with the capacity to add an additional floor, and considering the currently heavy use of lecture theatre facilities at Westmead, construction of new lecture theatre facilities, raked over the currently stepped structure of the Westmead Centre for Oral Health, would be desirable. These lecture theatres and tutorial rooms would also be available for use by the Faculty of Medicine.

Additional PBL Rooms on Campus Required

First and second year BDent students share PBL cases with the medical students, and in light of the expanded student numbers for 2007, together with consolidation of Faculty at Westmead, it would likely be sensible for dental students to be integrated together with medical students in PBL groups. This is currently being trialled with small numbers of dental and medical students. It is suggested that this would have the educational advantage of improving the quality of the PBL experience for the dental students, who currently do not enjoy the benefit of a "hospital day" focused on medical content supporting PBL cases.

Further Pre-Clinical and Tutorial Rooms Required

Simulation clinical chairs are required at both Sydney Dental Hospital and Westmead, while an estimate of a requirement for 100 chairs in total has been suggested to APOH. In addition, there is a shortage of appropriate PBL tutorial rooms at Westmead so that additional such facilities will also be required to accommodate the increased student number.

Addressing the requirement for additional dental clinical space

Option 1 (Preferred) Construction of 6 New Dental Clinics of 8 Chairs Each at Westmead Hospital.

This option is preferred, and likely most easily achieved through construction of an additional floor upon the existing building, perhaps also including any additional office space and or tutorial rooms needed.

Option 2: Construction of 4 New Dental Clinics of 8 Chairs Each at Westmead Hospital, Together With Rotation of Students and Staff to the Two New Separate Community Clinics of 8 Chairs Each.

This would be similar to the preferred option 1 outlined above, but would involve undesirable separation of students and staff from the academic hub of Westmead.

Option 3: Commencing Evening Clinical Sessions for Student Clinics at Westmead Hospital and Rotating Students to the Two Community Centres.

Without building any new clinical space at Westmead, students could be potentially accommodated in existing facilities together with use of the two new community clinics, by commencing evening clinics. These would begin at 4.30 in the afternoon and finish at 7.30 in the evening.

This would necessitate employment of additional clinical supervisory and academic staff, as well as receptionists, dental assistants and equipment sterilization staff. An increased rate of equipment and material use, failure and turn-over is anticipated proportionate to the increased clinical time.

There may be complaint from students, many of whom are fee paying, regarding the need to attend frequent clinical training outside of usual University hours. In addition, there may be objections by academic staff, who are currently already at the limit of their work capacity and unlikely to welcome the need to supervise evening clinics. This would also be unattractive for potential new academic staff. It must be noted that dental academic staff do not work in semesters, but have an extended academic year with few weeks free of undergraduate teaching responsibilities.

Evening clinics have been trialled elsewhere, and one reported difficulty relates to poor attendance by public patients who are often elderly and frail, and also dependent on public transport. The final question of student and staff safety emerging from the demand for frequent night travel also emerges.

APOH considers this option least desirable and believes that this model is inconsistent with optimal and high quality dental education.

Addressing the requirement for specialist clinical and other academic staff

Conjoint Specialist Appointments for Improved Undergraduate and Postgraduate Training, As Well as In Support of Research

APOH recommends establishment of conjoint appointments between Westmead teaching hospital and the University in specialist clinical areas, similar to appointments already established in Medicine. These positions, which would be well paid, have high professional status, provide the opportunity to engage in clinical research, and would contribute strongly to teaching at all levels. Conjoint appointees would comprise the principal reservoir of higher knowledge in specialty clinical areas. From this, conjoint appointees will have an important role in teaching undergraduate students, as well as in specialist training programs, which the University is currently unable to provide due to a lack of suitable clinical academic staff.

Conjoint appointees will also be required to undertake clinical service within the public system. As part of the responsibilities to the University, conjoint appointees will be expected to contribute to clinical research. Responsibilities for academic leadership will vary from discipline to discipline. However, it is expected that full time academics should bear the main responsibility for academic leadership and direction of discipline research programs, leaving conjoint appointees free to concentrate on discipline teaching and service provision.

Conjoint appointments are required across all clinical specialties, with one in each discipline, the only exception to this being in oral pathology, where one conjoint appointment is already established at Westmead Centre for Oral Health. The NSW Health Department would provide the bulk of financial support for these appointments, while funding is required for appointments in each of the following specialist areas:

- Orthodontics
- Paediatrics
- Fixed Prosthodontics
- Removable Prosthodontics
- Periodontics
- Oral Medicine
- Special Care
- Endodontics
- Conservative Dentistry
- Oral and Maxillo-facial Surgery
- Conscious Sedation and Pain Management

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(References [14], [15] and [16] Embedded)

Expanded Academic Staff to Improve Research Productivity

To support the increased number of students, additional academic and non-academic support staff will be required. In view of the role of conjoint appointees in providing specialist teaching, emphasis for appointing new academic staff could focus upon research skills, as well as clinical interest in general dentistry.

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(References [14], [15] and [16] Embedded)

Record of the meeting of APOH representatives with Mr B Kotic, The Chief Finance Officer, and Prof A Brewer, The Pro-Vice Chancellor for Infrastructure, The Deans of Dentistry and Medicine and NSW Health, The University of Sydney on 9. 10.2006, 5.00 to 6.00.

