Healthy Families, Healthy Smiles

Evaluation Report 2015-19

Appendices

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Appendix A: Midwifery partnership interview overview of themes and illustrative quotes

Overview of evaluation findings from a key informant interview exploring the Midwifery Initiated Oral Health education program partnership

Partnerships represent a key component of the HFHS program. Here we report the findings from an interview with a key informant from Western Sydney University (WSU) discussing their perspectives of the partnership with DHSV/HFHS in the implementation of the Midwifery Initiated Oral Health education program. The interviews explored the informant's involvement and role in the HFHS program, benefits and impacts of the partnership, challenges and future directions.

Perspective on the partnership

A key partnership was formed between DHSV/HFHS and WSU in the adaptation and implementation of the Midwifery Initiated Oral Health (MIOH) educations program for Victorian midwives. The key informant described the partnership with the HFHS program and DHSV as a "blessing", greatly valued, mutually respectful and beneficial for both parties involved. The key informant identified this was achieved through open communication, generosity and complementary knowledge base and skills sets.

For example the key informant described WSU provided the evidence-based training package, content and technical expertise. WSU offered an existing relationship with the Australian College of Midwives (ACM) who co-developed endorsed the program as continuing professional development activity and extended this relationship to include DHSV. At a later stage ACM agreed to house the MIOH program on their online portal for more sustainable impact. The key informant described appreciating the HFHS team sought out their existing evidence based program, to adapt and implement, rather than developing their own new program. The key informant noted how the HFHS team acted as a vital enabler of the implementation and initial piloting of the program. The HFHS team were a key facilitator of the recruitment process offering their knowledge of the population, building relationships with hospitals and understanding the intricacies and best approach to recruit midwives. After the pilot, the course would incur a fee for access which DHSV agreed to purchase and this funding supported the continued existence and maintenance of the MIOH program.

Benefits

Establish and showcase proof of concept and program impacts

The partnership with the HFHS program, together with DHSV's organisational commitment and Victorian Government policy support (providing priority access to dental services for pregnant women) were key enablers of the piloting and roll out of the MIOH program in Victoria. This partnership and implementation of the program in Victoria provided WSU with a proof of concept as well as evidence of program impacts.

Research impacts

The partnership was also greatly valued from a research perspective. WSU was able to generate vital evidence of the success of the practical implementation of the MIOH program. This provided a proof of concept and evidence of the feasibility of effectiveness of partnerships between the university and health services and their capacity to have real world impacts. Demonstration of successful translation of research into policy and practice (a key research goal) further benefited WSU in funding applications. The opportunities to showcase their achievements through co-presenting (DHSV and WSU) at conferences and joint publications was greatly valued. This enabled both parties to promote their successful partnership and the effectiveness of MIOH program more widely, while at the same time meeting DHSV's need to share their work and university performance requirements for publications and conference presentations.

Generate national interest

In addition, showcasing this evidence of success and proof of concept generated interest Australia wide for others to adapt and implement MIOH in their own states. The success demonstrated through the partnership between HFHS and WSU also helped WSU to build the case to make the course more widely accessible with ACM later agreeing to house the MIOH program on their learning portal.

Influence policy

The key informant described how the success of the partnership and outcomes influenced Victorian policy and lobbying to the NSW government on prevention and changes in the policies to focus on oral health in antenatal settings.

New partnerships

The partnership model with DHSV has also lead more broadly to the establishment of other collaborations and partnerships with relevant departments at DHSV. In particular this supported the development of an interdisciplinary network in oral health. WSU also established a research centre based on the successful example of the MIOH partnership model which helped to demonstrate the effectiveness of working with other health sectors to promote oral health and translate research to practice.

Challenges

While an investment of time and money in adapting the MIOH program for Victorian midwives was required, the key informant realised that the benefit gained from these efforts outweighed the costs in the long term. For example, the partner described the great benefit of being able to roll out the program in Victoria and using this experience and evidence to engage with other states.

Future directions

Due to these successes the partnership remains ongoing with continual discussion of avenues to collaborate.

Table of themes and illustrative quotes

Table 1. Midwifery partnership interview themes and illustrative quotes

Themes	Illustrative quotes
1. Perspective on the partnership	
	"Respect and the acknowledgement of each other's expertise and our limitation has been crucial in maintaining this relationship. And keeping both parties updated on what's happening throughout this journey…I think that that's really helped maintaining that relationship and made it a more longstanding relationship." *"[The HFHS representative] has done an amazing job going out there and marketing [the MIOH program]… speaking to each hospital… to try and get a champion on board and then train them up... So I think that's something that I would never be able to do. You know, being obviously outside the state but also not knowing the intricacies of doing that. So I think it's been a win-win situation for both parties."*
2. Benefits	
2.1 Establish and showcase proof of concept and program impacts	*"We also then started publishing together, which was great… for us, we are even now highlighting the Victorian story, when we showcase how the program has been successful… The partnership has gone so well that we can show the impact of the program… being incorporated into the obstetric online system, the number of midwives doing the training… increase in referrals [of pregnant women to dental services] that happened because of that [the partnership]."*
2.2 Research impacts	*"The outcomes that we got from Victoria was beneficial to the university because they could showcase those examples, to the ARC [Australian Research Council] to show that yes, something that was conceptualized itself in the university has made an impact in terms of improving patient outcomes, improving awareness in the community, and upskilling clinicians in this area…"*
2.3 Generate national interest	*"[We] use the story in Victoria and the partnership and leverage it to try and convince, I guess stakeholders in large states that this is something that you need to really, potentially, scale up as well…"* *"[The partnership] resulted in new opportunities as well… from my perspective…a model test case. And then given me confidence to actually partner with other states hopefully, and have good relationships like this."* *"It [The partnership and evidence of success] has also helped us, I guess to work with the Australian College of Midwives to actually, get it, completely revamped and housed on their website, on their CPD portal. Because they could see that the value of the partnership and the fact that*

	people are doing it…"
2.4 Influence policy	*"…One of the big things was the fact that in your [Victorian] oral health promotional plan, this initiative was acknowledged. That was a big thing for us because…something that we had conceptualized is actually influencing policy. And that's from a research impact point of view is the most impactful measure you can have."* *"[The partnership success] has also sparked a debate with policy makers here in New South Wales… If Victoria can form a partnership and… roll it out there, why can't we do it here in this state?"*
2.5 New partnerships	*"[The partnership helped me to think about whether we could]…replicate this in other areas, and I guess that's why three years ago we started COHORT, which is a Centre for Oral Health Outcomes and Research Translation. Which is basically an interdisciplinary oral health research centre, working with non-dental professionals. Whether they are midwives, nurses, GPs and physiotherapists in different areas where populations are at risk for poor oral health and have general lack of awareness. Not just with the population but also with the health professionals. So the same MIOH model we are actually replicating, in different areas… I think that proof of concept and the impact from MIOH program definitely helped us, I guess convince stakeholders and people that this is something that we could establish. I mean, this centre is actually, it's not a purely dental centre, so it's actually a collaboration between the School of Nursing and Midwifery… and the Oral Health Services [in different Universities]… You can already see that it is a unique collaboration… Nursing and Midwifery never, well if you think a few years ago why would they be supporting a research centre in oral health?... I think that definitely that change in mindset has happened mainly because of the… success of the MIOH program and the partnership and the impact that we've been able to show evidence from Victoria.'*
3. Challenges	
	"…The challenges, initially was that we had to spend a fair bit of time tweaking a program to be appropriate to the Victorian midwives… That involved, I guess me having to pay a few people to do those services for me. So there was a bit of a cost expenditure, but I think, that was worth it… having seen that this would be an opportunity for us to roll it out [the MIOH program]. And I think, a big benefit for us is we've been able to use the story in Victoria and the partnership and leverage it to try and convince, I guess stakeholders in large states that this is something that you need to really, potentially, scale up as well."
4. Future directions	
	"Where we're really good friends now. So I'm constantly in touch with them [the HFHS team] whenever I have new ideas, or new programs or research happening here that I feel maybe relevant to Victoria. So

	whether it is, in the same maternal and infant area or it is in different areas. Like, I mean, I think recently we had a discussion about using Aboriginal Health Workers… [HFHS staff] and DHSV said… there's no point in us actually trying to develop a new program. So we are now going to work with them… seeing what is the capacity of the Aboriginal Health Workers to do something similar [to the MIOH program]...[The partnership has] sparked new avenues for collaboration and [HFHS staff] have been, helpful in linking us with other people in the DHSV that may want to be part of the partnership."

Appendix B: Playgroup partnership interviews overview of themes and illustrative quotes

Overview of evaluation findings from key informant interviews exploring partnerships in the playgroup sector

Partnerships represent a key component of the HFHS program. Findings from two key informant interviews with partners in the playgroup sector are presented in the following section. Interviews explored their perspectives on their partnership with HFHS, their degree of involvement and role in the HFHS program, benefits and impacts of the partnership, the challenges and future directions.

Perspective on the partnership

Key informant interviews with two key partners in the playgroup sector highlighted the strength of their relationship and ongoing support from the HFHS team as key facilitators of their partnership. They found their involvement with HFHS to be mutually beneficial and valued being able to work collaboratively, being consulted and having input in developing appropriate resources that were made relevant for their setting. In addition they noted how they value the ongoing nature of the relationship, the constant reminder (e.g. newsletters) and the point of contact for information helping to keep oral health on their agenda with the HFHS team always providing a quick response.

Both informants mentioned the importance of time as a key enablers of the partnership. This time allowed for strong networks and relationships to be built and sustained and to embed changes into practice. It was evident that organisational and management support and alignment with their priorities were also key enablers of the partnerships.

Role and skills of playgroup coordinators - Oral health champions with varying levels of engagement and leadership

Both informants viewed their role as linking the HFHS team with the local playgroups and services to enable training and distribution of resources to playgroup facilitators working directly with families. In addition to knowledge and confidence in promoting oral health, informants described the key skillset and enablers needed to support oral health promotion included being passionate, resilient and persistent, at all levels, from those working in broader facilitation to the workers doing implementation on the ground.

One of the informants was involved in a management position within an oral health network and therefore oral health promotion was a key focus for their work and enabled the informant to be an oral health champion. This included taking a leadership role elevating the work to the next level, seeking opportunities and making connections. A key enabling factor for this informant was involvement in the development of an integrated oral health plan with a focus to “promote access to public dental services for our high needs or priority clients” which lead to involvement with HFHS. The informant was extremely passionate, already had a presence in the region and had broad networks which they could link into the HFHS program beyond just the playgroup setting. For example, this

informant was involved with MCHN and the roll out of Tooth packs across the region, encouraging and increasing participation in the midwifery MIOH training in the region and other DHSV initiatives. This informant was outcome driven and could see the benefit of the work being done and recognised their own passion, perseverance and links as key assets in the success of their achievements. As an oral health champion the informant also recognised ways to expand and adapt resources for use across different settings, for example, from supported playgroups to the Smiles 4 Miles program.

Benefits

Enabling family engagement through oral health promotion resources

The informants described the value receiving these resources (e.g. toothbrushes and toothpaste) which make it easier to engage with the facilitators and, in turn for the facilitators to deliver the oral health messages to children and families.

Most significant changes

One of the informants spoke about significant changes being their approach taken to discussing healthy foods and drinks with families within playgroups and a shift being noticed in lunch box contents. The other noted observing increased referrals to dental services from these programs (through their broader initiative in referral pathways) and the reach to children and families.

Additional reach

Both informants recognised and described the additional broad benefits and opportunities that arose through their partnership with HFHS including enhanced relationship with other local organisations, new partnerships, linking with other community organisations sharing resources and ideas and participating in oral health promotion across new settings. One of the informants also described the development of a referral pathway which allowed them to see the impact of the oral health promotion work they are doing reaching the community with dental services.

Challenges

Some of the challenges noted by informants included oral health not being part of the core business of playgroups, the settings they engage with being time poor, the time it can take for the facilitators on the ground to see the benefits and also to empower them with knowledge and confidence to deliver oral health messages. Funding to expand their work was also noted as a barrier.

Maintaining ongoing partnership and support

Both informants noted that they intend to keep working with HFHS and promoting oral health as a priority in the playgroup sectors. One informant recognised the need for ongoing reminders and engagement with HFHS, ongoing training for staff on implications of poor oral health and the need to keep the initiative fun for families so children want to know more and are proud of the information. The other informant described looking to move towards finding ways to sustain, embed and continue to expand on the oral health promotion work they do.

Table of themes and illustrative quotes

Table: Illustrative quotes aligned to key themes from playgroup partnership interviews

Themes	Illustrative quotes
1. Perspective on the partnership	
	"The team is amazing... and all the resources they've had, we've worked together on some of them."(Playgroup Key Informant A) *"Our playgroups were the pilot playgroups for that flipchart and the images in the flipchart are the kids from our playgroup. So that was really good and they love seeing their own images… more recently information sheets and other promotional things we've had input and discussions on how to… translate things…what would work and what wouldn't..." (Playgroup key informant B)* *"Our relationship with the dental health programs has helped us have that [oral health] knowledge to then use it at the playgroup. So that's been the biggest changes over the years." (Playgroup key informant B)* *"Regular reminders at the playgroups, you know, make it everyday conversation if we can, but I'm just, you know, always there to remind parents… every now and again do a fun activity… so really the kids will take something home and pin it on the fridge or whatever. And it's a reminder… something different each time. Not, not just a colouring page, but maybe you know, an activity… That's what our playgroup facilitators try to do, just to keep it fun and fresh." (Playgroup key informant B)* *"Playgroups only run for two hours a week and there's so much they try to cram in sometimes these things [oral health]… just neglected slightly because there's just so much happening. But if I get the gentle reminders then I can remind them. So it gets those, those sorts of things." (Playgroup key informant B)* *"That's why we work more closely with the Healthy Families, Healthy Smiles team… [because of] our focus is on children, pregnant women and those more disadvantaged..." (Playgroup key informant A)*
1.1 Role and skills of playgroup coordinators - Oral health champions with varying levels of engagement and leadership	*"I'm the person on the ground. I do the legwork. So my job is to link in the services… I do the groundwork... I'll get in touch with who we need to speak to book the sessions… arrange the venue…. Coordinate it all… I'm the legs of the, the [oral health] network, [as well on] the ground…" (Playgroup key informant A)* *"My role would be to coordinate and link our playgroups with the initiative. I'm the main person that receives all the information and then I pass it on and spread the word and connect the playgroup facilitators with any information resources,*

	workshops or that sort of stuff. So I just, I keep the ball sort of rolling to make sure that they're up to date with the information." (Playgroup key informant B) *"Knowledge on what good oral health is and developmentally what parents should be doing at what stages in their child's life, I guess that that helps as well." (Playgroup key informant B)* *"You need to have, a passion. You want to make a difference. We all have a shared vision. We all want to improve the oral health in our community… We want to, we don't want to tell parents what they should be or should not be doing that. But we want to be able to give people as much information as we can so they can make informed choices…You've got to be resilient… persistent. You've gotta have fun with it." (Playgroup key informant A)* *"I'm really, I'm very lucky. I have an amazing job. I get to do all the fun things… engage with people… run events and go out and do the screenings and facilitate training sessions like this… I love what I do, I'm very passionate about it." (Playgroup key informant A)* *"We went around to all the Maternal Child Health Nurses across the region… again, facilitated training with the Healthy Families, Healthy Smiles team, increasing their knowledge on oral health, going through their key life stages and ages book… Oral health is included, but you know, just talking about why it's important that they do these assessments… refer families to public dental services… developing a referral form that's been really good… and just for... [one area], we've received over one hundred referrals through this way." (Playgroup key informant A)* *"The former project manager struggled to engage with midwives… and the Maternal Child Health Nurses. So we've been lucky that we've been able to make a breakthrough….I've [already] had a bit of a presence in the region… have networks established…. that's really helped. So I've been fortunate in that area." (Playgroup key informant A)*
2. Benefits	
2.1 Enabling family engagement through oral health promotion resources	*"…It's nice to be able to, you know, have the presentation and promote dental health then do a whole program around it. And then the family receives the actual toothbrush and toothpaste. So that just helps them and then they take it home, they see it all the time… It's helped us to actually deliver the [oral health] messages. But our relationship with that [HFHS] program, particularly being able to access things [Oral health resources] online and knowing where to go to get information, was key… I guess that relationship with them, we know they're there if we need information." (Playgroup key informant B)*
2.2. Most significant changes	*"The increase in the number of children and referrals that we've seen across the region as a result of the work that we've been doing with the Healthy Families, Healthy, Smiles team. But also with our Smiles 4 Miles work…. Today we've got 92 services involved in Smile 4 Miles… reaching out to over 5,600*

	children and their families…. We're starting to see the same thing with the supported playgroups…. We've provided screenings, I think to five [playgroups] at the moment across the region. But that's just starting… We also get to capture the families as well, which is even better." (Playgroup key informant A)
2.3 Additional reach	*"I guess [the partnership with HFHS] it strengthened our relationship also and linked the dental health service with our maternal child health nurses… they're now attending or going to attend information regarding that as well and they use the flipchart. Through my discussions with the dental health team, I mentioned that that group would be an ideal group to use that resource and get that information in and attend any workshops because they're seeing the preschool aged children on a regular basis as well…. So I guess the message is being spread out to other services… Community centres as well. They've sort of taken it on board. So wherever we've got a playgroup they've also got access to the resources because we share it with them, you know, we have more or less we're the custodians of that resource but they've got access to it." (Playgroup key informant B)* *"It's enhanced it [our relationship with other organisations], the programs that they [the HFHS team] run are amazing. It's been, it's really good to be involved in… The work we've been doing with the maternal child health nurses has opened other doorways like…. posters in all the maternal child health nurses. So then families now are able to see where they're closest public dental service is… Through that initiative we also linking with [another organisation] and we were looking at expanding… They actually run a different program for disadvantaged families… maybe we can get some of our brochures into that [program] book as well… The high need families with the health care cards and pension concession cards know where to go, how to access services. "(Playgroup key informant A)* *"We've developed a [referral] form… we have sent out to all the maternal child health nurses and it's just a simple check form and they, they just fax it or email it back with all the content details on…We have been lucky enough to be able to have that included in the Titanium [dental clinic] database now… So every time a referral comes through it's flagged as a referral source, maternal child health nurse… We do have it for this Smiles for Miles and we do have it at screenings. But when we do provide the screenings to the supportive playgroup, we capture that information… We don't have it for the supportive playgroups as yet, it takes a while…. We wanted to do the same thing for, for the midwives as well, but it hasn't taken off...if they're [the coordinator's] not on board it just makes it that much harder." (Playgroup key informant A)*
3. Challenges	
	"Well, everyone's very time poor… Some people can see the benefits straight away and are keen to be involved and are actually champions that lead the way and other people take a little bit more convincing… For example… [one

	site] were excited and actually were really good, instrumental in getting… some of the other local government areas on board…some people just need that little bit extra. That's all. That's one of the challenges, but that's okay." (Playgroup key informant A) *"I guess the challenges would be the facilitator's confidence in presenting the information to her group. Sometimes there may not be knowledgeable themselves so they may need a bit of extra professional development in terms of understanding the key messages, but also cultural differences…. [It needs to be addressed in a way] that people feel that they're gaining knowledge not being told what to do… We definitely feel that these have been addressed… through discussions with the dental health [DHSV] team… the playgroup facilitator is the main spokesperson to the families and if they feel empowered with information and confidence in the information they're delivering, then the messages come across as more effective… the dental health team has helped develop resources and information that the facilitator feels comfortable delivering." (Playgroup key informant B)*
4. Maintaining ongoing partnership and support	
	"We're trying to… embed these practices into the settings into, families, like the Brush, Book, Bed pilot. It's just about embedding these practices so that it just becomes common practice. That's same with the screening. We want it to become just common practice that families know that they need to have their children seen by an oral health professional before there is a problem so that they know where the public, local public dental services and that they are eligible for it…. We work closely with them [services]. Like even with the preschoolers with the Smiles 4 Miles… Of course we up skill the educators, but we also, we sort of provide a more holistic approach… We help them with their policy… menus... We support them with like things like the Bush Tucker Garden project… to improve children's attitudes towards trying a greater variety of healthy food... We provide services with lots of information and resources that they display for families and provide regularly in their newsletters. So the dental screenings have now become embedded in the school preschool program… they've just becoming a common practice... We're always trying to recruit more services… we know there are more children that we aren't reaching." (Playgroup key informant A)

Appendix C: Evaluation and reflection on implementation of HFHS over the past four years - overview of themes and illustrative quotes – Focus group with the HFHS team

Overview of evaluation findings from the HFHS team focus group reflecting on implementation of HFHS over the past four years

A focus group was conducted with the HFHS implementation team (n=4) to explore their key achievements and experiences of implementing the HFHS program over the last four years, discussing the challenges, enablers and future directions for the program.

Key achievements

The HFHS team describe their key achievements over the last four years including for example:

- How the initiative has developed and matured, improvements in the quality of the programs offered and growth of partnerships over time, evolving together with each processional group engaged.
- The increases in the volume of professionals they have interacted with over the last 4 years and the subsequent reach to children, pregnant women and families through their professional partnerships.
- Established knowledge base across a range of professional groups.
- Leadership in oral health promotion with their work acknowledged at a national level.
- Unexpected impacts – having impacts and recognition through partnerships and their networks e.g. through MIOH partnership moving into other fields.
- Established reputation for DHSV/ HFHS through partnerships.
- Progress and achievement particularly working with Aboriginal Community Controlled Health Services e.g. strengthening of partnerships in the sectors, Bigger Better Smiles training run in several services, developments of Little Koorie Smiles.
- Beginning to see some traction in development of referral pathways through work with agencies which has resulted in new collaborative opportunities. Building presence within Dental Health Services Victoria.

Program strengths and enablers

Strategic policy and organisational level enablers

Ongoing funding commitment and additional resourcing

Ongoing funds and time strengthens partnerships

- The team describe that the Government’s ongoing funding investment and commitment to HFHS had provided a critical enabler of partnership development. Being an ongoing program

allows longer time for developing relationships and building trust with partners. It provides time to develop and progress work, opportunities for review and improvement and also time to see the shifts and changes that can occur.
- The ongoing commitment provides reassurance for both the HFHS team and their partners knowing things will continue and can be revisited at a later stage.
- The Government's investment in oral health promotion through HFHS has enabled a large body of work and partnership development in the non-dental sector which could not be done as successfully without the funds and focus of HFHS.
- The ongoing commitment also provides greater strength, stability and sustainability of the program within the Government should any governmental changes occur.

Additional funds
- Additional funds have enabled the team to enhance particular parts of the initiative such as trialling physical resources to strengthen message delivery and engagement with facilitators and families which would otherwise not have been possible.

Governance structures
- The team described the support of funder for the day-to-day implementation of the initiative as a key to success.
- Governance structures such as the reference group and particularly the project management group enabled any barriers to be address throughout the life of the program and maintained a close responsive and positive working relationship with the funders.

Organisational commitment to oral health promotion
Strategic direction
- The inclusion of oral health promotion as a focus within the strategic direction of DHSV has maintained the support and focus of the HFHS program.

Referral pathways
- Engagement with agencies and local partners has built networks and allowed a shift in the program to concentrate on access to dental services which is beginning to gain further traction with local referral pathways.

Partnerships
- Partners offer different levels of input and support e.g. from engagement with management staff down to the people on the ground implementing the program.
- Working collaboratively with partners provides vital insight and valuable knowledge. These key partners are gatekeepers and facilitators for working with each sector.
- There isn't always a clear peak body or person that you can reach out to partner with.

Local champions
- The team expressed the value of local champions, passionate people who go above and beyond in facilitating implementation, without which progress would not have been made.
- Their dedication and enthusiasm in turn motivates the HFHS team.

- Champions provide unique insight into the everyday experiences of professionals in their sector and drive the direction of approaches taken by the HFHS team.
- Local champions who have links with their sector or community are not always who you think they are going to be (e.g. people in leadership positions or the key contact person).

Collaborative, adaptive capacity building approach

Continuous improvement cycle

- Taking a continuous improvement approach together with partners has allowed for adaptive work responsive to the needs of HFHS partners.
- Partnership relationships have been built and matured over time, transitioning from the initial engagement until now.
- A strength of the HFHS team is their approach to reflecting on effective and ineffective strategies and working with partners and responding to their needs.

Evaluation feedback throughout

- Embedded and responsive evaluation has been important for informing partnerships and constant improvement throughout.

Simple health messages, engaging resources

- Establishing simple and appropriate ways to engage professionals and families in the limited timeframe available through clear concise health messaging and suitable engaging resources has been key to the success of the program.

Limitations, challenges and areas for improvement

Challenges in forming partnerships

- The HFHS team identified that it can be difficult to identify broad partners that have the detailed information and networks to facilitate engagement with the individual sites/ health services and professionals on the ground. In some sectors there isn't a broad stakeholder to facilitate cross sector engagement.
- Working with each unique sector has its challenges and requires a unique approach.
- The HFHS team noted the challenges of getting oral health on the agenda of non-dental professionals especially with the limited time of collaborators, competing priorities and programs and those who may not view oral health as part of their core business e.g. non health professionals such as those working in early childhood or playgroup settings.

Funding constraints

- Working with a limited budget for the large array of disciplines was challenging in the first few years, more recent additional funds have enabled added focus and extension of this work e.g. through supported playgroups and MCHN. The challenge is to decide where to allocate the resources to best meet the program aims.
- With addition funds there is greater opportunity but this also require extra time and resources to deliver the work.

- The HFHS team felt they could do more with more people and are just scratching the surface in many areas.

State-wide reach

- The state-wide reach of the program can be challenging within the given resources and capacity of the team.

Capacity building of health professionals

- The team noted the limited scope of program working within the constraints of capacity building for health professionals when the final aims is to reach the community. The team highlighted the desire to further explore the community level perspectives and broaden the program scope.
- The team expressed wanting to explore further target groups, some of which has been facilitated through extension program funding and could go further.
- The team want to be able to shift to focus on policy and referral processes to further this work in capacity building.

Availability of outcome data

- Limitations were noted by the HFHS team in relation to being unable to measure oral health outcomes and link the complex program to community-based outcomes to capture change and impact. This also leaves an uncertainty as to whether professionals are reaching families.

Future direction

Extend, expand and explore new areas

Leverage of existing partnerships

Maintain capacity building approach and extend reach to those that haven't been involved

- Continue to expand training and professional development which will enable further strengthening of partnerships, engagement and knowledge and facilitate exploration of new avenues for tackling the next steps in policy and referral pathways.
- Consider new ways of delivering training packages, physically visit partners and explore social media to create more of a presence for the program.

Shift beyond capacity building to explore new opportunities with exiting partners

- Capitalise on existing established systems, networks and partnerships to enable trialling and implantation of innovative approaches across different sectors. For example the work with MIOH extending to adapt the training model with other sectors and creating links between local partners and dental agencies and trialling evidence base intervention more broadly (e.g. Tooth packs).
- Explore ways to reach and engage the target populations and community members.

Linking partners with community agencies and dental services

- Leverage off existing partnerships and capacity built to link local partners with community dental agencies, support and refer families to attend dental checks and increase access to and attendance at dental services.
- Consider some type of local coordinator approach to have greater reach, impact and support the state-wide efforts.
- Building further relationship with dental agencies to facilitate these links with partners for improved referral pathways.
- Further explore means of measuring outcomes through referrals and information collected at dental services.

Greater outreach, Tooth packs and Fluoride varnish

- Explore systems changes to allow expanding scope and reach for dental e.g. expand Tooth packs, fluoride varnish and outreach programs
- Cross over into treatment exploring the existing professional workforce e.g. Dental Assistants that could offer fluoride varnish in playgroups, expanding on existing partnerships with supported playgroup.
- Providing resources helps enable professional to instigate natural conversation around oral health and remove barriers to what could otherwise be a sensitive discussion e.g. distribution of toothbrushes and paste. This warrants further exploration.

Additional funding and resourcing

- Funding need to be considered for the delivery of innovations supporting practice, behaviour change, service delivery and access (e.g. expand Tooth packs, fluoride varnish and outreach program).
- Funding for additional personnel at a state and local level to facilitate state-wide reach expansion with each broad sector should be explored.

Strategic support and commitment

Leadership within DHSV together with HFHS

- Ongoing leadership, resourcing and commitment from DHSV is needed.
- Maintain the ongoing investment in dental for pregnant women and very young children within the context of the new investment in the School Dental program.
- HFHS needs to have ongoing presence and relationship with partners to keep training new professionals and keep oral health on the agenda of partners. Be a constant resource and link for HFHS partners to oral health promotion and dental services.
- There is a need to address challenges of dental funding model (beyond the program).

