# Filling the Gap:
# An Evaluation of a Voluntary Dental Program Within an Aboriginal and Torres Strait Islander Community Controlled Primary Health Service

**PROFESSOR LISA JACKSON PULVER, PHD**

*Director, Muru Marri Indigenous Health Unit, School of Public Health and Community Medicine, Faculty of Medicine, The University of NSW*

**SALLY FITZPATRICK, MPH**

*Lecturer, Muru Marri Indigenous Health Unit, School of Public Health and Community Medicine, Faculty of Medicine, The University of NSW*

**ASSOCIATE PROFESSOR JAN RITCHIE, PHD**

*Senior Visiting Fellow, Muru Marri Indigenous Health Unit, School of Public Health and Community Medicine, The University of NSW; Adjunct Associate Professor, School of Public Health, Griffith University.*

**MARION NORRIE**

*Dental Practice Manager, Wuchopperen Health Service; Lecturer (Conjoint), Muru Marri Indigenous Health Unit, School of Public Health and Community Medicine, Faculty of Medicine, The University of NSW; Lecturer (Academic), School of Medicine and Dentistry, James Cook University.*

## ABSTRACT

**Objectives:** For Aboriginal and Torres Strait Islander people, access to oral health care is complicated by a maldistribution of dentists in regional areas. To address this problem in Far North Queensland, a volunteer dental program 'Filling the Gap' was established in 2006 in partnership with the local Aboriginal and Torres Strait Islander community controlled primary health service. This paper reports on the program's first formal evaluation and its findings.

**Methods:** The program's operation over a two-year period was investigated using multiple methods including a literature review, examining patient characteristics (n=50), and exploring episodes and types of care, patterns of volunteer recruitment, and stakeholder perceptions of the program through collection and analysis of both quantitative and qualitative data.

**Results:** Key findings revealed that 79 weeks of dental care were provided by 68 volunteer visitors addressing patient needs satisfactorily and eliminating waiting lists. Stakeholders believed that the program met a pressing need, enhanced workforce development, provided a quality service with continuity of care, and enabled cross-cultural relationships to thrive, with the familiarity and trust felt by patients towards the wider health service and its Aboriginal and Torres Strait Islander dental staff extending to the short-stay volunteers.

**Conclusion:** Whilst at the same time highlighting the critical importance of dental care within the community controlled primary health care service setting, the evaluation of 'Filling the Gap' found the program to be both effective and appropriate. Its success, however, should not take the place of sustainable, accessible oral health care services in regional and remote Australia.

**Five key words:** Aboriginal health, dental volunteers, oral health care, mixed method evaluation, regional workforce

## Introduction

Limited access to dental services compounded by high costs, fear, and lack of awareness contribute to the poor quality of life and reduced life expectancy experienced by Australia's First Peoples[1–4], starkly illustrated by their relatively high rates of hospitalisation for potentially preventable dental conditions.[3] Oral disease is associated with chronic disease, notably cardio-vascular disease and diabetes, both of which are significant contributors to Aboriginal and Torres Strait Islander people's relatively high burden of disease.[5] Risk of diabetes is exacerbated by severe periodontal disease and dental caries[6–8]; and diabetes itself has the potential to significantly increase severe periodontal disease[6, 7]

Of all the health conditions in Australia, oral health is the condition most strongly associated with socio-economic status.[1, 9] In terms of unmet need,[10] particularly problematic is the ongoing maldistribution of dentists per head of population, with rural and remote regions faring less well than metropolitan

areas.[11, 12] An inadequate public system exacerbates the situation,[13] as does the limited number of public dentists.[14] Furthermore, in 2004–2005 Government expenditure for dental services was substantially less per head for Indigenous people than the Australian average.[15]