Representing:
APOH were A/Prof H Zoellner; Prof N Hunter
The University of Sydney were Prof A Brewer and Mr B Kotic
The Faculty of Dentistry were Prof E Schwarz (Dean) and A/Prof C Peck
The Faculty of Medicine was Prof R Jeremy
Westmead Centre for Oral Health were Dr J Kenny and Dr M Schifter
Sydney West Area Health Service was Mr B Deady
Sydney South West Area Health Service were Dr S Bhole and Mr G Angus
The Centre for Oral Health Strategy was Prof C Wright (Chief Dental Officer)

Appologies from:
Mr B Astill, Westmead Centre for Oral Health
Dr P Kelly, Sydney Dental Hospital

1. Brief overview of the background to the meeting presented by HZ
HZ provided a synopsis of the mission of APOH as a think-tank and advocacy group. The growing disparity between community needs and dental workforce capacity was briefly described. Details of membership and activity in promoting the cause of oral health through the media were presented. Also outlined was the consensus built by APOH amongst major stake-holders for an improved model of service, and of training aligned with that established in Medicine. The role of APOH in stimulating media activity with consequent Government responses, including an Upper House Inquiry was briefly described. The central role of the University in workforce development was recognized.

Infrastructure difficulties undermining opportunity for success of the Faculty of Dentistry were outlined, with particular reference to fragmentation of the Faculty across multiple sites, the absence of University owned infrastructure, inadequate numbers of academic staff, and an acute shortage of clinical training space and staff to accommodate the 40% increase in student number anticipated for 2007. The detrimental effect of these challenges upon research productivity and teaching quality were mentioned.

HZ outlined recommendations by APOH for addressing these difficulties. In particular, it was recommended that the Faculty would be greatly strengthened by: consolidation of the Faculty at the Westmead Centre for Oral Health; construction of teaching and research infrastructure at Westmead Hospital to accommodate the consolidated Faculty; construction of additional clinical, teaching and research facilities at Westmead hospital to accommodate the Faculty's staff and students; construction of sufficient PBL rooms on main campus to accommodate the Faculty's Year 1 and 2 students; and expansion of academic staff numbers through establishment of conjoint appointments and new academic positions. Enhanced performance through a closer relationship with Medicine was foreshadowed, particularly with regard to research but also in teaching and learning. It was APOH's view that with appropriate support, the Faculty of Dentistry would achieve the levels of teaching and research excellence expected of the University of Sydney.

Earlier discussions with the Vice Chancellor, AB and BK were described, and the University's concern to address the infrastructure needs of the Dental Faculty recognized. HZ indicated that a decision had been made at an earlier meeting with BK and AB, for APOH to prepare a

synopsis of its understanding of the infrastructure needs for the Faculty, and also that an urgent meeting of AB, BK and APOH be convened with the Deans of Dentistry and Medicine, as well as with representatives from the Area Health Services. The current meeting was indicated as the urgent meeting that had been requested, while the notes of the earlier meeting as well as the APOH synopsis of infrastructure needs had been distributed to those attending.

HZ thanked all those attending for coming, and indicated that it was APOH's objective for the meeting to conclude with clear commitment by the University and Area Health Services to consolidate the Faculty at Westmead, and to build the required teaching, research and clinical infrastructure. The urgency for action was emphasised.

2. Support by the Dean of Dentistry for consolidation of faculty at Westmead and construction of the necessary infrastructure

BK requested that the Dean of Dentistry (ES) respond. ES indicated agreement with the concerns expressed by APOH, and also outlined plans that were already underway in addressing these issues. In particular, the agreement by the Faculty Strategic Planning Group that consolidation at Westmead should be a priority was revealed. Consistent with this was acceptance of an additional 40 student places, and wider agreement with the Faculty of Medicine planning for proper establishment of the University footprint at Westmead. ES expressed concern that the Faculty had insecure tenancy at Sydney Dental Hospital (SDH), and that there were uncertainties for continued support of Faculty Administration at the Sydney Dental Hospital. SSW Oral Health Service and Sydney Dental Hospital are supportive of consolidation of Faculty Administration at Westmead Centre for Oral Health. The Dean confirmed that this made the Faculty fragile. Both CW and GA emphasized that the Department of Health and the Area Health Service were firmly committed to the SDH and its present role for at least the next decade.

ES indicated strong support for consolidation of the Faculty at Westmead, consistent with the suggestions made by APOH, notwithstanding an ongoing need and desire for students to rotate to Sydney Dental Hospital for clinical experience. HZ confirmed APOH's belief that rotation to Sydney Dental Hospital would continue to be necessary and desirable, but that this should not preclude the Faculty taking advantage of the opportunities offered by a large medical and research centre at Westmead. .

3. Agreement that urgent action is required

BK expressed concern that the Dental Faculty had fallen behind the major infrastructure initiative of the University, and indicated that it was important for planning to begin as soon as possible, with the support of the stakeholders. He indicated in particular a need to assemble a project team, and mentioned the wider strategic importance of consolidating the University's position at Westmead.

BD speaking for Sydney West Area Health Service outlined the current broad scope of extensive infrastructure development at Westmead, and suggested that it was very timely to consider the needs of the Faculty of Dentistry while these developments are underway.