Table of themes and illustrative quotes

Table 1. Illustrative quotes aligned to key themes and sub-themes from HFHS implementation team focus group

Themes	Illustrative quotes
1. Key achievements	
	"I think the sheer volume of professionals that we've interacted with… We're talking thousands of professionals, and when you think about the number of their clients or families that they come into contact potentially that's a huge reach." (Participant A) *"…The Department of Health and Human Services… [have] been impressed with the engagement with ACCHS [Aboriginal Community Controlled Health Services]… We all acknowledge that, it sometimes has been difficult to engage and you have to be patient and invest a lot more in the relationship development. So those projects have gone I guess a lot slower than some of our other work… I think there's a real [team] dedication and sense of commitment to that. And I think that it has been borne out in the engagement. The number of services that we've offered and taken 'Bigger Better Smiles' to, with the development of a new 'Koori Smiles' that's beginning to move into the implementation phase. But some of those partnerships and engagement… it's gotten stronger over time… I think there's still a lot that could be done, but I'm really proud of what's been achieved." (HFHS team Participant A)* *"It's rewarding to hear people asking for more information. 'How do this? Can we use this particular resource?'..." (Participant C)* *"It's also just some unexpected things that you hear and I suppose having a partner like Ajesh George, how he has moved beyond MIOH to other fields… In some way we may be facilitating other states… You hear other stories about agencies or people that you have worked with in one way or another, doing something as a result of their interaction with us." (Participant D)* *"I think it's also about building our presence within Dental Health Services Victoria, because I think before Healthy Families, Healthy Smiles… they might've been, oh it would be good to focus on other professionals, but there wasn't the mechanism to do so. And the funding from the government has provided that and the fact that we're still here." (Participant D)*

2. Program strengths and enablers	
2.1 Strategic policy and organisational level	
2.1.1 Ongoing funding commitment and additional resourcing	
Ongoing funds and time strengthens partnerships	*"[We] presented to… the National Oral Health Promotion Steering Group. And shared the work the team is doing with, those public oral health promotion programs in other jurisdictions. And yes, a lot of them don't have the resources invested in oral health promotion that Victoria does. So one it makes us very conscious of how lucky we are to have that investment in Victoria." (Participant A)* *"It just helps implementation when you know that, you do have a four year plan, and the partners know that things will continue... If there were any*

	changes in direction well you have a strong enough relationship to be able to discuss and see is [what's] appropriate." (Participant D) *"That ability to have a little bit more time so that you can try it a few times to get the right time for that organization… So not having that deadline I think has been really helpful because you can put things on the backburner and get back to them next year or a few months' time... But when we're on a crunch time where this is the end of the project, it was all, my G-d, how are we going to make this thing sustainable?... It is sustainable in the sense that we're building capacity but once you've done that, those people have skills and that knowledge ongoing. [Ongoing funds allows us to] Keep it on the agenda refreshing, it's a continual process. So once you've done it once, it needs to be maintained. It's like that partnership work. It never ends. It's a cycle." (Participant A)* *"The other thing is I think time is really important from a program planning perspective because it does allow for change… There's that ability to review the data again over a period at the time and re strategize as to how to implement." (Participant D)* *"Time is really important from a program planning perspective because it does allow for change… There's that ability to review the data again over a period at the time and re strategize as to how to implement." (Participant D)*
Additional funds	*"Additional funding that have enabled us to extend the work that we've done… spending more time and effort on certain things has been really beneficial… for example, we never had the funding to provide mouth models to even think about tooth brushing demonstration…through that funding that's been able to happen…we can see new avenues or explore new avenues with that funding." (Participant A)* *"If we'd not got more money we would have ticked along that way. But it has given us the ability to really focus in on something and develop something… I guess I get more interest [from facilitators] with an alligator [physical resource]..." (Participant B)*
2.1.2 Governance structures	
	"I think that the current governance structured in the project, they are a big enabler, taking for example, the project management group. When the project management would meet, it's possible to go through all the implementation to identify any barriers and find solutions. And I find that's a valuable venue to tackle any issues from the beginning." (Participant C) *"It's a very positive, relationship between DHSV and the Department, the funder and that is, very, very supportive of the success of the program I think." (Participant A)*

2.1.3 Organisational commitment to oral health promotion	
Strategic direction/ Referral pathways	*"The strategic plan and the strategic direction of the organization [DHSV] has, I think a stronger focus on prevention than it did previously. So that engagement with agencies and that sort of referral pathway, I think that was something that, the program struggled with in the first four years and I think it's still a challenge. But I think headway's been made in that area of engaging with local agencies. In some respects we've had agencies approach us with some work that they're doing that we could collaborate on. So I think that some of those shifts in the environment or the context that we're working can either be an enabler or a barrier…The most recent strategic plan, has put, I think prevention more on the agenda in the treatment sector. Which means that I think has made a little bit easier for us to, to engage there… and definitely that is around that referral pathway links with the local clinic and connecting families with services. So that's been a positive." (Participant A)* *"It goes back to that strategic plan and supporting that DHSV. It's not just at the hospital. I mean it's not just the agencies, but it's that broader picture of how a health service needs to work beyond the clinic I suppose. Beyond the four walls and thinking about other professionals that can influence, and have an impact on the service that you deliver, so I think that's also been important from within our agency." (Participant D)*
2.2 Partnerships	
2.2.1 Local champions	
	"I think the couple of people, that gold you find out there that you do try something new or just doing what we're doing that are the local champions. And take what we've given them. And often they'll respond to it and you can see because they are passionate in what they're doing, you know, I'd just jump on them. And then without them I wouldn't have progressed with my work because it's, as [other team members] mentioned, it's leaning on them. It's seeing the twinkle in their eye and then going, well, okay, how can we make this better? And what's important to you… Sometimes they're not where you think they'll be, you might go, [as another team member] mentioned about trying to find a peak body… thinking they'll represent the professionals that you're going to work with and give you that feedback. And sometimes it's not there. It's just one of the regular on the ground [agreement by other], who for some reason have an interest and a passion and they've been fantastic. … [It] helps you keep motivated when you bump into people like that. But I can't thank those individuals enough for giving their expertise and time. That's enabled us to keep developing and growing some of the programs." (Participant B) *"We might have an intellectual idea… But it's not the same as being somebody with that experience. So their [our partners] insight is incredibly*

	valuable to drive the working the direction it needs to go. (Participant A) *"So in different scales they are valuable to us, I think we are where we are… thanks to them [our partners] as well." (Participant C)*
2.3 Collaborative, adaptive capacity building approach	
2.3.1 Continuous improvement process and cycle	
Continuous improvement	*"I think that's a real strength of the team, is reflecting on what they've done… talking to who they're working with and really listening and then responding and building that in. So that continuous improvement is a really, I think it's a really strong approach that is taken up by everybody in the team. And there's an openness to changing and doing things in a different way and responding." (Participant A)*
Evaluation feedback throughout	*"Getting those sort of evaluation results throughout the life of the project as we deliver training. And being able to reflect on that, I think that has really been very important to that continuous improvement process and development of the program. I know that it was a finding of the first four years, but I think it's still valid… it's important to get, evaluation or feedback on how things are going throughout the life of the project rather than just at the end of the phase." (Participant A)*
2.3.2 Simple health messages, engaging resources	
	"[The approach] has to be so palatable. It has to be so simple that they [our partners] feel comfortable and then they have to feel they can find a way to do it [such as the] mouth models… [or] using the alligator and honing in on just tooth brushing I think we've got a lot more interest and uptake. I think when we started with please share some general oral health messages with your families. It was a bit [broad]... The alligator is such a winner it just opens the door, it just engages the health professionals which you need first. And then kids and families… you've got a limited time to share that with the professionals we are working with and get them to understand that and then squeeze [oral health messages] into some of their time….sometime in the short term future [if] they feel they can do something." (Participant B)
3. Limitations, challenges and areas for improvement	
3.1 Challenges in forming partnerships	
	"What's been hard is to get non-health and non-dental people talking about health and dental… that's been the biggest barrier… particularly in early childhood services, everyone wants a piece of them… [we're] not the only health promotion program." (Participant B) *"It's difficult to put oral health on the agenda when there's so many competing demands. And while it might be, the health professionals it might make sense… maternal and child health they deal with everything. So getting priority there from supported playgroup workers, facilitators that health isn't even necessarily, something that they see as their core business… But it's*

	finding a way to engage those people where they're sort of on the fence or not committed." (Participant A)
3.2 Funding constraints	
	"We had struggled with operational budgets and resource restrictions, just the extent of the number of disciplines and initiatives that were being delivered… in the last couple of years there's been, sort of side projects that have been with the small amounts of additional funding that have enabled us to extend the work that we've done." (Participant A)
3.2.1 State-wide reach	
	"Expansion funding has enabled us to tip toe. But I guess it's what do we do if we discovered that's the great way to go? I've got a state to cover the supportive playgroups. There's not really an argument for priority areas because the people that we're reaching have the highest risk. So I guess if we could make this state a bit smaller, having a state-wide reach is a challenge…" (Participant B)
3.3 Capacity building of health professionals	
	"Creating that base of knowledge within the profession that's important before you can kind of tackle policy or, referral processes. And I think, you know, that's still the gap." (Participant D) *"[The program scope is] a bit of a challenge… I found the scope a little bit restrictive, limited… it was a challenge for me to turn my mindset into only… building capacity for health professionals… When we take into account that our final end [is to reach] vulnerable communities. So I found it challenging… I would like for us to explore a little bit more on these final end at the population level… what are the perspectives of our target to group… I think it will be good to broaden a little bit the programs scope." (Participant C)*
3.4 Availability of outcome data	
	"I guess the challenge is whether or not everybody [the professional] that we come into contact with is then taking on board and doing what we asked with families… hoping that they are passing on that information or doing mouth checks or referring people to service… I think the evaluation has shown… it has a positive impact." Participant A *"One of the challenges… has been around demonstrating our success and I guess a lot of the evaluation has been around that capacity building approach. But there's an expectation around, what is the program doing around oral health outcomes. So that's, I think, attention that, has been difficult because there are limitations to what we can do within that resourcing of the project in terms of evaluation. But also what data is available and how to connect it back to a really complex, oral health promotion programs." (Participant A)*
4. Future direction	
4.1 Extend, expand and explore new areas	

4.1.1 Leverage of existing partnerships	
Maintain capacity building approach and extend reach to those that haven't been involved	*"One of the things that I would like us to do, it will be too to step back a little bit and look at our training packages, not in terms of content but in terms of finding ways, different ways of delivering them… Maybe this is an ideal world, to go back into the all sites where we have been delivering any training… [and] following up… the learning process they embedded in their practice… Get the insight on how the process is going… we have touched already on that… It will be good if we are more out there to make our presence more visible….exploring more social media" (Participant C*
Shift beyond capacity building to explore new opportunities with exiting partners	*"There's evidence that says if you give out Tooth packs in targeted communities [there will be good impacts]. Well we'd like to give a Tooth pack to every family that participates in supported playgroup. But our resourcing just doesn't stretch that far... We'd love for that… to be expand. What's the problem with every child being given a toothbrush through the maternal and child, we have those mechanisms. We have those partnerships, but we just don't have the resourcing and there's good evidence to say we should do that… We've focused on capacity building and professional development, but there's that resourcing end of it… we could be delivering some really great evidence based interventions. Through systems, networks and partnerships that we've already got really good coverage with." (Participant A)*
Linking partners with community agencies and dental services	*"[It would be good to have] more traction through DHSV with the agencies and whether that's ourselves being more proactive in the field, speaking with agencies. And you know, well for example for the midwives there was some thought about trying… to bring together the agency managers and maternity or antenatal care managers… You can train a number of midwives and unless they have a relationship with their public dental service and no clear referral pathway… referrals might be a bit haphazard. [It's important]… to think of ways of linking our partners with the agency in terms of referral. It's about the easiest, indicator that's an outcome that can be measured. And now that the titanium program finally included some of the different professionals… linking all of those things up together...." (Participant D)* *"…The world is starting to align with DHSV, the change with value based healthcare. I'd like to start concentrating more on access the link. I think we do a really great job and it's certainly not done in educating the professionals and then them sharing the behavioural sort of changes that we want. And one of those is having a dental check and we understand what the communities that we work with, there's often so many barriers. So I guess that's a huge next step…." (Participant B)*
4.1.2 Greater outreach, Tooth packs and Fluoride varnish	
	"…Fluoride varnish… we've been pushing the idea of trying to get agencies to do outreach in supported playgroup. But the numbers are so small that it's feasible… [but] the dental funding model isn't supportive of changing the system... So I think some of those system level things that are kind of beyond

	our program there at that crossover into the treatment realm... I think there's some really excellent easy wins that could happen with some resourcing and potentially with school dental, there might be in the future opportunities to do that, but the quicker it can come the better." (Participant A)
4.2 Additional funding and resourcing	
	"We know from that initial to Tooth packs study that… it puts oral health on the agenda. So it's not just that you've given a family a means of brushing teeth… You're actually opening up an opportunity for that professional to have that conversation in a much more natural way…. if that… happened as a standard thing …conversation is more likely to happen. So all the work that we do in building the capacity of those professionals to have those conversations and provide advice and support. It's more likely to happen… as well as it then providing practical support to the family." (Participant A) *"I think almost each professional you could make that a whole program on its own in a way… perhaps where it's just scratching the surface really" (Participant D)*
4.3 Strategic support and commitment	
4.3.1 Leadership within DHSV together with HFHS	
	"I think, this stuff wouldn't happen without leadership from DHSV… The resourcing to continue the program is really important to provide that leadership to keep it on the agenda too…" (Participant A) *"I think there's some opportunities that could happen. There's been a massive investment in School Dental… I hope that we don't lose that focus on early childhood. I think it's fantastic that there's been an investment in dental and it is children. And there's been already talk around the organisation about, we know kids are going to school with decay. So we can't forget about this early years. So it's how do we keep pace with that, but it all comes down to that resourcing." (Participant A)*

Appendix D: Midwifery Initiated Oral Health (MIOH) education program evaluation questionnaire overview and tables

Overview of MIOH education program evaluation findings from pre- and post-training questionnaires

Note: All short answer question responses were categorised and summarised.

Participant characteristics and practices of midwives prior to the MIOH training

- Questionnaires were distributed to midwives participating in the MIOH training program at three time points: prior to (pre-training) participation in the training, immediately after (post-training) completion of the training, and a sub-set of midwives completed an additional questionnaire at ~12 months follow-up.
- Overall across phases 1 and 2 of the program (Rounds 1-8) n=237 midwives completed the questionnaires, of which n=229 (97%) completed both pre- and post-training questionnaires.
- A sub-set of these midwives (n=22, 9%) completed the additional follow-up questionnaire after ~12 months to assess their knowledge retention and translation to practice. A further seven of these midwives participated in follow-up telephone interviews to explore their experience of the program and translation to practice in more depth (results reported in appendix E).

Midwives characteristics

- Over half of midwives (n=161, 68%) were 40 years of age or older (table 1) and the majority were female (n=235, 99%). Years practicing varied with 27% of midwives practicing for ≤5 years (n=63), 34% (n=80) 6-15 years; 40% (n=94) >15 years (table 2).
- Professional roles varied with almost half (46%, n=110) of the participants working as midwives; 23% (n=55) clinical nurse/midwife educators; 15% (n=35) midwives in a management position; 8% (n=19) antenatal care midwives; 4% (n=9) midwives working with Aboriginal pregnant women; 3% (n=6) midwifery university lecturers; and the remaining 1% working as childbirth and parenting educators (n=2) or midwives working in private practice (n=1) (table 3).

Oral health training and practices prior to MIOH participation

- Almost all midwives reported no prior oral health training (n=224, 95%).
- The thirteen who had received training did so through:
  - Dental Health Services Healthy Families, Healthy Smiles
  - Aboriginal health through local dental clinic
  - Course e.g. degree, diploma, post-graduate studies
  - Group training, professional development study days, in-services
  - Previous employment as dental nurse

- Portfolio presentation from another midwife
- Maternal Child Health Nurse (MCH) nurse's education provided through the Municipal Association of Victoria

Resources available for clients to access (pre-training)

- Few midwives reported being aware of available resources within their organisation regarding pregnant women's (n=84, 36%) or child (n=45, 19%) oral health or child's nutrition (n=78, 33%). Information about pregnant women's nutrition was more prevalent (n=217, 92%) (table 4).

Oral health assessment and referral process prior to participation in MIOH training (pre-training)

- Prior to participation in MIOH 42% (n=99) of midwives never discussed prevention of tooth decay (e.g. providing nutrition and oral health advice) with their clients (table 5) and less than a half (n=103, 44%) reported they would refer clients to dental services (public or private).

Factors leading to a referral (pre-training, n=115)

- Referrals to a dental service were most commonly made in response to the midwife identifying obvious dental issues e.g. bad breath, tooth decay, poor smile, abscess or loss of fillings, client reports of dental related issues and/or pain.
- Referrals were often initiated in response to women reporting no or irregular prior dental visiting and some midwives referred all women as a matter of course or as part of an organisational policy.
- See further details in table 6.

Steps involved in the referral process and any follow-up with clients (pre-training, n=114)

- Approaches to referral processes were varied. Many responses related to the use of an internal referral system where midwives lead with booking appointments, with some midwives also following up with women at their next antenatal visit. At times transport was also arranged.
- Some midwives reported the referral was informal with clients being asked to book their own appointments or simply advised to visit the dentist.
- Some midwives reported they advised private patients to book their own appointments and assisted public patients to make appointment at varying levels.
- Some midwives were unsure how to go about referring patients for dental appointments, and some deferred this responsibility to more senior staff.
- More details are shown in table 7.

Information midwives provide to women (pre-training, n=147)

- Most midwives reported providing general information regarding accessing a dental check, dental care/oral hygiene practices (e.g. toothbrushing) and healthy eating/nutrition.
- Sometimes midwives provided more specific oral health information, some of which was incorrect information.
- Further detail is provided in table 8.

Knowledge and confidence before and after MIOH training

Self-reported knowledge

- The percentage of midwives that self-rated their oral health knowledge as good/very good significantly increased from pre-training to post-training (18% vs 95%, p<0.001) and was sustained at ~12 months follow-up (95% vs 86%, p=0.625) (see table 9a and b).

Knowledge test

- Midwives scores on the knowledge test questions were generally high for many questions pre-training and increased further following the training.
- Great gains in knowledge included for example: not brushing teeth immediately after vomiting, the transmit decay causing bacteria from mother to baby, prevalence of early childhood caries and gingivitis, periodontitis, reason for high-risk of tooth decay in pregnancy, misconceptions around pregnancy (e.g. x-rays, tooth loss, dental care) (table 10a).
- Overall knowledge gained through the training was retained ~12 months follow-up (table 10b).

Confidence

- Confidence to promote oral health significantly increased among all midwives (p<0.001), except for confidence to answer questions about healthy eating which remained high from pre- to post-training (97% to 100%) (table 11a). Confidence was sustained at ~12 months follow-up (table 11b).

Feedback on the MIOH training package

- Overall the training package was well received, and satisfaction was sustained over time (table 12a and 12b). Post-training almost all midwives (98%) found the MIOH training useful for changing or informing professional and organisational practice. Most midwives who responded still thought this ~12months later.

Most useful aspects of the training (post-training, n=221)

- Some midwives reported that all the information was useful.
- The most commonly reported useful aspects of the training were: practical information including articles, evidence based modules, seven steps for dental discussion and scenarios on how to introduce the topic of oral health, questions following each module/enhanced knowledge questions, videos, having a hard copy of the training package, the referral pathway information and pictures of oral health conditions.
- Further details are provided in table 13.

Least useful aspects of the training (post-training, n=209)

- Many midwives reported that they couldn't think of a least useful aspect.
- The most commonly reported least useful aspects of the training related to the articles. These midwives described the information as repetitive (too many), ambiguous, conflicted, boring and outdated and found reading them online difficult. Several midwives noted the use of American data and expressed a preference for local information/statistics.

- IT problems were also highlighted including internal server errors, broken links, issues around having to repeat sections, difficulty loading the training manual onto a tablet and IT issues relating to the exam.
- Further details relating to the least useful aspects of the training are provided in table 14.

Improving MIOH training - midwives suggestions (post-training, n=214, ~12 month follow-up n=19)

- Many midwives reported that the training didn't need improving.
- The most commonly reported response related to improving the content. For example, many suggested the articles used were repetitive and required updating and others suggested the use of more videos. Midwives also suggested they would like more opportunity to complete further practice assessments/ review (answers to the incorrect responses). Further details are provided in table 15.
- ~12 months after the training most of the midwives who responded thought the training was adequate and didn't require any further improvements. Some suggested improvements included:
    - Annual update email with what's new, pathway reminders etc
    - More assessments during the package to assist in gauging understanding
    - More content on practical assessment of women
    - Maybe send past students of the program annual flyers/posters etc, to pass on to colleagues

Translation to practice (post-training n=218, ~12 month follow-up n=18)

- Many midwives reported the training helped building their oral health knowledge and provided the evidence base to inform their practice, it increased awareness of the significance of oral health in pregnancy and improved their confidence to promote oral health.
- Intentions or change to practice were reported by many midwives including incorporating oral health information, assessment and referral into antenatal visits.
- Many midwives planned to share the knowledge gained and encourage other midwives to complete the course and describe the training provided evidence to support practice and promote oral health as a priority within their organisation despite time limitations and competing priorities.
- Further details are provided in table 17a and 17b.

Applying the learnings from the online training in midwives daily practice or workplace (post-training n=223, ~12 month follow-up n=19)

- Midwives most commonly reported that they intended to apply their learning to practice through discussing oral health with women, introducing oral health assessment into the booking system, sharing the learnings more broadly with midwives/organisation and making more dental referrals.
- At ~12 months follow-up many midwives stated they were discussing oral health and some said they were referring.
- Further details are provided in table 18a and 18b.

Improving the Victorian resources and systems (post-training n=225, ~12 month follow-up, n=19)

- Post training many midwives expressed the Victorian resources were adequate.
- Many midwives raised concerns about the affordability and accessibility of public dental for pregnant women with most believing the eligibility criteria should be removed allowing priority access to affordable public dental care for all pregnant women.
- Many midwives also highlighted the need for accessible oral health education and resources for all midwives as well as for other health professionals working with pregnant women and for the women themselves.
- Others believed the content of the resources could be improved and provided suggestions on how that might be achieved.
- At ~12 month follow-up most midwives reported the resources were adequate.
- Further information is provided in table 16a, 16b, 19a and 19b.

Barriers to promoting oral health to clients accessing services (post-training n=217, ~12 month follow-up, n=18)

- Some midwives reported that they did not believe there were any barriers to promoting oral health to their clients.
- The most common barrier identified related to time limitations/constraints during consultations with increasing demands on the antenatal appointment identified as a reason. Cost was also identified as a significant barrier both generally and more specifically where midwives reported women not covered by healthcare card/pension were finding it difficult to access affordable dental treatment.
- Many responses related to client centred issues with the most common of these relating to women with high needs not viewing oral health as a priority, language barriers and client's willingness to engage with dental services.
- At the ~12 month follow-up several midwives stated that they saw no barriers to promoting oral health to clients accessing services. Client centred barriers were most commonly identified e.g. high needs clients, language barriers, travel, dental phobias, non-attendance. Time limitations, organisational issues and cost of dental services were also reported.
- Further information is detailed in table 20a and 20b.

Additional comments

- Most of the midwives who provided a comment at both post-training and ~12 month follow-up simply thanked and praised the course. See further details in table 21.

Table 1. Midwives age group (n=237^)

Age group (years)	n (%)*
<20	0 (0)
20-29	30 (13)
30-39	46 (19)
40-49	73 (31)
50-59	82 (35)
≥60	6 (3)

**Rounding will affect percentage totals.*
^Includes n=8 MIOH participants that completed the pre-training questionnaire only.

Table 2. Number of years MIOH participants practised in current position (n=237^)

Years of practise	n (%)*
≤5	63 (27)
6-10	54 (23)
11-15	26 (11)
>15	94 (40)

**Rounding will affect percentage totals.*

Table 3. MIOH participant current positions (n=237^)

Current position title	n (%)*
Midwife	110 (46)
Clinical nurse/midwife educator (hospital)	55 (23)
Midwife in management position	35 (15)
Antenatal care midwife	19 (8)
Midwife working with Aboriginal pregnant women	9 (4)
Midwifery University lecturer	6 (3)
Childbirth and parent educator	2 (1)
Midwife working in private practice	1 (<1)

**Rounding will affect percentage totals*
^Includes n=8 MIOH participants that completed the pre-training questionnaire only.

Table 4. Information and/or resources available within organisation to clients within MIOH participant's organisation (pre-training, n=236^)

Information/resources	Yes n (%)	No n (%)	Don't Know n (%)
Information/resources about pregnant women's oral health	84 (36)	87 (37)	65 (28)
Information/resources about pregnant women's nutrition	217 (92)	7 (3)	12 (5)
Information/resources about children's oral health	45 (19)	106 (45)	85 (36)
Information/resources about children's nutrition	78 (33)	86 (36)	72 (31)

Rounding will affect percentage totals.

^Includes n=8 MIOH participants that completed the pre-training questionnaire only.

Table 5. Number of MIOH participant's discussing how to prevent tooth decay (e.g. providing nutrition and oral health advice) with clients' accessing their service (pre-training, n=237*)

Response	n (%)
Yes, always	31 (13)
Yes, sometimes	107 (45)
No, never	99 (42)

*Includes n=8 MIOH participants that completed the pre-training questionnaire only.

Table 6. Factors leading midwives to refer woman to dental services (pre-training, n=115)

Theme	Category
Dental problems observed by the midwife or reported by client	Obvious dental issues e.g. bad breath, poor smile, abscess, tooth decay, loss of fillings
	Pain e.g. tooth ache
	Client complained of dental related issue
	Poor dental hygiene
	Previous children have poor dental health
Dental visiting: Policy of the organisation/or client reporting infrequent or no dental visiting	Client reporting of no or irregular dental treatment Remind all pregnant women who haven't had a dental appointment within time frame, sometimes organisational policy
	Client reporting that they don't have a dentist
Other health/social/demographic considerations	Socioeconomic status with high risk e.g. indigenous, non-English speaking, low income
	Clients have a health care card
	Other health conditions-hyperemesis/diabetes etc.
	Reporting of poor diet
	Reporting of drug use

	Client just moved into town
	Often offer to go to initial visit to dentist with women who are "scared"
Client initiated referral	Client asks for a referral
Don't refer patients	Don't refer patients yet

**Participant responses were classified into one or more categories. Data for all questionnaires completed, including withdrawn participants.*

Table 7. Participant report regarding steps involved in the referral process and levels of follow provided to clients (pre-training, n=114)

Themes	Category
Use of internal referral system in various forms, organisational lead with midwives booking appointments, sometimes with follow-up, sometimes without.	Internal dental referral (email/phone/fax)
	Internal dental referral (email/phone/fax), dental clinic contacts client to book appointment, follow-up at next antenatal appointment
	Internal dental referral (email/phone/fax), follow-up at next antenatal appointment
	Assist with booking dental appointment
	Book appointment (call), follow-up next appointment
	Provide reasons for referral, gain consent, provide dental service contacts, follow-up at next antenatal appointment
	Use online/electronic internal referral system, follow-up at next antenatal appointment
Sometimes transport is arranged	Book appointment (call) and transport for client
	Triage-Urgent-internal booking or dentist on call non-urgent-internal referral request
	Internal dental service-walk client to service, book appointment, organise reminder text and transport
	Discuss services available. Make initial appointment, organize transport. Appointment reminder.
	Use online/electronic internal referral system, enter notes in history
	Referred, nonattendance, dental clinic calls back
	Make the appointment in the antenatal visit and send a referral letter with the woman
	Internal dental referral (email/phone/fax), follow-up provided by qualified practitioner
	Assess public eligibility: refer and follow-up at next appointment
	Refer to local public dental clinic, sometimes transport required, follow-up could improve
	Assess need, midwife makes appointment, faxes referral, feedback from dental health service added to medical record and discussed at follow-up antenatal appointment
	Internal book appointment, transport arranged (if required)
	For Aboriginal book appointment and transport if required, non-

	Aboriginal referral more difficult
	Walk with them to make appointment, I check that day, if they don't go, I give them a call or wait until next antenatal visit.
	Encourage woman to book her own appointment, or walk to clinic to book at public dentist, follow-up next visit
	Check if they have dentist, if not internal referral, document and follow-up at antenatal appointment
	Urgent-book immediate referral through own organisation
	Woman has own dentist-encourage them to make appointment, if no dentist (with consent) we call the dentist
Informal referral, advised to visit a dentist, patient lead (books own appointment), sometimes with follow-up at next antenatal appointment.	Advise them to see the dentist
	Client books own appointment
	Refer to local public dental clinic. Client books own appointment
	Give them details of dentist for them to book
	Advise (not refer) and follow-up at next antenatal appointment Varies: give woman number; or call to book appointment and fax referral
	Client books own appointment, follow-up at next appointment
	Part of antenatal booking process give a brochure and inform woman about priority access for pregnant women
	Internal dental referral (email/phone/fax), woman makes appointment, no follow-up at antenatal visit
	Inform woman of need to visit dentist, make a note in history, follow-up next antenatal app
	Provide phone number of local dental clinic, follow-up at next antenatal appointment
	Provide phone number of local dental clinic, no follow-up (time does not allow)-responsibility of booking left with client Refer to own dentist, client books own appointment, no follow-up Assess public eligibility: give them local public dentist number Public/private assessment-Private book themselves; Public -give them public dentist number and letter to take Internal dental referral (email/phone/fax), or woman may self-refer Internal dental referral (woman takes confinement certificate to clinic) to book appointment, follow-up at next antenatal appointment
Public/private patient assessment: private asked to book themselves, public assistance provided at varying levels	Assess public eligibility: internal referral for eligible: private: ask them to call to book themselves, no follow-up Public/private assessment-Private book themselves; Public - with consent-provide public dental phone number or offer to book appointment, follow-up at next appointment Eligibility assessed-Private book themselves; Public - with consent-assistance provided with booking appointment (walked to clinic) Public/private assessment-Private book themselves; Public -give them

	public dentist number Assess public eligibility: internal referral for eligible: private: ask them to call to book themselves
Uncertainty around referring, no formal referral process in place, referral process in review	Unsure how to refer No formal referral: eligible refer to public, private: advise them to go to their private dentist Referral process in review, aiming for direct referral to dental clinic (priority access for pregnant women) Refer to senior manager for steps for referral Never sure where to refer women other than private practice Assess public/private: Public: Unsure how to refer to public dentist, I would refer to GP or ask superiors re: process. Private-refer to private dentist Advise them to see the dentist, knowledge of available services is limited
Provide brochure, information and sometimes referral	Provide with brochure and discuss costs Brochure (public dentist) provided, assist with making appointment if needed, follow-up if regular visitor Brochure (public dentist) provided, assist with making appointment if needed, transport assistance, follow-up if regular visitor
No referral, makes a note to follow-up at next antenatal appointment	Make note to follow-up in next antenatal visit

**Participant responses were classified into one or more categories. Data for all questionnaires completed, including withdrawn participants.*

Table 8. Midwives report of information they provided to women (pre-training, n=147)

Categories
Healthy eating/ nutrition and dental care and dental check (sometimes if obvious)
Healthy eating/ nutrition and dental care
Healthy eating/ nutrition and dental check
Healthy eating/nutrition
Dental care and dental check (sometimes if obvious)
Dental check (sometimes if obvious, sometimes appointment made, or directed to local public clinic)
Dental care
Dental care if women has morning sickness or obvious OH issues
Referral if required
Public dental available for HCC
Discussed as part of health assessment
Explain OH in pregnancy
Advise see dentist early however routine treatments should be left until baby is born
Brushing after meals/vomiting

Rinsing after vomiting, don't brush immediately
Rinse after vomiting
Rinse after using asthma inhalers
Not to brush straight after vomit
Information on increased risk gum disease
Discuss oral health when talking about breast feeding, especially if poor OH
Calcium intake
Cessation of smoking
Don't get x-rays whilst you are pregnant
Safety -should not have any x-rays or general anaesthesia
Cause /benefits for the mother and baby
Drug and alcohol use
Safety of corrective dental work before 28 weeks tell dentist of pregnancy, safe to see dentist
Ask if they have any current concerns
Inform dentist of pregnancy
Routine mouth check at 1st visit (only notice very poor OH)
Explain implications poor OH in pregnancy
Observe for bleeding gums, halitosis, ulcers.
Information on increased risk gum disease
Use lots of pictures, encourage drinking
Brochure handout
Limited client interaction e.g. lecturer
Child oral health
Revisit oral health issues post birth and domiciliary units

**Participant responses were classified into one or more categories. Data for all questionnaires completed, including withdrawn participants.*

Table 9a. MIOH participant's self-report of oral health knowledge (pre- vs post-training, n=229)

Self-report category	Pre-training n (%)	Post-training n (%)	*p-value*
Very Good/Good	41 (18)	217 (95)	
Average/Poor/Very Poor	188 (82)	12 (5)	*p<0.001*

Note: Response categories were combined to allow for appropriate analysis of changes from pre- to post-training.

