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Preliminary findings from the *Oranga Niho* dental student outplacement project

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ABSTRACT

Objectives: To examine stakeholder perspectives of the Bachelor of Dental Surgery 2012-2013 clinical outplacement programme with Māori Oral Health Providers (MOHPs) and inform the programme's ongoing development.

Design: A mixed methods kaupapa Māori action research project.

Setting: Six North Island MOHPs and the University of Otago Faculty of Dentistry.

Participants and Methods: Online questionnaires were used to conduct a pre- and post-outplacement survey of dental students and a twice-yearly survey of all MOHP-based clinical supervisors. Paper questionnaires were used to survey adult clients and caregivers of child clients that the students treated. Data were analysed descriptively and thematically.

Main outcome measures: 68 (61%) of the 112 eligible students completed the pre- and post-outplacement questionnaires; 31 clinical supervisor questionnaire responses were received representing all six MOHPs; and 426 client and 130 caregiver questionnaire responses were received from five MOHPs.

Results: 79% of students felt well prepared for outplacement and 75% indicated that they would consider working for a MOHP in future. Of the clinical supervisors, 93% indicated that the students were adequately prepared for outplacement, and 68%, that they would recommend one or more students for employment. However, 58% associated the outplacements with decreased productivity. More than 97% of adult clients and caregivers of child clients were pleased with the care that the students provided.

Conclusion: Recommendations for strengthening the outplacement programme included: increasing communication between the Faculty, MOHPs and students; addressing the financial cost of the programme to the MOHPs; and providing more support for clinical supervisors.

INTRODUCTION

In Aotearoa New Zealand, indigenous Māori do not enjoy the same levels of oral health as non-Māori across all age groups (Broughton, 2010; Jamieson and Koopu, 2006a, 2006b; Thomson et al., 2002). For Māori, health inequalities impact not only on individuals, but also families and communities (Durie, 1985). The development of a Māori responsive dental workforce is therefore a key workforce development priority. With this in mind, in 2011, six Māori Oral Health Providers (MOHPs) collaborated with the University of Otago Faculty of Dentistry to develop the 'Oranga Niho' ('Healthy Teeth') community-based clinical outplacement programme for final year Bachelor of Dental Surgery (BDS) students, with expert advice provided through the Ministry of Health Māori oral health Quality Improvement Group (QIG). The programme built on the Faculty's long-standing relationship with Tipu Ora, Rotorua, who from 2000-2009, had hosted selected students for a one week community-based clinical experience with clinical supervision provided by a Faculty staff member (Broughton, 2013). For the extended programme clinical supervision was provided by MOHP dentists. The additional MOHPs included Ngāti Hine Health Trust (Whangarei and Kawakawa), Te Raukura Hauora o Tainui (Hamilton), Te Manu Toroa (Tauranga), Te Taiwhenua o Heretaunga (Hastings), and Ora Toa (Porirua). All are based in New Zealand's North Island, and serve predominantly Māori, low-income communities. Initially, final-year dental students' participation in the outplacement programme was optional, but in 2012, it became compulsory.

The inclusion of outreach opportunities in undergraduate dental education is a growing trend internationally (Eaton et al., 2006; Kay, 2007; Smith et al., 2011). Community-based clinical outreach has been shown to foster students' integration of curriculum content, holistic understanding of dentistry, engagement in team-based practice (Maguire et al., 2009; Smith et al., 2006), confidence, recognition of complexity, increased attention to patients' social histories, ability to develop appropriate treatment plans, and/or engagement in an increased quantity and variety of clinical experiences (Hind et al., 2009; Smith et al., 2006). Some studies suggest that clinical outreach experience may also foster students' self-awareness, cultural competence, sense of social responsibility, and willingness to serve or work after graduating in community settings where there is limited access to oral healthcare (Bazen et al., 2007; Mofidi et al., 2003; Weaver et al., 2004). While considerable research has been published reporting on the implications of outreach for students (Holtzman and Seirawan, 2009; Hunter et al., 2007; Johnson and Blinkhorn, 2012; Johnson et al., 2012), much less has considered the perspectives of the people who students treat in clinical outreach settings (exceptions include Craddock, 2011; Elkind et al., 2006; Shrestha et al., 2008). Further, much of the literature on dental outreach reports on students' placement in satellite dental hospitals or clinic settings that are administered and staffed through their dental school, albeit in another (often rural or remote) location. This paper reports on a dental outreach programme that was initiated by/in partnership with indigenous health providers; is based in community clinics; and where local dentists, not Faculty of Dentistry (satellite) staff, provide clinical supervision.

