Submission
No 254

INQUIRY INTO DENTAL SERVICES IN NSW

Organisation: NSW Health

Name: Ms Robyn Kruk

Position: Director General

Telephone:

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Theme:

Summary

NSW HEALTH
DEPARTMENT
www.health.nsw.gov.au

H05/4021

The Hon Jan Burnswoods MLC
Committee Chair
Standing Committee on Social Issues
Parliament House
Macquarie Street
SYDNEY NSW 2000

Dear Committee Chair,

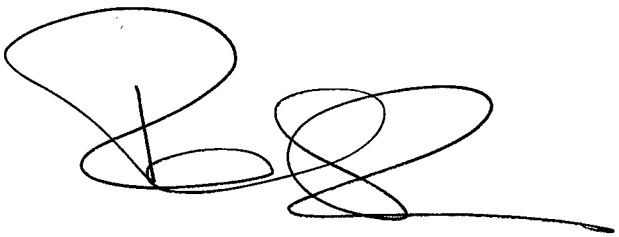
I refer to your letter of 21 April 2005 inviting submissions to the Inquiry into the Dental Services in New South Wales being undertaken by the Standing Committee on Social Issues and apologise for the delay in responding.

As the regulator of public health in NSW, the NSW Department of Health has particular interest in the Inquiry and its report.

The attached submission has been prepared for the Committee, addressing Terms of Reference items relevant to the Department. This includes comment with respect to the scope of dental services provided by NSW Health and the current issues and strategies being implemented to enhance oral health services provided to the people of NSW.

For further information please contact Dr Denise Robinson, Deputy Director General, Population Health and Chief Health Officer on, telephone (02) 9391 9181.

Yours sincerely



Robyn Kruk
Director-General

20 SEP 2005

73 Miller Street North Sydney NSW 2060
Locked Mail Bag 961 North Sydney NSW 2059
Telephone (02) 9391 9000 Facsimile (02) 9391 9101
E-mail nswhealth@doh.health.nsw.gov.au

NSW Department of Health Submission

To the

Legislative Council Standing Committee on Social Issues
Inquiry into Dental Services in NSW

Contents

1 Introduction

1.1 Terms of Reference of Inquiry

(1) That the Standing Committee on Social Issues inquire into and report on dental services in New South Wales, and in particular:

(a) the quality of care received in dental services,

(b) the demand for dental services including issues relating to waiting times for treatment in public services,

(c) the funding and availability of dental services, including the impact of private health insurance,

(d) access to public dental services, including issues relevant to people living in rural and regional areas of New South Wales,

(e) the dental services workforce including issues relating to the training of dental clinicians and specialists,

(f) preventive dental treatments and initiatives, including fluoridation and the optimum method of delivering - such services, and

(g) any other relevant matter.

(2) That the committee report by Friday 31 March 2006.

1.2 Role of NSW Health

Health of the individual and community (and related demand for health services) are dictated by:

- Individual (age, sex, genetic inheritance).
- Lifestyle (smoking, diet, physical activity).
- Social (social position, economic resources, material environment).
- Socio-economic, cultural and environmental conditions.
    - Agriculture and food production
    - Education
    - Work environment
    - Living and working conditions
    - Unemployment
    - Water and air quality and sanitation
    - Housing
    - Health care services *(Dahlgren & Whitehead – 1991)*

NSW Health has a direct role to play in two of these influences on health - lifestyle and health care services.

NSW Health has a key role in the provision of public dental health services as they impact on the health, safety and well being of the community of NSW. The primary interest of the Department in this inquiry is therefore focussed on those public health aspects of dental services and practices within the public provision of services.

This submission therefore deals with those items in the Committee's Terms of Reference which are relevant to NSW Health's regulatory role in this area. As the provider of public dental services in NSW, the submission addresses to various degrees all the Terms of Reference with specific reference to Terms of Reference (d) access to public dental services, including issues relevant to people living in rural and regional areas of NSW.

2 Public dental services in NSW

2.1 The range, type and location of public dental services provided in NSW

The range of oral health services provided through the NSW public health system broadly includes dental services to children and adults according to criteria that target emergency situations and those in most need, screening services targeted at specific schools and, education and promotional services. Operationally in NSW these services are delivered by each of the Area Health Services (AHSs). These services are delivered in dental clinics based in schools, community health centres and hospitals within each Area. There are two teaching hospitals – the Westmead Centre for Oral Health and the Sydney Dental Hospital (formerly known as the United Dental Hospital) that also provide specialist services in their clinics and through outreach programs in rural public dental clinics.

The services provided include general dentistry such as examinations, fillings, and dentures. In addition, the two teaching hospitals provide specialist services in specialties such as paediatric dentistry, oral and maxillofacial surgery, endodontics, periodontics, etc. $1Million in recurrent funding has been allocated to the two dental teaching hospitals in NSW to support the recruitment of additional staff thereby facilitating increased access to Specialists from these two teaching Centres. Outreach programs aim to build the capacity of both the public and private rural oral health services and to improve access to training, including education in the latest techniques.

There are approximately 173 public sector clinics in NSW of which 85 are in the four new rural AHSs with approximately 88 clinics in the four metropolitan AHSs. In addition, services are provided at 26 clinics in Justice Health facilities and one clinic at the NSW Children's Hospital.

In rural AHSs, clinics may be located in schools, community health facilities or may consist of mobile dental clinics. In some communities a private surgery may be rented to provide public sector oral health services. Adult services are provided through clinics often collocated with community health centres. In the metropolitan areas, clinics are mainly located in community health centres, school based clinics or on hospital grounds.

There are 630 dental chairs in NSW, of which 445 are in the new metropolitan AHSs and 185 in rural AHSs. The two teaching hospitals, with 306 chairs, account for around two-thirds of the chairs located in the metropolitan area.

Current outreach programs include:

- Queanbeyan: Paediatrics programs have been established providing specialist consultation, limited treatment and referral services as well as local staff up-skilling;
- Orange: Paediatric clinics provided one day per month by Westmead Centre for Oral Health (WCOH), expanded to include Telehealth; orthodontic services one day per month
- Dubbo: Orthodontic services (privately contracted) 6 hrs per month; Orthodontic fee for service for complex cases;
- Bathurst: VDO Oral surgery sessions (2 per month). May be expanded to other Centres in 2005;
- Lithgow: WCOH Paediatric program will extend to GA services in Lithgow from October 2005, for a six month pilot to reduce waiting lists;
- Wagga Wagga: Oral surgery program;

- Outreach Programs have also been introduced at Coffs Harbour, Kempsey and at Hunter. Programs are provided by WCOH at Coffs Harbour (monthly paediatric and orthodontic services), Albury and Hunter (monthly paediatric services).
- Two Dental officers rotated to Lithgow for two days per week from January 2005. An Outreach Endodontics pilot program commenced in January 2005 to the Illawarra.

Moreover, about 10 Aboriginal Medical Services provide dental services that are funded by the NSW Department of Health.

2.2 Eligibility criteria for public sector oral health services

As in all Australian jurisdictions, public sector oral health services are provided only to a proportion of the community who meet the eligibility criteria. NSW Health Circular 2000/99 Eligibility of Persons for Public Oral Health Care States that:

> *All persons who are normally resident in New South Wales and hold one of the Centrelink concession cards or Department of Veteran's Affair Pension Concession card listed below are eligible for free oral health care in NSW public oral health clinics (usually within their Area Health Service of residence). These concession cards include:*
>
> *Health Care Cards*
> *Pensioner Concession Cards*
> *Commonwealth Seniors Health Cards.*
>
> *In addition all preschool aged children and full time students less than 18 years of age are eligible for free public oral health care.*
>
> *Free oral health care is provided to patients where they are in receipt of current concession card or are the dependant of a concession cardholder, or the oral health treatment is an emergency, or is part of the surgical management of the patient.*

Cardholders aged over 19 and children aged 0 - 18 make up 3.16 million people or around 47% of the NSW population. In NSW the dependents of cardholders are also eligible for public sector oral health services. Altogether, about 57% of the NSW population is eligible for public sector oral health services.

