MOANA CONNECT

WEAVINGINSIGHTS

Evaluation of the Oral Health Toothbrush and Toothpaste Initiative

Phase 1 Implementation - Final Report

Prepared for Te Whatu Ora | Health New Zealand
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Photo credit: Parekarewa Ransfield, Reikorangi Ransfield and Kauri Te Kōhanga Reo.

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Contents

Tables

Figures

Executive Summary

Introduction

The primary goal of the Oral Health Toothbrush and Toothpaste Initiative (TTI) is to improve the oral health of preschool children who are most at risk of poor oral health outcomes. This includes Māori and Pacific preschoolers and children living in high-deprivation areas. Participating providers give free toothbrushes, toothpaste and educational resources to preschool children and members of their whānau as part of their core services or targeted outreach activities.

Background

'Good oral health for all, for life' is the strategic vision for oral health in New Zealand and starts with promoting oral health for the youngest and most vulnerable members of our society.[1] Approximately 60% of 5-year-old children are free of dental caries. However, there are notable differences in oral health status associated with ethnicity, region and access to water fluoridation. Inequalities in oral health, particularly between Māori and non-Māori, are persistent, and there are sizable differences in the severity of oral disease in young children. Māori and Pacific adults, children and those living in areas of high deprivation have higher rates of tooth decay and poorer oral health than the general population. Poor oral health is largely preventable and TTI provides an opportunity to address persistent and sizeable inequities in oral health outcomes (along with fluoridated water, a healthy diet and increased access to publicly funded oral health services).

Evaluation

This evaluation was a collaborative approach between Weaving Insights and Moana Connect. Weaving Insights employed a kaupapa Māori approach when undertaking all engagement with Māori providers, observing tikanga Māori and a critical analysis of outcomes

[1] Ministry of Health (2006). Good Oral Health for All, for Life: The Strategic Vision for Oral Health in New Zealand. Wellington: Ministry of Health.

with respect to Māori. Moana Connect used the Kakala framework (Johansson-Fua, 2014)[2] to gather insights from Pacific providers. Moana Connect undertook all engagement with Pacific providers, observing Pacific protocols and taking a talanoa approach to interviewing.

This evaluation draws on New Zealand Health Partnerships (NZHP) monthly reports (April 2022 to August 2023), three surveys (n=139) with the Well Child Tamariki Ora (WCTO), Whānau Āwhina Plunket, Māori and Pacific providers: six focus groups (n=36), TTI providers: six interviews with providers, including two interviews with TTI personnel. Moana Connect interviewed three Pacific providers, and 14 of 16 Pacific providers completed the survey.

This evaluation responds to four key evaluation questions (KEQs).

Evaluation limitations:
The evaluation relied on the distribution data – to estimate the number of products by cohort, by provider – and to estimate the number of adults and number of children, using the volume of products ordered. This was due to the lack of programme/provider ethnicity, socio-economic data and no or incomplete age data. Whānau experience is as reported by providers and not from whānau directly.

KEQ 1: How well was the programme designed and implemented?

TTI was well implemented, and the design was fit for purpose. Providers say the online order portal works well and is simple and easy to use. A small number of system and process issues have been proactively addressed by NZHP. As intended, TTI includes providers with a core preschool oral health focus, such as WCTO and Whānau Āwhina Plunket. TTI also targeted Māori and Pacific providers, who are well-connected to their communities, and offer alternative engagement approaches to reach preschoolers and their whānau, who do not necessarily engage with Well Child Tamariki Ora or Whānau Āwhina Plunket. Whānau. The mix of TTI providers was an important design element, as nearly half (48%) of all products were given out by Māori and Pacific providers (see Table 1).

Table 1: *Product distribution by organisation type (July 2022 to June 2023)*

Organisation type	Total units (brushes and paste)	%
Māori/Pacific	458,812	48%
Plunket	315,928	33%
WCTO	186,438	19%
Total	**961,178**	**100%**

Source: June 2023 Oral Health report (Mallevialle 2023)

Products are being given out through a range of programmes and services (see Figure 1). This includes preschool oral health programmes and services targeting mothers and babies, such as Family Start and Early Start, immunisations, teen parenting and health promotion activities. Providers also visit organisations and places that Māori and Pacific whānau frequent. This includes kōhanga reo, kura kaupapa Māori, churches, emergency housing, marae, clubs, and sporting and recreational events.

