Nganampa Health Council

Dental Program

Nganampa Health Council (NHC) Dental Program

Executive Summary

Nganampa Health Council (NHC) is an Aboriginal Community Controlled Health Organisation delivering comprehensive primary health care to Anangu on the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands in the remote north west of South Australia.

The NHC dental program was established in 1986 and ever since, NHC has managed to provide continuity of access to clinical dental care. After a period of limited locum coverage from 2005/06 through to 2007/08, for the past 5 years NHC has provided consistent dental services for 32 weeks per annum utilising one dentist. Our statistics show that this regular and continual care is leading to dental health improvements on the APY Lands.

The Program operates in a highly efficient fashion due to the employment of an experienced and long term Dentist, a regular and consistent Dental Assistant, professional and technical support from a program consultant with extensive experience in remote area dental care, competent NHC management, well-developed policies and operational systems and takes advantage of synergies offered by combining the program with other NHC services and programs.

Since the consistent coverage commenced in 2008/09, there have been improvements in the dental health of our population. In summary:

- There has been a significant increase in the amount of activity with more patients seen, more consultations and more completed treatments.
- There has been an increase in the amount of preventative work that has been undertaken. This is evidenced by the improvements in the provision of fluoride treatments and fissure seals, both in absolute terms and as a percentage of total consultations.
- The combination of the above has seen a reduction in the percentage of consultations associated with emergency care, and a decrease in the percentage of consultations that involve both restorations of teeth and extractions of teeth.

Children Dental Health (Under the age of 15)

Table 1

Measure	2012/13	2007/08
Individual patients seen	466	195
Examinations	512	171

Percentage of consults made up of emergency care	2.5%	7%
Percentage of consults involving a restoration	30%	81%
Percentage of consults involving an extraction	2%	12%
Percentage of consults involving fluoride treatment	102%	49%
Percentage of consults involving fissure seals	98%	13%

Adult Dental Health (15 years and over)

Measure	**2012/13**	**2007/08**
Individual patients seen	349	235
Examinations	336	116
Percentage of completed treatments	67%	121%
Percentage of emergency care	59%	76%
Percentage of consults involving a restoration	67%	88%
Percentage of consults involving an extraction	46%	126%
Percentage of consults involving fluoride treatment	43%	12%
Percentage of consults involving fissure seals	73%	5%

A significant achievement of the program is that the dental health of 12 year old on the APY Lands compares well with that in the rest of South Australia and with remote Australia as a whole.

	APY Lands (2012/13)	**SA (2009)**	**Remote Australia (2009)**
DMFT 12 year olds	0.88	0.95	1.43
Percentage of 12 years old where DMFT = zero	53.1%	56.3%	48.3%

Organisation Overview

Nganampa Health Council (NHC) is an Aboriginal Community Controlled Health Organisation delivering comprehensive primary health care to Anangu on the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands in the remote north west of South Australia. In addition to primary health care, NHC delivers 24-hour emergency care to all residents and visitors on the APY Lands. As well as acute and ongoing clinical care, NHC delivers a range of public and population health programs, including community health screening of targeted population groups, health education, preventative health care, referral to secondary and tertiary level services, public health interventions and surveillance and a residential aged care facility. The population of the APY Lands, as per our database is approximately 3,000, with 700 being identified as 'visitors' rather than "permanent residents'. We have close to 4,000 regular patients. Clinical care is delivered from nine clinics spread across a region in excess of 110,000 square kilometres. Six of these clinics are permanently staffed with resident multidisciplinary teams (Registered Nurses and Aboriginal Health Workers). Four fulltime Medical Officers provide direct clinical services and 24-hour on call telephone consultancy services across the area of operations. The Health Council has a national reputation for excellence in the delivery of clinical care, in the development of effective population health programs and in collaborative research. In several areas, the work of NHC has provided an exemplar for the sector and has significantly contributed to policy and program development at the national level.

Examples of NHC's achievements and recognition include:

- The National Health and Hospitals Reform Commission's interim report highlighted the success that Nganampa Health Council has had in child and maternal health (women accessing antenatal care for the first time less than 20 weeks into their pregnancy had increased from 60 per cent, to around 90 per cent and data indicated a decrease in perinatal mortality rates and decreases in low birth weights), and our successes in reducing the rates of sexually transmitted infections. A recent article in the Australian Medical Journal further discussed our successes in controlling sexually transmitted infections.

- In 2006 we were awarded the Infanrix Immunisation Award for success in achieving a significant increase in, or commendable immunisation rates in populations of hard-to-reach children and/or adolescents. Our childhood immunisation coverage rates have been sustained at 100% for a number of years.