The NSW criteria of eligibility for public sector dental services are more generous than most other States and Territories as *Table 2.2* below illustrates.

Table 2.2 Eligibility criteria for public dental services, by State

State	Eligibility (holders of the following)
NSW	PCC*, HCC*, Commonwealth Seniors Card, & dependents of cardholders
TAS	PCC,HCC
SA	PCC, HCC
VIC	PCC, HCC
WA	HCC/PCC/ DVA*
NT	HCC, PCC, Sickness benefits recipients
QLD	HCC, PCC, Commonwealth Seniors Card and Qld seniors

* **PCC** = Pensioner Concession Card, **HCC** – Health Care Card, **DVA** – Department of Veterans' Affairs

Moreover, NSW, Queensland and the Northern Territory do not require their eligible patients to make a contribution towards their oral health care. Other jurisdictions do have a Patient Co-payment Scheme.

2.3 Oral health needs

NSW Health recognises that demand for oral health care services will continue to grow in the future, in response to population growth, changes in patterns of oral health disease (and other diseases), the increase in tooth retention, greater awareness of the importance of oral health, and the introduction of more advanced procedures and techniques. This may affect the ability of sections of the population to access comprehensive dental care due to the cost of private dental care. The approaches currently adopted by NSW Health recognise that new strategies will be needed in response to the rising costs of health care driven by medical advances, community expectations and the ageing population.

Addressing supply and demand factors are crucial to the future of oral health services in NSW. This means focussing on issues at both a State and National level using a supportive and collaborative approach.

At the State level, issues that need to be addressed include:

- *Increased demand*: a 30% increase in demand for public oral health services by 2010 is forecast; there is an increasing number of older people in the population who have other diseases or medications that compromise their dental treatment.
- *Health Status:* narrowing the gap between the oral health status of rural and metropolitan communities, those who can afford private dental treatment and those who cannot, and Aboriginal and non- Aboriginal people.
- *Workforce issues*: there are major workforce implications (flowing from increased demand and other factors) for the size and mix of the oral health workforce, as well the type of oral health professionals required.
- *A population health approach* offers attractive investment alternatives for improving oral health compared with expanding tertiary dental services. Managing the transition from a treatment focus, reorienting and reconfiguring the workforce, and managing community expectations, add to the challenge.

The other challenges include:

- Increased community knowledge of oral health technology leading to increased expectations of public oral health services.
- Development of early intervention strategies in co-ordination with primary care workers.
- A co-ordinated approach to population health that is recognised in performance agreements between the Department of Health and the Area Health Services.

National initiatives provide an important framework to aid NSW identify and address future issues in the area of oral health services. The National Oral Health Plan called "*Healthy Mouths Healthy Lives: Australia's National Oral Health Plan 2004–2013*"[1] was published in July 2004. Its purpose is described as:

> *"to improve health and wellbeing across the Australian population by improving oral health status and reducing the burden of oral disease. The Plan aims to help all Australians to retain as many of their teeth as possible throughout their lives, have good oral health as part of their general good health, and have access to affordable and quality oral health services."*

The Plan emphasises the need to reduce inequalities in oral health status and access to oral health services. It identifies seven areas for action. Two of these, promoting oral health across

the population and workforce, are seen as platforms that support specific interventions targeted at five groups: children and adolescents, older people, low income and social disadvantage, people with special needs and Aboriginal and Torres Strait Islander peoples.

In a report commissioned by NSW Health Centre for Oral Health Strategy [2] a significant increase in demand is projected. The report highlights that there is likely to be a continuation of the current trend to provide a greater number of services per visit especially in the diagnostic, preventative and restorative services.

Although specialist oral health services were not the focus of the workforce report, it was noted that

"The demand for all types of services will rise in terms of total services.... The largest increases are expected to be for endodontic and crown and bridge services. The smallest increases are expected for oral surgery and prosthodontic services, as more people retain at least some of their natural teeth."

NSW Health's overall approach to oral health care includes:

- The delivery of population-based preventative oral health measures, such as the fluoridation of water;
- The provision of dental care services to eligible individuals through general and community-based programs including the improved integration of services, the Priority Oral Health Program (POHP), the Oral Health Fee For Service Scheme, Child Oral Health Program; establishment of Rural and Regional Oral Health Centres and specific programs for Aboriginal and Torres Strait Islander peoples.
- Planning for future workforce needs to ensure supply meets increasing demand.

3 The Population Health approach

It is clear that many of the factors contributing to oral diseases cannot be managed solely through the provision of personal dental care services and that they can be better addressed through a range of population-based and targeted public health interventions.

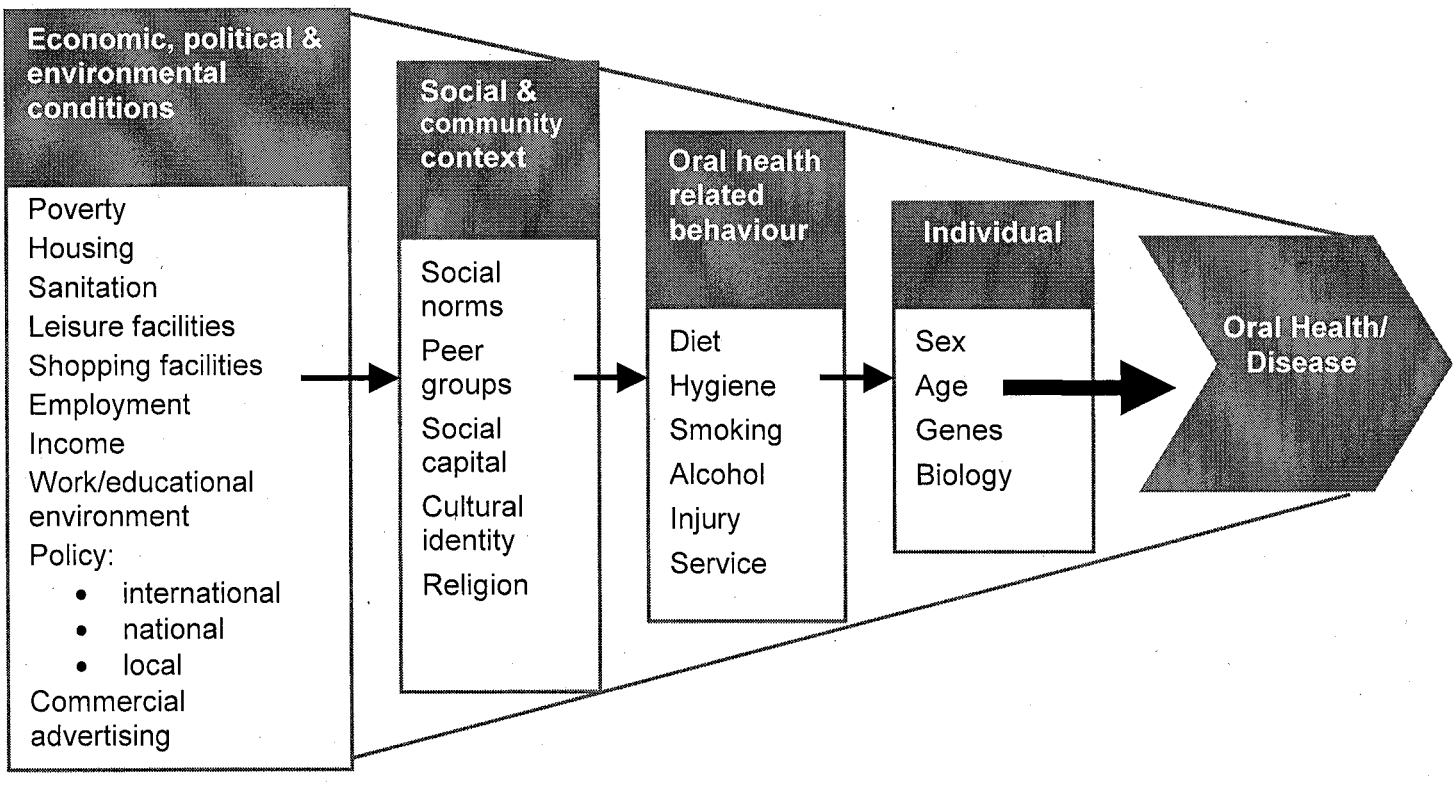
Such an approach has been adopted by the NSW Department of Health. The Centre for Oral Health Strategy NSW was created in late 2004. The Centre was strategically placed within the Population Health Division where strong links exist between Health Protection, Health Promotion, and Aboriginal Health. The Division has a strong focus on prevention via a population health approach.