CW representing the Centre for Oral Health Strategy indicated that the Minister was keen to see improvement in dental educational infrastructure, with support for the new HECS funded dental students. A developing relationship with Charles Sturt University was mentioned. The Minister was indicated as acknowledging the role of APOH as a "watch dog". CW further indicated support of NSW Health for clinical activities, Sydney Dental Hospital and the educational opportunity afforded by metropolitan and rural clinics. He also acknowledged the crisis developing and providing the necessary dental workforce.

HZ repeated APOH's view that achievement of high quality teaching and research will at first only be possible by bringing both students and academics together at a central dental hospital, together with a major research medical teaching hospital. It was suggested that until the numbers of dental academics had been increased through research and further academic training, that a distributed model of education could not be supported.

BK inquired about the projected demand for dental graduates, with a view to assessing the size of the educational market. HZ revealed that it was estimated that by 2010 Australia would be 1,500 dental clinicians too few to deliver services at year 2000 levels. An increase in the demand for private practice dentistry of 21%, and for public dental services of 29% was estimated by 2010. Although it was acknowledged that the statistics are not complete, it was clear that there was an expanding community need and growing educational market for dentistry.

RJ representing the Faculty of Medicine, indicated understanding of the difficulties outlined for Dentistry, and also said that they were shared by all other Health sciences, including Medicine and Pharmacy. The important role of the University in supplying the health workforce, and the commitment to society that the University has in delivering this service was emphasised. A need to develop both the quality and capacity of educational service was mentioned, with an emphasis upon the University achieving quality education.

RJ suggested that a planning group should be assembled immediately, and felt that there was a very short time-line for action. He suggested a stringent options analysis and business planning activity in short order. Short, medium and long term planning were necessary, with assessment of the magnitude of capital needs. The first week of December was suggested as the date by which these plans would need to be complete.

RJ also made special note of the need to include academic workforce in this planning, indicating that there was no point in building class rooms without having somebody in front teaching.

AB supported the need to work quickly and establish a working draft document. AB acknowledged the APOH document provided as an initial scoping paper, and supported urgent action for inclusion in December budget planning.

There was brief discussion of the development of the Health Precinct on the main campus, while long term plans were being drawn, initially targeted towards 2010, and looking forward to 2050.

BD noted that the Master Plan at Westmead was being developed for the next 20 to 30 years, and that there was some competition for resources. To that end, the timing of the currently proposed Dental initiative was considered by BD to be important, as was immediate planning with liaison with Sydney West Area Health Service.

GA representing Sydney South West Area Health Service referred to possible dental development at Liverpool Hospital, suggesting that this would be another plan on the table. HZ commented that although it was desirable for multiple dental schools to be developed over time, that this would remain impractical until the academic workforce had been further developed. In addition, limited opportunities for research were noted for Liverpool hospital, relative to the well established research community at Westmead.

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(References [14], [15] and [16] Embedded)

With reference to the involvement of community based clinics in dental training, RJ noted developments at Nepean Hospital, as well as the advantages flowing to the community by clinical service delivered by dental students.

RJ indicated that he would liaise with BD and ES, to initiate a working group. With regard to the composition of the working group, CW indicated the importance of having representation by somebody from NSW Health involved with operational matters. HZ recommended JK as the most appropriate person to fulfil this responsibility, due to her experience in running student clinics as well as JK's current role as the Clinical Director of Westmead Centre for Oral Health. There was agreement with this proposal.

3. Commitment by the University of Sydney to consolidate the Faculty of Dentistry at Westmead and establish the necessary infrastructure

BK summarized the feeling of the meeting, that there was universal agreement with the principle of consolidating the Faculty at Westmead with improved opportunities for research and integration with Medicine. There was also a universal understanding that urgent action is required.

BK further indicated that the working group would have the role of establishing the broad plan of action, while his own role would be to find the necessary funding once the working group had reported.

The meeting concluded at about 6.00 PM, with HZ thanking those attending for support of the proposed infrastructure initiative for: consolidation of the Dental Faculty at Westmead; construction of the required teaching, research and clinical infrastructure; creation of necessary academic appointments; and urgent assembly and action of a planning working group to deliver the required documentation by December.

Appended Reference Number [15]
(References [14], [15] and [16] Embedded)

List of Appended Documents

1) Minutes of a meeting with the Chief Finance Officer (Mr B Kotic) and Pro-Vice Chancellor for Infrastructure (Prof A Brewer), alerting the University to an acute need for investment in the Faculty of Dentistry. 15th September 2006

2) APOH report requested by the Chief Finance Officer and Pro-Vice Chancellor for Infrastructure regarding Faculty of Dentistry infrastructure needs. 18th September 2006

3) Record of a meeting of the University with the Chief Dental Officer, relevant Area Health Services, and APOH, at which the University committed to building dental educational and research infrastructure at Westmead for the Faculty of Dentistry. 9th October 2006

4) Article and supporting letter published in the Daily Telegraph relating to successful application of the University for Capital Pool funding towards required dental infrastructure October 2007.

5) Article published in the Sydney Morning Herald relating to the successful application of the University for Capital Pool funding towards required dental infrastructure October 2007.

6) Article in the University of Sydney News, announcing successful application for Capital Pool Funding, and commitment to build dental and medical educational and research infrastructure at Westmead Hospital

7) Commentary confirming the importance of future dental training integrated with medicine, and underscoring the opportunity offered by the current University of Sydney configuration if secured with adequate infrastructure: *BJ Baum. Inadequate training in the biological sciences and medicine for dental students. An impending crisis for dentistry. JADA 138:16-26*

Appended Reference Number [15]
(References [14], [15] and [16] Embedded)

REFERENCE [15]

Open wider . . . $3.5 million a start for dentist facility

$3.5m grant just the drill

NO need to wait for an election date for the pork barrelling to begin.