KEQ 2: How effective was the programme at getting toothbrushes and toothpaste to Māori, Pacific and low income families, and preschool children?

In total, the programme has distributed 1.3 million toothbrushes and toothpaste from the start of distribution in December 2021 through August 2023. Rollout was progressive, with WCTO and Whānau Āwhina Plunket initially, and then Māori/Pacific providers from mid-2022. Distribution data shows that the programme

[2] Fua, S. U. J. (2014). Kakala research framework: A garland in celebration of a decade of rethinking education.

How providers offer products

Wherever whānau work, play, pray and stay

Every whānau contact is an engagement opportunity

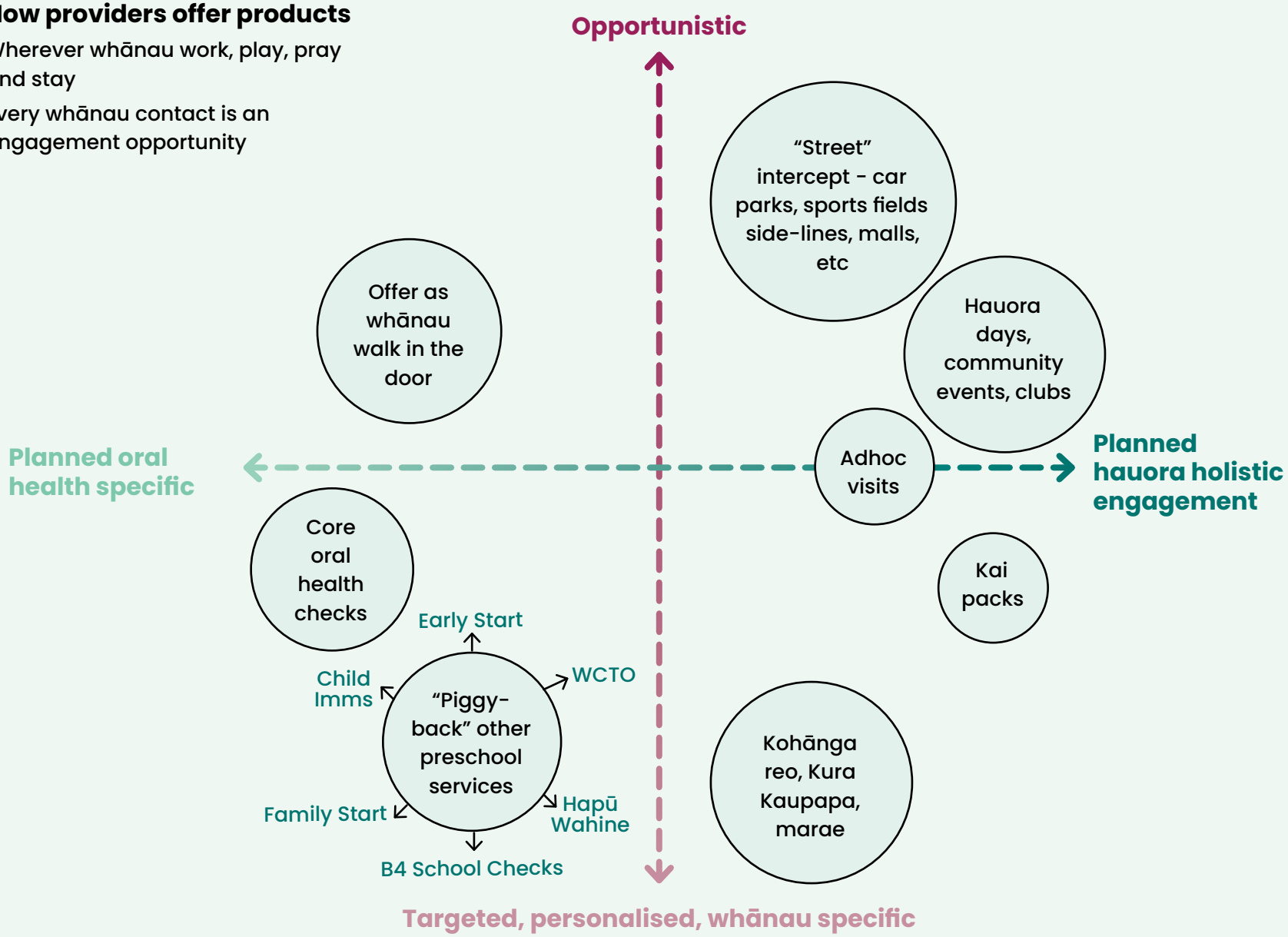


Figure 1: *How providers offer products*

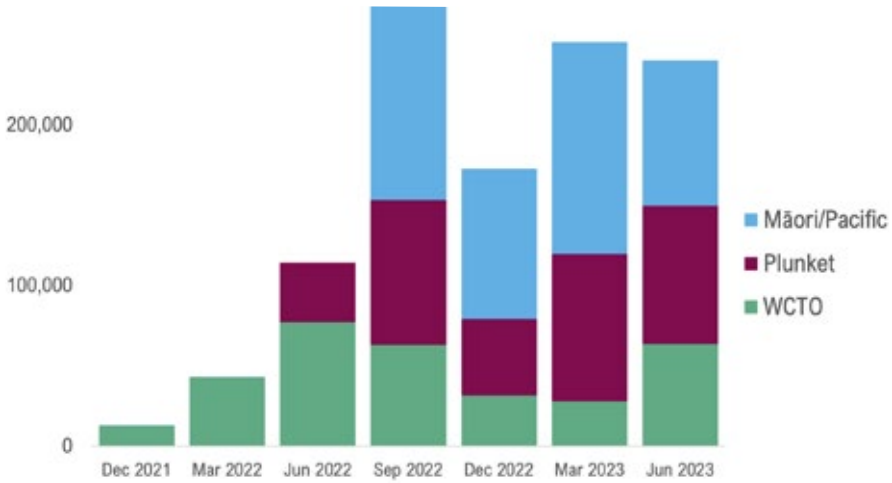


Figure 2: *Rollout over time. Total toothbrushes and toothpaste units dispatched (quarterly)*

has greatly increased the total volume of free toothbrushes and toothpaste distributed to children (compared with the earlier distribution by Whānau Āwhina Plunket only). Recent NZ Health Survey results show increases in toothbrushing behaviour by pre-schoolers. The 2022/23 result (53.5%) is around 10 percentage points higher than pre-TTI years. Of course, TTI cannot simply claim to be the only cause of this increase.

Distribution to Māori and Pacific children from lower-income households increased considerably after mid-2022, when distribution by Māori and Pacific health providers started. Nearly half of the total toothbrushes and toothpaste distributed in the 2022-2023 financial year went to Māori/Pacific providers.

TTI is reaching the intended target groups of Māori and Pacific preschool children and children in low socio-economic households and their whānau.