> *"A population health approach addresses the entire range of individual and collective factors that determine health. Population health strategies are designed to affect whole groups or populations of people. The overarching goals of a population health approach are to maintain and improve the health status of the entire population and to reduce inequities in health status between population groups"* (Health Canada, 2001, p.2). [3]

The population health approach is based on an understanding that the influences on health occur in the events and settings of everyday life.

Figure 3 below illustrates how oral health or oral disease result from a complex combination of events and conditions taking place in biological, psychosocial, environmental and economic domains with factors that interplay at personal, local and global levels. It also points to opportunities for early intervention by various agencies to reduce or prevent (oral health) problems.

Figure 3: Social determinants of oral health



The Statewide Steering Committee for Oral Health Promotion (OHP SSC) was established in NSW in 2002. It has developed the *NSW Oral Health Promotion Framework for Action 2010.*[4] This will be implemented in 2005.

As mentioned previously, the National Oral Health Plan was released in 2004. It articulated the high costs involved in treating oral health problems and argued that it has become increasingly apparent that treatment interventions alone cannot significantly reduce the significant personal, social and financial hardships associated with oral health problems. Thus, promoting oral health across the population was advocated as a critical action that supported other oral health interventions.

Primary prevention refers to interventions occurring before the initial onset of a health problem to prevent the development of the condition. The goal is to reduce the incidence and prevalence of a health problem through universal (whole population), selective (groups at risk) and targeted (individuals showing signs of health problems) interventions.[5]

3.1 Fluoridation of public water supplies

Fluoridation of public water supplies benefits the community, regardless of socio-economic status, educational achievement, individual motivation and the availability of dental personnel.

Water fluoridation has been recommended, endorsed and promoted by many National and International medical and scientific organisations including the World Health Organisation (WHO), US Centers for Disease Control (CDC), the National Health and Medical Research Council, the Australian Medical Association and the Australian Dental Association. It remains a safe, effective and important means of improving the dental health of the community. In 2004, the WHO also confirmed the need for water fluoridation, wherever practicable. From a population health perspective, it remains one of the great disease prevention initiatives of modern times. The US Centers for Disease Control rates the fluoridation of drinking water to control dental disease as one of the top ten public health achievements of the twentieth century.

Water fluoridation has proven to be the most cost effective dental public health measure since its introduction in Australia in the 1960's.

Annual costs of water fluoridation per capita vary considerably with the size of the community. Estimates range from $0.21 per person for a population of 2,700,000 (Sydney, 1996) to $3.76 for a population of 5,200. [6]

Moreover, for each dollar invested in fluoridation, over $80 in treatment costs are prevented, amounting to an 80:1 benefit to cost ratio. Few disease prevention efforts and even fewer government-sponsored programs achieve that level of return on investment [7].

Under the Fluoridation of Public Water Supples Act 1957 the responsibility to implement fluoridation rest with local government authorities who manage water supplies. However, under the Area Health Services Act, Area Health Services have a general responsibility to promote, protect and maintain health of the community. Under Section 6A of the Act, Councils can be directed to fluoridate by the Director-General.

3.1.1 Progress towards fluoridating unfluoridated councils in NSW

Approximately 90% of the residents in NSW have access to fluoridated water. However moving away from metropolitan Sydney where 100% of the population have access to fluoridated water, only 59% of the population have access to fluoridated water.

Councils may progress fluoridation of water supplies in two ways:

- If councils decide to fluoridate, they request approval from the Director-General of NSW Health under Section 6 of the Act.
- Similarly, councils can refer the matter of fluoridation to the Director-General of NSW Health for consideration and determination under Section 6A of the Act. Councils can then be directed to fluoridate by the Director-General on advice from the Fluoridation of Public Water Supplies Advisory Committee established under the Act.

In August 2004, in further recognition of the importance of fluoridation as a public health measure, capital works funding for fluoridation was increased from 50 per cent to 100 per cent by the Department of Health. The Chief Health Officer sent advice to all unfluoridated Councils, informing Councils of the 100 per cent subsidy.

3.1.2 The Population Oral Health Pilot – "Teeth for Life" – Mid-North Coast NSW

The NSW Department of Health acknowledged in 2002 that there was a need to provide leadership to establish and work collectively to improve the oral health of the residents of NSW. A population oral health model was developed to prevent and control oral disease in line with NSW Health's vision for public health in NSW – 'Better health for all people in New South Wales through effective public health action to maintain, protect and promote health.'

The Mid North Coast region was chosen as the site for testing a population health approach. The approach used for the fluoridation campaign in the Teeth for Life Project involved a "grass roots" approach using basic principles of health promotion. This resulted in three out of the four Councils that were not fluoridating in the Mid North Coast (Hastings, Kempsey and Coff's Harbour) referring the matter of fluoridation to the Director-General of NSW Health. These directions were gazetted in 2004 and Councils have until November 2005 to comply.

3.2 Monitoring and surveillance

There are good national data on access to and use of services, client satisfaction with dental care and the clinical dental workforce. However, in relation to oral health status there is a paucity of comprehensive data, particularly for adults. The lack of comparable data on disease prevalence and trends in communities restricts the development of cost-effective strategies to improve oral health and eliminate health disparities. Only one National Oral Health Survey has been conducted in Australia, in 1987/88 [8].

The NSW Department of Health, through the Centre for Oral Health Strategy and Area Health Services, is currently participating in the 2005 National Adult Survey of Oral Health (NSAOH).

This survey was officially launched on the 16th of June at the Sydney Dental Hospital by Dr Greg Stewart, Director of Population Health, Planning and Evaluation, Sydney South West Area Health Service. Six examination teams who had undergone training and calibration by the Australian Research Centre for Population Oral Health started examining survey participants directly after the launch. Approximately 2,000 individuals 15 years of age and older have been randomly selected from households throughout NSW to participate in the NSAOH. The focus of the Survey will be measuring levels of tooth loss, dental decay, gum disease and oral mucosal lesions.

Data collected from this current survey will be valuable in informing statewide policy and planning of dental services for adults in NSW and will facilitate the strategic move towards a population oral health approach in NSW.

Dental decay rates between adults who have lived in fluoridated and non-fluoridated areas and prevalence of fluorosis measured in this survey will inform the Department of the benefits and/or risks of water fluoridation and the use of other discretionary forms of fluoride.

One of the exciting aims of this survey is to examine links between periodontal disease and subsequent rates of cardiovascular disease, measured by tracking mortality and morbidity data collected in national surveillance datasets. This survey, the first of its kind in Australia, will replicate the methodology of studies in Canada and the US where incidence and mortality of coronary heart disease were tracked among subjects dentally examined in national health surveys.

4 The NSW Oral Health Reforms 2000-2002

In April 2000, the NSW Government announced as part of its oral health reform package significant increases in funding to public oral health services. Since July 2001, recurrent spending on oral health programs in NSW has increased from $72.5 million to approximately $120 million per annum in 2005/06. In addition, the NSW Health Department funds $3 million per annum towards Aboriginal oral health services largely via Aboriginal Medical Services.

4.1 Occasions of service

Since the introduction of the oral health reforms there has been a significant increase in the number of occasions of service provided to eligible patients across the State.

The data below (Table 4.1) provides the reported numbers of dental visits (occasions of service) by the dental programs referred to in NSW as Children, Adult and Specialist.