Smith et al. (2011) stress that, from an educational perspective, it is important that the intended learning outcomes of a dental outreach programme align with the outreach context. The Faculty of Dentistry and MOHP objectives for the BDS student clinical outplacements are outlined below. The overarching Faculty goal

was to facilitate students' 'cultural competence', defined by the Dental Council of New Zealand (2008, p. 2) as "an awareness of cultural diversity and ability to function effectively and respectfully when working with and treating people of different cultural backgrounds". More specific objectives were that the clinical outplacements would: enhance students' educational experiences so that, upon graduation, they are equipped to work with the population as a whole; broaden students' patient exposure; produce a model for accessible community-based dental care; and increase oral healthcare opportunities for people who currently have limited access (Faculty of Dentistry, 2011). The Faculty's involvement in the joint development of the clinical outreach programme was also informed by the University of Otago's Māori Strategic Framework (MSF), which outlines six goals that are intended to guide practice with regard to Māori across all departments within the University. These focus on Te Arāhina–the development of strong and accountable iwi-based (tribal-based) leadership capacity; Te Honohono–an ongoing commitment to partnership with iwi under the Treaty of Waitangi; Te Rangahau Māori – the development of research that contributes to Māori development aspirations and knowledge; Te Tipuranga–the recruitment and success of Māori staff and students; Ngā Whakahaerenga Pai the development of quality kaupapa Māori or Māori philosophy programmes; and Ngā Taonga Tuku Iho–measures to support te reo me ngā tikanga Māori (Māori language and culture) among staff and students[1] (Broughton, 2010).

The participating MOHPs are based in unique community settings, and as such, they are diverse in terms of their organisational structure and infrastructure. For example, some have oral health services located alongside other health services, while others have their oral health services located separately. However, together, the MOHPs had a clear agenda in agreeing to host students on outplacement. Their goals included to: stimulate students' interest in working for MOHPs beyond graduation, provide students with community experience and a greater understanding of oral health inequalities for Māori and low-income groups, increase students' understanding of and experience working with MOHPs, and assist in workforce development likely to benefit groups that have disproportionately poorer oral health outcomes and those involved in the care of these groups.[2] Students were prepared for the MOHP-based clinical outreach experience through their clinical and public health courses, and also through the oranga niho Māori (Māori oral health) content included in the undergraduate education curriculum (Broughton, 2010).

Piskorowski et al. (2011) argue that the development of a sustainable dental outreach programme depends, partly, on adequate funding. However, in 2011 and 2012, no funding was available to support the expanded clinical outreach programme. The participating MOHPs agreed to host students (and provide clinical supervision) regardless of any associated costs or resulting productivity losses since they saw participation in the programme as a way of adding value to their existing services.[3] Likewise, initially (in 2011, when the programme was optional), participating students had to fund their own travel and accommodation costs while based with a MOHP, although a dental company sponsorship arrangement brokered at the end of 2011 enabled a partial refund of costs to the students. This sponsorship is ongoing and valuable to the sustainability of the project. Additional funding became available via the Faculty of Dentistry in May 2012 to reimburse students up to a maximum of $2000. No funding was available to support the participating MOHPs' involvement during the 2012-2013 period.

The remainder of this paper reports on the preliminary findings from an ongoing research project aimed at informing the development of the Oranga Niho clinical outreach programme. We begin by reporting on data from the first two years of the project, and then explain how these have led to ongoing changes in the programme.

METHODS

Our study was developed as a kaupapa Māori action research project alongside the establishment of the Oranga Niho clinical outreach programme. It was jointly initiated by Faculty of Dentistry and MOHP representatives as a way of systematically tracking stakeholder perspectives during the programme's first three years in order to inform the programme's ongoing development and ensure its long-term sustainability and value for all involved. Our use of the term kaupapa Māori in this context refers to the fact that the study was conducted with, by and for Māori, and driven and informed by Māori aspirations at all levels from conception to dissemination (Bishop, 1996, 1999). The study's design was negotiated collaboratively during a series of hui (meetings) in 2011, and while a small team (from the Faculty of Dentistry, Ngāti Hine Health Trust and Tipu Ora) developed the actual funding proposal, all decisions were discussed with the wider group, and changes made in response to their feedback. Funding for the project was received at the end of 2011 from the New Zealand Ministry of Health in the form of an Oral Health Research Grant. Research funds were administered through the University of Otago, but Tipu Ora were subcontracted to collate all questionnaire data. Data analysis was managed from the University of Otago (by VA), although action points were jointly determined (see below).

Since its inception, the study reflected the four identifying characteristics of action research: (1) a focus on both practicalities and outcomes in relation to BDS outplacements; (2) a concern with systematically improving the outplacement programme for all stakeholders involved; (3) a cyclical element whereby changes are implemented in response to the data and subjected to ongoing evaluation; and (4) the active participation of Faculty and MOHP representatives in the research-action process (Carr and Kemmis, 1986; Denscombe, 2010; Kemmis and McTaggart, 1988). In line with both kaupapa Māori and action research approaches, the study was envisaged as a collaborative, shared process, requiring partnership between Faculty and MOHP stakeholders and researchers (Kemmis and McTaggart, 1988).