We checked for geographical gaps in distribution by comparing the volume of product to the number of priority children (Māori, Pacific, or low-income aged 0 to 4 years) for each DHB district. Overall, the programme distributed 6.5 units (toothbrushes and toothpaste and, both adult and child) per priority child in the 2022-2023 financial year. The distribution of toothbrushes and toothpaste per priority child in Whanganui may well be less than half that average nationwide. Wairarapa may also have a lower-than-average level of distribution. These geographical comparisons are not precise because our data does not show the extent to which providers recorded as receiving product in one DHB district subsequently deliver product to families in another district. However, they suggest a closer look at the number and type of providers and distribution data in Whanganui and the Wairarapa regions is needed.The Whanganui and Wairarapa districts also stand out as needing a closer look if we compare the volume of distribution to the total number of children under 5 (rather than to the number of priority children only).

KEQ 3: How valuable were the toothbrushes, toothpaste and information resources to whānau and providers?

Whānau are very appreciative of the products and educational resources offered. Providing toothbrushes and toothpaste to the whole whānau, supports parents and siblings to model good toothbrushing behaviour. Providers report that whānau says TTI is helping them to have conversations about oral health and for toothbrushing to become part of the whānau routine.

All providers are highly supportive of TTI because of the importance of oral health and its contribution to broader health and wellbeing. Overwhelmingly, providers reported whānau having to prioritise food, rent, fuel and other household costs over purchasing toothbrushes and toothpaste due to affordability. TTI address this financial barrier by providing free products and educational resources. Kaimahi report that giving free products offers the opportunity to discuss oral health. Importantly, it also provides an opening to have other health and support related conversations.