Further barriers Aboriginal and Torres Strait Islander people encounter include lack of integration of oral health into other health services, inappropriate models of care, long waiting lists, differing eligibility criteria for dental programs, and issues around workforce recruitment and retention.[16] For Aboriginal and Torres Strait Islander Health Services (ATSIHSs), the lack of award parity with respect to salary rates compared to mainstream services is also an issue.[17]

In 2003, the National Aboriginal and Torres Strait Islander Oral Health Action Plan included amongst its aims the provision of culturally appropriate oral health services, including provision within ATSIHSs.[16] One such service is Wuchopperen Health Service, a community controlled organisation established in 1978 serving more than 20,000 Aboriginal and Torres Strait Islander people in the Cairns region, Far North Queensland (Fig 1).[18] Wuchopperen began providing dental services in 1983, and today their Oral Health Unit comprises a Base Clinic with two fully-equipped dental surgeries – newly fitted in 1997, and a fully-equipped Mobile Dental Clinic that provides outreach services to communities on the Atherton Tablelands.[19]

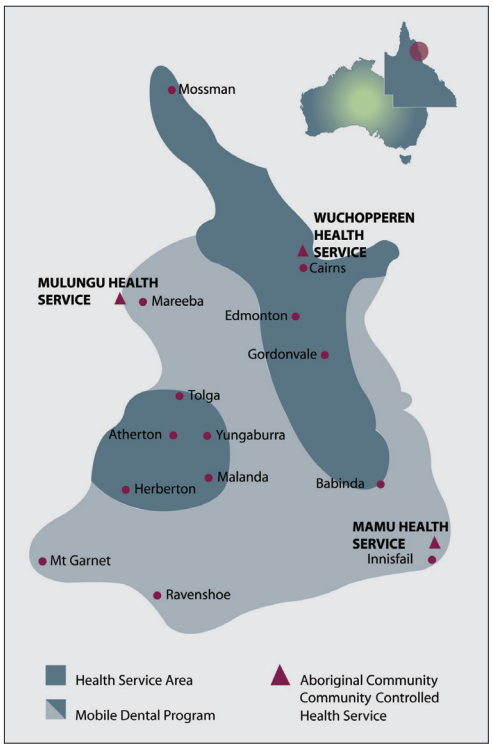


Figure 1: A map showing service footprint, Wuchopperen Oral Health Care Unit
Source: Wuchopperen Health Service, 2009.

However, despite state-of-the-art facilities, Wuchopperen Health Service has had great difficulty securing a permanent dentist for close to a decade. To address this serious workforce issue, an independent, volunteer dental program, 'Filling the Gap', was initiated in 2006 with the aim of delivering comprehensive oral health services to adult clients of Wuchopperen. The program has been run through an informal many-way partnership involving Wuchopperen, a volunteer Steering Committee, and a growing cohort of dental volunteers who provide one or two weeks of clinical care.[19] To assess the program's usefulness, acceptability and sustainability, the Muru Marri Indigenous Health Unit (Muru Marri) at The University of New South Wales was engaged to conduct an evaluation. Muru Marri has been represented on the 'Filling the Gap' Steering Committee since 2006. This paper reports on the evaluation and its findings.

## Methods

To answer the question, "What is the worth or value of the 'Filling the Gap' Indigenous Dental Program as it is provided in an Aboriginal and Torres Strait Islander Community Controlled Health Service environment?", the evaluators employed multiple methods framed by two evaluation criteria:

"What is the level of dental volunteer involvement, client attendance and treatment provision?"

"What are the perceptions of the various stakeholders regarding the practical arrangements of the program, the oral health care provided, and future directions for the program?"

Two quantitative strategies were used to assess the first criterion, whilst a qualitative approach was used to explore the second.

To understand patient characteristics, a random sample of 50 de-identified adult patient records was selected from Oral Health Unit records active over the previous five years (2002–2007) using a random number generator. From the sample, routinely collected information on Indigenous status, age, gender, place of residence and history of service use was entered by category directly into a database (Microsoft Office Excel, 2007), and the frequency distribution analysed.