The clinical outplacements run from the start to the end of the academic year (February to October), and involve six five-week 'rotations' annually (three per semester). They sit within a final-year integrated programme that is primarily clinical in focus. Satisfactory performance on clinical outplacement is necessary in order to pass the final-year programme. The research project began in January 2012 and was completed

[1] http://maori.otago.ac.nz/documents/MSF_2007-2012.pdf.
[2] Personal communication, MOHP-Faculty hui, February 2011.
[3] Personal communication, MOHP-Faculty hui, December 2010.

in December 2014. This paper reports on the 2012-2013 data collected through pre- and post-outplacement student online questionnaires, twice-yearly online MOHP clinical supervisor questionnaires (conducted at the end of each semester), and client/caregiver questionnaires. Each data collection method is outlined below.

The student and supervisor questionnaires were developed using SurveyMonkey®, and included a combination of yes/no questions, likert-scale type responses, and comment boxes. The pre-outplacement student questionnaire asked respondents to reflect on how prepared they felt for outplacement, the level of information that they had received, any concerns that they had about outplacement, and their outplacement expectations. The post-outplacement questionnaire asked students to reflect retrospectively on their outplacement preparation; organisational aspects of the outplacement; the range and volume of clinical tasks experienced; the range of community (non-clinical) oral health opportunities experienced; the clinical supervision that they received; aspects of outplacement that they found most challenging, instructive and enjoyable; suggestions for improving the outplacement programme; and whether or not they would consider working for a MOHP in future. The clinical supervisor questionnaire invited respondents to reflect on their overall clinical supervision experiences throughout each semester, and to comment generally on: students' 'fit' within their work environment, preparation for outplacement, and ability to communicate with patients in clinical and non-clinical contexts; the Faculty's role in administering the outplacement programme; the MOHP's productivity while hosting students; students' apparent strengths and weaknesses; clinical supervisors' willingness to continue providing clinical supervision; and whether or not clinical supervisors would recommend any of the students for employment in their own or another, similar organisation. In 2013, following feedback at our annual hui kōrero (discussion meeting), we added a further question inviting clinical supervisors to identify areas where the Faculty could provide them with further clinical support or continuing professional development (CPD) opportunities.

The paper questionnaires for adult clients and caregivers of child clients were developed in close consultation with all six MOHPs, based on client questionnaires that were originally developed and piloted by staff at Ngāti Hine Health Trust. These questionnaires invited responses on a six point likert-scale to the following seven statements: the student dentist was on time and introduced themselves; the student dentist was welcoming and made me (and my child) feel comfortable; my (my child's) dental care plan was clearly explained to me; my (and my child's) fears and questions were discussed and cared for; dental care options involved in my (my child's) treatment were given; my (my child's) dental care today was completed in a timely way; and I am pleased with the care provided by the dental student today. The questionnaire also included a space for further comments.

Online questionnaire respondents were recruited via email prior to each outplacement rotation (students) and at the end of each semester (clinical supervisors). Clinical supervisors were also recruited to the project through the annual Faculty-MOHP hui kōrero. Paper copies of the client/caregiver questionnaires were prepared in Dunedin (by VA) and sent to each MOHP at the beginning of each semester. The five MOHPs that chose to use these arranged for administrative staff to give them to clients/caregivers in the clinic waiting rooms following appointments.

Descriptive analysis was conducted using SPSS 20.0. Qualitative data (comment responses) were analysed inductively using a thematic analytic approach (Bullock, 2010). Specifically, clinical supervisor, student and client/caregiver responses were coded in relation to the key themes that emerged in each participant group's comments, the research questions, and the Faculty and MOHP outplacement objectives. As a check against misreading the participants' responses, where an answer corresponded to multiple themes, it was coded for each (Thomas, 2006). Preliminary data were shared with MOHP and Faculty of Dentistry representatives at annual hui kōrero, and action points based on these data were then jointly determined.

RESULTS

During 2012 and 2013, 68 (61%) of the 112 students who went on clinical outplacement with a MOHP completed both the pre- and post-outplacement questionnaires. By the end of 2013, we had received 31 clinical supervisor questionnaire responses, representing all six MOHPs. During 2012 and 2013, five of the six participating MOHPs used the client and caregiver questionnaires, returning 426 client and 130 caregiver questionnaire responses in total.