The University of Sydney is the happy recipient of Federal Government largesse, having just been given $3.5 million to set up a teaching and research dental-medical facility at Westmead Hospital.

Incredibly the university's dental faculty is homeless, sharing rooms and labs at the Sydney Dental Hospital and Westmead Hospital.

"We don't own so much as a blackboard," University of Sydney oral pathology and oral medicine head Hans Zoeliner said.

The State Government threw the faculty out of the government-owned MGM building in Chalmers St next to the dental hospital in 2002 and sold the building. The faculty has been moving ever since, using rooms where they become available.

Even so, Professor Zoeliner, who is also Association for the Promotion of Oral Health chairman, said the faculty has gone from training 40 dentists to now enrolling 140.

But the faculty will need more than $3.5 million to get what it wants.

A similar facility set up at the Royal North Shore Hospital for medicine cost about $34 million.

Daily Telegraph
October 2007

Main article and Letter to the Editor on Following Day

Reasons to smile

Maralyn Parker is right to question the wisdom of our State Government selling a building dedicated to dental training at a time of work force shortage and increasing student numbers ('$3.5M grant just the drill,' *The Daily Telegraph*, September 26). However, we disagree that Sydney University's successful application for federal funds is pork-barrelling.

The federal funds awarded will replace what the State Government sold in Surry Hills with a better facility fully integrated with medicine at Westmead Hospital. This will better prepare future dentists to safely treat our ageing and medically fragile population.

We congratulate the university and federal Government for their initiative and foresight.

Prof Hans Zoellner
Chairman of the Association for the Promotion of Oral Health, Westmead

Strike back at bullies

Whatever happened to reform school, or perhaps even military school ('Parents pay price of bullying,' *The Daily Telegraph*, September 26)? That would sort out those stupid little thugs.

I say we bring in a "three strikes and you're out" policy for all public schools. Once the little sods have been suspended for a third time they are removed from the public school system and sent to either a reform school or a military school where they learn what real discipline is.

Alex
Online comment

Misery is fulltime

How would politicians feel about being in a casual position ('Iemma's hard line will start union war,' *The Daily Telegraph*, September 26)? No leave for holidays, no pay if you or a child is ill

Cash-starved dental school to cut students

Harriet Alexander Higher Education Reporter
October 3, 2007

THE only dental school in the state plans to cut the number of students it takes next year despite a critical shortage of dentists, because it is unable to fund their training.

The NSW Government asked the Sydney University's dentistry faculty to increase its student intake by 40 per cent this year, even though it evicted the school from its Chalmers Street headquarters five years ago and squeezed students and staff into the Sydney Dental Hospital next door.

But there are fears the practical training of those already in the system will be compromised without investment in infrastructure and clinical chairs for students to practise on patients.

The dean of the faculty, Eli Schwarz, said it appeared neither the university nor the Department of Health wanted to foot the bill.

Health ministers have projected a national shortfall of 1500 dentists by 2010, with each student costing an estimated $200,000 to train. The university believes the department should subsidise it for taking public patients off the waiting list and increasing its student intake, as requested by the former health minister John Hatzistergos.

The school increased its intake of dentistry and oral health students from 100 students to 140 this year, but it is likely to reduce the number by at least 10 students for next year's intake.

But Brad Astill, of the Sydney West Area Health Service, said the department was pressed to make more chairs available when it was under pressure to meet government benchmarks.

The Federal Government will announce $3.5 million towards a joint dentistry and medical training centre at Westmead this week. It is not expected to be built until at least 2009.

The NSW Government said in May it would pay for 22 dental chairs, but it is not clear how they will be distributed.

Appended Reference Number [15]
(References [14], [15] and [16] Embedded)

REFERENCE [16]

News

News

Finally, A Home For The University's Dental Students

By Elizabeth Heath

9 October 2007

The Federal Minister for Education, Science and Training, Julie Bishop has announced a $3.5 million funding grant to help build a new University dental-medical educational facility at Westmead Hospital.

Professor Eli Schwarz, Dean of the Faculty of Dentistry said the proposed building at Westmead medical campus is badly needed and long overdue.

Despite being the oldest Australian dental school, the Faculty of Dentistry at Sydney has never had any University owned infrastructure.

The Dean said the combination of a lack of facilities with increasing numbers of both dental and oral health students had caused a "very difficult situation for the clinical training program".

"The reason we have been increasing student numbers is because the message from the Health Ministers and Health departments is that we need to train more dentists and dental therapists. It is the conflict between workforce needs and infrastructure realities that has come to a head right now," said Professor Schwarz.

"The University recognised late last year the need for a new dental educational infrastructure at Westmead Hospital, similar in intent to that recently announced at Royal North Shore. The idea has expanded to fuse medical and dental training, because of similar needs in the Medical Faculty's Western Clinical School," said Professor Schwarz.

"There is more and more evidence that a number of risk factors are actually the same for oral diseases and general diseases. For example that periodontal disease has outcomes on pre-term babies, and that there are links between gum disease and heart disease and stroke.