Whānau like the educational resources (fridge magnet and stickers) and the gift bags the products come in. Providers use the TTI resources to support oral health conversations with tamariki and whānau. TWO gave a list of oral health information and websites, but many providers kaimahi were unaware of this information. Providers are also looking for educational information and online training to grow the oral health knowledge of kaimahi, particularly Māori and Pacific providers, as well as information resources about 'good' food and drink to support oral health.

KEQ 4: What enablers and barriers made the difference between successful and disappointing implementation?

The mix of providers across the country has been a critical enabler. WCTO and Whānau Āwhina Plunket have a preschool and oral health focus, and Māori and Pacific providers have strong community connections and capture whānau who are often not accessing existing programmes and services. This combination offers good coverage and reach into Māori, Pacific and lower socio-economic communities.

Providing free toothbrushes and toothpaste for tamariki and their whanau, and being able to receive products more than once are important programme success factors. Free products address the critical barrier of affordability, and giving products to the whole whānau helps to embed good oral health behaviours and for toothbrushing to become a whānau-led activity.

The online ordering and distribution systems are working well, enabling providers to order and receive toothbrushes, toothpaste and educational resources and, in turn, distribute these to whānau. At this stage, there are no significant barriers. However, there is room to support providers in growing the oral health knowledge of their kaimahi and increasing access to oral health educational resources.

Whānau benefits and outcomes

TTI is delivering tangible oral health benefits and broader health and wellbeing outcomes to whānau.

> *"One of the visible outcomes of this programme is the transformation of smiles. Parents and young children who receive toothbrushes and toothpaste can now maintain cleaner and healthier teeth. This not only brings physical benefits but also enhances their self-confidence. Brighter smiles have a positive impact on social interactions, contributing to improved overall quality of life."*

TTI is increasing whānau access to toothbrushes, toothpaste and educational material. This includes whānau referred to as hard-to-reach (e.g. gang whānau), whānau from low-income communities and Māori and Pacific whānau.

> *"Parents have responded so well to healthy teeth messages when they get free stuff. It has gotten us into some hard-to-reach family homes, and we have got into high-needs homes in the community by offering free hygiene-related products."*

TTI is addressing an acknowledged financial barrier, the affordability of toothbrushes and toothpaste for whānau.

> *"Overwhelmingly, as our world has changed financially for many people, the reality of being able to buy five toothbrushes every three or six months is just not able to happen. And they really are starting to feel like it is a gift, you know, it's a gift for their whānau to be able to get it."*

TTI is directly contributing to increased whānau knowledge, the importance of regular toothbrushing, and the role of diet and nutrition in good oral health.

> *"Whānau are asking more questions and talking about their oral health now. They are sharing experiences of how they are brushing their tamariki teeth morning and night now."*

TTI is supporting whānau to be proactive and self-determining in pursuing good oral health for their whānau.

> *"This programme goes beyond the provision of oral care items, it empowers tamariki and their families with knowledge about maintaining good oral hygiene. By educating them on proper brushing techniques, the importance of regular dental care, and the impact of diet on oral health, we empower them to take charge of their own oral health journey."*

TTI is supporting whānau to connect to and access dental care by providing information about local dental services, connecting them with services and taking them to these services when needed.

> *"Several whānau members needed attention because they had abscesses and issues with their oral health. So as part of the initial relationship and trust building [we gave] the toothbrushes and the toothpaste… One rangatahi has been to the dentist and had some work done, and one tamariki had abscesses that were treated and healed before starting kura. Kaimahi went the extra distance around transport and things. But if we hadn't had that initial option [of giving out the resources], then maybe we wouldn't have been able to help the whānau at all."*

TTI is showing early signs of contributing to positive change in oral health behaviour.

> *"A lot of the whānau have changed their diets, their eating habits, through it. I can't say that all of them did, but some of them did."*

TTI is reducing whānau levels of stress, guilt and embarrassment by providing free toothbrushes and toothpaste to whānau.

> *"When families receive toothbrushes and toothpaste through this programme, they experience a sense of relief and gratitude. Knowing that their basic oral care needs are met reduces their stress and enhances their overall well-being."*

"I wholeheartedly believe that this programme is of immense value and has the potential to bring about significant improvements in oral health for these communities. Preschool years are crucial for establishing lifelong habits, and by targeting tamariki at this stage, we lay a solid foundation for their oral health. When equipped with toothbrushes, toothpaste and the knowledge of how to use them effectively, children are more likely to develop consistent oral hygiene habits that will benefit them well into adulthood."