STUDENT REFLECTIONS PRE- AND POST-OUTPLACEMENT

An ethnically diverse group of students responded to our pre- and post-outplacement student questionnaires. Most identified as Asian (33 or 49%) or European (22 or 32%), with 4 (6%) identifying as Māori. Most student participants were female (43 or 63%). In the pre-outplacement questionnaire, most students (54 or 79%) indicated that they felt well prepared for going on outplacement, noting that the course content pertaining to Māori oral health (Broughton, 2010) had been particularly helpful in this regard. When asked what they expected to gain from working with a MOHP, students focused on clinical, cultural and practical aspects (Table 1). Some students specifically focused on outplacements as an opportunity to learn more about Māori

Table 1. Students' expectations of working with a MOHP (n=68)[a]

Theme	Number of students
Clinical experience and exposure	33 (48%)
Cultural competence/confidence	27 (39%)
Increased understanding of things Māori	20 (29%)
Exposure to a different population	20 (29%)
Clinical competence/confidence	17 (25%)
Community dentistry experience	15 (22%)
'Real world' experience	13 (19%)
Efficiency	12 (17%)
Workplace confidence/competence	8 (12%)
Exposure to different ideas	8 (12%)
Private practice-type experience	5 (7%)
Communication skills	5 (7%)

[a] The responses exceed 100% because most were coded for more than one theme.

oral health, while others focused on outplacements as offering an opportunity for 'real world' clinical experience.

Three key themes emerged in the students' responses to the question of what aspects of outplacement they would likely find challenging: efficiency requirements, having to negotiate differences and having to work independently. When reflecting on the anticipated challenges of outplacement, students referred to both the clinical and human aspects, as exemplified in the following three 2013 responses: "Making treatment decisions fast and efficiently", "Engaging in a community that is not my own", and "Patients fearing treatment due to me being a student". In total, 32 students (49%) indicated that they had concerns about outplacement prior to going. These mostly related to financial issues or uncertainties about their MOHP/outplacement location. In response to the question of how their concerns might be addressed, students suggested that better Faculty-MOHP communication, more practical information from the MOHPs and financial support prior to outplacement would be helpful.

Table 2. Areas of learning that the students associated with outplacement (n=65)[a]

Area of learning	Number of students
Clinical skills	26 (40%)
Understanding public health issues	17 (26%)
Understanding Māori perspectives/working with Māori	15 (23%)
Time management	13 (20%)
Understanding 'real life' dentistry	10 (15%)
Communication skills	9 (14%)
Decision-making	7 (11%)
Community-based practice	7 (11%)
Adapting to new people	6 (9%)
Confidence	5 (8%)
Cross-cultural engagement	5 (8%)
Working within financial constraints	5 (8%)
Practice management	4 (6%)
Dealing with people in pain	4 (6%)
Treatment planning	4 (6%)
Working independently	4 (6%)
Dealing with paperwork	4 (6%)

[a] Three students did not specify their areas of learning. Most responses referred to multiple areas of learning so the responses add up to more than 100%.

Table 3. Students' suggestions for improving the outplacement programme (n=61)[a]

Suggestions for improvement	Number of students
Provide better/earlier information	18 (30%)
Improve organisational aspects of the outplacement	14 (23%)
Increase clinic time	11 (18%)
Provide financial support for students	10 (16%)
Improve Faculty-MOHP communication	9 (15%)
Provide better accommodation information	6 (10%)

[a] Seven students did not make any suggestions for improving the outplacement programme. Responses exceed 100% because many students made more than one suggestion.

Following outplacement, 52 students (77%) stated that the outplacement had met their expectations, and most associated their outplacement experience with rich learning opportunities (Table 2). Broadly speaking, these mirrored and exceeded students' earlier expectations (Table 1). The comments below exemplify the multi-faceted learning that the students associated with their time on outplacement.

> *One of the key things would be time management. I had to try to keep up with my work. I also learnt how to improve my deep restorative work and a few tricks to improve the quality of my restoration. I also learnt how to have better communication and write good paper work.*
>
> *What real life dentistry can be like, the impact dentists can have on individuals and a community at many different levels and all the factors implicated in oral health.*
>
> *How to identify and address the patient's chief concern as efficiently as possible.*
>
> *Management of patients with limited finances. Ability to be confident in my work without having someone supervise [me] every step of the way.*
>
> *Treat the patient how they want to be treated. Let them tell you their expectations and what they think needs to be done … Treat the whole family.*
>
> *The things we do clinically are important but not as important as what people can do for themselves if they are aware and empowered to take care of their own health.*
>
> *Māori tikanga [cultural practices], clinical experience, techniques for tamariki [children], how Māori Providers operate … the difference [in] a non-fluoridated area … decay rates are astonishing.*
>
> *How to treat young children successfully.*

Although, overall, the students associated their outplacement experiences with rich opportunities for learning, there was some variation evident in the kinds of learning opportunities experienced by students at each MOHP. Most students (48 or 71%) stated that the range of clinical work experienced was 'excellent' or 'good', but slightly fewer (41 or 60%) rated the volume of clinical work in the same way. Some commented that their MOHP clinics were "busy" and that their time felt well used. Others noted the high rate of patient cancellations, and some

Table 4. A summary of clinical supervisors' perspectives of dental students (n=31)