Service records showing episodes and types of care provided by the dental volunteers during the calendar years 2006 and 2007 were contemporaneously examined and similarly recorded onto a second spreadsheet, as were patterns of volunteer recruitment for the same period. Regular program reports provided by the 'Filling the Gap' Steering Committee were compared during analysis.

In-depth semi-structured interviews were arranged by invitation to Wuchopperen's Board of Directors and personnel including all Oral Health Unit staff, as well as staff from one health service on the Atherton Tablelands regularly visited by the Mobile Dental Clinic. The interviews were conducted over a three-day site visit in November 2007, at which time patient focus groups at both settings ('yarning circles'*) were also planned. Face-to-face or telephone interviews were similarly set up with dental volunteers and Steering Committee members. Some participant observation and existing program documentation was used to contextualise the interview data. All interviews were recorded with informed consent, either by manual note-taking or by digital recorder, then transcribed, analysed and interpreted.

A desktop review of relevant literature was also undertaken to ascertain the national and local context within which the volunteer dental program was operating.[20]

Indigenous health research values and ethics guided every part of this evaluation.[21–23] Following negotiation of the research protocol, ethics clearance was obtained from Wuchopperen Health Service Ethics Committee and The University of New South Wales Human Research Ethics Committee. In 2008, a draft report went to key stakeholders for comment, with feedback incorporated into the final report presented to Wuchopperen's Board of Directors and signed off in 2009.

## Results

### FINDINGS FROM DENTAL PATIENT RECORDS

Of the 50 records sampled, 31 people (62%) were identified as Aboriginal, five as Torres Strait Islander (10%), ten as people of both Aboriginal and Torres Strait Islander heritage (20%),

* Conventionally to reduce bias, focus group participants usually do not know each other. This is unlikely in discrete Indigenous communities and the vernacular use of the term "yarning circle" reflects this.

three of unknown background (6%) and one as non-Indigenous (2%). Thirty-two people (64%) were women, and 18 (36%) were men. Forty-three (86%) recorded Cairns as place of residence, and seven (14%) were visitors. The average age of the sample was 37 years, with 30 years the average age at first visit. The average number of visits over the life of the client at the dental service was nine. Thirty-seven patients (74%) required further work, and 13 (26%) concluded treatment at their last visit. Twenty-five patients (50%) were new to the Unit within the life of the 'Filling the Gap' program, 11 in 2006 and 14 in 2007, and 28 (56%) last visited the service in 2007.

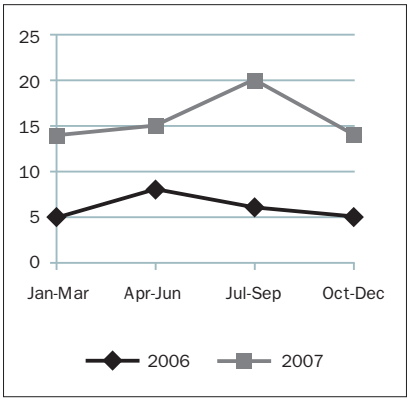


Figure 3: A line diagram showing quarterly changes in frequency of weeks of care by fully qualified dental workers (volunteer and locum)† Wuchopperen Oral Health Unit, 2006 and 2007. Source: 'Filling the Gap' Steering Committee, 2008.
† Includes care by volunteer dentists, volunteer hygienists and by locum dentists, but does not include students.

## FINDINGS FROM PROGRAM DATA

During the period under review, 2,537 episodes of care took place at Wuchopperen Oral Health Unit (977 in 2006; 1,560 in 2007), including 396 new patients (116 in 2006; 280 in 2007). Substantial increases in the number of radiographs (427 to 683), extractions (271 to 417), and composites/GIC (574 to 646) occurred between the first and second year (Fig 2).