"With that increasing knowledge, it becomes even more important for our students to be well versed in a variety of different medical issues and to be able to link back to their medical knowledge and use it in a clinical context."

The federal funding for the integrated dental-medical educational facility at Westmead Hospital will come from the Capital Development Pool (CDP) Programme.

"It's important that the project gets the imprimatur from the federal government. It is very rare for a big metropolitan university to get money from the CDP. Last year we received $2 million for our simulation clinics, and now this.

"It is very, very encouraging," said Professor Schwarz.

The Association for the Promotion of Oral Health (APOH) has welcomed the "bold Sydney University initiative". "The new facility will set the standard for other dental schools to follow," an APOH spokesperson said.

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Inadequate training in the biological sciences and medicine for dental students

An impending crisis for dentistry

Bruce J. Baum, DMD, PhD

For more than 15 years, I have been privately struggling with and publicly debating the importance of biological sciences and general internal medicine in modern dental education.[1-6] These subjects are closely related; the latter cannot be learned without a good understanding of the former. It is my perception that relatively little has been done during this period to address these pedagogic deficiencies. I have grown older and grayer but, I guess, no wiser, for I still am concerned about and frustrated by these educational shortcomings. Indeed, I see the future of dentistry as a respected and integral health care profession tied to science and medicine. I cannot shake the feeling that, in particular, a short substantive training experience in general internal medicine for dental students would be extremely beneficial.

Specifically, I think this would accomplish several valuable goals:

- allow dentists to better manage the care of medically compromised patients;
- help dentists generally to recognize and address the needs and problems of the whole patient;
- demonstrate to dental students the relevance of much in the biological sciences learned during dental school, such as cardiovascular, pulmonary and renal physiology;
- help educate physicians and medical students about relevant oral health concerns;
- enhance dentistry's role as a key partner in health care.

Admittedly, I am not an unbiased observer. I have made my professional career in dentistry as a translational/clinical scientist, and I still regularly see patients within my (unofficial) specialty of oral medicine. However, my career path was not planned; it just happened, and my views on the roles of the biological sciences and medicine within dentistry have evolved accordingly.

THE DEVELOPMENT OF AN UNOFFICIAL SPECIALIST

I entered dental school in 1967 fully intending to practice general dentistry. I had a minimal interest in biology (my bachelor of arts degree is in history), and, although I wanted to enter a health care profession and help people, I clearly wanted to avoid treating seriously ill patients and taking calls at all hours of the night. Dentistry seemed like a perfect career choice for me, and indeed it has been. Dentistry has allowed me enormous career flexibility, extraordinary professional satisfaction and a good life. So why do I still struggle over this issue? The reason is that I care about dentistry. I think dentistry, while an important component of health care during my professional career, risks being marginalized if dental schools fail to provide students with more practical training in medicine and the biological sciences. Serendipitously, as I worked on this essay, the most recent issue of the ADA News was headlined, "Dental Education: Our Legacy—Our Future," with a subhead reading "Securing the future of dentistry."[7] The "Our Legacy—Our Future" program is a nationwide collaborative initiative involving the input and participation of hundreds of dental stakeholders and partners that include the ADA Foundation and the American Dental Education Association. It was developed to raise awareness of the needs of U.S. dental education.[7] The story reminds all of us that the future of our profession is our collective responsibility.

My circuitous professional path has taken me from the innocent ambitions of a 21-year-old entering dental school, to wanting to spend most of my time at a laboratory bench discovering new scientific facts, to becoming a more "mature" professional who consciously began

targeting my research to make a difference in people's lives. The latter has been my professional operating mode for 20 years, and I have tried to make my science useful in managing specific and significant oral health problems.

I have had the inordinate good fortune to spend most of my career at the National Institutes of Health (NIH) and, since 1982, to work in arguably the finest clinical research center in the world, the NIH Clinical Center. Surrounded by luminaries in the world of biological sciences and academic medicine, I unequivocally recognize the relevance of oral health to a patient's general health and quality of life. However, while I have successfully avoided the primary responsibilities of caring for seriously ill patients, I have not avoided caring for many patients with significant medical problems. Through a colleague in graduate school who worked on salivary proteins, and my military service assignment in the U.S. Naval Medical Research Institute, where I was asked to study salivary proteins, I became interested in salivary glands and saliva. Also, my first permanent NIH position was in the National Institute on Aging. As a consequence of these circumstances, my research became directed toward clinical problems affecting salivary glands in middle-aged and elderly adults.

Not surprisingly, many people with these demographic characteristics have one or more significant systemic diseases. To conduct clinical studies and provide care for these patients, I realized that I needed to know more about their diseases, as well as how the diseases were monitored and treated. In essence, I needed to know some basic general medicine. The way I met this need primarily was through the generosity of colleagues, in both formal and informal situations. I asked lots of questions, and I learned on the job. Was this unorganized approach appropriate? I doubt it, but it was the best I could do. My informal medical "education" was minimal, but thanks to my NIH colleagues and the environment in which I work, I was able to conduct high-quality studies and, I hope, make some useful contributions. I believe few people are as lucky.