Questionnaire item	Number of 'acceptable', 'good' or 'excellent' responses
Students' ability to fit into the MOHP work environment	26 (84%)
Students' ability to communicate effectively with clients in clinical contexts	26 (84%)
Students' ability to communicate effectively with clients in non-clinical contexts	28 (90%)
Students' preparedness for clinical outplacement with a MOHP	25 (81%)

expressed frustration at a perceived lack of clinical opportunities available. When asked about their health promotion and community (non-clinical) experiences on outplacement, 38 students (56%) rated these as 'good' or 'excellent', while some stated that they "didn't have any" due to the fact that the dental service was quite separate from the other core health services. Some students expressed appreciation for having been given access to health promotion experiences that extended beyond oral health per se, for example, opportunities to participate in smoking cessation courses or diabetes and youth health clinics.

The students were largely very positive about the clinical supervision that they received from MOHP staff, with 57 (84%) describing it as 'good' or 'excellent'. Students described 'excellent' clinical supervisors as people who were helpful, affirming, supportive and knowledgeable, and who provided a level of independence along with guidance when necessary. For example:

> *Our main supervisor was very positive and enthusiastic. We were made to feel very welcome and not like we were a burden at all. The feedback we got was very helpful and I never felt unsupported or out of my depth.*
>
> *Our supervisor was amazing. She was always there when we got stuck but trusted enough to give us enough independence.*
>
> *The dentists and therapists we worked with were fantastic, very knowledgeable, great at teaching and letting us work and good to work with.*

Some students noted the need to negotiate differences between the clinical approaches they had learnt at the Faculty of Dentistry and those used in their host MOHP. However, they identified this as both a challenge and a learning opportunity, as exemplified in the two comments below:

> *We learned different techniques from the supervisor but sometimes had conflicting opinions when we noticed some procedures are different from what we were taught at school.*
>
> *Supervisor was very critical which was a very good aspect to improving us. Also had a lot of experience to show us some tips and tricks.*

Students were asked to identify how the outplacement programme could be improved for future students. Their primary suggestions were to provide better and earlier information about each MOHP and to improve the organisational aspects of the outplacements (Table 3). When asked to provide advice for future students, their primary suggestions were to maintain a flexible and open attitude, make the most of the opportunities afforded by outplacement, enjoy the experience, be friendly, and be ready for different approaches. Many students emphasised the need to recognise outplacement as more than a clinical opportunity. In the words of one student, "Be yourself, use every opportunity to learn. Don't expect solid dentistry as that's not what it's all about; embrace a once in a life time learning experience".

Finally, when asked whether they would consider working for a MOHP in future, 51 (75%) of students replied affirmatively. Comments revealed students' appreciation of their MOHP clinics' "community feel" and excellent work hours, the sense of fulfillment that they had gained from treating clients who might otherwise have limited access to oral health care, and/or a desire to "give back". However, some students noted that they would likely find the limited range of clinical work and/or the high level of patient cancellations frustrating, or that they would only work for a MOHP once financial considerations were no longer a concern.

CLINICAL SUPERVISOR PERSPECTIVES OF STUDENTS

The number of students supervised by a clinical supervisor in any one semester ranged from 3 to 18, and the mean number of students supervised per semester was 5. Overall, clinical supervisors returned more positive than negative responses about the students that they had supervised (Table 4). However, clinical supervisors also noted that the individual students varied considerably. As one commented, "It is really impossible to generalise for all students".

Clinical supervisors were asked to identify any areas of strength and weaknesses that the students had displayed. Perceived areas of strength included students' interpersonal skills, ability to administer local anesthetic (LA), willingness to learn, enthusiasm, willingness to work with staff and patients, theoretical knowledge, willingness to help and willingness to share knowledge. Many comments referred to multiple areas of perceived strength. For example:

> *Good theoretically, willing and able to have good clinical discussions. Eager to learn and very willing.*
>
> *Great with administering LA. Great chairside manner. Willingness to work with the dental therapist.*
>
> *Very strong theoretical skills, great interpersonal skills and chairside manners. Above average clinical skills especially with diagnosis, treatment planning and restorative. Good fast learners.*

The primary areas of weakness that the clinical supervisors identified included students' diagnostic abilities; treatment planning, exodontia and oral surgery skills; time management; and treatment of caries, especially in clients with extensive disease. Some clinical supervisors also commented on a perceived lack of cross-infection control, difficulty using dental software, lack of ability to prioritise treatment and lack of record-keeping skills. As with the perceived strengths, many comments referred to multiple areas of perceived weakness:

> *Treating extensive oral disease…time management. Concentrating more on the technical side than ensuring patient comfort. Failure to extend cavities enough and leaving active caries at the enamel-dentinal junction… Minimal cavity preps will not work all the time in this area, on our patients.*
>
> *Cross infection control…Titanium experience for clinical notes… ability to prioritise treatment needs and formulate complex treatment plans.*
>
> *Lack of volume of clinical experience especially in exodontia, root canal treatment, treatment planning, diagnosis, restorative work other than simple restorations, approaching deep decay, applying common sense, use of Titanium for clinical notes. Painfully slow at all aspects.*