Over the calendar year of 2006, 20 dental volunteers provided 24 weeks of practice to the Unit. For that year, on average, there were five dental volunteers per quarter, each providing an average of 1.2 weeks of service [1 week = 5 days]. Over the calendar year of 2007, there were 70 weeks of dental care provided (Fig 3). Fifty five of those weeks were provided entirely by 48 volunteer visitors: 35 volunteer dentists on their first visit; five returning dental volunteers; seven visits by students – six of whom were accompanied by one clinical supervisor; and one visit by a dental hygienist. Also, one former volunteer provided services as a locum twice, for six and eight weeks respectively.

## FINDINGS FROM INTERVIEW DATA

Forty-three participants were available and agreed to be interviewed for the evaluation. Of these, nine were health service personnel, five were Oral Health Unit staff, 18 were dental volunteers, two were prospective volunteers, and five had roles on the Steering Committee. As a funeral occurred on the day of the patient focus groups, four Base Clinic and two Mobile Dental Clinic patients were opportunistically invited to participate and gave their consent to be interviewed.

Four predominant themes arose from the interview data: specifically that the program met a pressing need, enhanced workforce development, provided a quality service with continuity of care, and enabled fostering of cross-cultural relationships.

• *Meeting a pressing need:* There was virtually unanimous agreement from respondents that the volunteer dental program was a distinct and valued service. One Wuchopperen director stated: "I mean before the program came in the place, we had a waiting list [that] was two years long ..." Others expressed frustration at the previously high levels of untreated decay and related high numbers of extractions, as well as the existence of severe periodontal disease and related risks of chronic disease.

• *Enhancing workforce development:* Dental volunteers enabled the dental clinic to support the training of additional Aboriginal and Torres Strait Islander dental assistants who gained an appreciation of a diverse range of practice techniques. As one remarked: "I've learnt so much more because working with a different dentist every week gave me so much." There were also reciprocal benefits noted. One dental assistant laughingly reported: "A lot of the dentists, they like to look at how we do things and they also take things back to their practices ... So it works out good, like two ways."

• *Providing a quality service with continuity of care:* Interviewees expressed positive opinions of all those providing care and indicated that they found a high quality of service. As one staff member remarked, "the quality of dentists that we've had ... has just been quite extraordinary". Continuity of care was important to virtually all respondents. For a couple of patients it was the presence of the same Aboriginal or Torres Strait Islander dental assistant that helped them to accept different dentists at each visit. As one commented: "So that personally didn't bother me that I had a different dentist each time ... I think that the feeling of ownership is that they are here in Wuchopperen. This is our health service!" Another stated: "Seeing the faces. The familiar ones that you've built up the relationship with ... You trust them ... You feel safe." In the same vein, one dental assistant related how she supported patients confronted by unknown terms or unexpected treatment suggestions: "I'll always explain it to them and they'll be like, 'Oh thank you, sis[ter]. Now I understand'."

• *Fostering cross-cultural relationships:* Most volunteers admitted having had no prior experience of working with Aboriginal and Torres Strait Islander people; yet,