- Various Overcoming Indigenous Disadvantage (OID) reports have highlighted the success of our programs. The 2007 OID report noted the success of our child and maternal health program, discussed the statistics produced by our dental

program and noted our research into the rates of petrol sniffing on the APY Lands. The 2009 OID report noted our maternal health program, our childhood immunisation rates and our success at reducing sexually transmitted infection rates. The 2011 OID report recognised our suite of child health programs.

- The Department of Health and Ageing's (DoHA) own 2004 Aboriginal and Torres Strait Islander Primary Health Care Review noted the success of our sexual health program, our antenatal program, our aged care program, our environmental health program, our research into petrol sniffing and health research, and our development of a chronic disease and population register. The report also noted our governance structure and human resource practices.

Nganampa Health Council Dental Program Structure

The NHC dental program was established in 1986 and ever since, NHC has managed to provide continuity of access to clinical dental care. This coverage has ranged from employing a dentist on a fulltime basis, to limited coverage being provided by visiting locums. After a period of limited locum coverage from 2005/06 through to 2007/08, for the past 5 years NHC has provided consistent dental services for 32 weeks per annum utilising one dentist. Our statistics how that this regular and continual care is leading to dental health improvements on the APY Lands.

The Goal of the Dental Program is

To enable Anangu on the Anangu-Pitjantjatjara Yankunytjatjara (APY) Lands in South Australia to achieve oral and general health improvement through the delivery of an accessible, appropriate and effective oral health program.

The following program priorities have been endorsed and prioritised by the NHC Board;

- School age children will receive a dental examination, appropriate preventive dental care and oral health education at least once each year.
- Emergency dental care will be provided as required.
- Dental care will be provided to adults, in particular routine and preventative care for adults with chronic illnesses including diabetes.
- People with missing teeth will be assisted to obtain dentures.
- Oral health promotion, especially to young adults and children, will be delivered.

The Program has a strong preventive and promotive focus and works in partnership with the South Australian Dental Service (SADS), the Australian Research Centre for Population Oral Health (ARCPOH) and NT Department of Health Dental Clinic, Flynn Drive Alice Springs who accept referrals for children requiring dental treatment via General Anaesthetic, and for emergency care in times when clients are unable to access the dentist on the APY Lands.

The Program contributes to the ARCPOH research agenda through the regular provision of clinical and activity data.

Dental Care Philosophy

The Program adopts a preventive and Minimal Intervention Dentistry (MID) philosophy in its preventative approach. Our statistics reflect this, with clients receiving priority preventive services such as fluoride varnish applications and fissure sealants, as well as the appropriate therapeutic application of silver fluoride (AgF) to control decay. Tooth brushing programs are supported in all schools across the APY Lands.

The AgF application technique has been a feature of our MID practice since the Program's inception, and its non-invasive approach is at the heart of community acceptance and program sustainability. A National Health & Medical Research Council (NHMRC) funded study is looking at the AgF technique in controlling dental caries in the primary ("baby") dentition in comparison with the atraumatic restorative technique (ART). Our collaboration with ARCPOH and the Maari Ma Health Aboriginal Corporation, Broken Hill, in the evaluation of this clinical approach is ongoing.

Dental Staff

The Program operates in a highly efficient fashion due to the employment of an experienced and long term Dentist, a regular and consistent Dental Assistant, professional and technical support from a program consultant with extensive experience in remote area dental care, competent NHC management, well-developed policies and operational systems and takes advantage of synergies offered by combining the program with other NHC services and programs.

Dr Simon Wooley is NHC's Dentist. As well as being an experienced Dentist, Simon has extensive experience of the APY Lands, commencing work in this region in 1989. This has involved stints of fulltime work as well as regular locums. For the past five years Simon has been employed by NHC for 44 weeks per annum of which at least 32 weeks are worked on the APY Lands. Over the past 24 years, Simon has worked for the equivalent of approximately 12 years for NHC.

Ange Caulfield is employed as our Dental Assistant and accompanies Simon on all of his visits. She has been employed at NHC since March 2011.

Dr Sandra Meihubers is engaged as a consultant to the program. Sandra has considerable experience of dentistry is remote areas having worked extensively in remote Aboriginal communities and developing countries including Nepal and East Timor. She was the first dentist employed by NHC in 1984, and in conjunction with Dr Colin Endean, in 1986 she established the permanent dental program on the APY lands.

Sandra provides professional support, staff induction and orientation, ensures the program has continuity, undertakes quality control activities, assists with data collation and interpretation and assists with program evaluation and strategic planning. Sandra has a national reputation and a high profile in the sector.

The combined experience, longevity, professional skills and dedication of these staff are key reasons for the successes that are discussed in this report.