Clinical supervisors were asked to comment on the level of communication, support and information that they had received from the Faculty of Dentistry. In total, 17 clinical supervisors (55%) responded with 'acceptable', 'good' or 'excellent', but 9 (29%) indicated that they felt that more communication, information and support were necessary. In their comment responses, clinical supervisors noted that any contact with the Faculty of Dentistry had been mostly administrative, although some acknowledged that further communications may have occurred between the Faculty and management staff and not been passed on to

them. In response to clinical supervisors' apparent desire for more clinical contact with the Faculty of Dentistry, in 2013, we added two questions to the clinical supervisor questionnaire. These asked clinical supervisors to indicate whether they would like to receive more clinical guidance from the Faculty of Dentistry, and if so, in what areas. In 2013, 11 clinical supervisors responded to this question. Most responses asked for more clinical guidance around student supervision and mentoring (including what to expect of students at this level, approaches to supervision and appropriate levels of supervision); dental materials use at the Faculty of Dentistry; and in any areas that students identified following their return from outplacement. Some clinical supervisors also suggested that it would be good to have clear clinical communication pathways with the Faculty, for example, if clinical guidance was needed or specific supervision issues arose. Some indicated a desire for " two-way conversation" with Faculty clinical staff, for example, about "training students for work on badly broken down dentitions", how to meet the clinical needs of different patient groups, and the kinds of treatment that MOHPs are able to provide for their patients compared with those provided at the Faculty of Dentistry.

Clinical supervisors were asked to comment on whether their clinic productivity had increased or decreased since they had begun hosting dental students on outplacement. Of the 26 clinical supervisors who responded to this question, 18 (69%) indicated that their productivity had decreased, 4 (15%) that it had stayed the same as usual, and 4 (15%) that their productivity had increased. Some commented that it was difficult to judge the effect of the outplacements on productivity, for example, "We see more patients; whether the actual productivity has increased I am not sure".

The final question invited the clinical supervisors to make any other comments about their experiences supervising dental students, the dental students they had supervised, or the outplacement programme generally. Once again, the responses were wide-ranging. Positive comments emphasised the special attributes that the students had brought to the organisation; reflected on the opportunity that the programme had provided for receiving up-to-date clinical information from students; and expressed general appreciation of the opportunity to mentor students in a community environment, and specifically, to introduce them to the possibility of working in Māori communities post-graduation. For example, one clinical supervisor commented: "I have enjoyed having the students. It is like having mini refresher courses. All the students we have had have endeavoured to fit into the Māori workforce and [members of] the organisation have all been positive with our students". Another wrote, "Supervising the students makes you more aware of your routines. It is refreshing to have new 'blood' in the clinic environment". However, some clinical supervisors also noted that supervising students who were weaker, slower or less confident clinically caused them considerable stress; that the outplacement programme was costly in terms of time and lost productivity; and that in some cases, patients had received less-than-optimal treatment from weaker students. Suggestions for improving the outplacement programme included: ensuring that the stronger students go on the first outplacement rotation (at the beginning of their final year), that there should be "more structure in the programme from the start in terms of precise requirements for the supervision and reporting", that poor performance on outplacement should affect students' right to graduate, and that there should be more clarity around pathways and processes for clinical supervisors to follow if issues should arise. In total, 21 clinical supervisors (68%) indicated that they would recommend one or more of the students supervised each semester for employment in their own or a similar organisation.

CLIENT AND CAREGIVER PERSPECTIVES OF STUDENTS

Five of the six MOHPs that hosted dental students on outplacement chose to use the questionnaires for clients and (if appropriate) caregivers of child clients. The clients' ages ranged from 16 to 79 years (mean = 35 years), and 60% identified as Māori. The children of caregiver questionnaire respondents ranged from 0 to 17 years (mean = 6 years), and 71% were identified as Māori.

Clients and caregivers of child clients were overwhelmingly positive about the treatment that they (or their children) had received from the dental students. Table 5 provides an overview of their responses to the questionnaire items. Some clients and caregivers provided additional written comments on the questionnaires. Positive comments revealed a warm appreciation of students' friendliness, care, patience, calmness, confidence, competence and ability to communicate clearly. For example, client comments included the following:

Treating me as an important person and not a client. Very caring and that was visual and you can actually see and feel it.

I'm very thankful, what a lovely team of girls they were. Very gentle and had patience... I'm inspired to continue with the excellent advice and after care tips.

I was very nervous about coming and both students made me feel at ease. I wish them luck for their futures.

Excellent dentist. Thoroughly enjoyed it, things were explained to me and I found it comfortable...Thanks.