Table 4.1 Trends in provision of services

Dental Program	Occasions of Service Per Year				
	1999/00	**2000/01**	**2001/02**	**2002/03**	**2003/04**
Children	493,473	454,083	516,468	549,230	550,900
Adults	606,096	536,296	752,583	885,941	844,665
Specialists	50,914	57,235	80,128	86,612	76,509
Total	**1,150,483**	**1,047,614**	**1,349,179**	**1,521,783**	**1,472,074**

The increase by almost 30% in occasions of service in the last 5 years was matched by a corresponding 46% increase in State funding from $72.4 million in 1999/2000 to $105.5 million in 2003/04.

Significantly, NSW Health continues to provide for an ever-increasing demand for dental services despite no direct Commonwealth funding for Oral Health programs since the Commonwealth abolished the Commonwealth Dental Health Program from 1997. Unlike the situation for all other medical conditions, virtually all oral health services are excluded from the Medicare Scheme.

4.2 The Priority Oral Health Program (POHP)

The Priority Oral Health Program (POHP) was introduced to ensure that people with the greatest oral health need receive the earliest attention rather than treatment being given on a "first come, first served basis". POHP offers options for eligible patients to make appointments either via the telephone or visiting their nearest public dental clinic.

POHP has a recommended time to clinical assessment linked to priority access codes (see Table: 4.2). NSW Health attempts to ensure that patients in need of emergency care are seen within 24 hours. Patients reporting less urgent needs are prioritised following a standardised procedure and register to have their oral health condition assessed - the same as when people seek a medical appointment.

Table 4.2 POHP Code Summary Table

Priority Codes	Categories of Care	Recommended Access Time for Care
1 & 2	Emergency (Trauma & serious medical condition)	<24 hours (Code 2 <3days)
3 a & b	Acute (Pain)	<5 to <10 days
3 c	Loss of Social Function (Dentures)	<3 months
4 – 6	Routine Treatment	<12 months

4.3 Improved integration of services

Oral Health service delivery was improved through better facility planning and delivery of services that were co-located with other health services, such as community health centres and hospital environments. This was enhanced by better cost sharing, and reducing the duplication of service outlets. Further efficiencies in, and access to, oral health care will be achieved by increasing use of the private dental sector – for example through changes to the Oral Health Fee for Service Scheme.

4.4 Oral Health Fee For Service Scheme

As part of the oral health reform process, a NSW Oral Health Fee For Service Scheme (OHFFSS) was introduced on 1 July 2001. The Scheme is designed to assist public oral health clinics cope with increasing demand for oral health care by providing an alternative avenue for acute oral health treatment and provision of denture services. The OHFFSS seeks to improve access to basic oral health care for eligible persons and their dependents by engaging private oral health care providers to provide acute oral health treatment and denture services.

The Scheme was developed in consultation with the Australian Dental Association (NSW Branch) and has recently been extended to make it more flexible and make access to routine care more readily available.

As of July 2005, the Scheme has a payment ceiling of $180.00 for each authorised course of acute care and $790.00 for each authorised prescribed denture service.

Using private sector dentists through the OHFFSS enhances the supply of public sector oral health services. Data from the AHSs showed that in June 2004 there were around 1,550 dentists and prosthetists providing services under both schemes. (Note: some dentists were members of both schemes).

4.5 Child services

In 1999, the Child Oral Health Program, previously known as Save Our Kids Smiles (SOKS) was reviewed. Significant changes were recommended in the four primary areas of oral health education, risk assessment, data management and clinical treatment. Implementation of the recommendations has seen an improvement in the delivery of oral health services to children in NSW, particularly to those most in need.

The Child Oral Health Program is being integrated into the delivery of community based oral health services, and continues to include a School Assessment Program targeted at disadvantaged schools. Criteria have been developed to identify and target schools with children at high risk of oral diseases. Criteria are based on a combination of dental risk, fluoridation status and relevant socio-economic indicators.

Overall risk assessment strategies and the delivery of dental education in classrooms have changed. All high school students requesting a clinical assessment are assessed using the Priority Oral Health Program and appointments for clinical care are available in child or adult clinics. Indeed, all children who do not receive an oral health assessment at school may still access public oral health services through the Priority Oral Health Program on a needs basis.

4.6 Rural and Regional Oral Health Centres

An additional $1Million from a $5Million oral health enhancement in 2002 was provided for the establishment of Oral Health Centres in Queanbeyan Grafton/Coffs Harbour and Dubbo/Orange. The key benefits of Rural and Regional Centres include:

- improved equity of access to oral health care including specialist services to rural and regional communities;
- improved equity of access to dental care through the provision of additional general services generated through the Oral Health Fee For Service Scheme;
- professional development opportunities for both private and public oral health staff in rural and regional communities;
- support for the recruitment and retention of oral health professionals in rural NSW;
- establishment of local rural centres for student and postgraduate teaching and public health research.

4.7 Aboriginal and Torres Strait Islander peoples

Aboriginal and Torres Strait Islander peoples comprise 2.4% of the total Australian population, based on 1996 Census figures, with almost 26.5% living in areas classified as rural and remote, compared to 2% of the total population. Indigenous Australians generally suffer greater levels of dental disease than non-indigenous Australians. Indigenous populations experience a higher percentage of people with no natural teeth (16%, compared with 10% non-Indigenous) and periodontal disease, both of which are associated with type 2 diabetes, which is more prevalent in Indigenous populations.

The National Oral Health Plan notes that compared to the overall Australian population of similar age, among Aboriginal and Torres Strait Islander peoples:

> *"children generally have more than twice the caries experience and a greater proportion of untreated caries;*
>
> *adults have more missing teeth; and periodontal health is worse, with poor periodontal health evident in younger populations. " (page 34)*

In 2003 the Minister of Health approved the allocation of an additional $1 million to enhance the provision of oral health services for Aboriginal and Torres Strait Islander people. This enhancement funding was allocated to a number of Aboriginal Medical Services (AMS) to assist in the recruitment of staff, purchase of equipment and issuing of fee-for-service vouchers. Aboriginal oral health services are specifically funded by grants to the value of $3 million a year by the NSW Department of Health.

4.8 Information Management & Technology

The Information System for Oral Health (ISOH) was introduced in 2001. It is a single, client-centred integrated information system that is used by all public oral health clinics in NSW. The system has already delivered improved data quality, collection and reporting mechanisms. Future

developments will include quality indicators and health outcomes reporting, as well as improved cost analysis and performance monitoring systems. ISOH has also been adopted by Queensland Health who has also implemented the Priority Oral Health Program.

In May 2005, ISOH was placed in the top four finalists for the Worldwide Finalist (Medicine Category) in the Computerworld Honors Program.

Other future initiatives that build on current developments include the expansion of call centre technology and a single point of contact for the patient to access services and information at an Oral Health Network (new Area Health Service) level. Clinical point-of-care technology will be developed to allow clinicians to key-in information about their patient and the clinical services provided.

5 Workforce Planning

The 2002 New South Wales Oral Health Workforce Planning Project report estimated that in 2000 there were 3,126 practicing dentists in NSW of whom about 85% were in the private sector and about 13% in the public sector (including dental and other hospitals, and the Defence Force). The remaining 2% were employed in the tertiary education industry and other areas.

The *Dentist Labour Force in NSW – 2002* [9] is the latest survey to report the number of dentists in the public and private sectors registered in NSW in the period from February 2002 to the end of January 2003. The [2002] Survey showed the situation was much the same as in 2000, with around 84% working in private practice and 12% in the public sector. Of the remainder, 1.4% were in tertiary education, 0.5% in industry and 1.9% in other jobs.

The *Labour Force* data also highlight the variability in the number of public and private dentists per 100,000 population, from 69.2 in the South East Sydney/Illawarra Area Health Service to 22.6 in the Greater Western Area Health Service.