Table 9b. MIOH participant's self-report of oral health knowledge (post-training vs ~12 month follow-up, n=22)

Self-report category	Post-training n (%)	12 months follow-up n (%)	*p-value*
Very Good/Good	21 (95)	19 (86)	
Average/Poor/Very Poor	1 (5)	3 (14)	**p=0.625*

Note: Response categories were combined to allow for appropriate analysis of changes from pre- to post-training.
**No significant change from post-training to 12mth follow-up.*

Table 10a. Oral health knowledge test responses (pre-vs post-training, n=229*)

Level of agreement with statements	Pre-training n (%)	Post-training n (%)	*p-value* (Pre- vs post-training)
Bad breath is a sign of poor oral health			
Agree *(Correct)*	173 (76)	219 (96)	
Disagree/don't know (Incorrect)	56 (24)	10 (4)	*p<0.001*
Women that have gingivitis before pregnancy can find it improves during pregnancy			
Agree/don't know (Incorrect)	69 (30)	5 (2)	
Disagree (Correct)	160 (70)	224 (98)	*p<0.001*
The withdrawal of calcium (required for foetal bone development) from the mother's teeth during pregnancy can cause dental caries			
Agree/Don't know (Incorrect)	209 (91)	145 (63)	
Disagree *(Correct)*	20 (9)	84 (37)	*p<0.001*
Mothers can transmit decay causing bacteria to babies			
Agree *(Correct)*	113 (49)	228 (99.6)	
Disagree/don't know *(Incorrect)*	116 (51)	1 (0.4)	*p<0.001*
Women with hyperemesis gravidarum can experience tooth enamel erosion			
Agree *(Correct)*	210 (92)	228 (99.6)	
Disagree/don't know *(Incorrect)*	19 (8)	1 (0.4)	*p<0.001*
Brushing teeth twice a day is one step towards preventing tooth decay			
Agree *(Correct)*	225 (98)	228 (99.6)	
Disagree/don't know *(Incorrect)*	4 (2)	1 (0.4)	*p=0.375*
Having healthy baby teeth is not important as they will fall out			
Agree/Don't know (Incorrect)	10 (4)	1 (0.4)	
Disagree *(Correct)*	219 (96)	228 (99.6)	*p=0.004*

Only giving sugary snacks at meal times can assist in preventing tooth decay in children			
Agree *(Correct)*	37 (16)	70 (31)	
Disagree/don't know *(Incorrect)*	192 (84)	159 (69)	*p<0.001*
Parents should feed their child with the same spoon they use to taste their child's food with			
Agree/Don't know (Incorrect)	52 (23)	5 (2)	
Disagree *(Correct)*	177 (77)	224 (98)	*p<0.001*
Women that have morning sickness should be encouraged to brush their teeth immediately after vomiting			
Agree/Don't know (Incorrect)	192 (84)	36 (16)	
Disagree *(Correct)*	37 (16)	193 (84)	*p<0.001*
Babies are born with tooth decay–causing bacteria in their mouth			
Agree/Don't know (Incorrect)	104 (45)	43 (19)	
Disagree *(Correct)*	125 (55)	186 (81)	*p<0.001*
The physiological changes during pregnancy may result in an increased risk of gum disease, tooth erosion and tooth decay for the expectant mother			
Agree *(Correct)*	200 (87)	227 (99)	
Disagree/don't know *(Incorrect)*	29 (13)	2 (1)	*p<0.001*
It is not safe to have dental treatment during pregnancy			
Agree*/don't know (incorrect)*	24 (10)	1(0.4)	
Disagree (correct)	205 (90)	228 (99.6)	*p<0.001*
Dental caries is which type of infection?			
Bacterial *(correct)*	155 (69)	219 (97)	
Viral/fungal/none of the above/don't know (incorrect)	70 (31)	6 (3)	*p<0.001*
Which of the following drinks does NOT contribute to tooth decay?			
Water *(correct)*	224 (99.6)	225 (100)	
Sports/energy drinks/soft drinks/cordial/fruit juice/don't know (incorrect)	1 (0.4)	0 (0)	*p=1.0*
Early childhood caries is			
the single most common chronic childhood disease *(correct)*	120 (53)	212 (94)	
less common than asthma in children/showing a sharp decline in prevalence/none of the above/don't know (incorrect)	105 (47)	13 (6)	*p<0.001*

Which practice has been specifically associated with an increased risk of Early Childhood caries?			
infant/toddler sipping from bottle/cup throughout the day containing some sweet drinks *(correct)*	211 (94)	212 (94)	
Breast feeding beyond 12 months/discontinuing bottle feeding before 12 months/none of the above/don't know (incorrect)	14 (6)	13 (6)	*p=1.0*
Pregnant women are at higher risk of tooth decay because of:			
All of the above *(correct)*	114 (51)	200 (89)	
Increased acidity in the oral cavity as a result of more frequent vomiting/eating more sugary foods as a result of food cravings/decreased salivary production /don't know (incorrect)	111 (49)	25 (11)	*p<0.001*
During pregnancy: None of the above *(correct)* • women should not have dental x-rays • women are expected to lose a tooth for every pregnancy • women need to wait nine months before having dental care	122 (54)	194 (86)	
Incorrect	103 (46)	31 (14)	*p<0.001*
Untreated dental caries can lead to: oral abscess and facial cellulitis *(Correct)*	189 (84)	200 (89)	
increased saliva/decreased saliva/none of the above/don't know (Incorrect)	36 (16)	25 (11)	*p=0.144*
Gingivitis is the most common oral disease in pregnancy with prevalence of: 60 to 75% (Correct)	34 (15)	185 (82)	
20 to 35%, 40 to 55 % ,80 to 90%, don't know (Incorrect)	191 (85)	40 (18)	*p<0.001*
Periodontitis is a destructive inflammation of the periodontium affecting approximately: 30% of childbearing aged women *(Correct)*	19 (8)	188 (84)	
10% of childbearing aged women, 20% of childbearing aged women, 40% of childbearing aged women, don't know (Incorrect)	206 (92)	37 (16)	*p<0.001*
Periodontal disease is associated with all of the following conditions, except: Asthma *(Correct)*	60 (27)	186 (83)	
pre-term, low birth weight baby, diabetes, heart problems, don't know *(Incorrect)*	165 (73)	39 (17)	*p<0.001*
Pregnancy granuloma can be described as: Nodular gingival growths that bleed easily	53 (24)	197 (88)	

(Correct)			
Tooth erosions related to the effects of acid reflux, extensive periodontal infection, all of the above, don't know *(Incorrect)*	172 (76)	28 (12)	*p<0.001*
Generally, gums tend to bleed during pregnancy: Due to changes in the woman's hormones during pregnancy (Correct)	148 (66)	211 (94)	
Because a woman's haemoglobin is lower during pregnancy, because women do not perform adequate oral health care, none of the above, don't know (Incorrect)	77 (34)	14 (6)	*p<0.001*
Who is eligible for public dental service's priority access in Victoria? All of the above *(Correct)*	197 (88)	221 (98)	
Incorrect	28 (12)	4 (2)	*p<0.001*

**Total numbers of participants may vary slightly due to participant responses.*

Table 10b. Oral health knowledge test responses (post-training to ~12 month follow-up, n=22*)

Please rate your level of agreement with the following statements:	**Post-training n (%)**	**~12 month follow-up n (%)**	***p-value***
Bad breath is a sign of poor oral health			
Agree *(Correct)*	22 (100)	19 (86)	
Disagree/don't know (Incorrect)	0 (0)	3 (14)	*p=0.25*
Women that have gingivitis before pregnancy can find it improves during pregnancy			
Agree/don't know (Incorrect)	0 (0)	0 (0)	
Disagree (Correct)	22 (100)	22 (100)	*p=1.0*
The withdrawal of calcium (required for foetal bone development) from the mother's teeth during pregnancy can cause dental caries			
Agree/don't know (Incorrect)	16 (73)	13 (59)	
Disagree *(Correct)*	6 (27)	9 (41)	*p=0.508*
Mothers can transmit decay causing bacteria to babies			
Agree *(Correct)*	21 (95)	21 (95)	
Disagree/don't know *(Incorrect)*	1 (5)	1 (5)	*p=1.0*
Women with hyperemesis gravidarum can experience tooth enamel erosion			
Agree *(Correct)*	22 (100)	22 (100)	
Disagree/don't know *(Incorrect)*	0 (0)	0 (0)	*p=1.0*

Brushing teeth twice a day is one step towards preventing tooth decay			
Agree *(Correct)*	22 (100)	22 (100)	
Disagree/don't know *(Incorrect)*	0 (0)	0 (0)	*p=1.0*
Having healthy baby teeth is not important as they will fall out			
Agree/Don't know (Incorrect)	0 (0)	0 (0)	
Disagree *(Correct)*	22 (100)	22 (100)	*p=1.0*
Only giving sugary snacks at meal times can assist in preventing tooth decay in children			
Agree *(Correct)*	6 (27)	7 (32)	
Disagree/don't know *(Incorrect)*	16 (73)	15 (68)	*p=1.0*
Parents should feed their child with the same spoon they use to taste their child's food with			
Agree/Don't know (Incorrect)	1 (5)	0 (0)	
Disagree *(Correct)*	21 (5)	22 (100)	*p=1.0*
Women that have morning sickness should be encouraged to brush their teeth immediately after vomiting			
Agree/Don't know (Incorrect)	1 (5)	5 (23)	
Disagree *(Correct)*	21 (95)	17 (77)	*p=0.125*
Babies are born with tooth decay–causing bacteria in their mouth			
Agree/Don't know (Incorrect)	4 (18)	9 (41)	
Disagree *(Correct)*	18 (82)	13 (59)	*p=0.125*
The physiological changes during pregnancy may result in an increase risk of gum disease, tooth erosion and tooth decay for the expectant mother			
Agree *(Correct)*	22 (100)	20 (91)	
Disagree/don't know *(Incorrect)*	0 (0)	2 (9)	*p=0.5*
It is not safe to have dental treatment during pregnancy			
Agree*/don't know (incorrect)*	0 (0)	0 (0)	
Disagree (correct)	22 (100)	22 (100)	*p=1.0*
Dental caries is which type of infection?			
Bacterial *(correct)*	21 (100)	19 (90)	
Viral/fungal/none of the above/don't know (incorrect)	0 (0)	2 (10)	*p=0.5*
Which of the following drinks does NOT			

contribute to tooth decay?			
Water *(correct)*	21 (100)	19 (90)	
Sports/energy drinks/soft drinks/cordial/fruit juice/don't know (incorrect)	0 (0)	2 (10)	*p=0.5*
Which practice has been specifically associated with an increased risk of Early Childhood caries?			
infant/toddler sipping from bottle/cup throughout the day containing some sweet drinks *(correct)*	18 (86)	21 (100)	
Breast feeding beyond 12 months/discontinuing bottle feeding before 12 months/none of the above/don't know (incorrect)	3 (14)	0 (0)	*p=0.25*
Pregnant women are at higher risk of tooth decay because of:			
All of the above *(correct)* • increased acidity in the oral cavity as a result of more frequent vomiting • eating more sugary foods as a result of food cravings • decreased salivary production	17 (81)	15 (71)	
Incorrect	4 (19)	6 (29)	*p=0.727*
During pregnancy: None of the above *(correct)* • **women should not have dental x-rays** • **women are expected to lose a tooth for every pregnancy** • **women need to wait nine months before having dental care**	18 (86)	14 (67)	
Incorrect	3 (14)	7 (33)	*p=0.289*
Untreated dental caries can lead to:			
oral abscess and facial cellulitis *(Correct)*	16 (76)	20 (95)	
increased saliva/decreased saliva/none of the above/don't know (Incorrect)	5 (24)	1 (5)	*p=0.125*
Periodontal disease is associated with all of the following conditions, except:			
asthma *(Correct)*	19 (90)	14 (67)	
pre-term, low birth weight baby, diabetes, heart problems, don't know *(Incorrect)*	2 (10)	7 (33)	*p=0.125*
Pregnancy granuloma can be described as:			

Nodular gingival growths that bleed easily (Correct)	19 (90)	14 (67)	
Tooth erosions related to the effects of acid reflux, extensive periodontal infection, all of the above, don't know *(Incorrect)*	2 (10)	7 (33)	*p=0.125*
Generally, gums tend to bleed during pregnancy:			
Due to changes in the woman's hormones during pregnancy (Correct)	21 (100)	20 (95)	
Because a woman's haemoglobin is lower during pregnancy, because women do not perform adequate oral health care, none of the above, don't know (Incorrect)	0 (0)	1 (5)	*p=1.0*
Who is eligible for public dental service's priority access in Victoria?			
All of the above *(Correct)*	21 (100)	19 (90)	
Incorrect	0 (0)	2 (10)	*p=0.5*

**Total numbers of participants may vary slightly due to participant responses.*

Table 11a. Midwives' self-reported level of confidence to include oral health within their practice (pre-vs post-training) *n=229

Statements and level of confidence	**Pre-training n (%)**	**Post-training n (%)**	***p-value***
Introduce the topic of oral health during consultations with clients			
Confident/somewhat confident	167 (74)	227 (100)	
Not confident	60 (26)	0	*p<0.001*
Assist a pregnant woman to determine if she is eligible for public dental services			
Confident/somewhat confident	115 (50)	226 (99)	
Not confident	113 (50)	2 (1)	*p<0.001*
Answer questions about oral health			
Confident/somewhat confident	140 (61)	228 (99.6)	
Not confident	89 (39)	1 (0.4)	*p<0.001*
Answer questions about healthy eating			
Confident/somewhat confident	223 (97)	228 (99.6)	
Not confident	6 (3)	1 (0.4)	*p=0.125*
Find the nearest public dental service			
Confident/somewhat confident	186 (82)	223 (98)	
Not confident	42 (18)	5 (2)	*p<0.001*
Refer a pregnant woman for dental services			
Confident/somewhat confident	134 (59)	223 (98)	

Not confident	94 (41)	5(2)	*p<0.001*
Incorporate oral health assessment into consultations with clients			
Confident/somewhat confident	83 (37)	224 (99)	
Not confident	143 (63)	2 (1)	*p<0.001*
Identifying opportunities to promote oral health in my workplace			
Confident/somewhat confident	N/A	228 (99)	
Not confident	N/A	1 (0.4)	*N/A*
Support pregnant women/families to recognise the importance of oral health and give advice about adopting healthy oral health behaviours			
Confident/somewhat confident	N/A	229 (100)	
Not confident	N/A	0	*N/A*

**Total numbers of participants may vary slightly due to participant responses.*

Table 11b. Midwives' self-reported level of confidence to include oral health within their practice (post-training vs ~12-month follow-up, n=22*)

Statements and level of confidence	Post-training n (%)	12-month follow-up n (%)	*p-value*
Introduce the topic of oral health during consultations with clients			
Confident/somewhat confident	22 (100)	22 (100)	
Not confident	0 (0)	0 (0)	*p=1.0*
Assist a pregnant woman to determine if she is eligible for public dental services			
Confident/somewhat confident	20 (95)	20 (95)	
Not confident	1 (5)	1 (5)	*p=1.0*
Answer questions about oral health			
Confident/somewhat confident	22 (100)	22 (100)	
Not confident	0 (0)	0 (0)	*p=1.0*
Answer questions about healthy eating			
Confident/somewhat confident	22 (100)	22 (100)	
Not confident	0 (0)	0 (0)	*p=1.0*
Find the nearest public dental service			
Confident/somewhat confident	21 (95)	21 (95)	
Not confident	1(5)	1(5)	*p=1.0*
Refer a pregnant woman for dental services			
Confident/somewhat confident	20 (95)	21 (100)	
Not confident	1(5)	0 (0)	*p=1.0*
Incorporate oral health assessment into			

consultations with clients			
Confident/somewhat confident	21 (100)	21 (100)	
Not confident	0	0	*p=1.0*
[+]Identifying opportunities to promote oral health in my workplace			
Confident/somewhat confident	22 (100)	21 (95)	
Not confident	0 (0)	1 (5)	*p=1.0*
[+]Support pregnant women/families to recognise the importance of oral health and give advice about adopting healthy oral health behaviours			
Confident/somewhat confident	22 (100)	21 (95)	
Not confident	0 (0)	1(5)	*p=1.0*

**Total numbers of participants may vary slightly due to participant responses.*

[+]Questions asked in post-training & 12 month follow questionnaires only.

Table 12a. Participants level of agreement with statements about the MIOH training (post-training, n=225)

Knowledge and skill development	Strongly Agree n(%)	Agree n(%)	Neither agree nor disagree n(%)	Disagree n(%)	Strongly Disagree n(%)
I have gained new knowledge and/or skills	153 (68)	72 (31)	0 (0)	0 (0)	0 (0)
I intend to use what I have learnt from this training in my workplace	155 (69)	70 (31)	0 (0)	0 (0)	0 (0)
I am more confident about supporting good oral health for clients accessing my service	148 (66)	75 (33)	2 (1)	0 (0)	0 (0)
About the training					
The training met my expectations	109 (48)	104 (46)	11 (5)	1 (0.4)	0 (0)
The training was relevant to my professional practice	140 (62)	84 (37)	1 (0.4)	0 (0)	0 (0)
The content was clear and easy to follow	106 (47)	97 (43)	15 (7)	7 (3)	0 (0)
The amount of information was sufficient	107 (48)	103 (46)	9 (4)	6 (3)	0 (0)
I would recommend this training opportunity to others	136 (60)	79 (35)	9 (4)	0 (0)	1 (0.4)

Table 12b. Participants level of agreement with statements about the MIOH training (~12 month follow-up, n=20)

Knowledge and skill development	Strongly agree n (%)	Agree n (%)	Neither agree or disagree	Disagree n (%)	Strongly disagree n (%)

			n (%)		
I have gained new knowledge and/or skills	7 (35)	13 (65)	0 (0)	0 (0)	0 (0)
I intend to use what I have learnt from this training in my workplace	6 (30)	12 (60)	2 (10)	0 (0)	0 (0)
I am more confident about supporting good oral health for clients accessing my service	6 (30)	14 (70)	0 (0)	0 (0)	0 (0)
About the training					
The training met my expectations	9 (45)	11 (55)	0 (0)	0 (0)	0 (0)
The training was relevant to my professional practice	12 (60)	8 (40)	0 (0)	0 (0)	0 (0)
The content was clear and easy to follow	13 (65)	6 (30)	1(5)	0 (0)	0 (0)
The amount of information was sufficient	12 (60)	8 (40)	0 (0)	0 (0)	0 (0)
I would recommend this training opportunity to others	13 (65)	7 (35)	0 (0)	0 (0)	0 (0)

Table 13. Participant reported most useful aspects of the MIOH training (post-training, n=221)

Categories
Practical information including articles, evidence-based modules, seven steps for dental discussion and scenarios on how to introduce the topic of oral health.
Questions/tasks following each module, enhanced knowledge
All useful
Videos
Hard copy (and use to refer to)
Referral pathway, booklet
Pictures of oral health conditions
Training package easy to follow/use/access
Flexible (done in own time)
General information relating to oral health, anatomy/physiology
Resources-easy to use
Pregnancy issues-effects of pregnant hormones, relationship between tooth decay and preterm labour
Early childhood caries information
Reflection on practice and what can be implemented to address OH
Flow chart
Statistics
Summary

Built confidence
Importance of OH and how midwives can incorporate into practice

Table 14. Participants reported least useful aspects of the MIOH training (post-training, n=209)

Theme	Category
Information	Problems with articles provided e.g. repetitive, tedious, too many, ambiguous, boring, outdated, difficult to read on line, some conflicting information, broad
	American example and statistics, prefer local data
	Child information good but not as relevant
	Repetitive aspects of content
	Statistics
	Include information on how to perform the oral health assessment
	Parts of the book were difficult to follow
IT problems	IT problems-internal server error, broken links, needed to repeat sections
	Difficulty loading training manual onto tablet
	IT issues relating to the exam-meant having to repeat exam several times
Hard copy booklet	Prefer hard copy
	Hard copy-didn't need it
Questions/assessment	Want answers to questions that were incorrect
	Some exam questions were ambiguous
	Exam questions were not reflective of work
	Assessment - break down by module
	Multiple choice questions were repetitive
Evaluation	Evaluation - repeats the test
	Repetitive questions in the evaluation
Miscellaneous	Videos were a bit dated, not needed, 'wooden'
	Deadline for completion to avoid complacency, leaving gaps meant having to reread articles
	Want interaction with previously trained staff
	Contact person difficult to find
	More interactive
	Quicker response to application
	Format - difficult to navigate online
	Link given in the hard copy resources was incorrect
	Training material took a long time to arrive
	Open to other midwives
	Timing-Dec/Jan not a good time for a course

**Participant responses were classified into one or more categories.*

Table 15. Participant ideas on improving the MIOH online training (post-training, n=214)

Theme	Response category
Content	Articles are repetitive, reduce number
	More videos

	Update articles
	Provide more case studies and information about application of the principles
	More local content, Australian versus American
	More observation-Component for midwives to observe dentist/ OH issues, OH assessments
	More variety, articles, modules, videos etc.
	Articles- Integrated readings into module notes
	More photos e.g. dental assessment, tooth decay
	Possibly include oral anatomy & physiology in module 1
	There is conflicting advice for oral care
	Aboriginal health component to be added
Questions	More assessments/test retest
	Place question after each article (and space for answers in the relevant area)
	Identify which responses were correct and incorrect upon completion
	More depth to the questions to ensure understanding of the concepts
	Question about Milly was ambiguous-can't have a swollen tooth
	Make it possible to go back and revise responses to questions
	Increase exam question difficulty
	Place questions throughout the module
	Exam questions could be reviewed and made clearer
IT issues	IT/format - address navigation issues
	Log on issues, should be easier to access online
	IT problem- Saving exam results/ re-sit test
	IT issues - forced to submit a true/false answer and an A/B/C or D answer to two blank questions
	IT-iPad friendly version
Availability of the training	Promote more widely
	Make it available to all midwives
	Promote the training more widely to midwives
Format	More interactive, found dry, e.g. online games
	Improve flow, order i.e. notes, article, review questions, notes etc.
	Component for midwives to interact/discuss
	Expanded/advanced version of course
	Revise instructions to be clearer
	Completion date for motivation
	More links to the articles
	Prompt/summary of main points, printable version
	Advise time needed for assessments
	Include a completion date (to complete within a 3month period from commencement or specific dates of commencement that don't change)
	Provide a contact person for oral health questions
	Follow-up - Annual updated guidelines/research
Handbook	Continue to provide online and hard copy

	Don't keep the hard copy
	Send hard copy before online training
	Expand print size of handbook
	Improved practical handbook
	Hard copy is too glossy-difficult to write on
Miscellaneous	Give my boss a role in testing or assist in the completion of the module
	Incorporated into post graduate midwifery course
	Partnership with dental services within hospital
	Prompt – e.g. Small plastic card which like all nurses can be on the Lanyard for ideal reference whilst in clinic.
	Spelling mistake - e has been left out of Health

Participant responses were classified into one or more categories.

Table 16a. MIOH participant level of agreement with statements about the Victorian Midwives resources (post-training, n=225)

Statement about resources	Strongly Agree n (%)	Agree n (%)	Neither agree nor disagree n (%)	Disagree n (%)	Strongly Disagree n (%)
The Victorian oral health assessment and referral pathway (flow-chart) was easy to follow	116 (52)	106 (47)	3 (1)	0 (0)	0 (0)
The Victorian resources provided key information for each of the steps outlined in Module 3.	112 (50)	108 (48)	4 (2)	1 (<1)	0 (0)
The list of public dental services has assisted me to link eligible pregnant women to their local public dental service	121 (54)	94 (42)	10 (4)	0 (0)	0 (0)
I will keep the Victorian resources provided to refer to in the future	138 (61)	82 (36)	4 (2)	1 (<1)	0 (0)

Table 16b. MIOH participant level of agreement with statements about the Victorian Midwives resources (~12 month follow-up, n=20)

Statement about resources	Strongly Agree n (%)	Agree n (%)	Neither agree nor disagree n (%)	Disagree n (%)	Strongly Disagree n (%)
The Victorian oral health assessment and referral pathway (flow-chart) was easy to follow	10 (50)	8 (40)	2 (2)	0 (0)	0 (0)
The Victorian oral health assessment and referral pathway has been useful for my practice	5 (25)	11 (55)	3 (15)	1 (5)	0 (0)
The list of public dental services has assisted me to link eligible pregnant women to their local public dental service	6 (30)	11 (55)	2 (10)	1 (5)	0 (0)
I have referred to the Victorian resources provided	5 (25)	8 (40)	6 (30)	1 (5)	0 (0)

Table 17a. Midwives responses on how the online training was useful for changing or informing professional and organisational practice (post-training, n=218)

Theme	Category
Building oral health knowledge	Improved dental knowledge
	Research evidence and knowledge to enable more informed practice
	Better understanding of who is eligible
	Reinforces the need to discuss the topic with woman
	More information for staff and women
Change to practice	Will use (or already started to use) information in antenatal clinics
	Incorporating oral health assessments/dental screening into antenatal visit
	Will use (or already started to) the information to make referrals/recommendations to women
	In the process of defining referral pathways with the public dentist service
	Part of BOS/antenatal booking systems helps to prompt oral health questions
	Will review and update booking in practice guideline and paperwork
	Changed practice to include oral health discussion in first visit (post training)
	Had already incorporated parts of the referral pathway into our antenatal care
	Have come up with ideas on how to do the assessment quickly and effectively
	Will encourage antenatal clinic to screen the video smile/loved the video
	Haven't changed practice as yet
	Raising in my childbirth education classes to both parents
	Changed own oral health views, but time will tell if there are changes in the workplace
Transferring oral health knowledge	Will share information with other midwives/students
	Will encourage other midwives to complete the course
	Believe the training should be mandatory for all midwives

Oral health awareness	More aware of significance of oral health on pregnancy
	Now more aware of poor oral health of the community
Building confidence	More confident to discuss oral health in practice
	Concerns around how I could inform women of the importance of oral health in pregnancy were addressed
	Feel more professional about my approach to talking to pregnant women about oral health
Oral health awareness and evidence to support practice/ organisational change	Able to use evidence to support and discuss changes in practice in organisation (one indicated that it can be difficult with competing resources)
	Currently no oral hygiene/oral health information provided in a midwifery/obstetric clinic
	Oral health not a priority for organisation/oral health can be overlooked in maternity setting
	Not enough time in a pregnancy visit to conduct dental assessments
	Having dental service on site assists us to put procedures in place to ensure all our pregnant clients see a dentist
	Our organisation has already adapted a lot of the information into our practice
Resources	Useful resources on how to provide information to pregnant women
	Discussing with organisation to bring in oral health/nutrition resources into booking visit
	Easy to follow, with good resources
	It would be great if extra pamphlets and sample information sheets were given for me to show colleagues and clients.
	Flowchart tool was most helpful
Flexibility of training	Flexibility of online training allows time to complete, fits in with busy lives

**Participant responses were classified into one or more categories.*

Table 17b. Midwives responses on how the online training was useful for changing or informing professional and organisational practice (~12month follow-up, n=18)

Theme	Category
Transferring oral health knowledge	Will/have share/d information with other midwives/students
	Informed doctors regarding pregnant women eligibility for dental care
Change to practice	Will use (or already started to use) information in antenatal clinics
	Incorporating oral health assessments/dental screening into antenatal visit
	Witnessed preterm labour for woman with poor oral health
	Not working in the antenatal clinic so haven't put it into use as yet
Building confidence	More confident to discuss oral health in practice
Oral health awareness and evidence to support practice/	Able to use evidence to support and discuss changes in practice-can be difficult with competing resources
	Having dental service on site assists us to put procedures in place to ensure all our pregnant clients see a dentist

organisational change	Not enough time in a pregnancy visit to conduct dental assessments, but can see importance of it
	More aware of significance of oral health on pregnancy
Building oral health knowledge	Improved dental knowledge
	Research evidence and knowledge to enable more informed practice
Resources	Information now in our pregnancy packs
	Flowchart tool was most helpful/using it

**Participant responses were classified into one or more categories.*

Table 18a. Midwives responses regarding how they intend to apply learnings from the online training in their daily practice or workplace (post-training, n=223)

Response
Discuss oral health with women
Introduce oral health assessment at booking
Share more broadly with midwives/ organisation
Refer
Develop resources - quick reference templates, flow charts and practice guideline
Include OH a structured part of booking
Child oral health discussion
Include in antenatal education class
Will implement as part of other role
Arranging PD for all midwives w/local
Add reminder stickers in women's records
Implement check list and pack for first
Prioritize dental health during consult
Raise with management
Don't think will do OH assessment due t
Include OH a structured part of booking
Implement what I have learnt

**Participant responses were classified into one or more categories.*

Table 18b. Midwives responses regarding how they intend to apply learnings from the online training in their daily practice or workplace (~12 month follow-up, n=19)

Response
Discuss oral health with women
Refer
Introduce oral health assessment at booking in
More confident to talk to pregnant women about oral health
Discussed the training with staff
Don't think will do OH assessment due to time constraints
Implement what I have learnt
Include OH a structured part of booking in visit
Share more broadly with midwives/ organisation
Will implement as part of other role

Implement check list and pack for first visit

Participant responses were classified into one or more categories.

Table 19a. Midwives suggestions on how to improve Victorian resources (post-training, n=225)

Themes	Category
Adequate/no comment/unsure	Adequate
	No comment
	Unsure
Education and training, promotion of training and resources	Education -Raising awareness for all that the resources are available
	Education and training for all midwife in OH (midwifery training)
	More OH training and education generally
	Education and training promoted/ accessible to all professional
Additional dental services/affordable dental services	Affordable dental care for all pregnant women (remove eligibility criteria)
	Additional public dental services
	Additional public dental services (lacking in rural, access/ distance issues)
	Free dental care for all pregnant women
Content improvement	Use Australian statistics
	Resources for pregnant women
	Specify if any private dentists that priorities pregnant women
	Summary points from research articles
	Chart with key information/ messages/ stats for midwives to discuss (prompt)
	Ensure resources are updated and accurate
	Evidence based practice, dispelling myths about dental treatment through pregnancy
	Glossary of terms
	Handheld record includes OH questions
	Keep information up to date, include regional areas
	More detail
	Posters in other languages about oral health in pregnancy for clinics
	Resources as template that can be adapted with local pictures and information (Aboriginal and Torres Strait Islander [ATSI] community)
	Signpost Aboriginal Health Services
	Update Public Dental Service in Broadmeadows address.
	Advice to give women for protecting their teeth
	Provide more information on public dental clinics available on the NSW side of the river for Victorian towns on border.
Brochures	Supply of oral health and pregnancy brochures to antenatal clinics (info on where to order more)
	Brochure for teenage parents, on mornings sickness - need all information from article, clearer and more concise steps to follow post vomit.

	Preferred the NSW brochure-keep smiling
	Brochures to antenatal clinics (text in the 'safe to have dental care' handout is very small, and it looks very uninteresting - perhaps redesign the handout)
	Brochures too shiny
	Information on where to order more brochures
Accessibility of resources	Ease of access online
	Accessible resource to all Midwives and General practitioners
	Increase utilisation of resources with all pregnant women
	Market tool through Victorian Maternity Newborn Clinical Network
	Pdf for download in workplace
	Unable to access some of the websites listed for further information/ resources
Design/order	Improve flow/ order of information
	Glossy hardcover would be good
	Divide into regions
Referrals support/information	More direct referrals
	Referral template for ease of referrals
	Referral challenges
	Communication e.g. form-request for referral pathways and better resources for at risk women
Organisation	Didn't receive it
Copyright-making aware they are reproducible	Permission to copy information for personal use or to give to women
Raise profile of DHSV within hospitals and staff	Raise profile of DHSV within hospitals and overall
Further comments regarding training	More photos/videos
	More time in the clinic to ask oral health questions
	Free mouthwash samples for women
	Group discussions/ presentations (more interactive)
	Knowing how to assess women
	Correct responses to questions
	More presentations
	Dental visit included within antenatal care
	Evaluation quiz not needed
	Articles repetitive, updating needed, too many, binding-make them removable
	Articles-larger print

**Participant responses were classified into one or more categories.*

Table 19b. Midwives suggestions on how to improve Victorian resources (~12 month follow-up, n=19)

Theme	Category
Adequate/helpful/unsure	Adequate
	Helpful
	Unsure
Brochures/posters	Less wordy, more pictures.
	Suitable for women with language and literacy barriers
More interactive /videos/clips	More interactive
	More online videos/clips
Miscellaneous	Send posters for use in the clinic
	Face to face education would be good, but difficult
	Suggest resending a refresher note as a reminder of the resources
	Provision of resources for pregnant women during antenatal visits would be beneficial
	Build into the BOS system as information hyperlinks

Participant responses were classified into one or more categories.

Table 20a. Midwives responses regarding the perceived barriers for clients accessing services (post-training, n=217)

Theme	Category
Time limitations/constraints	Time limitations/constraints
	Increasing demands placed on the antenatal booking in visit
Confidence in raising the issue of oral health/hygiene	Difficulties in knowing how to raise the issue of oral health when the problem is noticed, lack of experience/confidence, fear of embarrassing them
Dental clinic booking issues	Difficulties to book appointment in dental clinic e.g. long waiting periods
Client related concerns	Interest of women, more interest in the actual birth, or other things, just not interested
	High needs clients, may not see oral health as a priority
	Language barriers
	Clients willingness to engage with dental health services
	Travel demands on clients-attendance will be the barrier-referring is easy
	Women unwilling to discuss oral health due to embarrassment
	Clients not attending their dental visits
	Many women have dental phobia, will agree to go during appointment but then don't
	Woman's perceptions regarding whether it is safe to have treatment during pregnancy

	Perception of time available by women
	Woman not hearing the message
	Women's resistance to seeing a dentist
	Lack of awareness of oral health
	Smokers don't like to spend money on dental
	Client's diet is often poor
Issues relating to cost	Cost - generally
	Cost-if women don't have a healthcare card
	Can get the assessment while pregnant, but may not be able to afford the follow-up treatment
	Small cost to access the public dentist
Organisational issues	Staff resistance
	Insufficient midwives have undergone training
	Past poor referral processes/perceived or real long waiting periods for pregnant women
	Lack of information in other languages
	New public dental clinics, clinic linked to dental services helps/has helped to reduce barriers
	Organisation
	IT issues
	Workplace not supporting oral health assessments
	Small size of organisation
	Need to implement a tool in the BOS
	Lack of printed resources in the clinic
	Oral hygiene posters not provided in clinic
	Education at hospital not provided about oral health
	Dentist may not be willing to treat a pregnant person
Miscellaneous	Women sometimes referred to regional hospital-outside their care
	Need to provide the toothbrushes and toothpaste
	Acknowledgement of improvements in dental appointment bookings for pregnant women
	Filling in referrals and getting feedback

**Participant responses were classified into one or more categories.*

Table 20b. Midwives responses regarding the perceived barriers for clients accessing services (~12 month follow-up, n=18)

Theme	Category
Client related concerns	High needs/ complex clients, may not see oral health as a priority
	Language barrier
	Travel demands on clients-attendance will be the barrier-referring is easy
	Dental phobia
	Clients not attending their dental visit
Time limitations	Time limitations/constraints

Organisation issues	Staff resistance
	Difficulties to book appointment in dental clinic e.g. long waiting periods
	Local services uptake of program
Issues relating to cost	Cost-generally
	Cost-if women don't have a healthcare card
Resources	Lack of information in other languages
	Need information for low literacy level

**Participant responses were classified into one or more categories.*

Table 21. Participant additional comments at post-training (n=113) and ~12month follow-up (n=9) combined

Theme	Category
Improving knowledge and skills, building confidence and translation to practice	Improved knowledge, able to use training in every day practice and education for clients
	Course was useful and informative
	Great information, quick and easy to read.
	Can now confidently talk about oral health with pregnant women and/or refer to the appropriate service
	Adds value to antenatal appointment
	Will implement new skills
	Surprising, found out you don't have to be a dentist to help women's oral health
About the training	Time allocation for course was more than advertised
	Very relevant
	Great online learning tool
	Suggest simplified version of online training with an interdisciplinary focus for undergraduate students from a variety of health professions
	Need course objects, course contents laid out
	Question answers had possibly more than one response-was confusing
	Interesting, well planned and easy to follow
	Visit to dentistry would be good
	One of the best courses I've done
	Achievable learning package
	Pitched at the right level
	Changing timeframe of when the course could be completed would be better
	Booklet could be more user friendly and concise
Transferring knowledge	Will recommend to other midwives
	Colleagues interested in next round of training
	Enjoyed learning about dental care, needs to be brought into education within all health workers, e.g. GP
	Very well received and implemented in our organisation

	All midwives completing the booking in and education classes should be complete this course
	Written oral health policy underway
	Would be good to have oral education and assessment as standard antenatal care
	Improved knowledge, able to use training in every day practice and education for clients
Support through training	Excellent support from DHSV staff
Resources	Would like a copy of the Victorian Resources Booklet, helpful in practice
	Resources available to women encouraging them to monitor their oral health
	Healthy mouth healthy pregnancy brochures in other languages would be a great benefit.
	Would like "Healthy Teeth Healthy Pregnancy "brochures to give to women on visit
	DHSV website user friendly
Barriers	Time is always an issue in bookings
	Should have free dental for all pregnant women
	Advocate for better access to dentistry for all
General comments	Oral health is an important topic

Note: Participant responses were classified into one or more categories.