They worked well together, frequently checked I was comfortable. Very entertaining. Both are warm and friendly. Efficient; very professional–excellent.

Table 5. MOHP client and caregiver perspectives following treatment by a dental student

Questionnaire item	'Strongly agree' or 'agree' responses (%)	
	Clients (n=426)	Caregivers of child clients (n=130)
The student dentist was on time and introduced themselves	95	93
The student dentist was welcoming and made me (and my child) feel comfortable	97	98
My (my child's) dental care plan was clearly explained to me (and my child)	95	90
My (our) fears and questions were discussed and cared for	94	82
Dental care options involved in my (my child's) treatment were given	94	82
My (my child's) dental care today was completed in a timely way	94	93
I am pleased with the care provided by a dental student today	97	98

Positive caregiver comments expressed similar perspectives:

This is the first time I have felt comfortable with a dentist. [My child] has had some bad experience with another dentist so I am very pleased and [my child] is ok. Thank you.

It was done in a way where all the scary barriers were broken down, e.g. positive friendly, funny and the jovial kōrero (speech).

Absolutely lovely girls. Very friendly and my son was very comfortable with them.

The students were both warm and friendly and made my otherwise shy children feel comfortable. They spoke age appropriately too. Very thorough and knowledgeable. Kia ora rawa atu (thank you very much).

Very good with my son, reassuring him and patient with him. He gave me a lot of good tips to help keep my child's teeth clean. Helpful pleasant manner.

Although rare, less positive comments from adult clients focused mainly on the students' working pace, communication, and/or confidence. For example:

I think the person who did my dental care didn't talk enough about when [he/she] was doing things, e.g. when I was getting my injection, most people like to know as you do feel it and needles aren't a nice thought.

Dental care was okay, student didn't seem too confident.

Wasted my time coming down today because he didn't get anything done.

Don't make me wait too long please.

The questionnaire responses from caregivers of child clients included no explicitly negative comments, but one caregiver wrote a reassuring comment following an apparently difficult appointment: "With a bit more experience with children the student will be great. Tried hard to figure out ways to complete the examination without upsetting my boy. That was nice that he cared".

DISCUSSION

Since 2012, the Oranga Niho clinical outplacements with MOHPs have been a core component of final year students' dental education programme at the University of Otago Faculty of Dentistry. These outplacements are particularly notable in that they were jointly initiated by and rest on partnership with indigenous communities and community-based health providers. This paper has reported on preliminary data from a kaupapa Māori action research project aimed at ensuring that the clinical outplacements have ongoing value for all stakeholders. In this regard, our findings are promising, while revealing some key concerns that need to be addressed.

The project had some limitations. First, from students' perspectives, there was clear variability across MOHPs in terms of their level of organisation and the clinical and community-based (non clinical) opportunities that they provided. Similarly, from clinical supervisors' perspectives, there was clear variability across students which was difficult to capture in a single questionnaire response at the end of each semester. Therefore, although dominant themes emerged in the student and clinical supervisor responses, our findings must be read with caution. In terms of the students' perspectives of outplacement, variable experiences can be seen as inevitable given the MOHPs' location in a range of unique community settings and their organisational and infrastructural diversity. In terms of the clinical supervisors' perspectives of students, future research could include the clinical supervisor reports on individual students to gain a more nuanced picture of what clinical supervisors saw as individual students' clinical and communicative strengths and weaknesses. Further, some clinical supervisors chose not to respond to the online questionnaire, or responded to it at the end of some semesters and not others. The clinical supervisor data, in particular, must be read as providing a 'broad brush picture' of their perspectives of the students and the outplacement programme in general. In this paper, we have focused largely on the dominant themes that emerged in our supervisor, student and client/caregiver data.

A second limitation is that the client and caregiver questionnaires were not used by all of the MOHPs, or to the same degree in each location. Client and caregiver responses may have been more varied if all of the participating MOHPs had used the questionnaires to the same extent, or in a more systematic way. While our client and caregiver data can therefore be seen as providing a 'patchy' perspective of host community members' perspectives of being treated (or having their children treated) by dental students, this was somewhat unavoidable in a research project being conducted in community clinics that rested on the goodwill of administrative and clinical staff.

As noted, a key imperative for MOHPs, and for the New Zealand oral health sector generally, is the development of a Māori-responsive, culturally competent dental workforce. In this regard, despite the limitations noted above, our preliminary findings are extremely promising. Students' comments revealed an increased awareness of the importance of recognising oral health as a social and public health, rather than a solely personal, issue. Many of the students were confronted with oral health inequities beyond those that they encounter in the dental school environment, for example, high levels of decay in unflouridated areas. Students' post-outplacement reflections highlighted the importance of listening to clients, treating them with respect, and recognising them as belonging to larger familial and social groups, not just as isolated individuals. In addition, for some of the students, outplacement offered a rich opportunity to hone their skills in working with children and adolescents, to work with and learn from other allied health professionals (in particular, dental therapists), to engage in non-clinical health promotion activities and to experience how 'real world' (temporal, clinical and financial) constraints shape dental practice.