PUTTING SOME 'MEDICAL' INTO DENTAL EDUCATION

What does all of this have to do with dental education? Can a single person's career path and experiences be broadly relevant or instructive? I believe so. It is my thesis that dental students need to know enough medicine to treat their patients who have chronic systemic illnesses, a population that continues to increase in size.[8] Dental education in the United States ensures that students have a fundamental background in the basic biological sciences. Unfortunately, in general, United States dental schools do little to build on this foundation.[3,5,6,9] I have long asked why dental schools require such extensive training in the biological sciences if, for the most part, it has little practical outcome and is primarily an intellectual exercise for dental students.[1-6] Certainly, dentists use much of their training in anatomy and pharmacology, and some of their training in microbiology, but my experience suggests that little of their education in [illegible] chemistry, physiology and immunology is applied in the dental operatory. All medical students have a minimum requirement for training in general internal medicine, something that helps them appreciate their training in these three biological science disciplines as being intrinsic to patient care. I sincerely believe dental students have a similar need.

It is difficult to determine precisely how much training U.S. dental students receive in general internal medicine, but it seems to be limited. For example, the ADA's 2003-04 Survey of Predoctoral Dental Education[10] has two subject listings in which general medical training for students likely might be incorporated: general medical emergencies and hospital dentistry. Only five of 55 U.S. dental schools spend more than 1.0 percent of their instructional time on general medical emergencies, while 10 schools spend 1.5 percent or more of their course time providing training related to hospital dentistry.[10] I think it is fair to ask why organized dentistry and the dental education community have not addressed the issue of providing more substantive general internal medicine training for dental students, given existing demographic trends. From my perspective, there could be many reasons (Box 1), and I comment on several below.

Is there really a need for dental students to have training in internal medicine? It is possible that I am plainly wrong in thinking more substantive training in general internal medicine will benefit [illegible] education. What is the evidence

BOX 1

Possible reasons for the failure of U.S. dental schools to provide dental students with substantive practical training in general medicine.

- There is no need for it.
- It costs too much.
- There are many other more important needs.
- It is not a core component of dental education.
- It requires too much effort.
- It may lead to anxiety among faculty members.

that it is necessary? Both the immediate past editor and current editor of JADA, arguably the most representative publication for the general dental profession, have made strong cases for the devotion of more attention to medical issues within dentistry and for expanding connections between dentistry and medicine.[11,12] For this essay, I surveyed the tables of contents for all JADA issues from July 2004 through June 2006 and found numerous articles on medical topics related to the provision of dental care (Box 2). This abundance of JADA articles seems in stark contrast to the minimal training in general internal medicine present in most U.S. dental school curricula. On the basis of the recently published articles in JADA (Box 2), it seems to me that many medical issues are important to general dentists and their patients. Thus, it seems intuitive that providing general dentists with some practical training in general internal medicine is desirable.

Is the cost of medical training for dental students too high? Another possible reason for not instituting training in general internal medicine for dental students is a perceived high cost-benefit ratio—that is, the cost to the school to provide such training (in time and dollars) simply would be too high. I believe many dental educators sincerely feel that to act upon a recommendation for general internal medicine training, however valuable and important, would be an indulgence; it ultimately is not seen as a core competency for general dentists. However, while sincere, this view is an opinion that is not necessarily based on facts. As argued persuasively by the immediate past editor of JADA,[11] "Unless this attitude [dentistry's "collective reluctance to deal with complex medical issues"] changes soon, dentistry will have taken a marked step toward self-marginalization." Understanding enough general medicine to provide quality dental care to medically compromised people, as stated above, certainly would be good for patients and good for dentistry.

Another type of cost is that to the student. I understand how expensive dental education is, and I recognize how much time students already spend in preparing to practice their profession. However, students should experience little increased cost, in either time or money, for such a curriculum change. Certainly, the institutional and student costs depend on the type of training provided, which could vary widely (see below). The time is right for organized dentistry to join with the dental education community[7] and make a serious effort to determine a useful cost-benefit ratio for providing dental students with some substantive general internal medicine training. I hypothesize that the benefits will be much greater than the costs.

Is the dental curriculum too crowded to accommodate medical training? A third reason for the relative absence of training for dental students in general internal medicine is an existing view

BOX 2

Medical topics related to dental care published July 2004 through June 2006 in articles in The Journal of the American Dental Association.

- Acute respiratory syndrome
- Alcoholism
- Aplastic anemia
- Bisphosphonate-associated osteonecrosis
- Bulimia nervosa
- Carotid artery atheromas
- Coronary artery disease
- Diabetes
- Ectodermal dysplasia
- Heart murmur
- Heart rate variability
- HIV
- Multiple sclerosis
- Recurrent herpes simplex infections
- Sarcoidosis
- Sleep apnea

that the dental school curriculum already is overcrowded. This argument generally states that because many other important issues need to be addressed in dental education, and there already is not enough curriculum time, training in internal medicine must take a back seat. I accept the fact that dental school curricula are overcrowded. However, it is difficult for me to accept the concept that all additions to curricula require the elimination of other subjects. Unfortunately, the standard at most dental schools is the addition/elimination method of program modification, a patchwork approach of curriculum development (see below) that ultimately could paralyze the continued evolution of dentistry and dental education.

The basic structure of current curricula in U.S. dental schools originated with Geis'[13] report in 1926. Certainly, many changes have been made since then, but the basic design and approach remain the same. While dental education and the U.S. public profited enormously from the Geis report, we should be mindful that it was written a full 80 years ago. At that time, the biological sciences were much more primitive and phenomenological, the population had very different kinds of dental problems, and the proportion of middle-aged and older adults in U.S. society was dramatically smaller than it is now. I have argued that the Institute of Medicine (IOM) report on dental education,[14] which was published more than 10 years ago, provided dentistry with a substantive step in the evolution of the dental school curriculum from that outlined in the Geis report.[2] In 1996, I wondered in print,[2] paraphrasing the title of a contemporary editorial in Annals of Internal Medicine,[15] whether the IOM report would result in "tinkering or real reform" for dental education.