**Comments in italic were provided at ~12 month follow-up and included in overall number of responses (n).*

[#] Includes one participant response from ~12 month follow-up.

Appendix E: Midwifery Initiated Oral Health education program (MIOH) follow-up key informant interviews overview of themes and illustrative quotes

Overview of evaluation findings from key informant interviews with midwives exploring perspectives on the MIOH education program and impacts on practice

Seven midwives participated in follow-up in-depth telephone interviews exploring their experiences and perspectives on the MIOH training program and the extent to which oral health promotion was incorporated within professional practices, health services and systems.

MIOH training program

Satisfaction

The MIOH training was reported by the midwives to be informative, comprehensive, enjoyable and applicable to their practice and midwives noted they would recommend MIOH training to others. All but one Midwife explained this was the first time they had received oral health training. Midwives expressed that the offer of free course with associated continuing professional development (CPD) points was enticing.

Increased knowledge and confidence from training

All midwives expressed gaining knowledge about the importance and implications oral health in pregnancy describing key learnings including: identification of gingivitis, links between poor oral health during pregnancy and premature labour and dental care after vomiting.

Prior to the training, the midwives described being unsure how to initiate conversations about oral health with women, knowing what to discuss and what information to include in referral forms. After participating in MIOH training, midwives expressed feeling confident in performing the oral assessments and following the referral pathway. Midwives described retaining the important concepts sufficient for practice and identified they would value refresher training to keep up-to-date with the evidence and details.

Changes in practice

Impact of new knowledge and confidence on practice

Prior to the training, most midwives described inconsistently and very briefly addressing oral health with clients. Following training midwives reported placing greater emphasis and priority on incorporating oral health into their practice due to their new consciousness, knowledge and confidence to incorporate oral health. They described feeling more competent to directly raise oral health conversations with clients, know what to ask and look for in detecting and address oral health

issues. They described being able to explain the importance of good oral health and implications of poor oral health in pregnancy and, for some, they discussed implications for children. Most midwives described routinely performing mouth checks and providing referrals to dental services. However, approaches to referrals differed and were mostly informal.

Enablers of change in practice

Relationships with local dental services were identified by midwives as a key influencing factors on their oral health promotion practice. Some midwives reported strengthening of their relationships with local dental services following the training, while other already had a prior link with their local dental service, particularly when they were on the same premises or in close proximity to the maternity service. These relationships and the establishment of formal internal referral pathways and follow-up systems were important for implementation and sustainability of referrals to dental services.

Proximity of dental services and eligibility for free or low cost dental services (for women eligible for public dental services) were enabling and motivating factors for clients as well as midwives who could confidently refer women and ensure priority access to services. Midwives reported eligible clients were relieved and also receptive to their new approach to care and willing to have their mouth checked.

Organisational support where oral health is embedded in the practices of services and where there is continuity, relationships and referral pathways to dental services were viewed as important enablers. A few midwives appreciated having continuity of care with other health professionals e.g. Aboriginal health workers, Maternal Child Health Nurses and other midwives who have participated in MIOH or other oral health promotion programs e.g. Bigger Better Smiles. Midwives working in Aboriginal communities reflected on the significance of supportive partners e.g. who assisted with transport for clients and their ongoing relationship with women post-pregnancy.

A couple of midwives described using BOS (Birthing outcomes system) as a prompt to discuss oral health, however, other midwives reported using different data capturing systems which did not include oral health, and suggested a formal prompt within their systems would be valuable. This validates the focus on influencing systems that support professionals to make oral health part of their everyday practice.

Midwives described the key skills need to promote oral health within their practice included: remembering to ask about oral health, knowledge of oral health and good communication skills to give over the information to clients in simple understandable terms (including the support of appropriate teaching aids/ resources), ability to assess oral health, identify disease and refer to dental services, being empathetic and able to support women from varied social background who may experience other barriers. Midwives working in Aboriginal communities had some limited funding to offer toothbrush and toothpaste and explained these were useful supportive resources.

Challenges

Implementation challenges for midwives

Midwives championing oral health noted that working independently without the support of many colleagues or their organisations posed a challenge for making real sustainable change. Time constrains, competing priorities and complex clients were noted as challenges particularly common in Aboriginal and low socio-economic and non-English speaking communities. Some midwives worked on a rotational basis, the nature of their role meant they weren't always based in antenatal care and have less opportunity to implement their learnings into practice. These midwives did, however, see the value in using this information within their other roles e.g. work in nursing. While they found it wasn't always appropriate to apply it e.g. night shift on the maternity ward, they said they did try find ways to address oral health as appropriate. The absence of oral health prompts within the booking in cards for pregnant clients in some services was noted as an implementation barrier.

Implementation challenges related to barriers for clients

Midwives described barrier for their clients including: access to dental services relating to distances and transport issues in some remote communities, unfordable cost of dental services for low-income families and no access to public dental services without a healthcare card. Midwives noted that while some of their clients go regularly for preventive dental checks, in others communities clients were more unmotivated, may have past negative experience making them resistant and only going when problems present. A fear of dentist and misconceptions about the safety of dental visits in pregnancy were identified as barriers for clients by some midwives. Additional barriers were noted by midwives working with Aboriginal communities where midwives went above and beyond together with the local dental clinic to dispelling fear of dental visits in mothers, to enable positive associations with dental care among their children. Other challenges included the paperwork needed to prove indigenous status and access free dental coupled with client's low literacy, and non-Aboriginal women being unable to access public dental in these communities.

Future directions

Training

Midwives identified further professional development needs including: knowledge of referral pathways, the program to be promote widely with training for all midwives, a simplified package for undergraduate midwives and other disciplines e.g. medicine and dentistry, refresher training, training healthcare professionals working with pregnant women and more broadly (e.g. GPs, GP obstetricians, obstetricians, maternal and child health nurses, practice nurses, Aboriginal Health Workers and dentists).

Health systems

To facilitate midwives role and address barriers in access to dental services, midwives suggested Medicare referrals enabling free/ low cost dental for all pregnant women and inclusion of oral health in their organisational procedure and antenatal care guidelines. Establish formal uniform referral pathways to dental services for sustained inclusion of oral health in midwifery practice.

Additional resources and supports

Tools needed for supporting midwifery practice were also discussed including: prompt within the Victorian Maternity record (VMR) or other similar systems where oral health prompts arise a every visit if not filled in on the first visit, flipcharts and visual aids (especially for Aboriginal community),

toothbrush and paste in packs to include in antenatal resource packs especially in low socio-economic/ Aboriginal community, posters for waiting room (detailing implications of poor oral health), inclusion of oral health in antenatal education class with information for mothers, fathers and newborn oral health. One midwife noted the need for a more integrated approach across oral health promotion programs in Victoria.

Table of themes and illustrative quotes

Table 1. Midwife/interviewee roles

ID	Role
1138	Midwife working at an Aboriginal Community Health Service
1120	Midwife working in a clinic and involved in the initial consultation and primary care in Aboriginal co-operation
1163	Midwife in an Aboriginal Community Health Organisation, coordinating maternity services across three sites
1150	Midwife in a low risk hospital involved in pregnancy care, antenatal, birth, post-natal and domiciliary
1119	Midwife in the birth suite, maternity unit and special care nursery
1168	Midwife in a hospital working in postnatal ward, special care, domiciliary and antenatal
1139	Midwife working for a university as a course convener, practice midwife in a local primary hospital

Table 2. Overview of themes and quotes from interviews with midwives participating in the MIOH education program

Themes	Illustrative quotes
1. MIOH training program	
1.1 Satisfaction/ Increased knowledge and confidence from training • All the midwives found the course informative, comprehensive and enjoyable. Midwives recognised the importance of oral health in pregnancy and were confident to apply their learning's into practice • This was the first oral health training for all but one midwife • The free course and CPD offered were enticing • Midwives would recommend the course to others	*"I must say having done the course, it has enlightened me probably wasn't aware that it can cause premature labour but it's one of the key things I have taken from doing the course. It's the first dental course I have done in the midwifery." (1138)* *"The program has really cemented my knowledge in the area." (1150)* *"I really enjoyed the course and I would encourage any other midwife to do it…it was a really good thing to have." (1163)* *"[The training] taught me so much… initially, I was a bit overawed by it and this new terminology and all that, but when I got stuck into it and started… it was just so informative… I probably haven't remembered everything that I learnt, but I really enjoyed learning it and I felt really confident when I learned it… it was at my level and it was easy to read… engaging… really good. (1119)* *"Absolutely…a very useful program and enjoyed using it....it is part of a holistic approach that we are looking for… not just across maternity…across all primary care." (1120)*

	"I truly didn't know the impact of good or bad oral health in pregnancy... there was the enticement of the CPD which was great and the fact it was free…. It's [oral health] not something we really look, or have looked at in the undergraduate space." (1139) *"It would be a valuable course [if it was a paid course]…I'd have to think really seriously about it or find some sort of scholarship." (1163)* *"[As the next steps we need] more people on the program educated about oral health because it's something that's not widespread common knowledge in midwifery…." (1168)*
2. Change in practice	
2.1 Impact of new knowledge and confidence on practice • The training developed the midwives understanding of oral health in pregnancy and this knowledge enabled midwives to place a greater emphasis on oral health within their practice. • Knowledge gains gave midwives confidence to have open discussions with clients and routinely perform oral mouth checks and referrals.	*"I will actually look in their mouth now which I didn't do before because I didn't see the point of looking…now I have a better idea on what I'm looking at... I am able to tell them what I see and what the impact on the pregnancy and themselves." (1163)* *"I'm a lot more comfortable talking about oral health and discussing with women about looking after their teeth, not just while they are pregnant but throughout their life and the impact that dental decay can have on their general health." (1163)* *"I'm a lot more conscious of you know, just asking them [women] about their teeth and the welfare of their teeth and if they visit the dentist…. I suppose I'm more confident in that respect… I was aware of the referral process prior I guess to the course, but I guess I'm more… my big thing is, I am more conscious to make them aware that their healthy teeth are so important… [how it] affect the growth of the baby… make them more aware of that… the mum's." (1119)* *" [Before MIOH] I wouldn't have gone into as much details as I do now with this knowledge knowing more about dental health, bleeding gums and a lot of women have dental caries." (1138)* *"I [now] know how to check for gingivitis and I now do the oral assessment of every woman at her book in. So I'll just ask to have a check of her gums... If they have any [issues] then I'll recommend they go straight to the dentist, I'll ask when they*

	last saw a dentist and I'll ask this normally twice [during the pregnancy] …And explain why it's so important to go to the dentist… if they have a healthcare card I refer them to the public dental service... we have a priority access for them now, otherwise I refer them to one of the local dentists in town." (1150) *" After doing the program I've learnt so much about how important it is for their oral health and I ask the two questions and then when to refer as well following the pathway." (1168)*
2.2 Enablers of change in practice • *Relationship and proximity to dental services* o Relationships between the maternity clinic and dental service and staff (MIOH strengthened existing and facilitate new relationships and referral pathways) • *Referral pathways* o Formal referral processed and pathways enable sustainable change. Midwives reported varied referral systems and conversely informal referral were a challenge	*"I noticed the state of the women's teeth and some toddlers had dreadful dental decay [even before MIOH training]...I approached [local] Community Health to ask about what dental programs were available...and that is how I got involved with the [local] dental [project]. We have a close relationship with the dental nurses in [the area]…We sat down and spoke about it [addressing oral health]. Fear was one of the things that kept coming up in the conversations so we have to try and dispel this fear in some way… [clients can go to the dental service and] look, they could touch things and they would realise that they were not going to hurt them. It's not about the hurting it's about their health… [Since the training]…the relationship [with the oral health service] continues but I know a bit more about what they are talking about… and to ask probably more concise questions..." (1163)* *"If there were women wanting a follow-up I would drop a note or speak to the dentist and let them know why this woman was coming and she would be a priority patient…we [midwife and dental professional] had known each other in passing. [From the training and those referral pathways] It has become a bit more of a known association." (1120)* *"…We use an internal referral form because the public dental service is actually located within our hospital…. if you have a healthcare card and you haven't seen a dentist recently, all the midwives will refer on their first visit to the public dentist….they put them on the priority list then they see them we believe it's within four weeks…. It's a new initiative after the [MIOH] program." (1150)* *"We just refer the same as we would with any allied health professional… it's super easy." (1150)* *"[Our] dental community the PHN [primary health network]*

	came up with a pad with… contact details, how to get and appointment… [and a place to write down the date] time and where. We tend to phone [the clinic] while the women are here and say we've got an appointment for you on this date and give them details on the paper…we… put that in our diary.....and can remind them a couple of days before about the dental appointment." (1163) *"…For them [clients] it's a relief to know they can go with the healthcare card and get priority access because I think often for adults public dental system has such long waiting list that you have to have an acute need to go, you can't just go for a check-up. So it's really good for them in pregnancy, they are quite motivated of their health to have access to that service readily available." (1150)*
• *Access to dental services (free/ low costs) and clients receptiveness to care*	*"[Clients] are willing to listen and understand what you are saying and understand the importance of healthy teeth for them and the baby…. they're receptive to that information… In our organisation it's good, because, well if they have a healthcare card. Well, that would be a barrier [if they didn't], it's just the mums who have the healthcare card, they can get in pretty much straight away and see a dentist in the hospital. So they don't have to go on a waiting list, they can pretty much get in there and because they are pregnant, coming through the clinic." (1119)* *"They [client] feel well supported and well educated so they can make informed choices…increasing women's knowledge and empowerment during and outside pregnancy." (1120)* *"I have passed on the links and there are a lot of other midwives interested in doing it as well." (1120)* *"Information about the program was given in a team meeting, in an education session." (1150)*
• *Organisational support* o Organisations supportive of oral health and where oral health is embedded in the practices of services and where there is continuity of	*"The younger proportion of midwives are very interested in it [doing the training] …its low cost or free training course CPD [continuing professional development] and it's useful for them." (1120)* *"We see women in their first trimester...we have a shared care arrangement [with GPs]....dental care is one of our priorities, there's a lot of priorities, particularly with Aboriginal health.*

care, relationships and referral pathways to dental services enable oral health promotion	*So, linking them into the dentist here is important… GP's see them as well, so I am not the only one asking these questions or promoting the service… the importance of dental health in pregnancy." (1138)* *"…Even after the pregnancy women still phone us if it's dental 'What do I do?' ….they come here for information." (1163)* *"We have a maternal child health clinic here once a month. And the mums bring babies there and so we are very opportunistic [my colleague] and I, if mums here we'll ask about general health and sometimes they might phone one of us and say they they've got tooth abscise and, ok let's get you in, let's get you sorted. We have guest speakers coming along as well. The dental nurses come and talk about dental health…different speakers come along while the mum's are waiting to see the maternal child health nurse so we try to be as opportunistic as possible and if somebody needs treatment we try and get them in as quickly as possible too, which [the local] community are very good at doing." (1163)* *"We [the midwives] talk about dental health at the first visit and at subsequent antenatal visits. And we continue that into the postnatal period as well because the health worker has done the 'lift the lip' course and she [health worker] continues into the postnatal period about the benefits of dental health for the mother and children." (1163)* *"If they [Aboriginal mums] have children when they are doing the dental visit, we encourage the children to come and the staff at regional Community health are fabulous they want to encourage people to come too so they are happy to work with them through that, sometimes we take a group and they just have a look around the dental facility and try breakdown their fear." (1163)* *"We have a close relationship with the Healthy Mothers Healthy Babies program. They help us getting women to and from appointments…." (1163)* *"There's the questions, we use BOS [birth outcome system], so there's the question when doing physical examination, there's a question relation to teeth. So that always prompts me to check." (1150)*

• *Prompts* • *Skills required to promote oral health promotion* o Good communication skills convey the information appropriate to the audience o Oral health assessment, disease identification and referral o Empathetic and sensitive o Supportive resources	*"Good communication being able to educate women different socio-economic backgrounds, women of different educational backgrounds and being able to do the oral health assessment." (1168)* *"Good communication skills, knowledge of local referral and consultation, good teaching aids to demonstrate as people learn in different ways." (1139)* *"Awareness of what good teeth and gums look like so you cannot diagnose but see the difference-so you can refer over to the professionals who are the dentists." (1150)* *"We've got some bags that contain some information about dental health and also a toothbrush and some toothpaste and that's been great to get out to the mums." (1163)*
3. Challenges	
3.1 Implementation challenges for midwives • Oral health champions who are passionate individuals working alone to promote oral health with limited organisational support • Time constraints, competing priorities and complex clients • No formal prompt to include oral health	*"I can't say that the organisation has supported it… I think it has just been [my colleague] and I doing a lot of work on the ground and trying to source toothbrushes and some toothpaste … we've been quite lucky we've got some bags that contain some information about dental health and also a toothbrush and some toothpaste [through external funding and collaboration]…. but I believe that's come to an end now so we'll probably have to start thinking about where else we can source this kind of stuff. It is just difficult to get the resources sometimes because they have a [local] dental practice but we don't seem to work very closely with them." (1163)* *" ….[Working] as a midwife in Aboriginal Health Service is extremely complex, it is not this standard healthy well women…and the motivation level and the ability for people to proactively care for themselves and their teeth is not on people's radar...[it's] tough for these people." (1138)* *"Often… [women] they were a little surprised [to hear about the importance of oral health in pregnancy] for some people. The majority of them were pretty good they understood, the lower socioeconomic women… it was obviously new information for them." (1120)* *"Sometimes your booking gets altered and you think you have an hour and end up having 30 minutes so you got to prioritize*

	all the care that you give…I think you can have a prompt that will keep reminding you to do it." (1138) *"…Dental care is one of my priorities, there's a lot of priorities, particularly with Aboriginal health. Our women have a lot of issues around their social background, housing, relationship, drug and alcohol issues, so there is a lot of issues that our women face and sometimes dental care is very low on their priority and financially they are on Centrelink which most if not all our clients are, to access dental care is low on their priority as well." (1138)* *"We are aware the dentist is here…we are aware people need good oral health… There is no formalised prompt for the want of a better word, in our software and paperwork for a dental conversation." (1138)*
3.2 Implementation challenges related to barriers for clients • Distances and transport • Cost of dental services, no access to public dental services without a healthcare card and other eligibility constraints • Unmotivated, may have past negative experience • Fear of dentist (particularly in Aboriginal communities) • Lack of knowledge/awareness and perception that it is unsafe to go to dentist in pregnancy	*"They have a [local] dental practice but we don't seem to work very closely with them. Because they do charge, it is very difficult for us to get the women to go. And because of the distance is a real tyranny as well. They can go up at 8.30am in the morning and not be back to 3pm, 4pm in the afternoon, because several people all go [to the dental service] at one time. Some of our ladies have got kids they just can't do that. So we use utilise [the] Community Health [dental service]. They don't charge with a health card or indigenous with a health card so that works really well." (1163)* *"The dental practice in [the local area] is run by the Aboriginal cooperation…..if you have a certification that you are indigenous it is free…but a lot of people around here don't have that…getting them to do paperwork is difficult…dealing with people who have got a year six reading and comprehension...they haven't done a lot of school and these things are very confronting for them....A lot of them don't know their family history, they just know they are indigenous...they might be part of the stolen generation and it's just difficult for them. Without a certification there is a cost…it might be $60 for a round of treatment which doesn't sound like a lot of money but for people on benefits it's a huge amount of money." (1163)* *"Whereas if the mums who don't have a healthcare card…it cost them a lot and often the cost is the thing that's the barrier." (1119)*

	"A woman who had gingivitis at 33 weeks didn't have the money to go to the dentist and ended up in premature labour." (1150) *"There is a perception amongst the community that you can't go to the dentist while you are pregnant." (1163)* *"The ones that say 'I'll do it myself' [make a booking with the dentist] and you seem to spend the next three months saying 'have you done it, have you done it?'… We try to go with them so they can have a look [at the dental service]… I reckon it's just downright fear". (1163)* *"Others tend to go when they have a problem. I can't persuade them if they don't want to go. Women have a lot of issues around their social background as in relationship drug and alcohol issues, so there is a lot of issues that our women face and sometimes dental care is very low on their priority." (1138)*
4. Future directions	
4.1 Training o Expand the program to all midwives o Develop and incorporate simplified oral health education in tertiary midwifery and other health professional courses o Refresher training o Training for other health professionals working with pregnant women	*"There is still is room for more a small [simplified] package for undergraduate students across disciplines, not just midwifery but across disciplines… Learning the same information highlighting the importance [of oral health and could feed] back into professional collaboration between different professions… That where that could be developed in all universities, [who] can access it and you know send the students off to do this package for an hour or two hours and may be they can get a little certificate at the end… it could be [developed and funded by] any university, or funding from the government with a collaboration of several different universities, so sort of a consortium… all the students in different health disciplines could access it." (1139)* *"It would be good if every couple of years we could do a refresher, you know just to keep up to date…something linked to the pregnancy… even just a short course would be very handy." (1163)* *"Maybe a refresher even get updates now and then from the oral health program, remembering what gingivitis looks like, this is what tooth decay looks like, have you been assessing the women you are booking in…getting some information like a newsletter, it's quite brief just more education… this is a picture of gingivitis, so memory prompts are a good*

	thing." (1150) *"…[Aboriginal] health workers would benefit [from MIOH training]…Lift the Lip was great…they [the Aboriginal health workers] could do that course very easily and it would give them a really good knowledge." (1163)* *"…GP's would benefit [from MIOH training]…if they notice someone and could talk to them about the importance of it and how to refer them onto other organisations." (1163)* *"Anyone who is dealing with pregnant women, even maternal child health nurses [should participate in oral health training]." (1139)* *""[Obstetricians should complete MIOH]… the high risk women that midwives don't see could potentially miss out …GP's… [for women] doing shared care with their GP." (1168)* *"…Ensuring public dental services have priority lists for pregnant women and the midwives that work in those areas know how to refer." (1150)*
4.2 Health systems o Medicare referrals enabling free/ low cost dental for all pregnant women o Inclusion of oral health in organisational procedure and antenatal care guidelines o Establish formal referral pathways to dental services for sustained inclusion of oral health in midwifery practice	*"The dental schemes for children if that could be expanded to pregnant women that would be fantastic." (1150)* *"Whereas if the mums who don't have a healthcare card, they don't have that same option like [you know], it cost them a lot and often the cost is the thing that's the barrier." (1119)* *"Aboriginal health workers, oral nurses…practice nurses…don't ask [the client] pertinent questions about whether they have issues with their teeth…would be a really good area to expand into in chronic disease and health assessments." (1120)* *"….It is all built on relationships …would like to see a smoother referral service…a formal process so it doesn't matter who is in the job that the process still works." (1163)* *"Adding two questions about dental health to the booking in form it would be quick prompt." (1168)*
4.3 Additional resources and supports	*"I think you can have a prompt that will keep reminding you to do it." (1138)*

o Prompts o Flipcharts, visual aids, resources o Integrated approach across oral health promotion programs in Victoria	*"You could have a little flipchart that you can go through that visual can be helpful to people as well to appreciate the importance of doing things and I find visual works well with the Aboriginal people." (1138)* *"I think we can overload women with just giving them handouts and leaflets, but we may just use a poster and say [in relation to diabetes] look it can affect your [client] teeth, it can affect your [client] eyes. It's easy to understand terms with a bit more information on it than just diabetes." (1119)* *"We have a hand held record for women, dental is not one of the tick boxes [in the record]… maybe [adding oral health as] part of that… so it becomes of a formal place in it as well, that would be useful… also just general policy and procedures in the antenatal clinic." (1120)*

Appendix F: Maternal and Child Health (MCH) nurse Professional development overview and tables

MCH nurse continuing professional development workshop evaluation findings from post-workshop feedback forms

Note: All short answer question responses were categorised and summarised.

Participant characteristics

- Twelve continuing professional development (CPD) sessions held and evaluated between August 2017 and February 2019 (table 1). Overall 194 out of 376 Maternal Child Health (MCH) nurses who attended the workshops (52%) attempted/completed post session evaluation questionnaire.
- MCH nurses worked across 13 Victorian municipalities within three rural and metropolitan regions with 71% (n=138) working as universal MCH nurses, 11% (n=22) enhanced nurses and 2% (n=4) working across both roles. Two coordinators (1%) and three relief worker/social worker (3%) also participated in the session.
- The option relating to 'other' role was added to the post evaluation survey after 25 August 2017 and therefore 27 trainees (14%) could not provide a response.

Self-reported knowledge and confidence

- The sessions were received positively. After the session overall ≥89% agreed/strongly agreed they had gained new knowledge or skills, felt more confident about supporting good oral health for clients, the training met their expectations, the content was clear and easy to follow and that the amount of information was sufficient (table 2).

Useful aspects of the session

- Many MCH nurses reported tooth decay information was the most useful aspect of the CPD session.
- Some thought the whole session was useful and several thought the session refreshed and confirmed previous knowledge.
- Other commonly reported responses are shown below:
  - Referral process and information about local services
  - Local dental statistics
  - Funding and accessing funds for dental
  - 'Little teeth book'
  - Interactive group sessions were useful

Suggestions for improving the session

- Just over a quarter of MCH nurses provided a response relating to how they thought the session could be improved with many suggesting allowing more time; conversely a much smaller group felt the session could be shorter.
- Some thought the session could be improved by providing more information such as changing parent behaviours, molar tooth decay, detecting decay, private dental services, practical advice, resources and referrals.
- A smaller group of MCH nurses expressed that more case studies (n=3), being provided with a copy of the presentation (n=2) and greater evidence base (n=2) would improve the session.
- Single responses are listed below:
    - Facilitator should speak louder and more dynamically
    - Fewer presenters
    - Encouragement of use of new book
    - Session booklet to be provided to all the nurses
    - Less information on tooth decay
    - New information (already knew the information presented)
    - Videos on ways for brushing
    - Provide more oral health products for vulnerable families

Intended changes to practice as a result of participating in the session

- Over one half of the MCH nurses provided a responses relating to their intended changes in practice as a result of participating in the session. Some didn't feel any changes were needed.
- The most commonly reported change related to focusing on oral health with parents e.g. tooth decay, brushing earlier, demonstrating brushing, frequent eating as well as focusing more on checking oral health at Key Age and Stages (KAS) visits.
- MCH nurses also commonly reported they intended to make more referrals to local dental clinics, be more diligent with lift the lip, using 'Little Teeth Book' more often and improving their identification of decay.
- Single responses recorded included
    - Providing tooth tips in other languages
    - Advising parents against using mesh bags
    - Promoting oral health across their team
    - Discussing oral health statistics with parents

Additional comments

- More than half of the comments provided by MCH nurses suggested the session was useful with several thinking it was good revision.
- A small number thought it would be good to handout toothbrushes/toothpaste to vulnerable families, more practical tools e.g. videos, model teeth, posters and handouts, stickers, 'Little Teeth Book'.
- Two MCH nurses questioned whether the information was based on current research (n=2).
- Further single comments are provided in table 3.

Table 1. Participant municipalities/Department of Health regions

Area/Municipality	Region (Department of Health)	Region	n (%)
City of Ballarat	Grampians	Rural	18 (9)
Greater Geelong	Barwon South Western	Rural	28 (14)
Greater Shepparton	Hume	Rural	18 (9)
Hepburn Springs	Grampians	Rural	1 (1)
City of Boroondara	Eastern	Metropolitan	10 (5)
City of Frankston	Southern	Metropolitan	23 (12)
Kingston	Southern	Metropolitan	6 (3)
Knox	Eastern	Metropolitan	22 (11)
Manningham	Eastern	Metropolitan	13 (7)
Maroondah	Eastern	Metropolitan	12 (6)
Monash	Eastern	Metropolitan	14 (7)
Moonee Valley	North and West	Metropolitan	12 (6)
Yarra Ranges	Eastern	Metropolitan	17 (9)
Total			**194 (*100)**

Rounding may affect percentage totals.

Table 2. Participants level of agreement with the following statements about the CPD post-workshop (n=192)

Knowledge and skill development	Strongly Agree n (%)	Agree n (%)	Neither agree nor disagree n (%)	Disagree n (%)	Strongly Disagree n (%)
Participants self-reported changes in knowledge and/or skills	72 (38)	101 (53)	14 (7)	3 (2)	2 (1)
Confidence					
I am more confident about supporting good oral health for my clients	75 (39)	96 (50)	19 (10)	1 (1)	1 (1)
About the training					
The session met my expectations	82 (43)	101 (53)	6 (3)	2 (1)	1 (1)
The content was clear and easy to follow	90 (47)	97 (51)	4 (2)	0 (0)	1 (1)
The amount of information was sufficient	90 (47)	89 (46)	11 (6)	1 (1)	1 (1)

Rounding may affect percentage totals.

Table 3. General comments about the session

Comment
Additional individual comments are shown below:
Come again please
Will be more observant and refer
More information regarding the relationship to heart disease, flossing?
More information/evidence on thrush treatment by scraping/brushing
Mouth model isn't a child's mouth, it has too many teeth and is ugly
A lot of this advice is stuff we do, we promote dental /diet as a priority, how else can we improve things/dental attendance
Showing parents how to clean teeth is just one more thing for us to do in a short time frame where lots of other things have to be done
Feedback from dental staff would be great
Need to educate the public/professionals e.g. doctors and crossing supervisors providing lollies
A reminder of dental check at 3.5 years KAS and specific demonstration of lift the lip would be good
I would like a page to put in Child's MCH Green Book with teeth outline for parents to mark off when teeth erupt

Appendix G: Maternal and child health (MCH) nurse key informant interviews overview of themes and illustrative quotes

Key informant interviews with MCH nurse exploring their engagement with HFHS/DHSV tools, resources and professional development

The HFHS program has engaged with Maternal and Child Health (MCH) nurses to support their practice in promoting oral health through the provision of a range of resources, materials and professional development opportunities including: The Little Teeth Book, Tooth Tips fact sheets for families, Teeth Manual (professional reference document), Tooth Packs (oral hygiene products for families) and professional development sessions. A list of MCH nurses that had been engaged to varying degrees with the variety of HFHS strategies were identified by the HFHS implementation team and invited to participate.

Six MCH nurses from five MCH services agreed to participate in telephone interviews. MCH nurses worked in metropolitan and regional areas and were engaged to different extents with the professional development and resources: three MCH nurses participated in a focus group for the design of pictorial resource, one MCH nurse in a pilot of Little Teeth Book, three MCH nurses participated in professional development workshops and one MCH nurse took part in the Tooth Packs study and extension program through 'Mrs Marsh' Tooth Packs initiative. MCH nurses reported oral health was part of their MCH university education.

The following sections provide the summary analysis and key evaluation findings from MCH nurse key informant interviews.

Resource use and impact overall

Little Teeth Book

- All but one of the MCH nurses interviewed said they routinely utilise the Little Teeth Book during consultation. This was overwhelmingly a popular resource with participants reporting the Book supports, reinforces and adds legitimacy to their oral health messages. The pictorial nature helps to overcome the language barrier, in particular with CALD families with limited English.

Tooth Tips fact sheet series

- All but one MCH nurses reported frequent use of the Tooth Tips. Participants reported the Tooth Tips as key in initiating the discussion and summarising verbal advice.

Teeth Manual

- Four MCH nurses mentioned that they have used the teeth manual at some point, but weren't regularly referring to it. One participant explained that her need to refer to the Teeth Manual decreased as she became more experienced and confident.

Tooth Packs

- The Tooth Packs were utilised in creative ways according to the MCH nurses involved, for example, during an immunisation session, the MCH nurse would offer a chocolate but also Tooth Packs to children. This opportunistic manner created extra occasions for oral health promotion outside of the scheduled Key Age and Stages (KAS) consultations. This MCH nurse also noted leaving toothbrushes and paste available at reception for families in need beyond the MCH service visits which encourages lasting relationships with the families.