Workforce planning has been identified as an important National issue requiring strategic consideration. All States and Territories are facing similar difficulties in recruitment and retention of public sector staff. In NSW, a review of oral health workforce requirements between 2000 and 2010 was completed and there were also concurrent State reviews of dental education and training needs and statewide and specialist services.

NSW Health (in partnership with the Faculty of Dentistry and selected Area Health Services and the Australian Dental Association) has developed strategies to promote rural dental practice. One initiative is the establishment of a Final Year Student Placement Program for rural and remote areas, where the recruitment and retention of oral health professionals has been identified as being of particular importance.

The processes underway will ensure appropriate strategies are developed to support the dental profession and the delivery of oral health care in NSW into the future.

The National Oral Health Plan recommends several strategies to address workforce issues including increasing the number of Australian trained dentists:

> *To maintain current levels of access to dental services and achieve workforce self-sufficiency, increase the supply of new Australian-trained oral health practitioners by at least 150 graduates per year by increasing undergraduate student places at Australian Dental Schools.(page 35)*

Recruiting overseas trained dentists is another approach that is being pursued by all States under the umbrella of the Public Sector Dental Workforce Scheme that was set up by the Australian Health Ministers' Conference in 2004. Some overseas trained dentists (eg from New Zealand and the United Kingdom) are immediately eligible for full registration in Australia. NSW however, also has the required legislation to permit overseas trained dentists, who at the time of application do not meet the requirements for full registration, to practice under Limited Registration in the Dental Practice Act 2001 - Sect 14. The NSW Dental Board specifies the conditions of Limited Registration for each applicant and the Minister for Health must approve a suitable supervising dentist for each applicant. The scheme in NSW requires these dentists to practice in the public sector oral health services in rural Area Health Services. It is also expected that these dentists will pass the examinations of the Australian Dental Council within three years and therefore become fully registered dental practitioners.

To encourage the uptake of positions within rural and regional areas, NSW operates a Dental Officer Rural Incentive Scheme (DORIS) consisting of a remuneration package of up to an

additional $20,000 per year and limited rights to private practice within a public sector dental clinic. In the future, DORIS may also be available to dental specialists, therapist and technicians and to Bachelor of Oral Health graduates. The scheme may also link the size of the package to the remoteness of the communities served.

The NSW Centre for Oral Health Strategy is involved in the development of several approaches and initiatives that may be implemented to address recruitment and retention issues in the short term, medium and long term. These include:

- developing Career Pathways in the public sector;
- reviewing State Awards to ensure they cover the range of oral health professionals now employed in the public sector (eg dental prosthetists, Bachelor of Oral Health graduates);
- a coordinated approach to the recruitment of oral health staff;
- a Rural Scholarship scheme and incentives for new graduates;
- conversion courses for dental therapists to progress to the Bachelor of Oral Health;
- review of the role of the dental assistant;
- campaign to attract former clinicians back into practice (similar to "Reconnect" in nursing);
- clinical placements in rural Area Health Services for final year dental students;
- improved data collection on supply and demand.

6 Funding for public dental services

6.1 Funding overview

Oral disease has traditionally been treated and funded separately from other medical conditions, with virtually all oral health services excluded from the Medicare Scheme. With the exception of some State based child oral health services, oral health care has never been offered as a universal health benefit by either States or the Commonwealth in the same way that care provided by medical general practitioners has been. Consequently, oral health care for the majority of the population remains essentially a private good with 62.2% of funding for dental care coming from individuals and being paid to private dentists (Table 6.1).

Table 6.1 below also illustrates the higher proportion of individual funding and lower proportion of Commonwealth government funding of dental services compared to other types of health services. Most of the Commonwealth funding for dental services is via the 30% health insurance rebate. It has been estimated that as over eight million Australians access private dental services using their private health insurance, approximately $350Million of the $2.2Billion cost of the rebate goes towards dental services. Middle and upper income earners receive most of this benefit.

Table 6.1 Health expenditure by source of funds: 2001-2002

Source of contribution	Health Services %	Dental Services %
Individuals	19.6	62.2
Private (net)	7.6	18.5
State and Local Government	20	9.9
Commonwealth with Government premium	3.2	7.1
Commonwealth with Government direct	46	2
Other	3.7	0.3

Source: Adapted from Spencer, 2004[10]

The table shows the large burden placed on individuals on the one hand and the small proportion of direct Commonwealth funds on the other.

The cost of private treatment creates financial barriers to people with lower incomes seeking oral health care. These lower income earners are often those who are eligible for public dental services funded by the State governments.

The need for dental care is not a rare event in an individual's life. Dental decay is the second most costly diet-related disease in Australia with an economic impact of the same order as heart disease and diabetes. Oral disease represents one per cent of the Australian total disability adjusted life years and is similar to levels obtained for acute respiratory infections, melanoma, lymphoma, falls, and heroin or poly drug dependence/harmful use [11]. Among developed countries, after Western Europe and South Africa, Australia has the highest age-standardised incidence of oral and pharyngeal cancer at 19.2 new cases per 100,000 population per annum. In Australia, more deaths occur each year from oral cancer than cervical cancer [12].

Despite this evidence, oral health is not funded under Medicare in the same way as other health conditions, although some patients may be eligible if they are involved in an Enhanced Primary Care Plan.[a]

[a] From 1 July 2004, patients with chronic conditions and complex care needs who are being managed through an Enhanced Primary Care (EPC) multidisciplinary care plan may be eligible for up to 3 dental care services per year on referral from their GP.

6.2 The Commonwealth Dental Health Program

The Commonwealth Dental Health Program (CDHP) was introduced in January 1994. Its purpose was to reduce geographic and financial barriers that prevented adult card-holders and their adult dependants from receiving timely and appropriate dental care. The Program aimed to change the emphasis of dental care from:

- emergency to general dental care;
- extraction to restoration; and
- treatment to prevention.

Care was provided under two separate schemes: the Emergency Dental Scheme and the General Dental Scheme. Both schemes received $30 million a year. In July 1995, funding was increased for the General Dental Scheme to $70 million, while the Emergency Dental Scheme continued to receive $30 million a year.

In its first year of operation NSW received $20.74 million. The following year (1995-96), NSW received $37.8 million.

In August 1996, the Australian Government announced that the Program would cease from 1st January 1997. NSW received half its previous annual allocation for the financial year 1996-97 that amounted to $18.6 million.

The impact of the loss of Australian Government funding can be seen in terms of the number of adults that were able to be treated. In 1995/96, with funding from the CDHP and the NSW Government, services were provided to 444,000 adult patients. In 1997/98, with the loss of Australian Government funds, the number of adults treated dropped to 172,000 – a 62.3% decrease.

Unlike other health conditions, oral health is not covered by the MBS nor has funding been provided to the States through the Australian Health Care Agreements.

6.3 NSW Oral Health funding

In April 2000, the NSW Government announced as part of its oral health reform package significant increases in funding to public oral health services. Since July 2001, recurrent spending on oral health programs in NSW has increased from $72.5Million to approximately $120Million per annum in 2005/06. In addition, the NSW Health Department funds $3Million per annum towards Aboriginal oral health services largely via Aboriginal Medical Services.

Table 6.3 below provides information on the total budgets for 1994/95 to 2005/06.

The current commitment of $120Million in 2005/06 represents an increase in funding of $48Million - or over 65% on the 1999/2000 commitment.

Table 6.3 Dental Funding - 1994/95 to 2004/05 (in Millions of Dollars)

Funding Source	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06
General NSW Funding	$68.6	$68.4	$70.6	$71.2	$73.2	$72.4	$72.5	$80.5	$97.5	$105.5	$113	$120
CDHP	$20.7	$37.8	$18.6#	Commonwealth Scheme Abolished								
Total	$89.3	$106,2	$89.2	$71.2	$73.2	$72.4	$72.5	$80.5	$97.5	$105.5	$113	$120

Notes: # CDHP Scheme Abolished

In response to the withdrawal of the CDHP, most states have introduced a variety of demand reduction or demand management techniques. All States and Territories except NSW, Queensland and the Northern Territory have introduced co-payment schemes, whereby the patient pays a contribution towards the cost of the service.