Physical Dental Infrastructure

NHC has a critical mass of physical resources that allow us to provide a high level of service. The program has two permanent dental clinics located in our clinics at Pukatja and Iwantja communities. Pukatja community is the largest community on the APY Lands and is in a central location that is accessible from other communities. Iwantja community is our most eastern community. A permanent clinic was established at Iwantja as its location is relatively close to Coober Pedy, providing opportunities for Dentists from Coober Pedy to make short term visits if required (there has been no need for this service to date.)

In addition, NHC operates a mobile dental clinic – more commonly known as the dental truck. It travels to all communities on the APY Lands. A new truck was constructed in 2011 and replaced an existing mobile clinic that was at the time 17 years old. This new truck is more reliable, less prone to breakdowns, safer, and more comfortable. It has improved our ability to provide services to the communities that do not have a permanent clinic.

Our capacity to provide dental health care to hard to reach patients was increased further with the purchase of portable dental equipment. This allows a dental clinic to be set up anywhere where running water and electricity is available. This has been particularly useful for treating patients at our Tjilpiku Pampaku Ngura Aged Care Facility and provides backup equipment that can be used in the event of an equipment break down. It also provides redundancy in the case of a situation where the dental truck is not available, or when there is a general equipment breakdown.

Coordination with Health Programs

Operating the dental program within NHCs existing services allows for synergies with the other services NHC offers. The dental program works closely with our clinical services and our child health and chronic disease management programs. As with all services at NHC, the dental program uses the Communicare Clinical Information System to record patient consultations.

The combination of a critical mass of experienced dental staff, a critical mass of physical dental resources and equipment, and NHC's extensive experience and management

expertise in sustaining health programs that result in real health outcomes has resulted in a sustained Dental Health program that is making a difference to the overall health of the population of the APY Lands. The outcomes that the program is achieving are discussed below.

Outputs and Achievements of the NHC Dental Program

NHC has for over five years maintained a program that has seen approximately 32 weeks of direct dental care per annum provided on the APY Lands. Comparing the current status of program activity and health outcomes with the period prior to this provides an interesting study into how sustaining regular dental coverage over a lengthy period can lead to improved dental health outcomes.

This is illustrated in the tables below. Table 1 highlights the outputs of the program and the state of dental health of children on the APY Lands. It compares the period 2007/08, where dental care was provided for 15 weeks, with 2012/13.

Children Dental Health (Under the age of 15)

Table 1

Measure	**2012/13**	**2007/08**
Individual patients seen	466	195
Examinations	512	171
Patient visits	591	264
Completed treatments	516	139
Percentage of completed treatments	100%	81%
Percentage of consults made up of emergency care	2.5%	7%
Restorations	155	125
Percentage of consults involving a restoration	30%	81%
Extractions	12	19
Percentage of consults involving an extraction	2%	12%
Fluoride treatments	524	76
Percentage of consults involving fluoride treatment	102%	49%
Fissure seals	507	20
Percentage of consults involving fissure seals	98%	13%

In summary, the above highlights:

- That there has been a significant increase in the amount of activity with more patients seen, more consultations and more completed treatments.
- That there has been an increase in the amount of preventative work that has been undertaken. This is evidenced by the improvements in the provision of fluoride treatments and fissure seals, both in absolute terms and as a percentage of total consultations.
- That the combination of the above has seen a reduction in the percentage of consultations associated with emergency care, and a decrease in the percentage of consultations that involve both restorations of teeth and extractions of teeth.

Further evidence of the success of the program can be seen by comparing the oral health status (DMFT) of 12 year old teeth on the APY Lands with the rest of SA and with remote Australia in general.

	APY Lands (2012/13)	**SA (2009)**	**Remote Australia (2009)**
DMFT 12 year olds	0.88	0.95	1.43
Percentage of 12 years old where DMFT = zero	53.1%	56.3%	48.3%

The Decayed Missing Filled Teeth (DMFT) index for 12 years old is the mean number of permanent teeth a 12 year old will have with dental caries experience. On average a 12 year old on the APY Lands will have 0.88 DMF teeth (T), a better figure than the most recently available figure for SA as a whole (0.95) and substantially better than for remote Australia as a whole (1.43).

The percentage of 12 year olds with a DMFT of zero is 53.1%, slightly worse than the statewide figure of 56.3% and better than the comparable figure for remote Australia as a whole (48.3%). This figure is considered to be an indicator of success of preventive (largely clinical) strategies.

This is in a context on the APY Lands where regular fluoride exposure from home tooth brushing with a fluoride toothpaste is uncommon, where high levels of naturally occurring fluoride in tap water is potentially beneficial but intake per person is difficult to quantify, and where high rates of sucrose consumption are observed and have been recorded.