Professional development workshop

- Discussion of the professional development by MCH nurses that participated was limited. Even when prompted, whilst MCH nurses recalled that someone had come to speak to them about oral health or from DHSV, they didn't identify this as a formal professional development activity.

Impact on professional practice and families

MCH nurses' practice

- While MCH nurses all reported that they regularly incorporate oral health promotion into their practice as part of the KAS visit, three MCH nurses indicated that the HFHS program and resources raised the priority of oral health in their practice and prompted discussions. One participant stated the HFHS resources have increased her knowledge of dental health and what dental services are available for families.
- Another sentiment expressed by four participants is an increased level of engagement with the child, in addition to the parents with the addition of for example visual aids and Tooth Packs.

Family and community

- According to the MCH nurses, the resources were well received by families for reasons including the visual nature is very helpful for CALD families, the images, for example, of dental decay, being able to convey to parents clearly, and the language being simple and concise.
- MCH nurses reported some parents appeared shocked by the oral health messages from the MCH nurses. In these cases the MCH nurse would use further resources to reinforce the message.
- One participant believed the HFHS program has helped raise awareness and improved oral health levels in the community.

Barriers to promoting oral health with families

Challenges promoting oral health

- According to the MCH nurses, the biggest constrain in oral health promotion was time among their competing priorities in consultations. Other challenges include the need to share one set of resources between multiple MCH nurses at the centre, and the lack of space to display materials.

Barriers to translating good oral health into the home

- Barriers identified include the difficulty for parents to implement good oral hygiene due to the child's resistance and practices associated with the cultural background and personal values of the parents e.g. the use of Betel nuts and not understanding the importance of the first teeth.

Referral processes

- MCH nurses noted that their services often have existing relationships with the local public dental service. However, referrals were often informal and were either oral or written. Oral referrals were more common meaning it is the parents' responsibility to arrange for an appointment.
- Some challenges were identified in the referral process and affect the chances of the child obtaining dental service. These include the time, distance and expenses of attending an appointment, busy parents, and administrative burden when a MCH nurse arranges for an appointment for the family.
- There is no formal way for a MCH nurses to follow-up with families regarding a dental referral, whether public or private. Some MCH nurses reported they may talk to the family at the next KAS visit. Otherwise the MCH nurses will not be made aware of the outcome.

Enablers of oral health promotion in pre-school children

- Enablers identified include the use of channels other than MCH services to reach families missed through the MCH services (e.g. playgroups), the visual nature of the resources, and the practical nature of Tooth Packs. While not a formal part of the evaluation, great anticipation for the mouth models was expressed by MCH nurses who valued to practical resources for demonstrations.
- Some enabling skills and competencies were identified. These include the ability to build rapport and gain trust with families, and the ability to approach the potentially highly sensitive topic without making the parents feel being judged.

Suggestions for future direction of oral health promotion in pre-school children

- A few suggestions were made. These include an outreach service to childcare centres, an increase in the level of public dental service to better meet demands, and streamlining the referral procedures.

Tables of themes and illustrative quotes

Table 1. Initiatives that each interviewee participated in

MCHN ID	Initiatives
5001-1	Focus group for design of pictorial resource for MCH Nurses in September 2015
5001-2	Focus group for design of pictorial resource for MCH Nurses in September 2015
5003	Focus group for design of pictorial resource for MCH Nurses in November 2015, Pilot of Little Teeth Book in October 2016, CPD event in August 2017
5004	CPD event in November 2017
5005	CPD event in December 2017
5006	Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present

Table 2. Themes and illustrative quotes from MCH nurse key informant interviews

Themes	Illustrative quotes
Impact of resources on MCH nurses practice	
○ Oral health was already a point of discussion during MCH appointments prior to HFHS materials	*"… part of our role is to assess the teeth… like before we got the resources I would say that I still talked about dental stuff within the visit just to cover, you know, what we have to do within the visit." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"…I've always talked a lot about dental health right from very earlier on and also about healthy eating and sugary drinks and all that kind of things." (5005 - participated in CPD event in December 2017)*
○ HFHS materials were being utilised by MCH nurses, but the materials were utilised to different extents. Some may use it occasionally while some may use it routinely. ○ The HFHS materials and resources were utilised in different ways as well. Some materials were used as part of the MCH consultation;	*"I tend to use the service or your resource, mainly around from 12 to 18 months, once the teeth are coming through." (5001-2 - participated in focus group for design of visual resources in Sep 2015)* *"I deal with a playgroup… my little book comes with me when I go to these groups and it's a great tool, because of the visual." (5001-2 - participated in focus group for design of visual resources in Sep 2015)* *"I've had the Teeth Manual before which I've used, but at this point I tend to use your – the Little Teeth Book much more." (5001-2 - participated in focus group for design of visual resources in Sep 2015)* *[interviewer] "Have you used that [Teeth Manual] or engaged with it?"* *"I did, more so when I was a bit more junior... It's still relevant. I would have referred to that more when I was a bit more junior, I guess. Its' still definitely handy to have." (5004 - participated in CPD event in November 2017)* *"Depending on the type of parent, we do use it (Little Teeth Book)*

some were placed in a public area for clients to look at their own leisure; some were used as part of an opportunistic education on oral health such as during routine immunisation and outside of MCH service e.g. playgroups, Aboriginal health services	*sometimes. I have to say I don't use it completely regularly. We do have a… mouth model with teeth in it to show the kids how to brush their teeth, which we might occasionally use, but I've got to say I only occasionally use the Little Teeth Book. It's more if parents are quite surprised if we say, we don't recommend juice." (5004 - participated in CPD event in November 2017)* *"So we use the little booklet that we got probably 6 to 12 months ago. It's a little flip booklet about dental health. We talk about dental care from the moment the first teeth come out about cleaning them. We also talk about them in our first time parent groups so that's earlier, prior to teeth coming out as well. And then we just received… the big teeth with the toothbrush as well which has just come out at least the last week." (5005 - participated in CPD event in December 2017)* *[Interviewer] "Have you heard of or used the Teeth Manual at all?"* *"Yeah, probably not… I do know the one you mean. I don't tend to use that one so much… if there's a problem I refer people on to dental support." (5005 - participated in CPD event in December 2017)* *<u>Resources used in [Aboriginal] health services</u>* *"… The [Aboriginal] Health Service, they've done quite a bit and they've got some dental health promotion officers who do a bit and we've worked with them and at our [Aboriginal] children health day as well… And we've done quite a lot of work with the [Aboriginal] mums and bubs group. Not me personally, but the resources have helped there with the coordinator. She's done a big program with the [Aboriginal] kids and being able to get the toothbrushes to her group. And she uses the puppet that you had. It wasn't so much of the teeth but a big puppet. And we've put up some [Aboriginal] scene posters about dental health." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)* *<u>Resources in MCH waiting area for clients to access</u>* *"… we do have a setup with the, like a health promotion area for dental health that has just a mixture of toothbrushes and toothpaste sitting there. Because we do have a few families who have told me in the past then their children were coming to maternal and child health, that money was so tight that they just didn't buy toothbrushes and toothpaste because they are quite expensive in [the community]. So that's when I put those out there and I said, 'Well, just come back in and help yourself when you need them.' And they'll often say, 'Oh, I'm just grabbing … they'll pop up and say I'm just grabbing toothbrushes.'"* *(5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*

	<u>*Resources used during immunisation session*</u> *"We do the immunisation and then we can give them a toothbrush…."(5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)* *"Yes, I have used that [Little Teeth Book] a little bit. And probably more when we're doing the groups I've used this. And I've got one just out in the waiting room as well because it seems just like that general exposure and kids look at it. And I've seen them take it to their mums to be read, so I think it certainly is useful." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
○ MCH nurses' engagement with the HFHS program has increased oral health knowledge in MCH nurses and resulted in MCH nurses being more engaged in dental health. ○ The engagement of DHSV with MCH services also help make oral health a higher priority area for MCH nurses to discuss during a MCH consultation.	*"I'll probably spend a bit more… like before we got the resources I would say that I still talked about dental stuff within the visit just to cover you know what we have to do within the visit. But with the resources I probably spend a larger proportion of my time during the visit focusing on dental health… the percentage of time dedicated to dental health has increased." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"Since that one (having the Little Teeth Book and dentist brochure from the local public dental health service) I'm now spending more time talking about the dental visit at the two years' visit."(5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"I think it's just a good reminder to tell us, to remind us, the importance of oral hygiene because there's so many different things we have to talk about. It's a good reminder that that is important." (5004 - participated in CPD event in November 2017)* *"… I think it has made me engage more in dental health… I guess I've learned more along the way as well about what's available for children… But having the resources, I think does help engage more families." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)* *"I guess that's [oral health] probably becoming more ingrained in our practice." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
○ HFHS materials help MCH nurses to deliver oral health promotional message by serving as a prompt,	*"…I've linked to your service [DHSV] in the past regarding your resources, because I think they're very good. I think it also adds legitimacy to what we say… So, it's not just the nurse talking. It's in the book. So, it just reinforces the message that we're giving. Your service really compliments what we're trying to achieve…" (5001-2 - participated in focus group for design of visual resources in Sep 2015)*

support and reinforcement to oral health promotional messages and advices given by MCH nurses.	*"… with the stickers, and also you've got a variety of card, okay? Which I have now in a little box, and the kids love it. So, it's a good starting point for me. They'd come out with all these little cards, and then we show mum, and that's again - it opens up the door for that conversation." (5001-2 - participated in focus group for design of visual resources in Sep 2015)* *"I've also got a picture of some decayed teeth on my wall in the office and children often actually look at that and they sort of say, yuck. So that's again the discussion or to prompt a discussion about the importance of brushing teeth and that sort of a bit of an eye opener for the parents as well." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"So I think just having the printout in the packs that we hand out at each visit is a prompt to discuss or have a discussion about the teeth. Because part of our role is to assess the teeth and I guess the handout help support, you know, t's printed information to support what we have discussed after the tooth assessment. So yes, I find it helpful and it just supports what we already do." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"It's really good resources that you've given us and it's really helpful to have that to be able to show families so we appreciate it."(5005 - participated in CPD event in December 2017)* *"Well, it's been very beneficial for us because, we do a lot of immunising as well. And then we can talk at the key age and stage visits. We talk about teeth and so forth. We do the immunisation and then we can give them a toothbrush. Well we obviously bribe them with a chocolate, the older ones. So then we can say, now we've given you a chocolate, now we have to give you a toothbrush. Because you know, the chocolate gets stuck in your teeth and that distracts them from those injections. And I think reinforces to the mum or dad as well that whole dental hygiene thing. And that connection between, oh yeah, if I'm giving them a sticky thing, well then yeah, I do need to clean their teeth." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)* *"The pamphlets… are very handy to try and go through and point out because you can't fill the parents with verbal information. So that's handy to have that as backup and I guess ways to get the child to open their mouth without it being too traumatic… And that's where the toothbrushes can help as well." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
○ The HFHS	*"That's probably the mouth model we've got as well, to show them and get*

resources such as Tooth Packs and mouth models made some MCH nurses feel they are engaging more with the families, especially at the children's level	*the kids involved ..." (5004 - participated in CPD event in November 2017)* *"... Having those teeth (mouth model) there with the child might be a way of making it a little bit more fun for the child with the toothbrush and the teeth and talking about it to the child. I don't think that's going to help the parent as much but I think it might help the child from a different point of view."(5005 – participated in CPD event in December 2017)* *"But having the resources, I think does help engage more families. Because, you know, you can talk about different styles of toothbrushes and getting into the back teeth. It just seems to make more sense for the families, I think." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)* *"To me it seems that the kids are more engaged now. In the past it was always just, you know, telling the parents but now you can actually go engage the children. So to me, that makes their awareness more and more accepting of cleaning their teeth at home and it may not be such a battle." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)* *"We did have small handouts through maternal and child health, but it wasn't, I guess we didn't really engage as much with the children... So we gave out the dental pack according to what the needs of the family were. And that was a really good way of engaging the children as well because they love getting the toothbrush and the toothpaste... It was like a little gift..." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
○ DHSV's collaboration with MCH centres has been found beneficial to the oral health of the community overall by one MCH nurse	*"... I think it's fantastic to do this, and I think it's been really valuable for [name of community] which has a large low socio-economic population. And I think it has helped raise the awareness and improved a bit.... Comparing it to a few years ago, I will ask the local dentist but to me I think dental health has improved in our area... I don't think there has been quite as many children in a bad decay... I guess that's [oral health] probably becoming more ingrained in our practice." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
Impact of resources on MCH clients	
○ Resources were well received by MCH clients. The visual/pictorial nature was especially helpful for CALD clients	*"...We're dealing with a lot of CALD family, a lot of families from overseas, this is why I love your resource, because we've got pictures. So, most of my clients, English is quite basic, so it is good to see that, "No, we don't put lemonade in the bottles. No, we don't have juices." So, because I don't always have an interpreter with me, so that's why I tend to use it, and I love the pictures of the decaying......it's been excellent. And they certainly understand much better... the picture just says it all." (5001-2 -*

	participated in focus group for design of visual resources in Sep 2015) *"The regional work is fairly high vulnerability and a lot of CALD families or non-English speaking background families. So I find the Little Teeth Book quite helpful because it's pretty user friendly and it's got pictures for the non-English speaking… Because we have lots of issues with children from Arabic backgrounds having lots of sugary drinks and food. So I find the picture regarding the sugar content of certain foods is really helpful as well… Even the handouts are quite good because they are pretty visual. They've got pictures sort of describe what the message is." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"I think parents react more to visual, sort of pictures. So that's why I do find the Little Teeth Book good." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"The new resources are really simple which is great for families from many different backgrounds. It's very clear with pictures as well for them to be able to understand... So I don't think my practice has changed but it's probably easier using that Little Teeth… Book. That certainly has made it a quick and easier way, being able to flip through and show people. Cos some people are a bit more visual, rather than wanting to hear me talking." (5005 - participated in CPD event in December 2017)* *"… they all seem to be pretty excited by getting the toothbrushes and they do find it helpful… it's a bit hard to know… if they do change their practice. But to me the fact that those low socioeconomic families are coming back in on a regular basis gives me hope that that has had an impact." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
○ Some parents were shocked to be shown or advised oral health messages that are contradictory to their usual practice ○ Some parents may be dismissive of the information and messages from the MCH nurse	*"… If parents are quite surprised if we say, we don't recommend juice. Then we say, this is why. [We show them the Little Teeth book] it's got the teeth, how much sugar is in it, things like that. It's quite good." (5004 - participated in CPD event in November 2017)* *"But definitely, when I say no juice…just basically water and milk, quite a few, particularly in the area that I work in, which is low socio-economic in this particular centre, they can be quite shocked. Sometimes the question is, when do I introduce juice to kids' diets? And I'm like, that's not a necessary part of their diet at all. It's classified, it's on par really with soft drink. It's just a sugary product. Some people get quite shocked at that because they might be overweight themselves and it's a normal part of their diet. That'd be relatively common." (5004 - participated in CPD event*

	in November 2017) *"Sometimes I feel as though families are telling me what they think I want to hear. And for instance, I'll talk about what's the diet like and they'll say, 'Oh yeah, family meals, what we're eating, healthy diet, lots and lots of veggies." And I'll talk about limiting sweet foods and they say "Yeah, yeah, no he doesn't have any sweet food." But then they might be walking into the consult with sticky fingers and a soft drink or something like that. And then poor condition teeth as well. So what I'm seeing doesn't sort of reflect what the parents are reporting. I guess there's a huge variation of what their reaction is. Some families… feel as though they have been informed... And other families are sort of quite dismissive of the information…" (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"But often when they see it [decay] on their own children's teeth, they sort of dismiss it or they say that they haven't noticed it or they say no, that's just because that's a bit of food stuck on the tooth or something. They can be quite dismissive if you point that out." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)*
Challenges in oral health promotion in MCH sector	
o Constrains on the MCH centre's part o Time constrain o Lack of wall space o Needing to share the resources between multiple MCH nurses in the one centre	*"I'll be honest, we've only got 30 minutes. So I put a lot of these posters out there, these little cards." (5001-2 - participated in focus group for design of visual resources in Sep 2015)* *"5001-2 has more posters and cards here. She also has a bit more wall space than a lot of our rooms. So some of our rooms – putting bigger posters is actually not a – not even an option, they don't have the space." (5001-1 - participated in focus group for design of visual resources in Sep 2015)* *"And I'm not sure how many of them use the Little Teeth Book on a regular basis. I know they've all got one. All - there's one per centre, which if you're in a busy three nurse centre, it's probably - not necessarily shared between the three of them. So, I'm not sure that they use it." (5001-1 - participated in focus group for design of visual resources in Sep 2015)* *"I suppose our biggest challenge is time, being able to … because there's a lot of other things we need to include in our consultation as well as dental health." (5005 - participated in CPD event in December 2017)* *"…once again it's time. I suppose you could dream up all sorts of things." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*

Challenges and barriers to good oral hygiene children	
○ Some parents may have the right knowledge or intentions and are receptive to the oral health care messages. However they may find it very difficult to implement good oral hygiene practices on their children due to the child's resistance. The children may be too young to understand and cooperate.	*"'My child doesn't like to brush his teeth, and I don't want to make it a bad experience, so we don't do it.' That I definitely have had on a number of occasions." (5001-2 - participated in focus group for design of visual resources in Sep 2015)* *"… a lot of parents even though they know they should be brushing their teeth or not offering sugary food, we see them a few months later and they're still doing exactly the same thing. And that's just because when we talk about brushing the teeth, they just say, "Oh, my child won't let me brush them." [we try] give them some tips to sort of encourage it. But just don't seem to do it. So I guess we can deliver the message. But what they do at home is beyond our control." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"A lot of families know that they need to make changes but struggled to actually implement those changes at home. I think a lot of is just behaviour issues and parents not really setting boundaries or not being in charge I guess at meal times and around brushing teeth. And a huge issue that we have kids that are in control of what they're eating and parents will say they only eat 2-minute noodles or something. And you know, and they sort of feel as though they have to feed these kids because they have to feed them something. They don't sort of, yeah, follow the guidelines that we suggested. Just offering them a variety of healthy foods and they will eat it. They're hungry and parents just feel as though they have to feed their child something. So they'll kind of revert to foods that they know that they'll eat or unhealthy foods if they're not eating anything." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"The dental caries were very obvious, and she was like, it's so difficult to brush their teeth, and she was quite horrified actually. And I think she was so busy, she was heavily pregnant with her second baby and she just didn't realize how decayed the teeth were. I think that was through just not brushing the teeth enough." (5004 - participated in CPD event in November 2017)* *"… often a lot of parents say that their children hate having teeth brushed. And so sometimes then parents don't do it because their child doesn't like it and they just let them chew on the toothbrush themselves…" (5005 - participated in CPD event in December 2017)* *"… The parents just had a general discussion about how difficult it is [to brush their child's teeth]. And some of them said they had tried, but it was*

	a battle. So they gave up…" (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)
○ Socio-economic status, cultural background, personal practices and values held by the child's parents or carers.	*"… the understanding that first teeth matter… by families. So, getting that message through that it matters."(5001-2 - participated in focus group for design of visual resources in Sep 2015)* *"If parents have poor hygiene themselves, obviously that's related. That's passed on."… I deal with a lot of the Burmese families, and a lot of them have been chewing … Betel nuts… that really colour their teeth. And it's quite obviously acceptable in the camps… They keep the bottle, or they even breastfeed very, very frequently until maybe three or four, at night, and this is where – it is difficult to come to make them understand. One, we certainly do not need so much milk. And two, even overnight, we don't need to breastfeed a four year old, but we need to brush… it may take me six months or eight months, because I deal with a playgroup, to try to reinforce that again and again, and then they will allow me to refer to see a dentist. Because again, it's the fear of the professional, the authority." (5001-2 - participated in focus group for design of visual resources in Sep 2015)* *"… We have lots of issues with children from Arabic backgrounds having lots of sugary drinks and food. So I find the picture regarding the sugar content of certain foods is really helpful…" (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"And similar the drinks…And especially with the CALD families. They will often say, oh, we don't have, we don't have sweets or sugary foods in our house. But it's, you know, people come and they bring you know, because it's part of celebration, they'll bring foods over and I can't stop them or when they're in the care of my auntie. And they sort of see it as just part of celebration or being together is I'm having sweet foods or sort of part of the culture as well." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"I think another misconception with families is that they're just baby teeth so they'll get a new set…" (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"… It can be challenging when they've come from a non-English speaking background and the parents might not be the ones caring for the child. It might be the grandparents… And so then if those children are back overseas for a while, that makes it more challenging…" (5005 -*

	participated in CPD event in December 2017) *"A lot of older generation from overseas often say that they fall out anyway, it doesn't matter, new ones will come through… We talk to everyone regardless of their background about looking after their teeth." (5005 - participated in CPD event in December 2017)* *"A couple of them had never cleaned their child's teeth because they weren't so worried about the first teeth, they thought they would all fall so it didn't matter. So it was interesting just, I think just having that discussion and obviously it's like family cultural things that persist through the generations. It's breaking that cycle as well. Because one of the mum, she was absolutely horrified to discover that her son needed caps at four. Because he'd gone to bed with a bottle and he was a very, you know, needy emotional child. And she said she'd taken a bottle to bed till she was five and her teeth were fine. So she assumed her son would be fine as well." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)* *"… A few of them who've obviously got dental problems themselves, I do find that is a bit of a delicate position…. I find the sucking of the dummies by the parents and then giving it to the baby, the hardest one to deal with." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
○ Challenges of ensuring oral hygiene practices are practiced in the home.	*"So I guess we can deliver the [oral health care] message. But what they do at home is beyond our control." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"The information is there and the support is there. But it's just getting the parents on board and I'm not sure how to do that." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"… It's up to the parents really in the end. We can only provide the information. Like a compulsory dental check, two and three and four and just start that ball rolling that would be great. If we could make that absolutely compulsory, like immunisations..." (5004 - participated in CPD event in November 2017)* *"I think generally it's reasonably clear like what to do. It's more just getting parents to actually do it and to try and find a way for them to do this positively as possible." (5005 - participated in CPD event in December 2017)*

Training	
o MCH nurses are trained in oral health as part of the MCH education in universities. o There is some continual professional development on the topic of oral health in the workplace. o MCH nurses also find the talks delivered by DHSV representatives and printed materials provided helpful	*"[Training in oral health] Probably not since our MCH uni days… Our last conference, and you had a display there, because I spoke to someone from your department. They had a beautiful space with these teeth, and I approached them, because… I'm connecting your service for resources…" (5001-1 - participated in focus group for design of visual resources in Sep 2015)* *"We've had some professional development. Like we have a team meeting every month and I know [name of local community health service] dental have come and chatted with us before… " (5004 - participated in CPD event in November 2017)* *"Mostly probably just university and being mentored, and understanding the KAS Packs and maybe when I was more of a junior maternal child health nurse I would…refer to the Teeth Book a bit more.." (5004 - participated in CPD event in November 2017)* *"It was more just incidental. They came to our team meeting… So that was beneficial, but nothing really formal that I've done… professional development on my own or anything." (5004 - participated in CPD event in November 2017)* *"….From doing the maternal and child health when you study child and family health where that part is on child health and development and how teeth are coming out and importance of cleaning them. As far as any other further study after that, no. Only what we read when it all comes out to us from you guys or from other services about dental health… but yeah, nothing beyond that… we've had different speakers at different times from the local services that we might use just to give us an update on anything." (5005 - participated in CPD event in December 2017)* *[Interviewer] "Have you received any training in oral health promotion at all?"* *"No, there was some quite a while ago but because of our distance. And I must say I haven't looked at the online particularly because I did feel that the booklets we got were quite good." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
Referral	
o MCH nurses often refer clients to the local public dental health service o MCH nurses may	*"We have sort of a community-based service that we call [name of local community health centre]. And that's where I refer 98% of my clients, because of where they're sitting, at sort of a lower end socially - economic." (5001-2 - participated in focus group for design of visual resources in Sep 2015)*

also refer clients to private dental services as well	*"We tend to use [name of local community health centre] which is a micro community health program to dental services but otherwise aside from that there's also private option… we have the option of the community health program as well which is great as well so there's options for everyone" (5005 - participated in CPD event in December 2017)* *"I know that in the past I've … reminded families "Did you receive a letter about the money that you can spend on dental?" "Oh, yes. I did receive that letter." So often there's a few dentists around who will give them that service as well." (5001-1 - participated in focus group for design of visual resources in Sep 2015)*
○ Referrals are often informal, can be either written or oral	*"So, all I need to do, I have their consent. I just write a referral letter, and they go on a waiting list." (5001-2 - participated in focus group for design of visual resources in Sep 2015)* *"Basically with the agency I refer to, are quite happy for me just to… on a straight piece of paper, I just write the information about the clients, the family, and my concern is, and why I'm referring and requesting for a dental check-up." (5001-2 - participated in focus group for design of visual resources in Sep 2015)* *"… we just pretty much point out the phone number [of the local public dental health service] and we do often book appointments for the family at that visit, especially if they're non-English speaking… we try and get parents to make the booking themselves. But if we sort of worried about worry about the health of the teeth or if we felt as though they won't go and make that call or if English is a barrier, then we will book for them." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"I would just mostly recommend that they go and see their dentist." (5004 - participated in CPD event in November 2017)* *"So we do have a referral process for [name of local community health centre]. If it's for private… we can write a referral if need be so I don't always do that if everything is looking fine with their teeth. It's more just a … I explain it to people it's just a way of keeping in check that everything is fine and they do follow-up with the dentist, and so I wouldn't write a referral for that but if there were signs of decay or concerns then we would write a referral." (5005 - participated in CPD event in December 2017)* *"… often we'll call if it's urgent. We'll try while the parents are there. Ring up and make and an appointment for them. Otherwise we give them a little card that explains about if you're on the healthcare card. It's cheaper on the costing. And leave it to the parent if you think they're going to*

	follow through and just let them ring up and make the appointment." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)
o Some MCH service have a working relationship with the local public dental service	*"… We did have the people from [the local dental service] come in to talk to our team meeting. We sort of suggested, well maybe we should be popping one of these brochures in our packs as well." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *[Interviewer] "Have you always had a relationship with the dental service and the maternal and child health service?"* *"Yes, pretty much since it was set up in." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
o Challenges / barriers in the referral process o Parents making child's dental appointments. Level of motivation to engage dental services varies between families o Administrative burden on MCH nurse to make appointments o Time, distance and expanse of travelling to appointment o Parents/carers may mix up a dental clinic familiarisation visit organised by the kindergarten with the dental check-up recommended by the MCH nurse	*"We have a whole range of people who were just off that range, just over that healthcare [card level of income]. They have to pay for everything, and they just often can't afford it." (5001-1 - participated in focus group for design of visual resources in Sep 2015)* *"And if families are working five days a week, travelling into the city from here. If you get stuck in the traffic, it's an hour and a half each way. They're busy. Taking your child to the dentist is pretty low on their list of priorities." (5001-1 - participated in focus group for design of visual resources in Sep 2015)* *"… People often ask about how much it costs with private dentists. We don't have any information from other dentists in the region about any fees. Because I sort of hear varying feedback that some dentists will charge and others won't charge for dental checks." (5003 – - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"… Another kind of barrier type thing that we have is that children will often say, 'Yep, they've had their dental visit.' But it might just be a visit from the kinder, but the kinder kids have all been for a visit at the dentist. And I mean my child was in kindergarten last year and he did that visit as well, but there was no assessment. It was just sitting in the chair and engages with the dentist. So I think people are sort of getting a misconception that they've had a dental visit when they haven't really." (5004 - participated in CPD event in November 2017)* *"I mean it'd be great if dentists did free pre-schoolers check-ups, won't it? ... Optometrists do free eye assessment. That would be fantastic, I mean really the way [name of local community health centre], it's obviously as with a lot of free services, it's a larger demand than space sometimes so*

o Costs of dental services	*yeah, I'd love it if they did a pre-schoolers free check-up in private places. But generally most people are still open to… do a check-up. And if they can't afford to then we refer them to [the local community health centre]." (5005 - participated in CPD event in December 2017)*
Follow-up	
o Follow-up of dental referrals is often informal, if at all.	*"If they come back to our service… We would ask. But often if we've seen children we're often seeing at three and a half, and we don't actually have follow-up after that…." (5001-1 - participated in focus group for design of visual resources in Sep 2015)* *"So generally, especially because the issues we see are often when the child is a little older, so we see babies quite frequently in the first year of life, but we don't often see dental problems until, after two years. And then our next key age and stage visit isn't until three and a half years. So sometimes we don't follow-up. We can sometimes book an additional follow-up appointment with their families if we think that they needs some extra follow-up. But on the whole, if we saw a child with a dental issue, we would book the dental appointment and then it would be up to them to turn up … we don't receive feedback from the dentist." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"… we keep seeing them regularly for their Key Age and Stage appointments so we follow that up then or if there was… a significant concern, we would probably make sure, usually they might send us a report afterwards…. Privately we don't usually get any feedback from the dentist…, but we usually see the family so we follow-up with them then." (5005 - participated in CPD event in December 2017)* *"… there's no considered follow-up through maternal and child health….If you're doing Lift The Lip, you can see whether there's been work done or not. [After] the three and a half or four year old visits, we may not see them again." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
Enablers of oral health promotion in MCH channel	
o Use channels other than MCH centres to reach parents	*"I also attend a playgroup. So this is how we reach these families who for whatever reason don't engage with us at the centre. And they're more than happy to engage with me at the playgroup level." (5001-2 - participated in focus group for design of visual resources in Sep 2015)* *"We've got an Aboriginal health nurse, so she'll talk to those families." (5001-1 - participated in focus group for design of visual resources in Sep 2015)* *"We're into working a couple of GP clinic, so we see people there that we*

	don't see in a normal service." (5001-1 - participated in focus group for design of visual resources in Sep 2015)
○ Focus on visual aids as an important oral health promotional tool	*"As long as you're providing us with visuals, I think most of us would be very happy, because whether you are from a non-English background or not, I think that once you see these teeth and really what we should do, that has a very strong statement." (5001-2 - participated in focus group for design of visual resources in Sep 2015)* *"… We're pretty well covered as long as it's simple and pictorial, that's the biggest plus really." (5005 – participated in CPD event in December 2017)*
○ Practical nature of Tooth Packs	*"I guess that's [oral health] probably becoming more ingrained in our practice. But then I guess will it happen if we haven't got the toothbrushes to handout as well."* *[Interviewer] "So are they quite a big enabler for you guys?"* *"They are. Yeah."* *(5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
○ Knowledge of what oral health services are available in the local area	*"And understanding of the services that are around, and that will depend on every nurse in every centre, knowing what's around her, so that's not necessarily something that can be taught in university" (5001-1 - participated in focus group for design of visual resources in Sep 2015)* *"And I guess just that general awareness and of the referral pathway and having a referral pathway." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
○ How to approach carers on difficult topics with sensitivity	*"It's probably practice. Talking to parents about approaching subjects like… the child's teeth aren't great..." (5001-1 - participated in focus group for design of visual resources in Sep 2015)* *"…I guess it's just all about the way that you deliver the message because it can be a sensitive topic … parents can feel as though you're attacking their parenting, if you're saying that the teeth are in poor health…Acknowledge that yes, it can be hard to… to clean teeth and to encourage a healthy diet." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"I find the sucking of the dummies by the parents and then giving it to the baby, the hardest one to deal with… I do find it quite hard because it seems as though I'm really judging them."* *(5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
○ How to build rapport and gain trust with families	*[Interviewer] "So it's quite a sensitive discussion? … You said you sort of have to build that trust often before [discussing oral health with the client] …especially with culturally diverse families?"*

	"Exactly. So, if I see a mom talking to me with a - and very common, with a mouthful of decay or red bleached teeth, I try to focus on the beautiful eyes instead of the mouth. And then gradually, the more contact I have, I can then say, "Can I help you with anything?" And obviously, get that trust so she will - we can discuss dental care, even her hygiene and not just the child." (5001-2 - participated in focus group for design of visual resources in Sep 2015) *"I think probably developing a relationship with the family through it. Because especially with vulnerable families, you can walk in having not met them and just sort of start going on about how poor the teeth are… I think if you in a way sort of ignore the teeth at the first contact, get the relationship happening and then they should feel comfortable… then when you've got the relationship, you can have a talk about the dental health… maybe help with transport or booking the appointment if need be." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"…So it includes the whole family really. So that's probably the key, having confidence to talk it all through and keeping them as positive as possible." (5005 - participated in CPD event in December 2017)*
○ Oral health knowledge to establish MCH nurses as a trusted source of oral health information	*"They would need to know the pattern of eruption of teeth, often parents want to know that… And why that health promotion initiative is so important and the consequences of what can happen, that was really good to know… the statistics of this area, how many children do have to go in under anaesthetic or whatever and get teeth removed… case studies and background." (5004- participated in CPD event in November 2017)*
Suggested future directions of oral health promotion in 0-3.5 year-olds	
○ Proactive dental health services by providing outreach services at childcare centres	*"My sentiment is actually linked with a childcare centre, and I think what needs to happen more and more, is that the dental check at that level. So we need to have resources where, going back to the good old days, where the dental nurse used to go to the schools… I think you need to do more outreach services." (5001-2 - participated in focus group for design of visual resources in Sep 2015)* *"… We're very short on dentists in our immediate area… I think the school still travel around, have a van…I In the past travel has been a huge barrier for getting work done, the cost of travelling to and from appointments and so forth." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*
○ The level of public dental health services can be increased in order to better meet	*"… More public dental services… The waiting list at [name of local community health centre] for adults, is like two years or more, which is crazy. Kids have to wait. I think it's only a couple of months." (5001-1 - participated in focus group for design of visual resources in Sep 2015)*

demands	
○ Improved MCH referral pathways	*"I had a family last week, there were … four children… They were newly arrived from overseas and all of them had extreme dental decay. And I had to book appointments for all of them. But I was on the phone for about 45 minutes getting all the appointments booked and the healthcare card details, enter them. It was just a huge process. So just maybe making that process a little smoother would be better." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)* *"Email's good… you can just do it instantly and then if you're away for the afternoon, you get back to it." (5003 - participated in focus group for design of materials in Sep 2015; Pilot of Little Teeth Book in Oct 2016; CPD event in Aug 2017)*
○ Updating resources/ electronic options	*"I think the resources are sufficient. Unless there was like an app or something maybe that could send them reminders of "Have you brushed your child's teeth today?" or something like that. Something like that could possibly work, I guess, more technology based, possibly." (5004 - participated in CPD event in November 2017)* *"I suppose that regular updates so that Little Teeth Book that was excellent and that knowing that you're looking into the current research and what's available for families and producing it in a format that's easy to deliver to families is great and that keeps us up to date on what we should be delivering to them as well, so that part's excellent and hopefully that will continue on so that we get to keep receiving what's current." (5005 - participated in CPD event in December 2017)* *"They [parents] were quite keen on not so much the videos or books it seemed but the app caught their eye… There is a list of apps they could get. And they did comment that not many people have video recorders anymore and there was a list of videos that were available." (5006 - participated in Tooth Packs study 2013-14; Mrs Marsh grant 2015 - present)*

Appendix H: Bigger Better Smiles questionnaire overview and tables

Overview of Bigger Better Smiles evaluation findings from pre- and post-training questionnaires

Note: All short answer question responses were categorised and summarised.