Unfortunately, after more than a decade, only tinkering has occurred. Key recommendations in the IOM report, including calls for more links between dentistry and medicine, have gone unheeded. From my perspective, that of a concerned dentist who admittedly does not function within a dental school, the patchwork approach to dental curricula has outlived its usefulness. I suggest that it is time for organized dentistry and the dental education community to take a hard look at where dentistry wants to be in 2030 and to design comprehensive curricula to achieve that goal. If that view does not include being an integral member of the health care community that is able to provide optimal care for middle-aged and elderly patients who are medically compromised, then it is fine not to provide dental students with substantive training in general internal medicine. However, if it is otherwise, then we need to design new curricula with meaningful core competencies for the next generation of dentists, rather than apply patches to our existing ones. The demographic data are quite clear[8,16]; future dentists will be asked to care for greater numbers of ambulatory elderly patients who have significant medical concerns. Crowded curricula or not, dentistry must respond to this fact.

Would substantive training in medicine for dental students take too much effort? To address this question, it is necessary first to define what level of practical internal medicine training dental students require. From my perspective, there are several possibilities, such as training at the level of a nurse practitioner or a podiatrist. However, the model that I favor, and on which I will comment, is that of a third-year medical student. Whatever the type of training, it should provide students with the means of assessing a patient's medical status and suitability for dental treatment—that is, it should be practical. Dental students could function in a hospital for a two- to three-month general medical rotation at the level of a third-year medical student with only modest additional academic effort. Third-year medical students in general medical rotations observe senior clinicians evaluating patients, listen to senior clinicians discuss patients, read independently to help them understand what they have seen and heard, and provide limited supervised patient care. This might include writing clinical notes that are countersigned by more senior clinicians and entering patient orders. They learn how to take an accurate history and perform a physical examination. Importantly, they typically do nothing that is irreversible. The level of institutional supervision and responsibility is equivalent to that required for a third-year dental student who is evaluating and planning treatment for a patient receiving comprehensive dental care.

The course of preclinical study in biological sciences is almost identical for U.S. dental

and medical students. Indeed, some schools have joint medical/dental biological science coursework. Therefore, a dental student likely would need to take only one or two additional short courses, perhaps one in physical diagnosis and another in the basics of common diseases (such as diabetes and hypertension), to function as a third-year medical student. Similar coursework is included in many postgraduate dental education programs, so this notion should be neither foreign nor especially difficult to implement for many dental schools. Physical diagnosis, albeit not a complete examination, is relevant to general dental practice, especially for the treatment of patients with many of the conditions listed in Box 2. The courses would not cost dental schools much to provide and would require relatively little extra energy from dental students. As noted above, this is the type of training in general medicine that I favor, but it is not the only way, and there certainly are no data to suggest it is the best way. If dentistry accepts the notion that practical training in general internal medicine should be a core competency for dental students, there are many ways in which this goal can be accomplished.

I suspect that the major efforts required to make internal medicine training possible for dental students likely would be political and administrative. Almost all dental schools in the United States are affiliated with a university that includes a medical school. My arguments are addressed to these schools. (Dental schools without medical school affiliations would have additional, but not insurmountable, difficulties, which I will not address here.) Approval for dental students to spend time in internal medicine wards typically would come from the chief of medicine at the associated university hospital. This person primarily will be concerned that the students are prepared adequately (addressed above); act professionally (a nonissue); and not be present in numbers so large as to diminish the training of medical students or hinder the function of the attending clinicians. Thus, it is unlikely that a dental school class of 80 students could be accommodated at a single hospital in a single block of time. To accomplish this endeavor doubtless would take some bargaining, but most medical schools have affiliations with multiple hospitals, and adding one or two dental students to various medical teams should present no major problem, especially for larger medical schools. There certainly would be logistical challenges, but there should be no absolute impediment.

I believe that by far the biggest difficulty, requiring the most administrative and political effort, would be in overcoming the angst about such a change that would arise in some dental school faculty members.

TABLE

Evidence for increased prevalence of selected diseases and conditions.

DISEASE/CONDITION	PREVALENCE CHANGE (INCREASE) (%)	TIME FRAME	REFERENCE
Diabetes (All Forms)	42.9	1990-2005	17
Hypertension	11.6	1997-2004	18
Stroke	13.4	1997-2004	18
Cancer (All Forms)	10.7	1997-2004	18
COPD* (Deaths)	2.5-fold	1979-2002	22
Obesity (BMI† ≥ 30)	Twofold	1976-2002	21
Organ Transplants (All Types)	5.8	2003-2004	20
Bone Marrow Transplantation (≥ 50 Years of Age)	> 13-fold	1984-2002	19

* COPD: Chronic obstructive pulmonary disease.
† BMI: Body mass index.