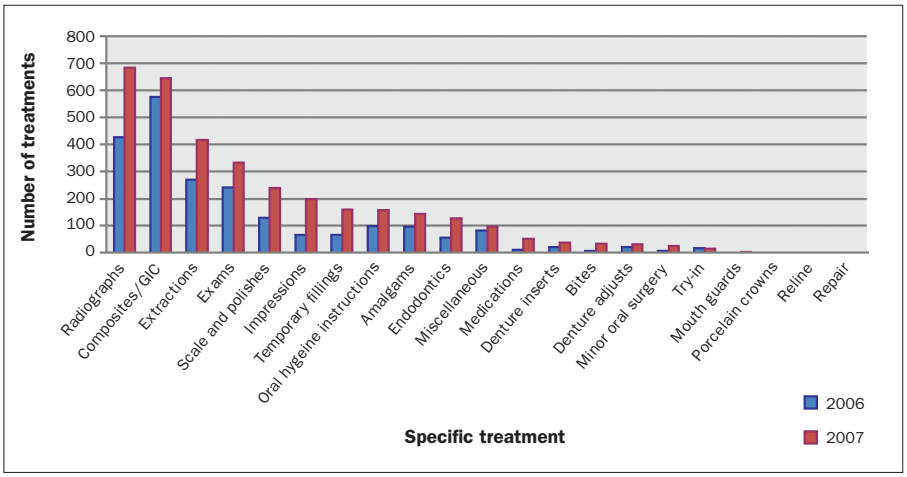


Figure 2: A bar diagram showing frequencies of types of dental care Wuchopperen Oral Health Unit, 2006 and 2007†
Source: Program data, 'Filling the Gap' Steering Committee, 2008.
† Those occurring less than 10 (2006, 2007) were Mouth guards (1, 3), Porcelain crowns (2, 2), Reline (0, 1) and Repair (0, 1).

through sharing the same goal to improve oral health through a quality service, good cross-cultural relationships have developed. One volunteer explained she was ashamed to admit her lack of prior understanding, and another recognised himself as "having a biased, suburban, westernised-type of view of the Aboriginal people" before his Wuchopperen experience. The volunteers' professionalism and respect, willingness to give their time, and practical knowledge were all qualities important to health service staff and patients; and this was reflected upon by one dentist:

*I may have crossed their cultural barriers without knowing it, but they didn't make me feel that; so they were all pretty tolerant towards me ... When you prove that you are there for the right reasons and just to do things for them, and then they are ... very open.*

• *Practical arrangements:* Most dental volunteers seemed accepting of the program's administrative arrangements and the planning, organisation of travel, and accommodation, despite a couple voicing minor inconveniences. Issues regarding the amount of paperwork involved in recruitment, especially to ensure state registration in Queensland, appear to have been largely overcome through the shared efforts of Wuchopperen staff and the Steering Committee to streamline the process.

By far the majority of dental volunteers praised the Oral Health Unit staff highly, indicating that their dedication and efficiency was one of the primary reasons the program worked well from their point of view. One dental volunteer seemed to speak for them all, saying: "I was very impressed with the way [the Unit manager] ran the whole centre – and the equipment far exceeded my expectations."

An important question for the Steering Committee was whether a series of short-term volunteers would threaten continuity of care. Systems related to coherent treatment plans, and a targeted schedule of volunteer visits, have been continuously improved over the period under review. Health staff indicated they were keen to see the development of yet more comprehensive and forward-looking treatment plans, including oral health promotion.

Another key concern of the Steering Committee was sustaining volunteer numbers. However, efforts to strategically market and publicise the program have proved fruitful and have attracted significant recognition from professional organisations.

• *Ideas for strengthening the program:* Informants identified three areas where the volunteer dental program could work better.

While volunteers have enabled some irregular outreach services to be provided, there was resounding support for the provision of more frequent visits by the Mobile Dental Van.

The potential benefits of more oral health promotion and preventive action were highlighted by a general appreciation of the work of one volunteer dental hygienist. Deliberate integration of oral health education across the service was also suggested. The regulation limiting Queensland hygienists to treating patients only when a dentist is present was seen as a barrier.

Some informants felt the working relationships between 'Filling the Gap' partners could be more actively nurtured, through activity dedicated to this purpose. It was noted that as new people were recruited to Wuchopperen or the Steering Committee, there was a noticeable information lag around issues of historical and current relevance to the program.