Characteristics and practices prior to training

Participant characteristics

- Overall, n=131 participants completed the Bigger Better Smiles evaluation questionnaires, with n=99 responses at pre- and n=107 at post-training. Seventy-five participants (57%) completed questionnaires at both pre- and post-training.
- Half of participants were aged 40-60 years old (table 1), the majority were female 87% (n=85) and held positions as Aboriginal Health Workers, liaison or coordinators (24%, n=22) (table 2). Years practicing varied with just over half of participants working ≤5years (52%) (table 4).
- Professional qualifications varied including: general practitioner/nursing (30%), childcare/education (17%), psychology/social work/counselling (14%), Aboriginal health workers (11%) and others (table 3).

Prior oral health training and programs (pre-training)

- Overall 17% (n=17) of participants had received prior oral health education or training. These participants had received their training as part of their tertiary education, the Midwifery Initiated Oral Health (MIOH) project, in-services and the Maternal and child health access (children 0-4 years). Of those who were asked about their prior training in lift the lip (n=43, question included in phase two only), 9% (n=4) had received any prior training.
- Prior to Bigger Better Smiles training, 64% (n= 61) of participants reported that they discussed prevention of tooth decay (e.g. providing nutrition and oral health advice) with their clients (table 5). Information most commonly provide to clients related to oral hygiene, diet, oral health advice specific for children and pregnant women, referral and access to dental services and the importance of having regular oral health check-ups (table 6).
- Five participants reported they included lift the lip oral health examinations (table 7) as part of their practice (question included in phase two only).

Current referral practice (pre-training)

- 82% (n=80) of participants reported referring clients to a dental service as part of their usual practice (table 8).
- Many participants reported that they usually referred clients to dental services if they observed signs of oral health problems e.g. tooth decay or clients expressed pain, when client requested it or expressed concerns. Some referred as part of formal oral health assessments, referred all clients or referred as part of education.

- Just over half of midwives provided information on the steps taken as part of the referral process. Many midwives stated a worker and/or someone in the centre made an appointment on the client's behalf or in other cases the client organised the appointment on their own. Transport to the oral health appointment was sometimes arranged.
- A few midwives reported following-up whether the client had attended their oral health appointment.

Information, activities or discussions service currently provides (pre-training)

- Types of information and resources participants reported their service made available included: child oral health (65%) and nutrition (80%), pregnant women's oral health (49%) and nutrition (60%) (table 9).

Knowledge and confidence

Self-report knowledge and confidence

- Overall self-rated oral health knowledge increased from pre- to post-training (43% vs 86%) (table 10).
- Following the workshop, participants reported feeling confident/somewhat confident on several oral health related knowledge statements (94 to 100%) (table 11).
- Participants came to the training with high confidence levels in relation to answering questions about healthy eating, referring clients and finding the nearest public dental service (89 to 95% at pre- versus 99 to 100% at post-training) (table 11).

Knowledge test

- A general increase in knowledge was also observed in the knowledge test responses. The largest increase was observed in relation to understanding of the transmission of decay-causing bacteria from parents to children. However, fewer participants correctly identified that babies are not born with tooth decay causing bacteria in their mouth. The factors associated with risk of tooth decay in pregnancy and safety of dental care and x-rays in pregnancy, as well as the myth around tooth loss in pregnancy were less well understood at follow-up (table 13).

Feedback on the Bigger Better Smiles training package

Training package

- Overall the training was well received with 92 to 95% either agreeing/strongly agreeing that they had gained new knowledge and/or skills, intend to use learnings, are more confident about supporting good oral health for clients accessing service.
- Similarly, 90 to 95% felt the training met their expectations, was relevant to their profession, content was clear and easy to follow, and the amount of information was sufficient (table 15).
- Post-training 22 participants reported participating in the lift the lip training run by HFHS. There was a general increase in confidence to perform lift the lip across all respondents (table 11).

Most useful aspects of the training (n=78)

- Nineteen participants identified all the training was useful.
- The most useful aspects of the training expressed by participants related to oral health knowledge including consolidating their existing oral health knowledge, learning new information and seeing visuals about the tooth decay process, demonstration of the tooth brushing technique and receiving oral health information for pregnant women and children.
- Other useful aspects reported were: networking opportunities, gaining knowledge about dental health services/referral pathways and the dental service site visit, practical knowledge regarding how to promote oral health, interactive activities, resources and statistics.

Least useful aspects of the training

- There were no major aspects of the training that were specified as not useful. A small number of participants mentioned the sessions were a little long or slow.

Improving the training (n=38)

- Many respondents suggested there was no need to improve the training.
- A few suggestions were provided around the practicalities of delivering the session including: the length (shorter and longer) of the session, more breaks, less interaction, more audience control and more time spent on easy instructions for clients.
- A few participants provided suggestions on improving the training presentation e.g. be more interesting, include modelling/video, involve Aboriginal trainers.
- Several participants described additional topics they would like covered: drug users, changes in pregnancy and tooth decay, when check-ups should occur, details of local services in the area, the process of decay and gum disorders, youth oral health.
- Ideas for improvement also included asking Aboriginal participants to suggest how they might help the non-Aboriginal workers to approach sensitive issues such as sugary drinks and children and for a dentist to speak about their experience in dealing with difficult clients especially children.
- Participants provided several ideas on possible inclusions for future training:
    - Presentation and demonstration of tooth cleaning
    - Effects of vitamins or lack of on oral health
    - Elderly people’s oral health
    - Genetic factors relating to dental problems
    - Youth oral health training program around drugs, alcohol and smoking
    - Pregnancy and teeth care, free dental programs
    - First check-up age
    - Private dental services
    - Relationship between smoking/illegal drug use and oral health
    - How to manage clients who fail to attend appointments
    - How to raise the issue of parents providing sugary drinks to babies/children with clients

Translation to practice

Usefulness of training for changing or informing professional and organisational practice (n=96)

- Post-training 98% (n=94) of all participants agreed that the training was useful for changing or informing professional and organisational practice and approximately half (n=43) of these respondents provided further detail.
- Respondents most commonly described they had gained new knowledge, awareness and confidence in oral health from the training and for some the training refreshed or validated their existing knowledge, some also particularly mentioned gaining knowledge and confidence in relation to referrals to dental services as well as recognition of the importance of oral health.
- Several others described gaining new ideas for oral health promotion which can be used in practice and expressed the training enabled them with the tools to do so. A few respondents reported gaining new insight into how to engage clients in oral health and others mentioned the need for greater organisational support and focus on promoting oral health.

Applying the learnings into daily practice or workplace (n=72)

- Many participants provided a response regarding how the learnings from the training could be applied to their daily practice or workplace.
- About half of the participants described they could discuss oral health in their everyday practice. For example, they could talk to clients, teach children and families about good oral health, include oral health discussion in Aboriginal health checks and encourage healthy eating.
- Others specified: engaging families with resources e.g. mouth models, posters, pamphlets , referring clients to dental services, having more knowledge and confidence to discuss oral health and refer, increasing engagement with clients e.g. through client intake, awareness days and events, during health checks and performing oral health checks (lift the lip).
- A few participants mentioned working with other health professionals to support oral health and others were already addressing oral health and didn’t feel the need to change. A few participants mentioned sharing the information more broadly with their own families and other staff.

Barriers to promoting oral health to clients accessing your services (n=42)

- Many participants provided a response relating to barriers to promoting oral health to clients accessing their services with several reporting they perceived no barriers.
- Participants described potential client related challenges including: clients/parents lack of awareness and understanding of oral health and personal behaviours, attitudes and perceptions e.g. providing sugary drinks in bottles, anxiety/fear to come to the service, not wanting information or unwilling to changes (seen as interfering/ shaming parents) or the use of jargon that the client may not understand.
- Other factors mentioned included: competing priorities, transport issues, availability of parents, costs or need for health care cards, social/cultural/ literacy barriers.
- From a health service and staff perspective, respondents described challenges such as: time constraints and operating hours of the service, availability of Aboriginal health workers, staff

understanding of health promotion, knowing where and how to refer clients, staff needing to work collaboratively, the service functioning in a reactive rather than proactive manner, challenges engaging and accessing communities, oral health promotion not being a part of their role.

Additional comments

- Participants generally commented positively about the training stating it was excellent, informative, relevant, and educational.
- Participants mentioned the resources and updated knowledge was very helpful. Another highlighted the issue of access to services for low income families who don't have health care cards, and another commented that they now know a lot more about oral health.

Table 1. Participants age group (n=99)

Age group	n (%)*
<20	3 (3)
20-29	21 (21)
30-39	20 (20)
40-49	25 (25)
50-59	26 (26)
≥60	4 (4)

**Rounding may affect percentage totals.*

Table 2. Current position title (n=91)

Position title	n (%)*
Aboriginal health worker/liaison/coordinator	22 (24)
Case manager/worker/counsellor/support	19 (21)
GP/practice nurse	13 (14)
Early childhood/childcare/kinder	9 (10)
Maternal Child Health Nurse	7 (8)
Health promotion/project officer	6 (7)
Allied health/dietician/diabetes educator	5 (5)
Administration	5 (5)
Maternity nurse/midwife	4 (4)
Other	1 (1)

**Rounding may affect percentage totals.*

Table 3. Professional training/qualifications (n=81)

Professional training/qualifications	n (%)*
Nursing/general practitioner	24 (30)
Childcare/education (child)	14 (17)
Psychology/social work/counselling	11 (14)
Aboriginal health worker certificate/diploma	9 (11)
Other	9 (11)
Arts/Law/Science	4 (5)
Allied health	4 (5)
Public health	3 (4)
MCHN/midwife/pregnancy/women's health	2 (2)
Aged care	1 (1)

**Rounding may affect percentage totals.*

Table 4. Number of years practising in current profession (n=88)

Years practising	n (%)*
≤ 5	46 (52)
6-10	19 (22)
11-15	8 (9)
>15	15 (17)

Rounding may affect percentage totals.

Table 5. Number of participant's discussing how to prevent tooth decay (e.g. providing nutrition and oral health advice) with clients' accessing their service (pre-training, n=96)

Response	n (%)*
Yes, always	16 (17)
Yes, sometimes	45 (47)
No, never	35 (36)

Table 6. Information provided to client at service (pre-training, n=50[*])

Response
Referral and access to dental services and the importance of having regular oral health check-ups
Oral hygiene e.g. regular tooth brushing
Diet
Oral health advice specific for children Oral health advice specific for pregnant women
Importance of good oral health
Provided brochures particularly as part of the Key Ages and Stages (KAS) visits
General information about oral health
Providing free brushes and toothpaste

Participant responses were classified into one or more categories.

Table 7. Lift the lip oral health assessment (mouth check) performed as part of professional practice (pre-training, n=43)*

Response	n (%)	Description of when mouth check is provided:
Yes, always	1 (2)	• *Antenatal visits (Maternity nurse/midwife, MCHN)* • *If mum has a concern or I noticed something (Aboriginal Health Worker)* • *If I can't see the top of the teeth and gums when the child smiles, I will lift the lip (MCHN)*
Yes sometimes	4 (9)	
No, never	26 (60)	
Not Applicable	12 (28)	N/A

Question included in phase two only.

Table 8. Referrals to a dental service (public or private) included part of usual practice - self-report (pre-training, n=98)

Response	n (%)
Yes	80 (82)
No	18 (18)

Table 9. Information and/or resources made available within organisation to clients accessing service (n=92, pre-training)

Response	Yes n (%)	No n (%)	Don't Know n (%)
Information/resources about children's oral health	60 (65)	5 (5)	27 (30)
Information/resources about children's nutrition	72 (80)	4 (4)	14 (16)
Information/resources about pregnant women's oral health	44 (49)	16 (18)	30 (33)
Information/resources about pregnant women's nutrition	54 (60)	14 (16)	22 (24)

Table 10. Self-reported oral health knowledge (matched participants pre-training vs post-training, n=74)

Oral health knowledge rating	Pre-training n (%)	Post-training n (%)	*p-value*
Very Good/Good	32 (43)	64 (86)	
Average/Poor/Very Poor	42 (57)	10 (14)	*p<0.001*

Note: Response categories were combined to allow for appropriate analysis of changes from pre- to post-training.

Table 11. Participants' self-reported level of confidence to include oral health within their practice (pre- vs post-training, n=75)

Statements about including oral health into practice	Pre-training n (%)	Post-training n (%)	*p-value*
Introduce the topic of oral health during consultations with clients			
Confident/somewhat confident	55 (75)	72 (99)	
Not confident	18 (25)	1 (1)	*p<0.001*
Give advice about children's eligibility for public dental services to clients accessing your service			
Confident/somewhat confident	49 (65)	75 (100)	
Not confident	26 (35)	0 (0)	*p<0.001*
Answer questions about oral health			
Confident/somewhat confident	53 (74)	72 (100)	
Not confident	19 (26)	0 (0)	*p<0.001*
Answer questions about healthy eating			
Confident/somewhat confident	69 (95)	73 (100)	
Not confident	4 (5)	0 (0)	p=0.125
Find the nearest public dental service			

Confident/somewhat confident	67 (92)	72 (99)	
Not confident	6 (8)	1 (1)	*p=0.125*
Conduct 'lift the lip' (mouth check) on clients*^			
Confident/somewhat confident	10 (56)	17 (94)	
Not confident	8 (44)	1 (6)	*p=0.039*
Refer clients accessing your service to dental services*			
Confident/somewhat confident	16 (89)	18 (100)	
Not confident	2 (11)	0 (0)	*p=0.500*

**n=18, questions added in phase 2.*

^only applied to health professionals participants.

Note: Total numbers of participants may vary slightly due to participant responses.

Table 12. Participants' self-reported level of confidence to include oral health within their practice (post-training only, n=105)

Level of confidence to perform the following actions:	*Post-training only n (%)*[+]
Identifying opportunities to promote oral health in my workplace	
Confident	82 (79)
Somewhat Confident	21 (20)
Not applicable	1 (1)
Support families to recognise the importance of oral health and give advice about adopting healthy oral health behaviours	
Confident	88 (84)
Somewhat Confident	16 (15)
Not applicable	1 (1)

Note: Total numbers of participants may vary slightly due to participant responses.

[+]Questions asked in post-training & 12 month follow-up questionnaires only.

Table 13. Oral health knowledge test responses (pre-training vs post-training, n=75)

Response	Pre-training n (%)	Post-training n (%)	*p-value*
Bad breath is a sign of poor oral health			
Agree *(correct)*	54 (74)	62 (85)	
Disagree/don't know (incorrect)	19 (26)	11 (15)	*p=0.039*
All Victorian children aged 0-12 years of age are eligible for public dental care			
Agree *(correct)*	55 (76)	70 (97)	
Disagree/don't know (incorrect)	17 (24)	2 (3)	*p<0.001*
Children have access to free public dental services with a healthcare card			

Agree *(correct)*	65 (92)	71 (100)	
Disagree/Don't know (incorrect)	6 (8)	0	*p=0.031*
When brushing children's teeth only a pea size amount of children's toothpaste is necessary			
Agree *(correct)*	61 (82)	72 (97)	
Disagree/Don't know (incorrect)	13 (18)	2 (3)	*p<0.001*
Mothers can transmit decay causing bacteria to babies			
Agree *(correct)*	31 (42)	70 (95)	
Disagree/Don't know (incorrect)	43 (58)	4 (5)	*p<0.001*
In general, low fluoride toothpaste should be used for children between 18 months and 6 years of age			
Agree *(correct)*	50 (68)	69 (95)	
Disagree/Don't know (incorrect)	23 (32)	4 (5)	*p<0.001*
Brushing teeth twice a day is one step towards preventing tooth decay			
Agree *(correct)*	71 (96)	71 (96)	
Disagree/Don't know (incorrect)	3 (4)	3 (4)	*p=1.000*
Having healthy baby teeth is not important as they will fall out			
Disagree *(correct)*	64 (86)	65 (88)	
Agree/Don't know (incorrect)	10 (14)	9(12)	*p=1.000*
Limiting sugary snacks can assist in preventing tooth decay in children			
Agree *(correct)*	68 (94)	67 (93)	
Disagree/Don't know (incorrect)	4 (6)	5 (7)	*p=1.000*
Parents should look after their own oral health to prevent transmitting decay-causing bacteria to their children			
Agree *(correct)*	46 (61)	69 (92)	
Disagree/don't know (incorrect)	29 (39)	6 (8)	*p<0.001*
As tooth decay progresses it can impact on general health, affect speech, cause sleep problems and disrupt social and academic development in children			
Agree *(correct)*	61 (82)	72 (97)	
Disagree/Don't know (incorrect)	13 (18)	2 (3)	*p=0.001*
Babies are born with tooth decay–causing bacteria in their mouth			

Disagree *(correct)*	28 (39)	44 (62)	
Agree/don't know (incorrect)	43 (61)	27 (38)	*p=0.014*
The physiological changes during pregnancy may result in an increase, risk of gum disease, tooth erosion and tooth decay for the expectant mother			
Agree *(correct)*	49 (65)	72 (96)	
Disagree/don't know (incorrect)	26 (35)	3 (4)	*p<0.001*
It is not safe to have dental treatment during pregnancy			
Disagree *(correct)*	42 (56)	66 (88)	
Agree/Don't know (incorrect)	33 (44)	9 (12)	*p<0.001*
Tooth decay is which type of infection?			
Bacterial *(correct)*	59 (84)	68 (97)	
Viral/fungal/none of the above/don't know (incorrect)	11 (16)	2 (3)	*p=0.012*
Which of the following drinks does NOT contribute to tooth decay?			
Water *(correct)*	73 (97)	74 (99)	
Sports/energy drinks/soft drinks/cordial/fruit juice/don't know (incorrect)	2 (3)	1 (1)	*p=1.000*
Tooth decay is:			
the single most common chronic childhood disease *(correct)*	41 (55)	56 (75)	
less common than asthma in children/showing a sharp decline in prevalence/none of the above/don't know (incorrect)	34 (45)	19 (25)	*p=0.008*
Which practice has been specifically associated with an increased risk of tooth decay in children?			
infant/toddler sipping from bottle/cup throughout the day containing some sweet drinks *(correct)*	64 (90)	67 (94)	
Breast feeding beyond 12 months/discontinuing bottle feeding before 12 months/none of the above/don't know (incorrect)	7 (10)	4 (6)	*p=0.508*
Pregnant women are at higher risk of tooth decay because of:			
all of the above *(correct)*	23 (33)	44 (64)	
(incorrect)	46 (67)	25 (36)	*p<0.001*
During pregnancy:			
None of the above *(correct)*	19 (27)	50 (70)	
Women should not have dental x-rays/women	52 (73)	21 (30)	*p<0.001*

are expected to lose a tooth for every pregnancy/a women need to wait nine months before having a dental care/don't know (incorrect)	

**Total numbers of participants may vary slightly due to participant responses.*

Table 14. Participants' recollection of topics covered as part of training (post-training, n=103)

Indicated topics covered as part of training	n (%)
The oral health of Aboriginal and Torres Strait Islander populations	97 (94)
Why baby teeth are important	93 (92)
The process of tooth decay	94 (93)
Protective factors to reduce the risk of tooth decay	96 (95)
Children's eligibility for public dental services	89 (89)
Engaging with families to promote healthy teeth and mouths	98 (97)
The physiological changes during pregnancy and the effects on teeth	92 (91)
Pregnant women and priority access to public dental services	85 (84)
Reflective practice – how to incorporate oral health promotion into your daily practice	92 (91)
Other examples: ▪ Action plan ▪ Lift the lip ▪ Links to follow-up referrals ▪ Local services available ▪ Public health e-referral ▪ Tour of dental	14 (17)

**Total numbers of participants responding to each question item may vary slightly.*

Table 15. Participants level of agreement with the following statements about the Bigger Better Smiles training (post-training, n=103)

Knowledge and skill development	Strongly Agree n (%)	Agree n (%)	Neither agree nor disagree n (%)	Disagree n (%)	Strongly Disagree n (%)
I have gained new knowledge and/or skills	49 (48)	46 (45)	7 (7)	0 (0)	0 (0)
I intend to use what I have learnt from this training in my workplace	52 (50)	46 (45)	5 (5)	0 (0)	0 (0)
I am more confident about supporting good oral health for clients accessing my service	52 (50)	43 (42)	8 (8)	0 (0)	0 (0)
About the training					
The training met my expectations	51 (50)	45 (44)	6 (6)	1 (1)	0 (0)
The training was relevant to my professional practice	45 (44)	47 (46)	10 (10)	1 (1)	0 (0)
The content was clear and easy to follow	55(53)	42(41)	5(5)	1(1)	0 (0)
The amount of information was sufficient	49(48)	47(46)	7(7)	0 (0)	0 (0)

I would recommend this training opportunity to others	53(51)	44(43)	5(5)	1(1)	0 (0)

**Total numbers of participants may vary slightly due to participant responses.*

Appendix I: Bigger Better Smiles follow-up key informant interviews overview of themes and illustrative quotes

Overview of evaluation findings from key informant interviews with participants in the Bigger Better Smiles training exploring their perspectives on the training and impacts on their practice

Follow-up interviews were conducted with staff working with Aboriginal families (n=11) approximately 12 months after they had completed the Bigger Better Smiles (BBS) training program. Interviews explored participant's perspective on: the training package, the impacts of participation in training on practice, client reactions, referral processes, the skills required for oral health promotion and future directions for oral health promotion in Aboriginal Health Services. Participants were from a range of professional backgrounds and worked in both rural and metropolitan areas.

Professional roles and background

- Participants worked in varied roles within the Aboriginal Health Services (AHS) (some roles had changed between the training completion and interview period).
- Some participants reported they were already promoting oral health prior to training in different ways e.g. general discussion within Aboriginal health checks, encouraging dental check, reviewing oral health during intake, discussing oral health within MCH visits and at kindergarten, providing clients transport to attend dental services and running activities. One midwife reported previously participating in the MIOH pilot project.
- Participants worked with a mixture of client groups, some engaging with all age groups, adults and others with children and pregnant women.

Training

Satisfaction

- Overall the BBS training was reported to be sufficient, interesting and valuable. Depending on their role for some this was new information and for others it consolidated and reinforced their existing knowledge. The content of the training was not always directly associated with participants work, however, most felt they could at least share the information with others in the AHS who could benefit.
- It was suggested that for midwives more comprehensive training (e.g. MIOH) would be more suited.

Learnings

- All participants stated the training increased their awareness of oral health and each took away different learnings (e.g. the effects of frequent snacking, recommendations not to brush teeth straight away after morning sickness, ideas about how to talk to children about oral health, implications of poor oral health, more confidence working with Aboriginal clients, new technique for life-the-lip in MCH, increased awareness of eligibility for public dental).

- Participants noted benefitting from networking opportunities and saw the training as an opportunity to share information, discuss the cultural issues faced within their services and valued hearing from an Aboriginal presenter.

Change or intentions to change practice

- Most participants described that the training raised awareness of the importance of oral health and brought it to the fore within their practice, giving it more attention e.g. a greater focus on including oral health within health checks, opportunistic conversations and providing referrals.
- After the training participants were or intended to engage in oral health promotion practices to different extents in relation to their professional capacities. For example, participants working in antenatal care were able to talk to women about the importance of oral care in the early stages of pregnancy, an in-home support worker planned to add an oral health prompt within the family support plan, add oral health to intake assessments, MCHNs were able to apply the Lift the Lip training to their existing practice and share this leaning with other staff in their organisation.
- Some participants suggested possible ways to engage and familiarise families with dental staff would be through dental visits and provision of oral hygiene products (e.g. provide toothbrush and paste) in a variety of setting (e.g. playgroups, gathering places) or at events e.g. community days, family health check and health promotion days.

Challenges

The nature of different roles

- Some participants described limitations in being able to apply learnings from the training due to the nature of their role with some not working with children and other not recognising the relevance of oral health as a direct part of their role. While others working mainly with adults found ways to make oral health promotion relevant to their role e.g. working with elders/ parents who might engage with children.
- Other constraints identified to implementation of oral health promotion within practices included: limited time, concerns about short term funds received within the organisation for oral health, lack of continuity of care between staff and remembering to promote oral health.

Client related challenges

- Some participants spoke about working with complex adult clients (experiencing crisis, family violence, drug or alcohol effected, suicidal, homeless) where oral health is not priority. They described adult clients being difficult to engage with some community members only presenting for care when they experience pain or illness (often abscesses), not prioritising oral health and a culture of acceptance of tooth decay/ missing teeth among the Aboriginal and Torres Strait Islander (ATSI) community.
- Participants reported their clients experience many challenges with dental service access (including cost an wait times), proximity and transport to dental services (particularly in remote areas where dental services were offsite), with many health service going above and

beyond to support this clients to attend appointments where possible and other offering official transport for clients.

- Some participants noted challenges of poor client health literacy and sensitivity and difficulty of conversations addressing parental habits (due to their poor oral health/ healthy eating practices) whilst trying to maintain sensitivity and not wanting to jeopardise trusting relationships. A few participants also mentioned the challenge of working with children in the care of extended family.
- One participant note concern that clients may not listen to non-dental professionals talking about oral health.
- A few participants noted fear of the dentist in some adult clients. Children were easier to engage with, for example, a participant described giving children positive experience by using bean bags for mouth checks with children, getting them comfortable and used to the experience. However, in a few settings they notes children had very poor oral health and families were difficult to engage.
- A few participants noticed a positive shift in young mother's receptiveness and awareness to the importance of addressing their child's oral health.

Diverse health system and referral issues

- Every setting described different health service systems and challenges e.g. different intake systems (telephone vs face–to-face intake), dental and other services separate, informal referral process, referral process differs based on families preferences, childcare professionals remind families to attend oral health checks but can't refer, many cites report no continuity of care.
- Some services describe challenging organisational culture, poor communication within health services, between departments and difficulties getting all staff on board.

Enablers of change

- *Accessible public dental services* including: proximity, presence of dental service within the community, awareness of services and key contacts and relationship and referral pathway to dental service, having a quick turnaround, bulk billing and priority access for ATSI clients.
- *Collaborative/ integrated services or programs* such as: participating in other oral health training (e.g. MIOH), working collaboratively referring into other services (maternity services, playgroup and in-home support programs), relationship with dental services, and working together with other services to provide transport to dental services.
- *Innovative strategies* - potential strategies for improving community engagement:
    - Simple messages (overcome barrier of poor oral health literacy)
    - Engage families in toothbrushing demonstrations or health cooking/eating skills
    - Aboriginal health workers and youth workers could play a role in successfully promoted in the ATSI community through more of an 'aesthetic' perspective e.g. having fresh breath for kissing.
- *Management involvement and supportive policy* Having a policy/ framework for including oral health in practice e.g. MCHN KAS framework.

- *Building trusting relationships and rapport* between the clinic staff and members of the Aboriginal community. Familiarising families with local oral health staff. Maintaining ongoing supportive relationships with clients.
- *Providing supporting resources* e.g. toothbrushes and paste to reinforce and support action on oral health messages and providing a practical tool for clients and staff to use, visual and eye catching oral health promotion resources to spark conversation e.g. using posters of local community members (used in one setting), impactful real life images, interactive tools e.g. giant false teeth, more broad reaching media advertisement, tooth tips – KAS and possible incentives e.g. dental voucher to encourage service use by complex clients.
- *Incorporating oral health promotion in existing events* e.g. health check days and community events. Considered by participants as beneficial to engage the community including practical resources for families (toothbrushes and paste).
-
- *Skills and training needed to promote oral health* included:
    - Comprehensive full day training in oral health promotion
    - Awareness and knowledge of available services
    - Oral health embed into practice – having oral health included in the tools/ resources staff use e.g. included within family support plan or part of KAS framework
    - Good support for health promotion within the organisation
    - Skills in working with Aboriginal community in a culturally appropriate and sensitive way and gaining trust (partnering with local trusted community members)
    - Sensitivity working with clients experiencing obvious dental decay.

Future directions

- A couple of participants thought refresher training would be useful and an opportunity to capture new staff.
- Participant described other professionals who they thought could benefit from training including: speech pathologist, children's services, doctors, Aboriginal health workers/ youth workers, nurses, midwives (including KMS), maternal and child health nurses, integrated family services, childcare workers (including Koorie specific), teachers, supported playgroups, local women's refuge, all professionals working with young children and pregnant women, aged care, treatment/drug and alcohol services, staff delivering primary healthcare.