From a workforce development perspective, perhaps our most exciting finding is that following their time on outplacement, most students indicated a willingness to work with a MOHP or similar organisation in future. Alongside, clients and caregivers of child clients who were treated by the students and who completed the client/caregiver questionnaires, expressed overwhelmingly positive views of the students and their clinical work. As such, despite our study's limitations, our preliminary findings suggest that the outplacement programme may play a strategic role in developing an emerging dental workforce that is both communicatively and clinically effective and culturally responsive. Our findings also suggest the importance of including clients (and caregivers of child clients) in research examining dental outreach programmes. In the case of our study, the very positive feedback from clients and caregivers was

enormously encouraging for MOHP staff who were working to support the dental students on outplacement, and provided a counter perspective against concerns regarding lost productivity or the clinical risks associated with hosting students in community settings.

Broad recommendations for strengthening the outplacement programme that emerged in our preliminary data included: increasing communication between the Faculty, MOHPs and students; addressing the financial cost of the programme to MOHPs; and providing more structured support for clinical supervisors. These recommendations were discussed at Faculty-MOHP hui kōrero in 2012 and 2013, and the following responses have been actioned:

1. From the outset of the programme, the Faculty has provided a clinical outplacement handbook to students going on outplacement. In collaboration with the MOHPs, these have been updated to include practical information relevant to each outplacement location, for example, transport and accommodation options and clinic hours.
2. From the outset of the programme, an annual hui, funded by the Faculty, has been held as an opportunity for kanohi ki te kanohi (face to face) MOHP-student interaction and for the students to ask questions/have MOHP expectations clarified. Since 2012, this has been held at the end of each academic year as a core course component, enabling fourth-year dental students to meet staff from their prospective host MOHPs prior to their final (fifth) year outplacement programme's commencement.
3. From the outset of the programme, an academic (clinical) staff member (JB) was identified as having oversight for the outplacement programme. He contacts all students by email during each outplacement rotation to check if they have any issues of concern, and is available for clinical supervisors to contact if they have specific clinical/supervisory concerns in relation to their students. His role has been clarified with the MOHPs at our annual hui kōrero.
4. In 2013 a clinical visiting programme was initiated. This involves a senior clinician from the Faculty of Dentistry visiting a MOHP to provide input into their clinical supervision, engage in discussion about current clinical practice, and provide CPD for MOHP and other local dentists. To date, four of the six MOHPs have received such a visit.
5. In 2014 the Faculty of Dentistry developed an extensive 'Aide Memoire for Clinical Supervisors' document. This was distributed to all MOHPs to provide guidance around clinical supervision.
6. In 2014 the Chair of the QIG spent time working in the patient clinics at the Faculty of Dentistry, providing clinical supervision alongside Faculty staff, and observing supervision practices. He has undertaken to liaise with clinical staff at the MOHP sites to ensure a level of consistency in terms of the clinical supervision provided.
8. Since the beginning of 2014 the MOHPs have secured some financial support from the Faculty of Dentistry to offset the cost of hosting students at a 'per student' rate per rotation.

The outplacement programme has been expanded since the inception of this project. In 2013, rotations to Oranga Niho mo te Iwi ki Taranaki were included and in 2014 He Oranga Pounamu, in conjunction with the Charity Hospital in Christchurch joined the programme. Faculty staff have visited both new venues.

Moving forward, a key concern for both the Faculty of Dentistry and the MOHPs is to secure health workforce funding to ensure the sustainability of the MOHP-based Oranga Niho dental outreach programme. To date, its maintenance has rested largely on the goodwill and generosity of MOHP clinic and administrative staff and an already stretched Faculty of Dentistry budget. Given that dental decay is New Zealand's most prevalent chronic (and irreversible) disease (Ministry of Health, 2010), it is important that funding is available to cover the cost of hosting dental students on outplacement in New Zealand in an equitable manner with all health-related student outplacements. Faculty of Dentistry and MOHP staff alike hope that this workforce inequity will be addressed in future.

CONCLUSION

During 2012-2013, our kaupapa Māori action research project explored student, clinical supervisor and client/caregiver perspectives of the Oranga Niho dental student outplacements with Māori Oral Health Providers (MOHPs). Following outplacement, students indicated a willingness to work for MOHPs or similar organisations in future. Most clinical supervisors indicated that they would recommend one or more of the students that they have supervised each semester for employment in their own or another, similar organisation. MOHP clients and caregivers of child clients treated by the students were overwhelmingly positive about the clinical care that students provided. A key concern moving forward is to secure funding for the programme, particularly to offset its cost to the MOHPs involved.

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