In NSW funding was substantially increased in 2000 and again in 2002, and the Oral Health Reforms introduced (see Chapter 4).

7 Appendices

7.1 Oral Disease - A broad perspective

Dental caries is the most common disease affecting mankind. It is caused by frequent use of non-milk extrinsic sugars. Since the 1970s health promotion has produced dramatic declines in decayed, missing or filled permanent teeth in children. Currently, the Nordic countries, the Netherlands and the UK have the lowest caries levels in Europe with one tooth affected by caries at age 12, compared to levels of 5 and above in the 1960s (World Health Organisation [WHO] 1997)[13]. There is no conclusive scientific evidence on the relative roles of individual factors in the decline, but it can be explained by successful oral health promotion activities. Improvements in oral health demonstrate that dental disease is preventable and can be reduced enormously within a decade.

The generally held consensus for the decline is that it is due to wide scale use of fluoridated toothpastes. Of 55 experts, most agreed that the widespread use of fluoride, especially fluoride in toothpastes, was the main reason (Petersson & Bratthall 1996).[14] The decreases are mainly due to factors external to dentistry and, disappointingly, dental services are seen to have contributed little to the improvement – 3% of the variation in changes in 12 year-old caries levels in 18 industrialised countries, whereas broad socio-economic factors (including or excluding fluoridated toothpastes) explained 65%.

Despite tremendous declines in the past three decades, tooth decay remains the single most common chronic disease of childhood in the U.S. A troubling trend that partly explains the continued prevalence of caries is the increasing polarization of oral health in the U.S. — while most children enjoy excellent oral health, about 25% of children 5–17 years experience 80% of all dental caries in their permanent teeth. [15]

Gingivitis and periodontal diseases are caused by accumulation of plaque. The principal way to reduce plaque is by tooth-brushing twice a day (Frandsen 1986; Levine 1996). [16] There has been a reduction in the prevalence of periodontal diseases, which has mainly been explained by improved oral hygiene, reductions in smoking and improved living and housing standards.

Almost half of U.S. adults aged 35 to 44 years have gingivitis and about one-quarter have the more severe condition of periodontitis. Severe periodontal disease affects 14% of adults ages 45 to 54 years, and 23% of 65- to 74-year olds. Tobacco use is a major risk factor for the development and progression of periodontal diseases. There is also considerable evidence that diabetes, particularly if poorly controlled, increases the risk for periodontal disease[17].

Trauma to teeth is caused by falls, fights, contact sports, bullying and accidents. The prevalence of trauma to teeth is high. One in five children in European countries have broken teeth.

Oral cancer and pharyngeal cancer is the most life-threatening of all oral diseases and is the sixth most common cancer in the developed world. Risk factors related to oral cancer include tobacco and alcohol use and chewing betel quid (Johnson, Warnakulasuriya &Tavassoli 1996).[18] A detailed submission has been made to this current inquiry by the NSW Cancer Institute.

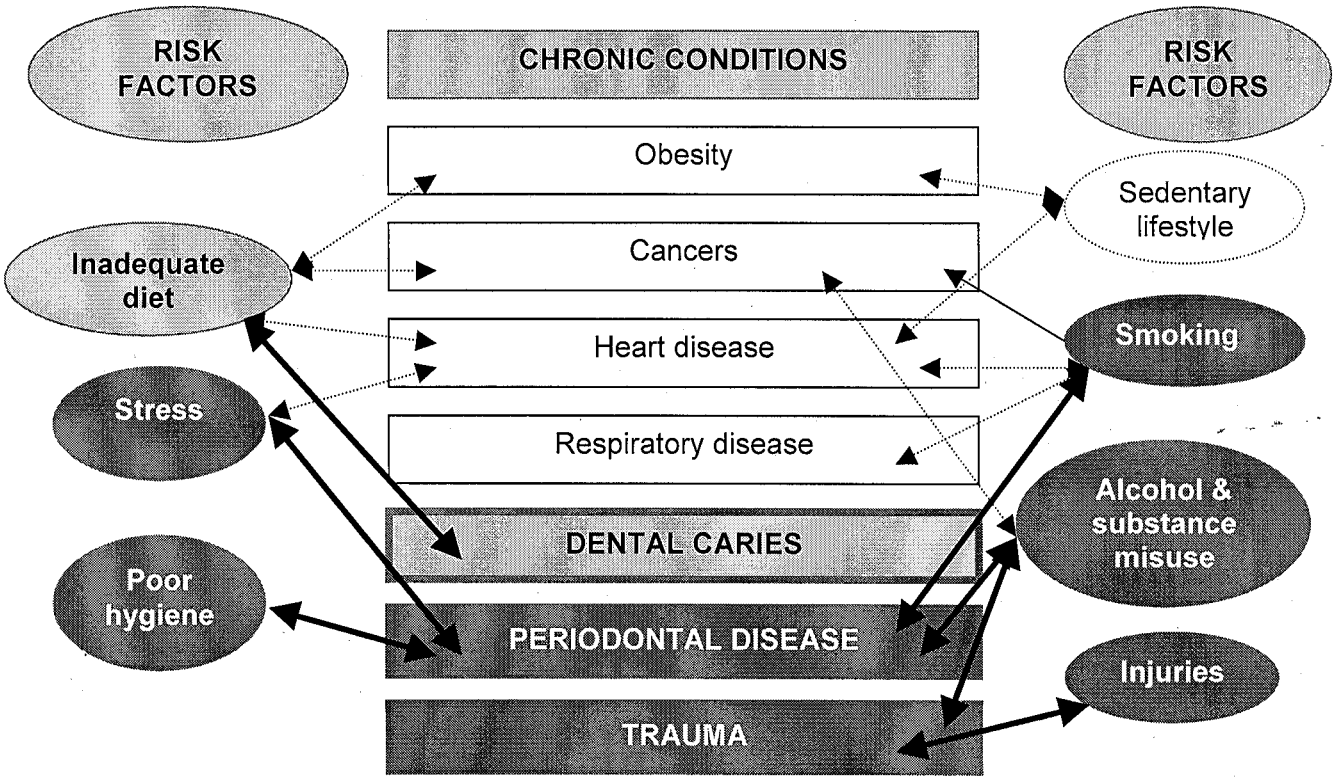
7.2 Oral Health as part of general health

There is growing scientific evidence of a link between oral and general health. Oral health and overall health and well-being are inextricably connected. Many systemic conditions such as human immunodeficiency virus (HIV)/AIDS, diabetes, Sjögren's syndrome, and osteoporosis have important oral symptoms, manifestations or complications. The lips, tongue, gingivae (gums), oral mucosa and salivary glands can all signal clinical disease elsewhere in the body. Long considered to be localized infections only, periodontal or gum diseases are now being investigated as potential risk factors for the development of systemic disease. Accumulating evidence now points to a possible link between periodontal diseases and the incidence of premature, low-birth weight babies, cardiovascular disease, and pulmonary disease. Oral diseases affect not only the health of the oral cavity and associated craniofacial structures, but can be detrimental to the overall health and well-being of individuals.[19]

Oral health is integral to general health, and oral health status can be regarded as a risk marker for general health. Many risk factors for systemic disease also impact on oral health, and the resulting diseases often occur together. The causes of the two major dental diseases (caries and periodontal disease) are inadequate diet, stress, poor hygiene, smoking, alcohol/substance misuse and injury.

Figure 7.2 demonstrates how these causes are common to a number of chronic diseases and health impacts. Thus, it is rational to use a common risk factor approach in health promotion. A number of chronic diseases, such as heart disease, cancer, strokes, accidents and oral diseases, have risk factors in common and many are relevant to more than one chronic disease. Such risk factor oriented strategies are more inclusive and cost-effective than those directed at specific diseases.