Tables of themes and illustrative quotes

Table 1. Interviewee roles

Participant ID(s)	Role
3036	In-home support
3043, 3044	Practice nurses
3050, 3056	Child care worker
3055, 3105	Maternal and Child Health nurse
3067	Koori Maternity Service midwife
3078	Aboriginal Health Worker
3075	Access and support worker
3046	Service access officer

Table 1. Tables of key themes and Illustrative quotes from interviews with participants in the Bigger Better Smiles training

Themes	Illustrative quotes
2. Bigger Better Smiles Training	
2.2 Satisfaction • All the participants found the BBS training to be sufficient, interesting and valuable. • Some participants reported the information as new and for others it consolidated and reinforced their existing knowledge.	*"That full day and quite comprehensive [training]. I think that's helpful for anybody whether they've got qualifications or not because it was just basic as well as some medical background. It made sense and was presented well in a way that you can use with other people. So, that was good. " (3036)* *"[I learnt] what to look for and actually how to look in people's mouths as well, which is something we didn't generally do before, because we didn't understand it." (3044)* *"[The training] was good to consolidate the information I already had and to also add value to the discussion because I think there were lots of people in that room that day that didn't have a strong understanding...That forum and that project enabled staff in that room to talk about oral health in pregnancy that they didn't know and I was able to contribute stronger knowledge I guess by other previous trainings I had and I remember sitting with the nurse who said I didn't know any of this...the forum absolutely had value in strengthening, understanding across the area of staff that were there that came from different services. " (3067)* *"Learnt to understand that it [oral health] affects everything in your body. Your health overall. And not just*

	your appearance... Even though you do know that from being, as a little kid you get told all that. So yes it's sort of there, but not always on top of the list. " (3046) *"I was always doing it but I think it has given me a bit more confidence to actually keep raising it and keep it at a high focus. It was good." (3105)*
• Content of the training was not always directly associated with participants work- most could share the information with others in the AHS. • One participant did suggest a more comprehensive training for midwives.	*"My role is with cutting indigenous smoking…I took a lot of information on the day and I went back to the co-op and passed to our health workers and to the nurses as well. And then whatever I picked on the day, the brochures and stuff like that and provided them [health workers and nurses." (3078)* *"I think that from an oral health promotion point of view… it was sufficient. I do think that from a midwifery practitioner point of view that it probably wasn't enough time or knowledge required for a full comprehensive understanding but it certainly from a health promotion and a conversation point of view that you can have with clients that its certainly was the beginning for all staff from those different areas of health to walk away with some knowledge that was sufficient... My colleagues got a lot out of it." (3067)*
2.3 Learnings • All participants stated the training increased their awareness of oral health and each took away different learnings and confident to apply their learnings into practice • Participants recognised the training as an opportunity to share information, felt comfortable to discuss culturally sensitive issues and added value when the content was presented by an	*"[The training] It gives us ideas for how to talk to children about it and teach them and that..." (3050)* *"I knew a little bit but not the significance of snacking all the time and that changing your mouth acidity. Especially toddlers that will often snack all day rather than work and eat. They might snack all day." (3055)* *"One of the comments that was made about, especially for the mums if they have morning sickness is not to brush their teeth straight away. Whereas that's one of the first things you want to do is brush your teeth after you've thrown up. I didn't realise that, so that was good." (3056)* *"[It was an opportunity to] meet other people from different organisations and put a face to a name and understand their project... I had that opportunity in the breaks… [to meet] the primary health care nurse while I was there and she was also doing an Aboriginal project so we've touched base a few times so that was also valuable wasn't only just what you were delivering it was actually*

Aboriginal person.	*an opportunity to meet other agencies… it's always nice if you're not Aboriginal to just hear the stories and hear the delivery from an Aboriginal perspective because it just raises your confidence as a non-Aboriginal person working in an Aboriginal place." (3105)*
3. Change or intentions to change practice	
• The participants utilised the training to having oral health conversations with clients and suggesting referral pathways. • Varied professional capacities of the participant resulted indifferent approaches to oral health promotion practices.	*"[The training] Cement[ed] for me importance of continuing to have discussions around oral health in pregnancy, it increased or strengthened my understanding of referral processes in regards to referring on in the mid trimester. All women are given toothpastes and toothbrush at the beginning of their pregnancy care and we talk about the changes to gums and oral health in pregnancy and we also talk about importance of dental care for at any time in pregnancy because of the impact on foetal wellbeing." (3067)* *"I'm particularly aware of mums who are pregnant and talking to them about oral health and making referrals or helping them access the Aboriginal health service...have been to that workshop it has brought it to the forefront for me." (3105)* *"Probably the biggest change has been knowing more about public dental health for me and suggesting families go through that path if you know they've got healthcare cards." (3055)* *"We check on immunisation, maternal child health checks and those sorts of things but dental wasn't on the list so, we've since put that on." (3036)* *"Like if your teeth aren't good your overall health is affected. So, we've actually done a template, more of a review - if you go to your normal hospital template of health and wellbeing, we've done a new Indigenous one. And on that is like, "How is your teeth?" And if you see a GP, how often have you seen a GP? It's an overall health check of everything…So, that's now on board too. " (3075)* *"[Lift the Lip]... I've always done something similar but it's me more hanging the kid upside down making them laugh so was just a lot more controlled way of actually looking in children's mouth and its worked really well cos I do use it*

	fairly regularly now." (3055) *"I think the 'Lift the Lip' one, lots of people [staff that I've shared this technique with] are 'Oh it's a great idea why didn't I think of that'… We give out an information pack and there's dental health [flyer] … so its and easy jump to remind me to talk about teeth as well so a bit more knowledge now." (3055)*
• Participants suggested ways to engage and familiarise families with dental staff	*"As far as it depends on us at least we're asking the questions and encouraging them and providing support to link in with dental." (3036)* *"Gathering place... And that's really good way of linking into these gatherings. Because that's where our mob, you know, the community sort of drop and stuff like that." (3078)* *"We have four health checks a year. We have dental, medical, hearing and optometry…it's a fun day as well as families are able to have all their appointments for the children in the one day. And they have a little goody bag with sun smart things...So, it has been really successful. " (3036)*
4. Challenges	
4.1 The nature of different roles • Some participants described limitations within their professional capacities to apply learnings from the training	*"[Promoting oral health is not part of my role] because my role is… tackling Indigenous smoking. I mean we go to school[s] to talk, you know, like harmful effects of smoking… I pass the message, what I gained [from] the information on that day to the Best Start workers, the ones that work with the littlies." (3078)* *"[Clients may be] coming in for food and vouchers, and they're homeless, so they're coming in a lot of the time… they need somewhere to sleep and that type of thing. But once we sort of addressed that, and generally it's a crisis so you're really not thinking about lots of other things [like oral health] But I guess doing that training did make me really aware of sort of adding that to the whole process and getting to that point once we'd sorted out the initial crisis. And I guess it raises your awareness, doesn't it, that that's out there and what to say and that sort of thing." (3046)*
• Participants found different avenues within their role, to incorporate oral health promotion.	*"We might have grandparents in the group, but then they still go home and they go talk to their daughters or their*

Limitations of implementing oral health promotion within practices included: • limited time • short term funds for oral health • lack of continuity of care	*sons and - about the kids… there's children involved. Either with the daughters or their grandkids, or they have the grandkids and make sure their health and wellbeing's okay, including dental." (3075)* *"[The] Practice manager does all [medical] sites and dental as well….. it's a fairly big job so it's hard to keep that under wraps [because it's a big clinic] we need more staff cos we have a lot of funding for oral health and all that sort of stuff but it only lasts a certain amount of time and it disappears... It doesn't carry on for much longer so once you get involved in it, [if] it's not successful it closes down and forgotten." (3044)* *"[Our clients] don't always come back…. They may come in only for their health checks, 'coz they may be a healthy person or a healthy child. So, the only time they may come in is generally just for their health checks and then not come back for a while. And 'coz you see many patients within that week it's, it's usually quite a lot to remember [to check their oral health]." (3043)* *"We've got six thousand patients. We nurses follow-up if people are really unwell … but you can't do it with everyone…" (3044)* *[Interviewer: So are you doing them [mouth checks] with everyone that you see or is there a process involved?] "No, not everyone, just if someone's got problems in that part of their, I mean the top part of their body, I'll have a look in their mouth and their throat. I don't, I guess I haven't been doing as much to look at their teeth and stuff like that, because it's just a matter of doing repetitive stuff. And, once you learn something, you'll keep doing it but you've got to remind yourself." (3044)*
4.2 Client related challenges • Many participants work adult clients experiencing varied levels of complex situations and oral health is often not their priority. • Clients only present at AHS when experiencing pain or illness.	*"Because a lot of people we see unfortunately are drug affected or have been taking drugs, and as you would know that causes a lot of tooth decay. Unfortunately a lot of people lose their teeth… We do see a lot of people like that in the emergency relief." (3046)* *[The challenge for health workers] "I'm often surprised by the amount of women I see that have missing or broken or decayed teeth that it does not seem to motivate them to*

• Within the ATSI community, decayed/ missing teeth are considered acceptable.	*change that. And even when we have free access to ATSI women in pregnancy and outside of pregnancy for oral health it's not seen as a priority." (3067)* *"[Clients coming into clinic with] mouth abscesses… I'll definitely get them the antibiotics or see the doctor and then refer them to the doctor after when they're better...but the thing is they get their antibiotics, especially Koori people and they won't follow-up with the dentist. Then they just keep coming back, and coming back. " (3044)* *"Even though people know, I've got quite a few mums who have got a lot of pretty obvious dental issues… [I] say 'do you realise that you can have free dental service and your name will go to the top of the list if you just ring the Health Service... sometimes it doesn't seem to register because 12 months later I can still see the same mum with the same problems." (3105)*
• Participants reported clients experience challenges with cost, lengthy wait times and transport when accessing dental services	*"A lot of our parents don't have transport, so they have to rely on public transport. So, that's an issue for a lot of them. Also, all of our parents are health care card holders, so financial situation. They just have to go on the waiting list. Most of them can't afford to just go to the dentist and have the work done." (3056)*
• Many health services reported going above and beyond to support clients to attend appointments some offering official transport for clients.	*"We've… taken clients to the dentist where they've had issues and haven't had transport so we've gone the extra mile and been babysitting plus providing transport while the adult has been getting their teeth done and in terms of trying to reduce sugar intake and things like that. It is harder, I attend playgroups and I'll see adults with cans of coke and things it is a hard topic to have conversation on sometimes because really entrenched habits and you want to have an ongoing relationship with people so you have to do it and bit of a 'just' way." (3105)* *"So I'll book for example an appointment for the dental appointment but we don't necessarily provide transport… [sometimes] I say I'll just book the appointment in and I'll take you." (3067)* *"Our clients - in case you need dental, then we put them on our list. We also have another worker that actually goes*

  • Difficulty having sensitive conversations with parents regarding poor oral health. Fine balance between improving health literacy and not wanting to jeopardise trusting relationships. • Participants recalled some adult clients fearing the dentist • Children were reported to be easier to engage with e.g. one participant noted providing a positive dental experience utilization of bean bags for mouth checks • A few participants reported ATSI children had very poor oral health and families were difficult to engage. • Participants reflected some young mothers had greater awareness and receptive to addressing their child's oral health.	*around and picks them up and take them… this is not just Indigenous, this is across the board in our team." (3075)* *"If the mother or parent has quite decayed teeth, sometimes you tread a little bit carefully so that you might not offend them or bring their own dental care to the floor." (3055)* *"What we've done here now, we've got one of the dental nurses who's also our project worker… She just sets up a bean bag and brings over some of the equipment to help the children get used to having their mouth open for somebody else and having someone look at their teeth so, that's been quite good." (3036)* *"You'd have a couple of kids that would have to have pretty much all their baby teeth removed because of the amount of decay they've got. It's really hard for us to get parents to follow through with recommendations." (3056)* *"Predominantly have Aboriginal children attend the centre. I think out of our total enrolments this year we only have three non-Aboriginal children attending. Their dental, oral hygiene is quite poor. We encourage healthy eating, but it doesn't always happen… We still have shared morning tea for that very reason. We have fruit every day for morning tea plus we supplement that with cheese and biscuit or yoghurts when we can access it..." (3056)* *"When I first started the group of mums who were going through weren't as conscious of health in general. They weren't probably as up to date with their appointments for anything…… Whereas some of the families we've got coming through now are younger mums and they're more aware. And they're more keen to do things like cut out sugar for their children and make sure that they're eating well as well as keeping up with appointments… We supply toothbrushes and toothpaste as well so that's well taken up." (3036)* *"It depends on their parents, how their parents look after them. Generally the younger generation these days I reckon looks after themselves much better." (3044)*
4.3 Diverse health system and referral issues	*"But in our service it's getting more and more that we're not seeing people face-to-face. A lot of what we do is now*

• Challenges with different health service systems were identified, e.g. different intake systems. • No formal referral processes • Some referral process are based on families preferences • Childcare professionals unable to make formal referrals • lack of continuity of care • poor communication within health services and between departments • Difficulties getting all staff on board	*moving to being just done over the phone. So we are not seeing them as much as, we probably do need to remember to factor in more of those questions… We don't actually do intake for dental, so that's the only one program in the whole organisation that we really don't do the intake… there's no formal process of us referring into dental. It's more that we give them the number or take them out to reception and they would make an appointment with reception." (3046)* *"We generally just try and encourage them to go for a dental check-up at least every year… especially if there are any complaints we encourage them to make an appointment straight away. If they haven't had an appointment lately we do encourage them and their families to go make the appointment, or we can make the appointment for them." (3043)* *"We can just ring up on their behalf or they can ring up themselves. And then once they're regularly coming dental will follow-up anyway but it's just a matter of making sure that they're going in the first place." (3036)* *"It's just [difficult] getting everyone on board… We have a lot of conflict so hard to bring new things in [to the organisation]… and working with Koorie people as well we're different to each other yeah it is hard sometime. I love my job I love working here but it is hard to keep things going… if you stand out you get brought down." (3044)* *"Communicating with each other [is difficult] because we are a big place – three sites plus we have outreach clinic as well that we go to so it's quite big…it's very hard." (3044)* *[Interviewer: So do you find it difficult to maintain that relationship with the dental team] "Yeah well dental is down the road, yeah but they don't have anything to do with us they got something going on with the patient, know what I mean? [Yeah] Even with clients we have here, they go there they don't communicate with us about health issues or anything like that, which is probably a bit poor but yeah… if someone's on morphine or something like that and they take it the day they go to the dentist and we know that and they don't it could be very, very serious…" (3044)*
5. Enablers of change	

Accessible public dental services • Proximity/presence of dental service within the community • Awareness of services and key contacts • Relationship/ and referral pathway to dental service • Working collaboratively with other services • Dental services having a quick turnaround, bulk billing and priority access for ATSI clients	*"Awareness, and then knowing where to advise people where to go and what phone numbers to call. And even just knowing that information." (3046)* *"The main way is we just say 'head up to the dentist and make an appointment or we can make an appointment for you?' It's a pretty quick process, it's just make an appointment... They can usually get in within a week… if it's an emergency they can usually get in within a day or so as well. So… pretty quick services for them." (3043)* *"Existing relationship with the dental service is strong as I said, community health service are always present at our social functions or our health promotion functions. Providing oral health exams, literature and information." (3067)*
Innovative strategies to improve community engagement – • Using simple messages • Engage families in tooth brushing demonstrations or health cooking/eating skills • Aboriginal health/ youth workers could promoted oral health in the ATSI community through more of an 'aesthetic' perspective e.g. having fresh breath for kissing • Policy/ framework for including oral health in practice e.g. MCHN KAS framework	*"They need to see real life people…well I do…for it to sink in you know what I mean." (3044)* *"We try and enforce healthcare and looking after the child but we have a lot of trouble getting it to sink in. I think it's a lot with not knowing about their own body things like that and not understand it. Because we have different terms and different lingo, so I've got to be a bit more basic I think… The whole of Australia needs to adapt… It's just like the liver and stuff we have alcoholism and high liver function and we say to them this is this…they don't understand what their liver actually does. I think if they understand what their livers do, what function it's got they might understand when they're having a drink I shouldn't do this." (3044)* *"I mean it all goes back to the fast food and all that sort of stuff. A lot of our families see that as an easier option I think for meals rather than buying fresh food and preparing it. For a lot of them they don't have the skills to do that. Maybe it needs to go back to the old cookery classes that we used to have at school..." (3056)* *"Aboriginal health workers ...and also some of the youth workers they work with the young ones [clients] and I think the earlier we are getting in about oral health and the importance of oral health and looking at not as a health perspective but as an aesthetic fresh breath – kissing perspective I reckon would have more of an impact than when I talk to women about you know impact on growth or*

	babies." (3067)
Management involvement and supportive policy • Training multiple staff	*"And our new manager… is very supportive of all this dental stuff. And plus I'm having our own logbook of the three community health centres that we can actually put our own clients into. But then, we can also support that client - so we always follow-up in dental… " (3075)* *"When we have our team meetings if any of us have been on any training we have to put together a little mini presentation… And so that was on our agenda for me… [to share information on Bigger Better Smiles training]… bring that training back to our team." (3046)* *"We don't have junk food here. It's always healthy food ...because we've got new management and all that. The food is like really healthy fruit and salad and - perhaps just - yeah, healthy food" (3075)* *"Yes definitely part of the key ages and stage frameworks of the maternal and child health service so it [oral health] is always something we always have a look at and I'm an ex-dental nurse so lucky I had a fair focus on oral health anyway. It is definitely part of our framework and I do mention it on many of my visits." (3105)*
Building trusting relationships and rapport • Maintaining ongoing supportive and trusting relationships with clients from the Aboriginal community. • Familiarising families with oral health staff.	*"[Oral health] staff come across and do [dental checks in playgroups] rather than us trying to do it makes a difference. Because they're building their relationship with the dental staff. Then that makes a huge difference because a lot of I mean it is fear of going to the dentist for the parents. And then that fear being passed onto their children….. It's comfortable, they can sit back properly and have their check done. And then they know the people there and know it's not so scary when they go over there, the checks or any treatments. " (3036)* *"A lot of the Koori community have… I don't know whether fear's the right word. But they're very wary of people in authority because a lot of them having dealings with the police on a regular basis and DHS, child protection." (3056)* *"It takes a fair amount of work and effort to get the trust of the Aboriginal community they don't hand over their trust lightly. And when you've got it, you've got to make sure you keep it because you can lose it very quickly. And*

	then the word gets out in the community. Preferably it would need to be a local Koori person, ideally, as some sort of facilitator… They're more likely to trust someone from within their own community than an outsider coming in telling them what to do and how to do it and when to do it." (3056) *"I had a mum who was from a fairly remote community in the Northern Territory living down here and she was unfamiliar with lots of the services that were available to her and she's quite a traditional mum so giving her that little bit of extra support was easy for us because we have access to the transport, the baby seat, the car - it's not really part of our job per se but we had the time and we had the capacity to do it we just went the extra mile…it's not normal but we have done it on extreme circumstances." (3105)*
<u>Providing supporting resources</u> • Incentives to encourage complex clients to use the service. • Resources for clients and staff to use to spark conversations reinforce and support action on oral health messages e.g. toothbrushes and paste, posters of local community members, impactful real life images, giant false teeth • media advertisement	*"And if they are asking the nurse and the health workers, have you got anymore toothpaste, well that just shows its working? People are… they're using the toothpaste." (3078)* *"We had dental come over, and we actually asked dental 'What would be good to teach Aboriginal children to clean their teeth?' And they've organised a puppet show type thing, and actually got what we said is appropriate - and to help Indigenous kids actually clean their teeth. It went well, all the community members that have planned activity group, had a say of what would be good to get kids to clean their teeth. And we had an actual dental check-up also that day. So one of the dentals came in and checked this - our group's teeth, and we make referrals when need be, then also go with them to the appointment. So that's a real good thing… One of the community members said it was really good." (3075)* *"Posters made through dental with local children over the last few years...that was quite effective because children recognised those kids in them. Just that sort of information is helpful…. just drinking water and cutting out soft drink and things like that." (3036)* *"I think that access to resources provide health promotion resources and posters or something bit of an eye catcher that becomes a conversation piece that initiates the*

	conversation about anything is always a good thing… we've got a big set of false teeth in this clinic I should really get it out of my cupboard… and stick some on the desk so that people come in and play with them and in fact they might put it on the kids table to play with" (3067) *I often sit back and think that a lot of these messages would be so good if they were on commercial TV, I really feel personally that the government would be much better off spending money on short cartoon type ads that everybody's watching. I feel like you can reach a much broader community than having money dropped in silos and people doing so much work on the ground level but if you and we are but I think if it was just general messages on TV I often feel like lots of health messages could come across on social media". (3105)* *"Perhaps some visuals that we could put up or a DVD or something. I think things like that really help more so than giving pamphlets because they get so many pamphlets. Everyone's about pamphlets and that they can be lost with all the others. But have something specific that we can… Even use some of those health check days. Have it running on a TV or something?" (3036)* *"Things like that can make a difference, just a little bit of information regularly. I think the ads about soft drink and the amount of sugar in them have had an impact. I think more and more people are talking about it. More and more aware of how much they're eating and the soft drinks. All the little things make a big difference I think." (3036)* *[How to address or promote oral health in the community] "A DVD or some other resource that you can use to show somebody, not just talk [would be useful]. I think a lot of people are quite visual rather than auditory. If there was something we could give to families. For instance, these health check days we usually have the goody bag that they get. We've had the sun smart program with one of them, so they got beach towel, sunscreen and a hat. Maybe there is something we can do that is dental specific and we give them some things that would be helpful. That would be good." (3036)*
Incorporating oral health promotion in existing events	*"And continuing to highlight [oral health at] the health check days and encouraging families to participate and see*

• Engaging with the community at health check days and community events	*it as important themselves." (3036)* *"We encourage them to do that and our dental service gives out free toothbrushes and toothpaste and stuff like that… [at] family days." (3044)*
Skills and training needed to promote oral health • Comprehensive full day training in oral health promotion • Awareness and knowledge of available services • Oral health embed into policy and practice • Good support for health promotion within the organisation • Skills in working with Aboriginal community in a culturally appropriate and sensitive way and gaining trust • Partnering with local trusted community members	*"Talking about it [oral health] generally, being supportive not attacking them saying 'You're doing the wrong thing' doesn't get you anywhere and sometimes it's just chipping away slowly 'how are things going?' have you managed to water the juice down a bit more yet, baby steps sometimes." (3055)* *[What skills are needed] "….Knowledge to start with to know what you're talking about cos otherwise if you give them a lot of information [sheets] it's not very ideal is it?" (3055)* *"Awareness [of the importance of oral health], and then knowing where to advise people where to go and what phone numbers to call. And even just knowing that information. Sometimes it's just a matter of knowing a phone number and where to direct people isn't it, really. It's about knowing all of that I guess." (3046)* *"Probably the attitude that you take it on board yourself… Look after your own teeth and health so you're not just talking about something you have no idea about… Just having it embedded into your practice so that it's in the tools that you use like your family support plan…. Continuing to highlight the health check days and encouraging families to participate and see it as important themselves. Quite a few of the clients that the mothers have got very poor oral hygiene but they're still very keen for their children to have good teeth… It's a slow process because a lot of people are quite afraid of the dentist. And some have had bad experiences." (3036)* *"Training like that definitely. That full day and quite comprehensive. I think that's helpful for anybody whether they've got qualifications or not because it was just basic as well as some medical background. It made sense and was presented well in a way that you can use with other people. So, that was good". (3036)*
6. Future directions	
• A couple of participants	*"A refresher or just an update because I was the only one*

thought refresher training would be useful and an opportunity to capture new staff. • Participant described other professionals who they thought could benefit from training • speech pathologist • children's services • doctors • Aboriginal health workers/ youth workers • nurses • midwives (including KMS) • maternal and child health nurses • integrated family services • childcare workers (including Koori specific) • teachers, supported playgroups • local women's refuge • all professionals working with young children and pregnant women • aged care • treatment/drug and alcohol services • staff delivering primary healthcare	*that went there's quite a few of the staff here that would benefit from it. So, if it was offered again that would be good. " (3036)* *"General health workers, maybe HACC [Home and Community Care] support officers… they're providing home and community care services… sometimes that's just cleaning but because they are at the forefront of assisting those clients they may be able to assist. Depends how interested they are in promoting the overall wellbeing of the clients" (3043)* *"Child care workers? Child care centres, support of play groups… If you could sort of sit in with the mum, families and facilitators." (3055)* *"[Some] people that we see that have been long term drug users… maybe drug treatment would be a good one too, to have that training" (3046)* *"Because we have a drug and alcohol centre for teenagers. So, maybe someone from there, to have training. [These kids don't] realise when you're on drugs and things, and - it does affect their teeth. And it might be an education thing for the people that work at the centre. …And they're at that centre for a good six months. And then there's staff there - 24 hour staff, but then, they must look at people's health and well-being." (3075)* *[Interviewer: What do think would be needed to support you to promote oral health in your setting?] "I don't know…it has to start from birth. So, whether something needs to be implemented even before birth with maternal child health. I know they [staff] do a fair bit of work within the community as well to promote oral hygiene and oral health. I think we've just got to keep plugging away at it and hopefully it we can make a difference for one family I suppose that's a bonus." (3056)*

Appendix J: Healthy Little Smiles questionnaire overview and tables

Overview of Healthy Little Smiles evaluation findings from pre- and post-training questionnaires

Note: All short answer question responses were categorised and summarised.

Characteristics and practices prior to workshop

Participant characteristics

- Overall, 381 educators completed the Healthy Little Smiles questionnaire with 138 (36%) participants responding at pre-training only and 195 (51%) at post-training only. It was not possible to determine whether the same participants completed both the pre- and post-training for these questionnaires, and therefore only descriptive data are provided. However, an additional 48 (13%) educators completed both pre- and post-training questionnaires and were able to be matched for analysis comparing pre- to post-training responses. In total 186 educators responded pre-training and 243 post-training.
- Fifty-two percent (n=94) of all educators had worked in the early childhood sector for between 5-19 years, 26% (n=47) <5 years, and 23% (n=41) ≥ 20 years. Most (73%) were kindergarten/family day care educators/assistants, coordinators (19%) or managers (5%). The types of services educators worked at included long day care (n=62, 34%), family day care (n=55, 30%), kindergartens (n=47, 26%) and a combination of these services (9%, n=17). Most (63%) worked in services with ≤100 children.

Prior oral health training and programs

- Overall 22% (n=39) of educators had received oral health training e.g. through their degree, diploma, certificate (n=16, 43%), Smiles 4 Miles (n=4, 11%), in-service/staff training (n=9, 24%), self-education/research (n=3, 8%) and other programs e.g. Munch and move, Healthy Together (n=5, 14%).
- Many educators (n=155, 83%) reported that their service participated in oral health/ healthy eating related programs including: The Healthy Together Achievement program (n=54, 35%), Smiles 4 Miles (n=43, 28%), or a combination of other programs (n=58, 38%) e.g. Kids Matter, annual dental visits, healthy eating puppet shows and yoga.

Information, activities or discussions service currently provides (pre-training)

- Most educators (n=163, 88%; n=69 always and n=94 sometimes) reported that their centre provided some form of oral health/ healthy eating information, resources or activities (e.g. posters, toothbrush, brushing chart etc.) Eight-percent (n=15) reported that their centre never provided such material.
- 85% (n=139) of those stating their service provide some form of oral health/ healthy eating information provided detail relating to the information, activities or discussions that their service currently provided.

- Most educators reported providing information resources and activities around healthy eating (n=95) or oral health behaviours (n=77) others reported health promotion visit from dentist/dental nurse (n=19) and providing dental checks for children (n=14). A few participants described engagement with Smiles 4 Miles and other -n-service programs (n=4), oral health/nutrition embedded into policy and training (n=6) and improved accessibility for children to obtain healthy drinks (n=1).
- Further detail is provided in table 1.

Knowledge and confidence

Self-reported knowledge and confidence

- Overall, after the workshop 91% (n=220) of all educators self-reported their oral health knowledge was very good/good compared to 73% (n=132) prior to the workshop (table 2). For matched educators (n=48 with matched pre and post workshop questionnaires) self-reported knowledge level (good/very good) significantly increased (n=33, 69% vs n=41, 86%, $p<0.05$) (table 3).
- For those with matched data (n=48) most educators reported being 'confident' or 'somewhat confident' (combined pre-workshop>85%) in relation to all oral health statements provided prior to participating in the workshop (table 4). Consequently, no significant changes were found when comparing changes from 'confident/somewhat confident' with 'not confident'. Analysis was therefore performed comparing those who were 'confident' against those who were 'somewhat confident/not confident' to explore any changes. Significant improvements in confidence levels were shown for all statements e.g. educators reported being 'confident' to 'discuss the topic of oral health with children and families' significantly increased from 52% at pre- to 83% post-workshop ($p<0.05$). A significant increase was also shown for 'answering questions about healthy eating' pre- to post-training (65% to 90%, $p=0.004$). Refer to table 4 to view all confidence level results.
- Post-workshop, a higher percentage of educators reported being confident to discuss healthy eating (~90%) compared to oral health (~70%) (table 4 and 5).

Workshop

- The Healthy Little Smile's workshop was received positively, overall >90% of educators agreed/strongly agreed, they had gained new knowledge or skills, that the workshop met their expectations, was relevant to their professional practice, the content was clear and easy to follow, information was sufficient, they intended to use their learnings at their service and would recommend the workshop to others (table 6).

New learnings from the workshop (n=206)

- Most educators felt that they gained information from the workshop. The most commonly noted key learnings included: how to promote dental health, not to rinse toothpaste, information on tooth decay, the amounts of sugar in foods/drinks and its effect on teeth and promoting healthy eating. Some educators learnt about accessing oral health resources and information and access to public dental health services. A few participants also described learning about acid attack/ph level, toothbrushing behaviour e.g. length of time, how often,

fluoride toothpaste for different ages, how the learnings can be linked to the Early Years Learning Framework in their practice and water fluoridation. A few educators stated the workshop reinforced previous oral health knowledge.

Most useful aspects of the workshop (n=195)

- Most educators provided information about the most useful aspects of the workshop. The most useful aspects of the workshop that were reported included having group discussions, that everything was useful and interactive resources provided to use with families. Educators also wrote about other useful aspects of the workshop including the action plan, eat well, drink well and clean well messages, information about tooth decay and ways to prevent it and information about oral health in general. A few educators also mentioned the usefulness of information on foods that are not good for teeth, giving a break time for teeth, infant teeth brushing strategies, ages and stages of oral health and how to engage with families.

Least useful aspects of the workshop (n=98)

- Of the educators who responded to the question asking about the least useful aspects of the program, most suggested the whole session was useful. A small group provided an example of the least useful aspects of the workshop with information on healthy drinking/eating habits being the most commonly provided response. A few individuals also noted the following as the least useful aspects of the workshop:
    - Pick up/drop off discussions
    - Policy and practices
    - Brushing teeth in the lounge room
    - Group discussions
    - A bit disorganised
    - Display information in booklet
    - Would like to know better ways to educate/advise parents
    - Would like to know more about age appropriate tooth paste

Improving the workshop (n=114)

- Approximately half the educators provided suggestions on how the workshop might be improved with almost one half of these educators reporting the workshop didn't need improving.
- These suggestions are summarised below (ordered from most to least common responses) with further detail provided in table 7:
    - More interactive resources
    - Improved workshop organisation
    - Include role modelling of toothbrushing
    - More ideas for practical engaging with families
    - Providing more support for our practice
    - Provide a copy of PowerPoint presentation handouts
    - More information about oral health/decay
    - More seminars on oral health

Translation to practice

Applying learnings from this workshop in educator services (n=179)

- Most educators provided a response regarding how they would apply the learnings from the workshop in their services. Responses were summarised into the following eight categories (ordered from most to least common responses):
    - More proactive with families and children in oral health discussions
    - Introduce oral health interactive activities
    - Add oral health promotion policies/embed dental care into practice
    - Promoting healthy eating
    - Organise team discussions on oral health best practice
    - Newsletter articles about dental health
    - Already implemented
    - Researching/linking in with local services
- More information is provided in table 8.

Difficulties and barriers to promoting oral health in educator service (n=116)

- Approximately half of educators provided a response relating to difficulties or barriers to promoting oral health in their service with many reporting there were no barriers (see table 9). The most commonly reported barrier was parent's engagement and willingness to change behaviours followed by language barriers and confidence promoting/educating parents about oral health. Several educators mentioned other challenges including: difficulty changing child behaviours and habits, staff and/or parent's time constraints and educator/community attitudes to parents and child oral health. Cultural factors, limited control over children's tooth brushing in the home and educators not wanting to place too much pressure on families were noted as barriers. A few educators also mentioned staff and policy issues and the limited availability of dentists as a barrier. Further details are provided in table 9.

Additional comments

Educators could provide any further comments. Most educators commented favourably with many either being thankful or stating the workshop was excellent or useful.

Results tables

Table 1. Information, activities or discussions service currently provides (pre-workshop, n=139)

Response category	Examples of participant responses
Information, resources and activities around nutrition • *Services were providing resources such as books, brochures, stickers, posters and newsletters.* • *Group discussions, games, role modelling were also used.*	*"We have discussions of healthy eating as well as games/ activities..."* *"We often, almost daily, discuss the importance of healthy eating, what's healthy, what it can do for our bodies, sometimes food & what it can do to our bodies, we as staff role model with our own healthy lunch boxes."* *"We have various healthy eating, fruit & vegetable posters etc around the room. Occasionally we will send out healthy eating brochures to families."*
Information, resources and activities around oral health behaviours • *Services were providing oral health resources such as books, brochures, stickers, posters and newsletters. Items such as tooth brushes, paste and timers were provided to encourage oral health behaviours.* • *Group discussions, games, role modelling were also used. Many of the educators provided multiple and varying examples of resources they were providing.*	*"Teeth brushing after lunch, posters around service, brochures about oral health."* *"Posters, activities, discussions with the children and discussions with the parents if any concerns."* *"Posters Dental visits. Flyers for parents."* *"We have posters, regular discussions with children about correct way to brush our teeth & the importance of teeth brushing."* *"We have provided tooth brushes & toothpaste to each of our children."*
Health promotion visit from dentist/dental nurse • *Local dentist/dental nurse attends the service and provides oral health and nutrition information. The team also provide dental health packs e.g. tooth brushes paste etc.*	*"After local dentist visit - the dentist provides a 'show bag' of information, including brushing guide and chart, toothbrush and toothbrush in addition to their practice details, etc."* *"We work collaboratively with a local organisation such as community health services, DHHS to promote awareness on oral care and healthy eating."*
Dental check-up for children • *Children are provided with a regular dental health check.*	*"Arrange an opportunity to check children's oral health and provide a report to the parents."* *"Free dental health checks for children."*
Improved accessibility for children to obtain healthy drinks • *Ensuring water bottles are easily accessible to children to ensure they can make healthier choices.*	*"Children can easily access the drinks."*

Response category	Examples of participant responses
Engagement with Smiles 4 Miles program and other in-service programs • *The Smiles 4 Miles program provides dental information, toothbrushes, toothpaste, dental service visits for children in care and interested families.*	*"Smiles 4 Miles, children and parent education, group discussions during meal times."*
Oral Health/nutrition imbedded into policy and training • *Services are imbedding oral health and nutrition into policy and procedures.* • *Staff training and discussions in meetings etc.*	*"We have a very strong healthy eating policy/program for the preschool."*

Note: Educator responses were classified into one or more categories.