This could occur in at least two major forms. Certainly, some faculty members would be rightly concerned about the effects the "loss" of time to general medical training would have on students' ability to achieve core dental surgical competencies. Although I hypothesize that this would not be a problem, this concern is valid and can be addressed readily by objective double-blind testing between different student cohorts. Additionally, typical faculty members at any professional school know much more than their students about all phases of their professional discipline. Training dental students substantively in general internal medicine would alter this balance in a dramatic way, albeit in a focused area. This circumstance could make some faculty members uncomfortable, and it is an imbalance that should be addressed substantively. Faculty members will need to be counseled, reassured and supported. Additionally, and ideally, they should be provided with continuing education in physical diagnosis and major medical concerns for ambulatory dental patients, something that also would benefit their own practices.

CLOSING ARGUMENTS

Although I have long argued that dental students should have training in general internal medicine, I believe the necessity for this is even more pressing today. Predictions made 30 years ago about the aging of our society have come true, and clearly there are more ambulatory dental patients who have lived longer than was the case in former years. Importantly, this trend is continuing, and it is anticipated that the proportion of the U.S. population 65 years and older will increase from 12.4 percent in 2000 to 19.6 percent in 2030, an approximate 60 percent increase.[8] In absolute terms, this is an actual doubling of people in this age group—from approximately 35 million to more than 70 million.[8]

In addition to there being more elderly people who are ambulatory, many of them will have common, significant systemic diseases. The table provides information about recent trends in the prevalence of some common diseases and morbid conditions in the United States. All of these show an increased prevalence,[17-22] and many affect older people significantly. For example, the prevalence of all types of diabetes in 1990 was 4.9 percent, while in 2005 it was approximately 7.0 percent,[17] an increase of about 43 percent. Furthermore, from 1997 to 2004, the prevalence of all cancers in the United States increased by 10.7 percent, hypertension by 11.6 percent and stroke by 13.4 percent.[18] Impressively, 13 percent of all patients receiving allogeneic bone marrow transplants in 2002 were older than 50 years, while in 1984, this percentage was less than 1.[19] Also, as shown in the table, the number of people receiving organ transplants in the United States increased by 5.8 percent,[20] and the prevalence of age-adjusted obesity has increased by more than twofold among all adults between 1976 and 2002.[21]

Unequivocally, newly trained dentists can expect to see more medically compromised patients in their operatories, and the dental care of these patients should include due consideration of their general health issues. Just having passed coursework in biochemistry, physiology or immunology does not provide the necessary practical background. A reasonable and testable hypothesis is that having experiences in general internal medicine while in dental school will significantly improve the overall manage- [illegible] of such

patients by graduated dentists. I hope that strong and courageous institutional leadership at one or more U.S. dental schools soon will conduct this type of pedagogic experiment.

Additionally, and implicit in demographic predictions of increased longevity in the United States, progress in the biological sciences has been and continues to be dramatic. Many novel biologically based treatments have been and continue to be approved for use with multiple common diseases. These include use of monoclonal antibodies and recombinant protein biologicals[23,24] and—likely soon—stem or progenitor cells,[25] tissue engineering[26] and gene therapy.[27] In particular, novel therapies for patients with many conditions (such as cancer, autoimmune diseases, hematopoetic disorders) have a strong basis in targeting specific biochemical or immunological mechanisms that have gone awry. To understand how these new biological therapies affect oral health or patients' responses to dental treatments, dentists need to understand, in a practical sense, the mechanisms involved.[24] Another testable hypothesis is that training in general internal medicine will reinforce a dental student's understanding of key biological mechanisms involved in major common diseases. Dental students are much more likely to be exposed to novel therapeutics, and their mechanisms of action, on a hospital ward than in a typical university dental clinic.

As I noted earlier, citing the immediate past editor of JADA,[11] if dentistry fails to provide the training that enables most general dentists to offer dental care to patients with complex medical conditions, it will lose its current status as a valued health care profession and become marginalized. I do not think that the vast majority of dentists want this outcome. To make the necessary course correction, it will take the combined efforts of many—including deans, curriculum committees, licensing agencies, regional board examiners and the ADA's leadership—as well as changes in the national board examinations and in dental school accreditation programs. It may not be easy, but it is needed—and it is the right thing to do. ■

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LETTERS

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PERIORAL DERMATITIS

We were impressed with Dr. Michael Siegel's "Sherlockian" approach to resolving this child's perioral dermatitis in August JADA's "Perioral Dermatitis" (JADA 2006;137[8]: 1121-2). Recreating the pattern of lesions in the extraoral path of the mouthwash was exemplary and, sadly, should have been done by one of the patient's dermatologists. As illustrated here and in the medical literature, dermatologists are more likely to prescribe topical steroids and antimicrobials.

Allergic contact dermatitis is common in children. Recent estimates suggest that 20 percent of the pediatric population may be allergic to one or more contact allergens.[1] Therefore, dentists are likely to care for patients with this condition.

However, diagnosing allergic contact dermatitis should be based on a thorough health history, detailed symptom evaluation and diagnostic patch testing.[2] [Patch testing] requires applying standardized test allergens to the back for two days, removing them and then reading skin reactions over the next several days. Children are routinely and successfully patch-tested by physicians experienced in the technique.[3]

Dr. Siegel adroitly tackled the first two steps in the diagnostic path: history and symptom details. But without patch testing, the diagnosis of "contact hypersensitivity to cinnamon flavoring" is hardly "definitive." In fact, dermatologic patch-test guidelines emphasize the errors resulting from a diagnosis based solely on [illegible] and symptoms.[2]