Figure 7.2: Common risk factor approach



Source: Adapted from Sheiham & Watt 2000 [20]

It is clear that many of the factors which contribute to oral diseases cannot be managed solely through the provision of personal dental care services and that they can be better addressed through a range of population-based and targeted public health interventions.

Such an approach has been adopted by the NSW Department of Health. The Centre for Oral Health Strategy NSW was created in late 2004. The Centre was strategically placed within Population Health Division where strong links exist between Health Protection, Health Promotion, and Aboriginal Health. The Division has a strong focus on prevention via a population health approach.

7.3 The cost of oral disease

The 1998 Senate Report States "*the need for quality dental care is an issue that is relevant to all Australians*" and continues, "*The cost associated with providing this dental care is likewise a universal issue ... affecting the whole community in the context of its wider costs*".[21]

A paper prepared for the National Advisory Committee on Oral Health[22] noted that poor oral health has a significant impact on the economy-

- *Dental decay itself is one of the most costly diet related diseases in Australia with the economic impact of the same order as heart disease and diabetes*
- *In 1996, 20% of Australian workers took time off work with a further 5% reporting that productivity was reduced as a result of a dental problem or treatment*

The burden of illness from oral disease as reflected in the direct costs of oral health care in Australia was estimated by the Australian Institute of Health and Welfare (AIHW) in 1996–97 at more than $2.157Billion per year to the health system. Dental caries (decay) and its consequences account for possibly 70% of these costs. However, these cost estimates do not include the indirect costs to individuals and the community of oral diseases.

A 1993 Canadian study by Leake, Porter et al.[23] placed the costs of oral disease third behind cardiovascular disease and mental health and ahead of all cancers and all other disease categories. Economic issues were also highlighted in the US Surgeon General's first report on oral health, released in 2000. The report comments that the costs to individuals and society associated with oral health problems go far beyond the burden of oral diseases alone.[24] In the UK £1.5Billion of the National Health Service (NHS) budget is spent on dental services[25] (Health Education Authority 1997). The loss in work time among employed people is 2 hours per person per year [26].

In 1998, Mathers, Pen et al[27]. published data using a cost of illness analysis which estimated total economic costs at approximately $1.8Billion in 1993-94; an estimate supported by evidence put to the 1998 Senate Inquiry that the cost of oral disease in terms of total economic cost, direct health sector costs and loss of production to Australia was $1.94Billion in 1994-95 or approximately 6% of the total Australian health budget.

In the report "*Australia's Health 2004*" released by the AIHW it was noted that oral health ranked sixth in the list of diseases that account for the greatest health expenditure in 2000-2001. Expenditure for that year was $3.4Billion or 6.9% of total allocated health expenditure.

Oral diseases also have a cost in terms of the social impact on individuals - the ability to eat and drink, swallow, maintain proper nutrition, smile, and communicate. The social and psychological impact of dental diseases have been measured by eating restrictions, communication restrictions, pain, discomfort and aesthetic dissatisfaction. [28] Chronic pain has a special effect on quality of life, often causing a great deal of emotional, physical, and economic stress.[29] Eating and chewing difficulties are a major problem, with 41% taking longer than average to

complete a meal, and 9% feeling uncomfortable when eating in the presence of others. Embarrassment during social contacts attributed to the appearance of teeth or dentures, or the dropping of dentures while speaking.[30] Eating problems (37%) and communication problems (19%) are common.[31]

7.4 Quality of care

In January 1999, the NSW Department of Health published the *Framework for Managing the Quality of Health Services in NSW.* [32] The Framework proposed six dimensions of quality: effectiveness, consumer participation, access, safety, efficiency and appropriateness. These dimensions form the basis for developments in the quality of oral health care.

Monitoring and improving the quality of care provided by the public sector oral health services is a responsibility of the Directors/Managers of oral health services and senior dental clinicians.

The Centre for Oral Health Strategy has however been involved with AHSs in several initiatives related to quality and safety summarised in Table 7.4(a) below.

Table 7.4 (a) Quality of Care Initiatives

Initiatives	Dimensions of quality
The development of protocols for referring patients to specialist services	Appropriateness
A requirement for closer monitoring by the Areas of private practitioners involved in the Oral Health Fee For Service Scheme (OHFFSS) and the Pensioner Denture Scheme	Safety, access, efficiency
Regular feedback to the Centre about Area Health Services performance reflected in the number of Occasions of Service provided	Efficiency
Refinements to the Information System for Oral Health (ISOH) to generate data about service mix, treatment provided, workload and other factors that clinicians and managers can use to assess quality of care.	Effectiveness, access, safety, efficiency and appropriateness
Collaboration with Areas regarding the introduction of several of the Australian Council on Health Care Standards (ACHS) indicators of quality of care and the introduction of improvements where required.	Effectiveness, appropriateness

The ACHS indicators of particular interest are:

- Re-treatment following routine restorative treatment: number of teeth requiring re-treatment within 12 months (excluding 7 days) of an episode of restorative treatment during the time period under study.
- Return following routine extraction: number of complications per tooth within 7 days of routine extraction during the time period under study.
- Extraction following completed endodontic treatment: number of teeth extracted within 12 months of completing a course of endodontic treatment during the time period under study.
- Denture remakes: number dentures remade within 12 months.

Other quality of care indicators would gradually be introduced to assess other dimensions of quality. Service audits based on different combinations of indicators would be possible.

Public dental clinics that have been accredited by the ACHS already use the full set of ACHS oral health indicators. AHSs also have an incident monitoring system that allows managers to deal with issues of quality.

The Centre for Oral Health Strategy also has recently published a document that takes an evidence-based approach to oral health promotion. The document contributes to the quality of care by identifying oral health promotion interventions that have been proven to be cost-effective or shown to be ineffective.

"Quality" might also be assessed in terms of consumer satisfaction with services provided. Table 7.4(b) below shows rating of patient satisfaction from the NSW Adult Health Survey. The survey collects information from NSW residents aged 16 years and over living in households with private telephones.

Table 7.4(b) Satisfaction with public dental services

Year	Number of Adults providing information	Estimated number of users of public dental services	Excellent %	Very Good %	Good %	Fair %	Poor %
2004		274,400	26.2	35.2	23.2	7.9	7.4
2003	13,088	213,900	31.5	32.7	21.2	7.7	6.9
2002	12,622	227,200	25.7	32.0	23.4	8.0	10.8

Source: NSW Health Survey 2002, 2003, 2004 (HOIST). Centre for Epidemiology and Research, NSW Department of Health.

7.5 Eligibility comparison of State dental services (July 2004)

This is a summary of dental services to the majority of clients. Other conditions may exist for interstate visitors, non-eligible emergencies, admitted patients, rural and remote people or DVA patients, and will vary from State to State.

PCC = Centrelink issued Pensioner Concession Card, HCC = Centrelink issued Health Care Card. All co-payment fees based on Dept of Veterans' Affairs, Local Dental Officer Schedule.

Table 7.5 (a) Adult Dental Services

State	Eligibility	Emergency co-payment	General co-payment
TAS	PCC,HCC	$25 flat fee	$25/initital visit minimum. Treatment cost of 25% DVA fee (eg dentures $209 for FF, $116 for single full).
SA	PCC, HCC	$21/visit flat fee.	$21 per visit. Additional co-payments on some treatment items. Capped to $69.
VIC	PCC, HCC	$21 flat fee	$21 co-payment payable at each visit, up to a maximum of $84 for general course of care. Maximum cost of dentures is $105. Specialist dental fees vary considerably.
WA	HCC/PCC/ DVA	Two levels of subsidy –75% for those with Statement of benefit letter (receiving pension or allowance from Centrelink or DVA), 50% for other HCC/PCC.	
NT	HCC, PCC, Sickness benefits recipients	Nil	Nil
NSW	PCC, HCC, Cwlth Seniors & dependents	Nil	Nil
QLD	HCC,PCC, Cwlth and Qld seniors	Nil	Nil

Table 7.6(b) School Dental Services

State	Primary school	Secondary school
TAS	Free dental exam for all. Treatment free for HCC, 0-5 year olds, kindergarten and Education Assistance Scheme. Others=$50 co-payment.	Free dental exam for all up to age 18. Treatment free for HCC and Education Assistance Scheme. Others=$50 co-payment.
SA	Free – preschool, primary.	Free for HCC/PCC. Others=$35 annual fee (From Jan- $50 per course of care). Sliding scale for family members. Includes FT students to age 18 or 16-18 with HCC/PCC
VIC	Free for HCC/PCC children. $27 per child (max $108 per family) for non cardholders.	Available free for HCC/PCC in grade 7 to 12.
NT	Free at school based clinics. Includes infants.	Free at govt clinics. Includes year 12.
WA	Free	Free. Includes year 11 (year 12 in rural/remote areas)
NSW	Free (includes ages 0-4)	Free. Includes FT students to age 18.
QLD	Free (includes age 4)	Free. Includes years 8-10.