Table 2. Self-report of oral health knowledge (unmatched participants)*

Oral health knowledge rating^	Pre-workshop n (%) (n=180)	Post-workshop n (%) (n=242)
Very good	34 (19)	103 (43)
Good	98 (54)	117 (48)
Average	48 (27)	22 (9)

**Unmatched participants: It was not possible to identify whether the same participants completed both pre- and post-workshop questionnaires and therefore only descriptive data are provided. Table 3 displays the results of participants that were able to be matched comparing pre- to post-workshop for analysis.*

^Educators could rate their knowledge as very good, good, average, poor or very poor, no one reported very poor/poor at pre- or post-workshop.

Table 3. Self-report of oral health knowledge (matched participants*, n=48)

Oral health knowledge rating**	Pre-workshop n (%)	Post-workshop n (%)	*p-value*
Very Good/Good	33 (69)	41 (85)	
Average	15 (31)	7 (15)	*p=0.039*

** Matched participant: Participants responses were able to be identified and matched to the same participant allowing for comparative analysis pre- to post-workshop.*

***Educator could rate their knowledge as very good, good, average, poor or very poor, no one reported very poor/poor at pre- or post-workshop. Very good and good categories were combined for analysis purposes.*

Table 4. Self-reported confidence levels regarding oral health knowledge and practices (matched participant, n=48)*^

Participant confidence level statements	Pre-workshop n (%)	Post-workshop n (%)	*p-value*
Discuss the topic of oral health with children and families at my service			
Confident	25 (52)	40 (83)	
Somewhat confident/Not confident	23 (48)	8 (17)	*p<0.001*
Answer questions about oral health			
Confident	15 (31)	32 (67)	
Somewhat confident/not confident	33 (69)	16 (33)	*p<0.001*
Answer questions about health eating			
Confident	31 (65)	43 (90)	
Somewhat confident/not confident	17 (35)	5 (10)	*p=0.004*
Identifying opportunities to promote oral health in my workplace			
Confident	25 (52)	37 (77)	
Somewhat confident/not confident	23 (48)	11 (23)	*p=0.012*
Talk to parents about their child's oral health issues			
Confident	20 (43)	33 (70)	
Somewhat confident/not confident	27 (57)	14 (30)	*p=0.004*
Support families to access dental services			
Confident	24 (51)	33 (70)	
Somewhat confident/not confident	23 (49)	14 (30)	*p=0.049*

**Total n may vary based on participant responses.*

^Matched participant: Participants responses were able to be identified and matched to the same participant allowing for comparative analysis pre- to post-workshop.

Note: Most educators reported being 'confident' or 'somewhat confident' and no significant changes were found when comparing changes from 'confident/somewhat confident' with 'not confident'. Analysis was therefore performed comparing those who were 'confident' against those who were 'somewhat confident/not confident' to explore any changes.

Table 5. Self-reported confidence levels (unmatched participants)**

Participant confidence level statements	Pre-workshop n (%*) (n=175^)	Post-workshop n (%*) (n=240^)
Discuss the topic of oral health with children and families at my service		
Confident	82 (47)	191 (80)
Somewhat confident	79 (45)	47 (20)
Not confident	13 (7)	2 (1)
Answer questions about oral health		
Confident	63 (36)	177 (74)

Somewhat confident	95 (54)	57 (24)
Not confident	17 (10)	5 (2)
Answer questions about health eating		
Confident	125 (71)	212 (89)
Somewhat confident	47 (27)	22 (9)
Not confident	3 (2)	3 (1)
Identifying opportunities to promote oral health in my workplace		
Confident	84 (48)	194 (82)
Somewhat confident	81 (46)	41 (17)
Not confident	11 (6)	3 (1)
Talk to parents about their child's oral health issues		
Confident	67 (39)	174 (73)
Somewhat confident	81 (47)	62 (26)
Not confident	24 (14)	4 (2)
Support families to access dental services		
Confident	80 (46)	183 (77)
Somewhat confident	77 (45)	51 (21)
Not confident	16 (9)	4 (2)

**Rounding may affect percentage totals.*

***Unmatched participants: It was not possible to identify whether the same participants completed both pre- and post-workshop questionnaires and therefore only descriptive data are provided. Table 4 displays the results of participants that were able to be matched comparing pre- to post-workshop for analysis.*

^Total n may vary based on participant responses.

Table 6. Educator level of agreement with the following statements about the workshop (post-workshop only)

Knowledge and skill development	Strongly Agree n (%)	Agree n (%)	Neither agree nor disagree n (%)	Disagree n (%)	Strongly Disagree n (%)
I have gained new knowledge and/or skills (n=242)	116 (48)	111 (46)	4 (2)	4 (2)	7 (3)
I intend to use what I have learnt from this training in my service (n=238)	139 (58)	84 (35)	4 (2)	3 (1)	8 (3)
About the workshop					
The workshop met my expectations (n=242)	110 (45)	112 (46)	8 (3)	3 (1)	9 (4)
The workshop was relevant to my professional practice (n=241)	125 (52)	101 (42)	7 (3)	0 (0)	8 (3)
The content was clear and easy to follow (n=241)	131 (54)	94 (39)	4 (2)	2 (1)	10 (4)
The amount of information was sufficient (n=239)	122 (51)	101 (42)	6 (3)	1 (0.4)	9 (4)
I would recommend this workshop to others (n=242)	125 (52)	98 (40)	9 (4)	3 (1)	7 (3)

**Rounding may affect percentage totals.*

Table 7. Educator's ideas on improving the workshop

Response category (n=114*^)	Examples of participant responses
More interactive resources	*"More examples and video clips."* *"Small clips or movies."* *"A sugar chart to follow on various foods that are common, muesli bars, brands, high levels of sugar."* *"Fun posters to take home, things we can give away."* *"More hands-on learning."* *"Free children's brushes and toothpaste."*
Workshop organisation	*"It could have been longer."* *"Time for class participation was great however on occasion things go slightly off track."* *"Be more confident in the presentation."* *"Limit the amount of questions, keep people on track."*
Role modelling tooth brushing	*"Bring the teeth for demonstration."* *"Display how children should brush their teeth."* *"Also, practical demonstrations which could be used with families."*
More practical engaging with families	*"Meaningful discussions with families."* *"More on practical tips to use with children/family less dental/oral information."*

Providing more support for our practice	*"By following all information help me to improve in service and helping in our practice."* *"More examples now can implement all this information at the centre."* *"Do it every six months."* *"Links to local dentists."*
PowerPoint presentation handouts	*"PowerPoint handout."*
More information about oral health/decay	*"More to help me understand about tooth decay from sweet and soft drink."*
Action plan group	*"Action plan groups could have been more varied with the range of services at represented in each action group."*
More seminars on oral health	*"By having more seminars related to oral hygiene."*

^Many educators thought the workshop was good enough/ no improvements required
** Educator responses were classified into one or more categories.*

Table 8. Applying the learnings from the workshop

Response category (n=179*)	Examples of participant responses
More proactive with families and children in oral health discussions	*"Provide parents and the service with information and ideas for good oral health"* *"Educate the children who will then educate the parent."* *"Involving parents about their child's teeth"*
Introduce oral health interactive activities	*"By using a two-minute timer and to really properly supervise children when brushing teeth to ensure they are brushing properly."* *"We have got handouts, books, website links"* *"Create/display more parent re-education resources."* *"Through posters and experience."*
Add oral health promotion policies/embed dental care into practice	*"Add oral health promotion policies."* *"Through action plan."* *"More confident to implement policy."* *"We can do planned activities, communication with parents."*
Promoting healthy eating	*"Fruit juice more harmful than healthier, eat more raw fruit."* *"Buying healthier food options, reading labels."* *"How to promote healthy drinks to children, encouraging children to drink water."*
Organise team discussions on oral health best practice	*"Inform other educators about information learned today and how it may apply to their age groups."* *"Through team communication and ideas."* *"Use ideas from group work."* *"Discuss with workmates and the service as a whole."*
Newsletter articles about dental health	*"Newsletters."*

Already implemented	*"Already implemented."*
Researching/linking in with local services	*"Researching local services."*

** Educator responses were classified into one or more categories.*

Table 9. Summary of difficulties or barriers educators felt around promoting oral health in their service

Response category (n=116*^)	Examples of participant responses
Parents engagement and willingness to change behaviours and habits • *Educators report difficulties with accessing parents, difficult to change parent's mindset.* • *Educators feel they need to be respectful and don't want to make them feel inadequate.* • *Educators see parents/children have bad oral health habits and don't feel confident they can make changes.* • *Difficult to start conversations about oral health.* • *Educators feel parents don't see oral hygiene as an important aspect of health.*	*"Starting conversations about oral health concerns with families"* *"Be aware of respecting parents - that we don't make them feel inadequate in bringing up their children and their hygiene habits"* *"Overcoming the mindset that parents have about convenience foods."* *"Sometimes parents may not be aware of the information about dental hygiene and explaining to them might be hard to convince them"* *"Parents bring in children's food and choosing to provide meals that we have expressed our objection towards i.e. processed, packaged, juices, lollies, no fruit!"* *"Parents put chocolate with milk or give the children juice with high sugar"* *"Lack of parental involvement in their child's oral health - more often those of a lower SE background; being able to 'truthfully' follow-up on what is actually happening toothbrushing-wise at home"*
Language barriers • *Educators felt it was more difficult to engage with non-English speaking parents/grandparents about oral health education.*	*"Lots of non-English speaking grandparents picking and dropping off children"* *"Parents not understanding - English as a second language"*
Confidently promoting/educating oral health to parents • *Educators didn't always feel confident enough to promote oral health to parents/children.*	*"Educating parents on dental health so they make changes in the home which will translate to positive changes in their children"* *"Education confidence in presenting health promotion messages to parents-particularly when parents provide less healthy food/drink options for children."* *"It's hard to promote oral health in autistic children."*
Changing child behaviours and habits • *Sometimes educators feel it is difficult*	*"My problem is maybe some kids don't like to do the activity or learn about this program"*

to change the child's behaviour.	
Parent/educator available time • *Parents are busy.* • *Educators also need time to set up the resources*	*"Time to set up resources"* *"Time"*
Educator/community wide attitudes to parents and oral health • *Problem seen by educator as an issue for home* • *Educator feels this is one more added burden to place on parents* • *A community wide problem*	*"The actual toothbrushing is done at home, I can't help in this area very much."* *"Culture"* *"I feel that we are already putting so much pressure on families / already stress to limits."* *"Society/ parents/ staff attitudes."* *"Lack of control as this is more an issue for home."*
Staff and policy issues	*"Hierarchy and understanding by other staff"* *"Difficulty in changing polices"*
Availability of dentists	*"Availability of dentists"*

** Educator responses were classified into one or more categories.*

^Twenty five educators provided the response "No barriers"

Appendix K: Playgroup facilitators feedback

Overview of the Baby teeth count too! workshop evaluation findings from post-workshop feedback forms

Baby teeth count too! workshop evaluation feedback forms were completed by 127 playgroup facilitators after completing the workshop. Playgroup facilitators provided their level of agreement with a series of statements about the workshop. Overall, 70% of playgroup facilitators agreed that they were concerned about the dental health of the children attending their playgroup, the remaining 27% neither agreed or disagree and 3% disagreed. Overall playgroup facilitators agreed that the workshop content was clear and easy to understand (100%), the content was relevant to their work (98%), and that they planned to use the information provided (98%). Most participants (96%) agreed that they would be able to speak confidently to families about dental health and agreed that they (98%) felt confident to use the tools and resources (e.g. flipchart and activities) to assist with this process. Ninety-eight percent of facilitators agreed that they would recommend other Supported Playgroup facilitators take part in the workshop.

Fifty-two facilitators provided short answer responses to the question: *Would you like more information on any topic we covered today?* More than half expressed satisfaction/appreciation of the workshop with 21 facilitators stating all topics were covered. Six facilitators expressed that they would like more information around local dental services e.g. available services, access, location and special needs/disability sensitive dentists. Facilitators (n=22) provided examples of the topics they would like more information on as well as resources they would like e.g. Stephen curve, ideas about activities relating to dental health for children and families, small booklets to provide to carers, information on how to brush teeth, a flipchart appropriate for Aboriginal and Torres Strait Islanders, information for older children, strategies for fussy eaters and orthodontics for children.

Fifty-eight facilitators responded to the question: *What would help you feel more confident to discuss dental health with families in your playgroup?* The flipchart was very well received with 21 participants stating it would help them feel more confident to discuss oral health with families. Eight facilitators thought more handouts/information sheets for families would be useful. Others believed support to address barriers (n=6) such as providing resources in other languages and information relating to engaging and understanding challenges for families around oral health would be useful. Support from local early childhood networks, dental services visits/check (n=4) were also suggested to assist with building confidence. Facilitators provided specific examples of additional knowledge they would like provided to enhance their confidence (n=7) e.g. alternatives to night time bottle, dummy/thumb sucking and the impact on oral health, written information and more knowledge to inform carers.

Appendix L: Birthing outcomes system (BOS) antenatal data capturing system tables and figures

Evaluation of the use of oral health items in BOS antenatal data capturing system

In order to assess the impact and use of the oral health data items included in BOS, in February 2019, the HFHS team requested access to the BOS data on oral health activities from 47 Victorian public maternity services. HFHS was advised that two maternities services no longer provide birthing services. A total of 18 services shared their de-identified data and the results are reported here.

Victorian antenatal visits at maternity services

- Overall 99,609 antenatal visits were recorded across 18 Victorian maternity services between 1 August 2015 and 31 March 2019.

Oral health assessment and referral by midwives

- Oral health assessments were performed on 39% (n=38,914) of women who saw a midwife during their antenatal care, and 16% (n=6,248) of these women were referred to dental services by the midwife (table 2).
- Overall, 10% (n=10,173) of all women were referred to dental services regardless of whether they received an oral health assessment (table 2).
- A large proportion of missing data (i.e. responses to questions/items had not been provided) was observed for oral health assessment (45%) and referral (52%) respectively (table 2).

Oral health assessment by a clinician

- Doctors/obstetricians recorded performing oral health examinations on 6% (n=6,472) of the women they saw and identified oral health issues in 17% (n=1,131) of these women (1% of women overall) (table 3). The BOS database does not capture whether oral health referrals were made by clinicians, however, of the women identified by the doctor/obstetrician as having oral disease 37% (n=414) were reported to have received a referral by a midwife.
- Clinician's reported identifying a range of oral health issues including:
    - Teeth issues: cavities, cracked teeth, lost filling, brittle teeth
    - Gum problems including: bleeding gums, gingivitis, receding gums
    - Pain relating to their teeth, wisdom teeth, gum, tooth sensitivity, jaw
    - Other: Abscess, jaw problems, dry mouth, mouth ulcers, plaque/tartar, poor dental hygiene, requires plate

Oral health assessment and referral – comparison by site/maternity services

- Wide variations were shown in oral health assessment rates (completed by midwives) across the 18 maternity services, and levels of missing data (see figure 4).

Table 1. Number of women attending antenatal visits by maternity service (n=99,609, 1 August 2015-31 March 2019)

Maternity service site ID	Antenatal visits n (%)
Site 1	5,822 (6)
Site 2	485 (0.5)
Site 3	10,274 (10)
Site 4	733 (0.7)
Site 5	6,140 (6)
Site 6	116 (0.1)
Site 7	1647 (2)
Site 8	248 (0.3)
Site 9	225 (0.2)
Site 10	1093 (1)
Site 11	3398 (3)
Site 12	226 (0.2)
Site 13	12,238 (12)
Site 14	17,258 (17)
Site 15	9,972 (10)
Site 16	11,226 (11)
Site 17	11,340 (11)
Site 18	7,168 (7)

Table 2. Number of women who received oral health assessment and referral to a dental service by a midwife (n=99,609, 1 August 2015-31 March 2019)

	All records n=99,609	Referrals			
		Yes n (%)	*No n (%)*	*Declined n (%)*	*Missing* n (%)*
Oral health assessment	n (%)	**10,173 (10)**	**35,872 (36)**	**1,347(1)**	**52,217 (52)**
Yes	**38,914 (39)**	6,248 (16)	26,472 (68)	699 (2)	5,495 (14)
No	**15,000 (15)**	3,193 (21)	8,981 (60)	266 (2)	2,560 (17)
Declined	**595(1)**	15 (3)	126 (21)	324 (54)	130 (22)
*Missing**	**45,100 (45)**	717 (2)	293 (1)	58 (0)	44,032 (98)

**Missing data reflects where a response to the questions/items had not been provided.*

Table 3. Number of women where oral disease was identified by an obstetrician/GP (n=99,609, 1 August 2015-31 March 2019)

Oral health assessed		Oral disease identified n (%)	
Yes	6,472 (6)	*Yes*	1,131 (1)
		No	5,341 (5)
No	93,078 (93)		
*Missing***	59 (0.1)		

**Percentage totals may be affected by rounding*

***Missing data reflects where a response to the questions/items had not been provided.*

Antenatal Assessment - Maternal Details 2

Date of Interview:
Mother's Aboriginal Status:
Father's Aboriginal Status:
Baby's Aboriginal Status:
Preferred Language:
Interpreter Required:
Patient's Work:
Year of Arrival to Australia:
Maternal Details Comments: 0 (250)
Preferred Name:
Partner's Name:
Present at Interview:
Partner's Work:
Intended Feeding:
Special Diet:
Antenatal Classes:
Oral Health Assessed:
Dental Health Referral:
Options: Yes / No /

Figure 1. Antenatal Assessment – Maternal Details 2 – completed by midwife

Antenatal Assessment - Physical Check

Not Checked
Checked NAD
Variance
Click on variance to enable recording of findings
Teeth and Gums
Heart
Breasts
Abdomen
Chest
Pelvis
Periphery
Other
Not Checked
Height (cm):
Weight (kg):
BMI:

Figure 2. Antenatal Assessment – Physical Check – completed by doctor

MIOH oral health assessment questions asked by a midwife

1. Do you have bleeding gums, swelling, sensitive teeth, loose teeth, holes in your teeth, broken teeth, toothache or any other problems in your mouth?

Based on the women's response the midwife asks women to show her the problem

2. Have you seen a dentist in the last 12 months?

The midwife refers the women to her dentist if she has one or the public dental service if eligible. MIOH encourages the midwife to refer all pregnant women to have a dental check-up whether there's a problem or not. If the midwife has not done MIOH she may just record No for oral health assessed and dental referral.

Figure 3. MIOH oral health assessment details

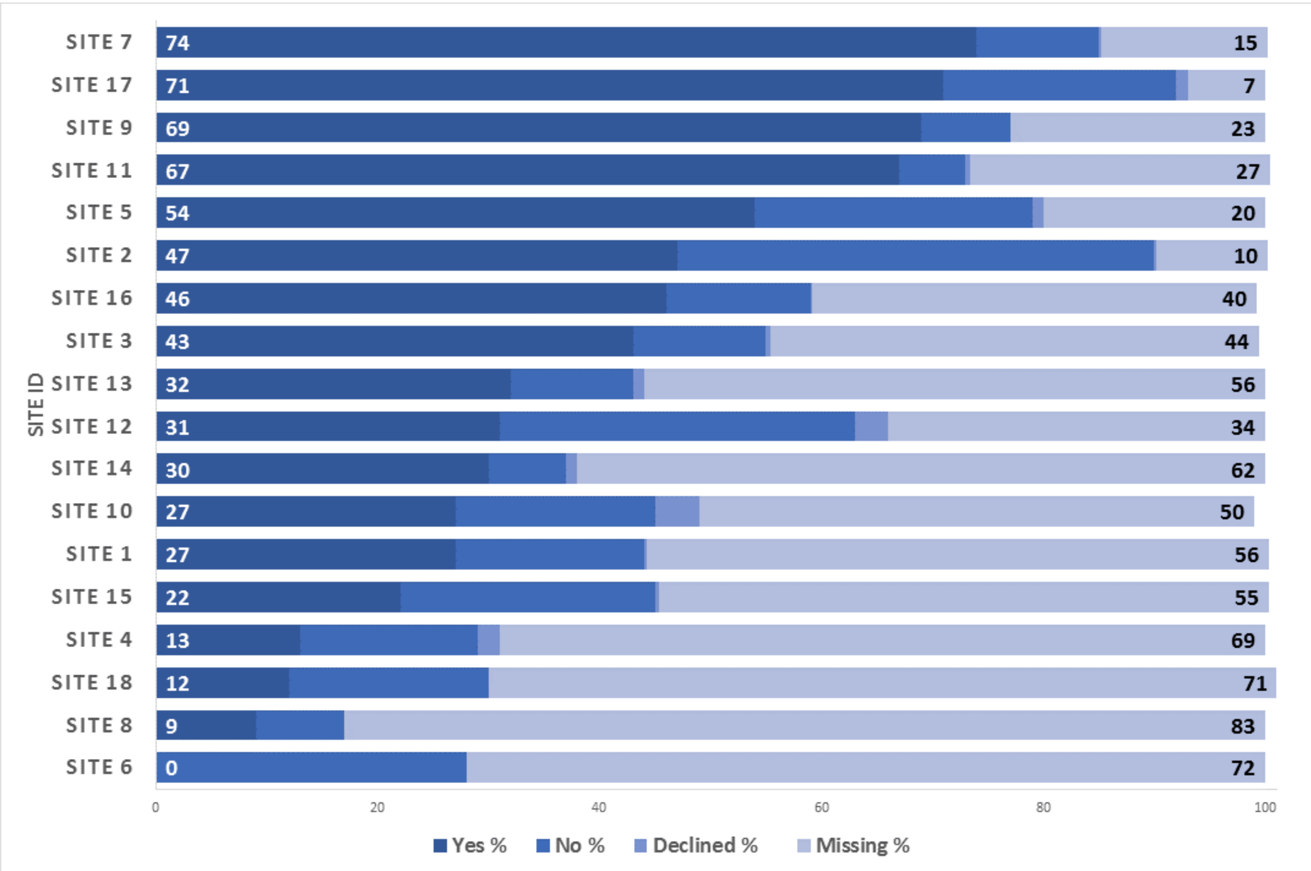

Figure 4. Percentage of women receiving oral health assessment by a midwife for each maternity service (n=99,609, 1 August 2015-31 March 2019)

Note: Site 17 commenced using BOS from 01/07/2017 and Site 6 13/12/2017. Total percentages may not add up exactly to 100% due to rounding.

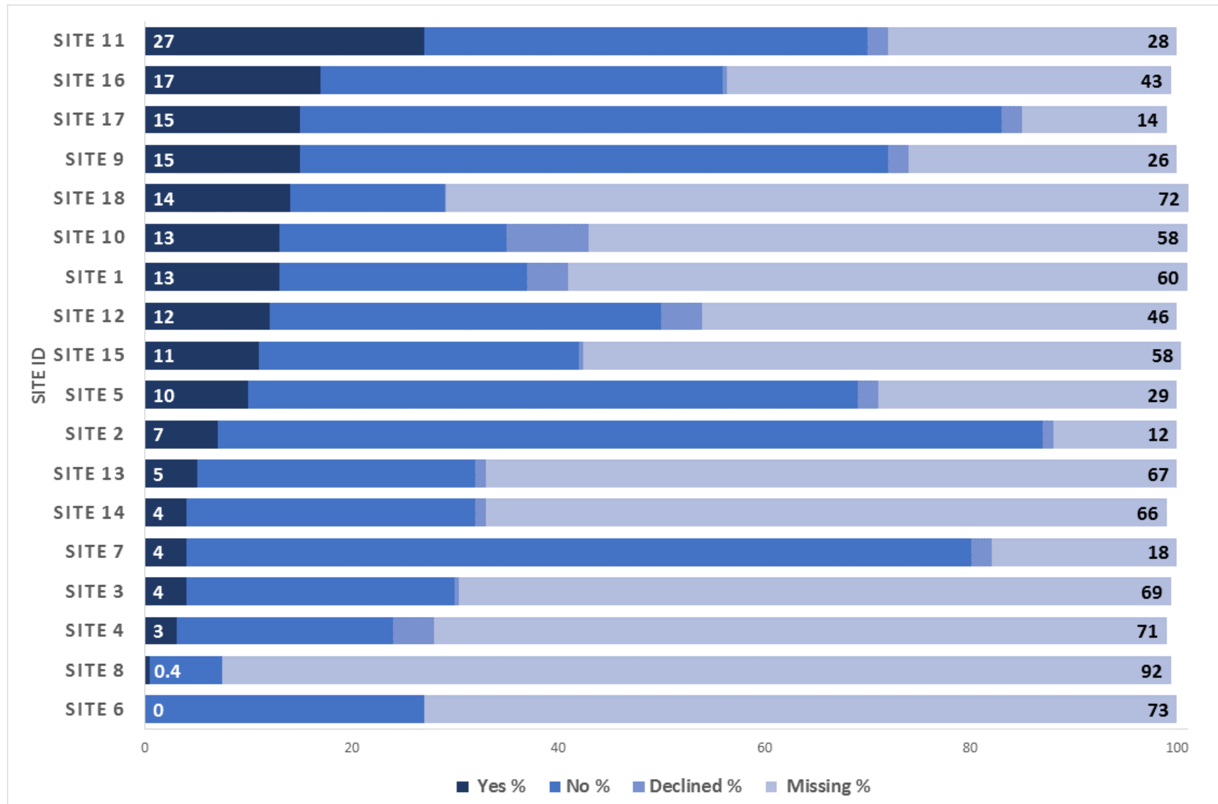

Figure 5. Percentage of women referred to oral health professional by a midwife for each health service (n=99,609, 1 August 2015-31 March 2019)

Note: Site 17 commenced using BOS from 01/07/2017 and Site 6 13/12/2017. Total percentages may not add up exactly to 100% due to rounding.

Appendix M: Dental services accessed by pregnant women (2011-2018) (Titanium data table)

The following table provides an overview of the numbers of pregnant women that were accessing public dental services, by oral health agency and region between 2011 and 2018.

Table 1. Number of pregnant woman that accessed dental services reported by oral health agency and region (2011-2018)

Region	2011/12 n	2012/13 n	2013/14 n	2014/15 n	2015/16 n	2016/17 n	2017/18 n
Barwon	132	154	127	138	126	147	187
Grampians	64	79	68	64	161	137	115
Loddon Mallee	42	62	88	92	130	140	144
Hume	102	94	120	173	192	186	181
Gippsland	76	95	129	132	143	160	180
Western Metro Region	74	101	144	141	167	163	141
Northern Metro	85	118	161	178	167	210	178
Eastern Metro	68	85	102	109	116	93	108
Southern Metro	163	191	238	310	431	525	573
Total	**806**	**979**	**1,177**	**1,337**	**1,633**	**1,761**	**1,807**

Appendix N: Mrs Marsh Tooth packs distribution evaluation overview and tables of results

Findings from the evaluation of the Mrs Marsh Tooth packs strategy and Victorian state-wide data for Maternal and child health services

Tooth Packs distribution overall

- Tooth Packs were distributed to 2,070 families across the Key Age and Stages (KAS) visits from 31 January 2015 to 10 December 2018 in four local government areas.
- Maternal Child Health Nurses (MCH) nurses completed Tooth Packs distribution surveys recording child and sibling mouth checks performed, dental referrals, oral disease identified, and the numbers of toothbrushes and tubes of toothpaste provided to families.

KAS visits, mouth checks, oral disease identified and referrals

- Tooth Packs were provided at all KAS visits with the majority of packs distributed at 8 month (11%), 12 month (17%), 18 month (26%), 2 year (18%) and 3.5 year (19%) visits.
- Overall mouth checks were completed for 92% of children at their KAS visits (n=1,897) and 75% (n=193/258) of siblings who also attended.
- Mouth checks were undertaken at all ages, with higher rates (>85%) from 4 months onwards.
- Oral disease was identified in 13% (n=271/2070) of all children (table 1) and 16% (n=42/258) of siblings.
- The highest rates of oral disease were identified at the 3.5 year (32%) visit.
- Overall 30% (n=614/2070) of children and 28% (n=72/258) of siblings were referred by the MCHN to a dental professional regardless of whether oral disease had been identified or not.
- Referrals to a dental professional ranged from 22 to 30% of children aged 8 months to 2 years, with a notable increase to 53% at the 3.5 year visit. See tables 1 (child) and 2 (siblings) for further information.

Oral health resource provision to families

- A total of 5,356 toothbrushes (0-2yrs, child >2yrs and adult) and 3,371 tubes of toothpaste (low fluoride and standard fluoride) were provided to families across the KAS visits between the 31 January 2015 and the 10 December 2018 (table 3).

Oral health assessments and referrals – Mrs Marsh/ Tooth Packs sites vs Victorian state data

- A comparison between Mrs Marsh/ Tooth Packs sites and state-wide KAS data collected between 1 July 2016 and 30 June 2017 was completed to identify variations.
- Overall, slightly higher rates of oral health assessments were performed by MCHN in the Mrs Marsh sites (92%-100%) compared to state-wide data (81%-87%) (table 4).
- Notably higher rates of child referrals to dental professionals following an oral health assessment were shown at Mrs Marsh sites (24 to 75%) compared to the state data (1 to 7%) (table 4).

Table 1. Number of children at KAS visit, mouth checks, oral disease identified and referrals (n=2,070)

KAS visit	KAS visits (all records) n (%)*	Mouth checks n (%)#	Oral disease identified n (%)^	Referral (oral health professional) n (%)+
	n=2,070	n=1,897(92)	n=271(13)	n=614 (30)
Home visit 1	8 (0.4)	1 (13)	0 (0)	0 (0)
2 weeks	14 (1)	10 (71)	2 (20)	2 (14)
4 weeks	29 (1)	22 (76)	2 (9)	1 (3)
8 weeks	20 (1)	12 (60)	0 (0)	2 (10)
4 months	69 (3)	63 (91)	1 (2)	9 (13)
8 months	227 (11)	217 (96)	6 (3)	5 (26)
12 months	360 (17)	337 (94)	13 (4)	78 (22)
18 months	545 (26)	516 (95)	69 (13)	140 (26)
2 years	380 (18)	328 (86)	55 (17)	113 (30)
3.5 years	388 (19)	374 (96)	119 (32)	205 (53)
Age not provided	30 (1)	17 (57)	3 (18)	6 (20)

**% of all children attending KAS visits (n=2,070) regardless of whether they had a mouth check or OD identified*

#% of children who received a mouth check out of all children in that age group that attended the KAS visit

^% of children who had oral disease, of those who had received a mouth check (for each age group).

+% of children referred to an oral health professional regardless of mouth check or OD identified (for each age group).

Table 2. Number of siblings attending each KAS visit

MCHN response	n (%)
Overall	258^
Mouth checks completed	193 (75)
Oral disease identified	42 (16)
Siblings referred to oral health disease	72 (28)

^within 250 families

Table 3. Number of toothbrushes provided to families who attended KAS visit (31/01/2015 - 10/12/2018)

Item	Toothbrushes				Toothpaste tubes		
Item type	Child: (0-2 years)	Child: (2 years plus)	Adult: Slimsoft	Total	Child (18mth-6 years) Low fluoride	Child/Adult (7 years plus) Standard fluoride	Total
Number	1,577	1,440	2,339	**5,356**	1,779	1,592	**3,371**

Table 4. Comparison between Mrs Marsh/ Tooth packs sites and Victorian state-wide KAS data (01/07/2016 -30/06/2017)

Age at KAS visit	Victorian state wide KAS data			Mrs Marsh/ Tooth Packs KAS data		
	Total number of KAS visits (n)	Oral health assessments n (%)	Referrals to oral health professionals n (%)#	Total number of KAS visits (n)	Oral health assessments n (%)	Referrals to oral health professionals n (%)#
8 months	**67,279**	54,331 (81)	351 (1)	**37**	37 (100)	9 (24)
18 months	**58,258**	50,801 (87)	822 (2)	**86**	81 (94)	33 (41)
3.5 years	**51,093**	44,375 (87)	3,110 (7)	**74**	68 (92)	51 (75)

 # % of children referred to oral health professionals that received an oral health assessment.