• *Support of the program rationale:* Respondents were unanimous that dental care was essential and that, while current efforts to recruit a permanent dentist remained unsuccessful, then a volunteer program of this nature was appropriate. However, there was concern expressed that the apparent success of 'Filling the Gap' might work against efforts to guarantee a permanent service. One dental volunteer declared:

*I think it is really a sad reflection on public health ... that you have got such a fabulous facility as Wuchopperen that just could not attract a dentist and actually that's a problem for us everywhere; there is a manpower shortage. And that's just very poor planning on the part of Federal Governments over the last 15 or 20 years.*

## Limitations of this Evaluation

Although the findings have proved to be markedly positive, there were a few limitations. This evaluation has involved multiple perspectives[24] and been characterised by a capacity development approach[25], involving the two-way transfer of knowledge and skills between the evaluation team and the Wuchopperen personnel who took part. While those involved self-reported improved understanding of the processes involved, this evaluation was completed without dedicated financial resources, and took place over an extended period of time, both factors posing limits on the collaboration. The original plan to report changes to episodes of care did not come to fruition as pre and post measures were unable to be compared due to limited resources. As well, the richness of patient input was constrained, and less than planned, as the focus group could not be rescheduled during the site visit due to time limitations.

Finally, the sensitivity of data collection affected our ability to accurately ascertain how many distinct clients were involved in the 2,537 episodes of care recorded; or whether it was a volunteer, casual or locum dentist who provided the care.

## Conclusion

The data demonstrate a definite and ongoing need for the volunteer program. Half the patients sampled were new to the Unit since the program's inception, and the types of care recorded suggest patients are presenting late. Related to this, several participants noted that local Adult Health Checks (MBS item 710) were identifying a high need for oral health care follow-up. There is also evidence that more women than men access the service, suggesting the need to encourage men to seek care. Ongoing involvement of dental hygienists and related oral health promotion would strengthen existing preventive strategies and potentially reduce risk of chronic diseases associated with poor oral health.[16, 26]

Through what might be termed 'enriching engagement', the program has enabled benefits beyond the provision of regular dental care. For example, dental volunteers have enjoyed the different experience, and most felt positive about the contribution they were making. Oral Health Unit staff have benefited through working with a diversity of dental approaches. Patients spoke of what they had learnt from the volunteers, and have tended to develop trusting relationships with those providing care. By being able to complete treatment plans for clients, Wuchopperen has been able to uphold its ethic of holism. They have also built up their mobile service. Not least, the Steering Committee has gained a sense of achievement in making it all happen. Overall, the partnership has fostered many-way learning and capacity building[25], particularly its

contribution to strengthening the Aboriginal and Torres Strait Islander dental workforce.[16, 27]

The program accords with volunteering best practice in that volunteers appreciated having their roles and responsibilities set out clearly, and practical details made explicit.[28] Evidence that personal satisfaction is a key motivation for volunteering resonates with the fact that volunteers are applying to return.[29]

One concern of the Steering Committee was that a program based on dental volunteers arriving for a week or two and then "flying off into the night" might be inconsistent with Wuchopperen's core values. However, respondents indicated that the familiarity and trust they felt towards the health service, and particularly the Aboriginal and Torres Strait Islander dental staff, extended to the volunteers – offering similarities to other well designed programs involving visiting non-Indigenous health professionals.[30]

An initial assumption of the Steering Committee was that to give the program the best chance of succeeding – and to provide as much support as possible to the volunteers – the program must involve a health service partner that is "strong and coherent within". Much of the present success of 'Filling the Gap', notably the growth in episodes of care as well as volunteer visits, appears to be a result of the capacity and culture of the partners. Also important is the fact that the program is integrated within a primary health care setting where there is a specific Oral Health Unit with dedicated staff entirely focused on providing dental care. These elements would be key considerations should the program expand or be transferred in a similar form to new settings.

The title of the program, 'Filling the Gap', clearly indicates this intervention aims to be temporary. Success in this interim is not the same as success in the provision of accessible oral health care over the longer term. It must be recognised that a volunteer program of this nature should not be allowed to become the norm in the delivery of essential health care, whilst at the same time 'Filling the Gap' is a positive civil society contribution to the critical task of improving Indigenous oral health today.

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