7.6 Glossary and Abbreviations

ABS	Australian Bureau of Statistics
ADA	Australian Dental Association
AHMAC	Australian Health Ministers' Advisory Council
AHMC	Australian Health Ministers' Conference
AIHW	Australian Institute of Health and Welfare
AHS	Area Health Service
Bachelor of Oral Health	A qualification for oral health providers trained as both a dental therapist and a dental hygienist. The provider registers to practice in one or both areas.
CDHP	Commonwealth Dental Health Program
Community education	An organised campaign designed to increase awareness of an issue.
Dental assistant	An appropriately qualified person who provides assistance to the dentist, dental therapists, dental hygienist, oral health therapist or dental prosthetists during oral health care procedures. In most jurisdictions dental assistants may take dental radiographs on prescription.
Dental caries	Holes in the teeth caused by tooth decay.
Dental hygienist	An appropriately qualified oral health provider registered to provide a range of primary dental health services on both children and adults with a focus on the prevention of oral disease. Services are provided by the dental hygienist in a varying professional relationship with the dentist and include scaling, polishing, applying preventive materials (such as fluoride solutions and pit and fissure sealants) and health promotion and education.
Dental plaque	A film of mucous and bacteria deposited on the teeth that encourages the development of dental caries
Dental prosthetics	(Prosthodontics) The branch of dentistry that is concerned with the provision of dentures (full and partial) implant-retained removable prostheses and mouthguards.
Dental prosthetist	An appropriately qualified oral health provider registered to provide a range of dental services including full and partial dentures, implant retained removable prostheses and mouthguards.
Dental technician	An appropriately qualified person to manufacture all fixed and removable dental appliances under prescription from a dentist or dental prosthetist.
Dental therapist	An appropriately qualified oral health provider registered to provide a range of primary dental health services for children and adolescents. Services are provided by the dental therapist in a varying professional relationship with the dentist and include examination, applying preventive materials (such as fluoride solutions and pit and fissure sealants), fillings, extraction of primary teeth and health promotion and education.
Dentate	Having some or all of one's own natural teeth.
Dentist	An appropriately qualified oral health care provider registered to practice all areas of dentistry.
Dentistry	The science and art of preventing, diagnosing and treating diseases, injuries, developmental and acquired defects of the teeth, joints, oral cavity and associated structures.
dmft	Total number of decayed, missing and filled deciduous teeth
DMFT	Total number of decayed, missing and filled permanent teeth
Early intervention	Interventions targeting people displaying the prodromal signs and symptoms of an illness. Early intervention also encompasses the early identification of people suffering from a disorder.
Edentulous	Having all natural teeth missing.

Endodontics	The study, treatment and prevention of diseases of the pulp of teeth — a major part of treatment is root canal treatment.
Fluoride	A mineral found in food, water, plants and toothpaste. Brushing with fluoride toothpaste and drinking fluoridated water helps to protect teeth against decay. Fluoride is important for strong teeth and is considered safe when consumed at recommended levels in drinking water.
Gingivitis	Inflammation of gingivae (gums).
Health	Not just the physical well being of an individual, but . . . the social, emotional and cultural well being of the whole community in which each individual is able to achieve their full potential as a human being thereby bringing about the total well being of their community. It is a whole of life view and includes the cyclical concept of life-death-life'.
Health inequalities	Differences in health experience and outcomes between different population groups (eg defined by socio-economic status, geographical area, age, disability, gender, ethnic group).
Health inequities	Differences in the distribution of resources and services across populations, that do not reflect health needs; differences that are not only unnecessary and avoidable, but are also considered unfair and unjust. Inequities may relate to opportunity to access, utilization and quality of health services, as well as avoidable unjust and unnecessary factors that impair health. Addressing health inequities involves improving the distribution of resources according to health needs.
Health promotion	The process of enabling individuals and communities to increase control over and improve their health. It involves the population as a whole in the context of their everyday lives rather than focusing on people at risk for specific diseases, and is directed toward action on the determinants of health.
Incidence	The percentage of the population suffering from a disorder for the first time (during a given period).
Malocclusion	Imperfect alignment of teeth
Maxillofacial	Relating to the jaw and middle third of the face.
NACCHO	The National Aboriginal Community Controlled Health Organisation, the National peak Aboriginal health body.
NACOH	National Advisory Committee on Oral Health
NHMRC	National Health and Medical Research Council
OECD	Organization for Economic Cooperation and Development
Optimum oral health	That state where the cost of any improvement outweighs the value attached to the improvement, where cost may be understood as economic, quality of life, and/or any other major parameter by which health is assessed
Oral health therapist	An appropriately qualified oral health provider trained as both a dental therapist and a dental hygienist. The provider registers to practice in one or both areas.
Oral health	"....oral health means much more than healthy teeth. It means being free of chronic oral-facial pain conditions, oral and pharyngeal (throat) cancers, oral soft tissue lesions, birth defects such as cleft lip and palate, and scores of other diseases and disorders that affect the oral, dental, and craniofacial tissues, collectively known as the craniofacial complex." (U.S. Department of Health and Human Services 2000, page 17).[33]
Oral mucosa	The lining of the mouth.
Orthodontics	The branch of dentistry which is concerned with the growth and development of the face and jaws and the treatment of irregularities of the teeth.
Outcome	A measurable change in the health of an individual, or group of people or population, which is attributable to an intervention or series of interventions
Periodontics	The branch of dentistry that is concerned with the tissues that support and

	attach the teeth and the treatment and prevention of diseases affecting these tissues.
Periodontitis	Disease of the gum and/or the surrounding bone, characterized by a receding of the gums, spaces opening between teeth, inflammation/infection, discomfort in the gums, and loosening of the teeth.
Periodontium	The tissues that connect the tooth by its root to the supporting bone.
PHIIS	Private Health Insurance Incentives Scheme.
Population health	The health of the population, measured by health status indicators. It is influenced by physical, biological, social and economic factors in the environment, by personal health behaviour, health care services etc. Also, the prevailing or aspired level of health in the population of a specified country or region, or in a defined subset of that population.
Prevalence	The percentage of the population suffering from a disorder at a given point of time (point prevalence) or during a given period (period prevalence).
Prevention	Interventions that occur before the initial onset of a disorder'
Primary teeth	The first set of teeth that develops in mammals; also known as the deciduous or milk teeth.
Protective factors	Those factors that 'produce resilience to the development of psychological difficulties in the face of adverse risk factors'
Public health	The practices, procedures, institutions and disciplines required to achieve the desired State of population health.
Risk factor	Those characteristics, variables, or hazards that, if present for a given individual, make it more likely that this individual, rather than someone selected at random from the general population, will develop a disorder'.
Root caries	Dental decay that occurs on the root portion of a tooth. (In younger persons, root surfaces are usually covered by gum [gingival] tissue).
Sealant	Sealing of pits, fissures or cracks in a tooth with bonded resin or adhesive cement to prevent development or progression of dental caries at the site.
Secondary teeth	The permanent set of teeth that replace the primary teeth.
WHO	World Health Organization
Xerostomia	A dryness of the mouth because of a lack of saliva.

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