This is particularly interesting when compared with the same figures for the five and six year old children on the APY Lands. The dmft is an index of deciduous (baby tooth) caries experience.

	APY Lands (2012/13)	**SA (2009)**	**Remote Australia (2009)**
dmft 5/6 year olds	4.51	2.02	3.91
Percentage of 5/6 years old where dmft = zero	16.9%	53.3%	30.1%

The table above shows that the dental health status of five and six year olds on the APY Lands is substantially worse than for both South Australia as a whole and for remote Australia as a whole. A resident in this age group on the APY Lands will have more than double the amount of caries compared to the same age group for SA as a whole. There are also fewer children caries free in this age group compared to SA or Remote Australia. (The South Australian and Remote Australian figures were obtained from "Ha DH, Amarasena N & Crocombe L 2013. The dental health of Australia's children by remoteness: Child Dental Health Survey Australia 2009. Dental statistics and research series no. 63. Cat. no. DEN 225. Canberra: Australian Institute of Health and Welfare").

The 12 year old health outcome data shows that once a child on the APY commences receiving dental treatment, the strategies and focus of our program is making measureable improvements and health gains.

Young children are a difficult group for us to target. They do not attend school and as a result can be difficult to locate. The state of the dental health of 5 and 6 years old on the APY Lands is concerning and is a priority for our dental program. On the APY Lands (and State wide) it is clear that this age group remains at high risk of decay. This risk appears to be increasing.

Poor dental health in this age group increases the risk of a child being referred for treatment that requires a general anaesthetic.

Strategies initiated for addressing this include:

- Our program supports dental examinations and screening and tooth brushing programs in playgroups and preschools.
- Use of adult toothpaste in prescribed minimal amounts is supported from 18 months. This is recognised as an appropriate fluoride vehicle for children at high risk of caries.
- A fluoride varnish strategy has been initiated with this age group.

- Public health initiatives to limit sales of sugary drinks and food and encouraging healthy diets.
- Investigating options for non-dental staff to apply a fluoride varnish to the teeth of this age group.

Adult Dental Health (15 years and over)

Measure	**2012/13**	**2007/08**
Individual patients seen	349	235
Examinations	336	116
Patient visits	423	274
Completed treatments	226	141
Percentage of completed treatments	67%	121% (This figure is high due to a catch up of treatments completed which commenced the previous year)
Percentage of emergency care	59%	76%
Restorations	189	113
Percentage of consults involving a restoration	67%	88%
Extractions	128	163
Percentage of consults involving an extraction	46%	126%
Fluoride treatments	121	16
Percentage of consults involving fluoride treatment	43%	12%
Fissure seals	204	7
Percentage of consults involving fissure seals	73%	5%

As with the analysis of the state of child dental health on the APY Lands, the above highlights:

- That there has been an increase in the amount of activity with more patients seen, more consultations and more completed treatments.
- That there has been an increase in the amount of preventative work that has been undertaken. This is evidenced by the improvements in the provision of

fluoride treatments and fissure seals, both in absolute terms and as a percentage of total consultations.
- That the combination of the above has seen a reduction in the percentage of consultations associated with emergency care, and a decrease in the percentage of consultations that involve both restorations of teeth and extractions of teeth.

While a priority area for NHC's program is our targeted school dental program, adult's non-emergency routine checkups are largely enabled through Communicare referral and Aged Care screening. A small number of adults also present requesting a routine checkup. However most adult dental attendance is opportunistic emergency presentation (59% emergency presentations compared to 41% general treatment in 2012/13). Adults are also more inclined to only attend a single appointment and not complete a planned course of care, as illustrated by the percentage of completed treatments figure of 67%.

Future Directions

Current resourcing prioritises our school dental program. There is much work that needs to be done to improve adult dental health. As a result, a substantial increase in the care provided to adults would only eventuate if additional resources were made available for dental care.

If additional resources were available, NHC would look to organise visits by a dental team with a specific focus on adults, particularly diabetics and others deemed to require medically necessary dental care. This would require us finding locum dental staff to undertake this work.

Summary

NHC has successfully operated a dental program since 1986. For the past five years, the program has been very consistent with a stable dental team and regular service provision. Our statistics show that this stability and consistency is resulting in improved dental health outcomes.

NHC's programs have consistently been successful when we have had a critical mass of skilled and experienced clinical staff, management expertise, physical infrastructure and adequate levels of funding. The dental program is no different and none of the achievements of the program would have been achieved without these criteria being fulfilled.

Despite these improvements, there is still considerable work to do in the areas of adult dental care and dental care for children under the age of five.