Māori provider

Overall, providers report that whānau are highly positive about the TTI. Whānau are appreciative of the offer of free products and, in turn, receptive to receiving the products, educational resources, other oral health information and general health and wellbeing information, support and services.

Conclusion

The TTI design is fit for purpose and has been implemented well. The ordering and distribution systems are working well. This is important because the product needs to get to providers easily and efficiently for it then to be given to preschool children and their whānau. The mix of WCTO, Whānau Āwhina Plunket, Māori and Pacific providers across New Zealand, is also important. It has resulted in 1.3 million units of toothbrushes and toothpaste being distributed to providers (December 2021 to August 2023). TTI is reaching the intended target groups of Māori and Pacific preschool children and children in low socio-economic households and their whānau, based on TTI provider locations. TTI is meeting a real whānau need. It addresses financial barriers by providing free products to whānau and, in turn, supports a whānau-led approach to modelling good toothbrushing.

The programme is well positioned to increase its focus on supporting whānau to embed good toothbrushing behaviours. First, by providing, or providing access to, a broader set of oral health educational information for kaimahi and whānau, and second, by supporting the oral health capability development of TTI providers and their kaimahi.

Recommendations and Considerations

Implementation

- Improve uptake of resources: Consider ways to increase awareness of educational and promotional resources for provider staff, both to share with whānau and also to support their capability development needs. Some providers are interested in being able to access physical or hardcopy versions of resources.
- Continue data monitoring improvement: Continue to improve the data accuracy and reporting for monitoring and evaluation purposes, building on the work done during this phase of TTI.
- Review the number and type of providers by region: In particular, examine provider types and numbers in Whanganui and Wairarapa.
- Explore options for quantitative outcome data: Continue looking for appropriate quantitative data sources about TTI outcomes to evidence the overall outcomes and impact of TTI. This may include a review of existing reporting and activities by Te Whatu Ora (TWO) or other agencies, or it may require establishing new outcome data sources.

Design

- Expanding delivery channels: Consider additional groups of organisations to partner with to distribute and offer products to tamariki and whānau. In particular, many providers noted interest from kōhanga reo and other early childhood education providers in their area.
- Expanding information: Consider increasing the scope of educational and promotional materials that provider staff are able to access and share with whānau. In particular, some providers are interested in having resources covering healthy eating and nutritious diets, given the strong connection to oral health.
- Maintain reporting and resourcing relationships: Consider ways to capture more accurate data from organisations about their activities and the offering of products. However, this would require additional funding to participating organisations to cover managing the administrative overhead. If additional funding or resourcing is not available, it is recommended that the current level of reporting from providers is maintained.

> *"Through this programme, we emphasise the significance of prevention and early intervention in oral health. By focusing on these communities, we have the opportunity to detect and address oral health issues at an early stage, potentially preventing more significant problems later on. This proactive approach can lead to improved oral health outcomes and reduced treatment needs."*
>
> Māori provider

> *"In conclusion, the programme's value in improving oral health outcomes for Māori, Pacific and lower socio-economic preschool tamariki cannot be overstated. By addressing disparities, empowering through education, establishing lifelong habits, focusing on prevention and early intervention and enhancing confidence and wellbeing, we create a positive ripple effect that can shape the oral health landscape of these communities."*
>
> Māori provider

1

Overview of the Oral Health Toothbrushes and Toothpaste Initiative

1.1 Introduction

The primary objective of the Ministry's Oral Health Promotion Initiative (OHPI) is to promote regular toothbrushing with fluoride toothpaste and engagement with oral health services.[3] The Oral Health Toothbrushes and Toothpaste Initiative (Phase 2 of the OHPI) provides free toothbrushes and fluoride toothpaste to preschool children and their whānau, and prioritises Māori or Pacific children and children living in areas of high deprivation.

This evaluation focuses on the implementation of the Oral Health Toothbrush and Toothpaste Initiative (TTI) from 1 July 2022 to 30 August 2023. Some data from the inception of TTI inception in December 2021 is included.

This report builds on an interim evaluation report submitted in February 2023.

[2] Ministry of Healthy, (n.d.). Business Case and Procurement Plan - Oral Health Promotion Initiative.

1.2 Background

'Good oral health for all, for life' is the strategic vision for oral health in New Zealand. This means New Zealanders can eat, speak, smile and socialise for a lifetime without discomfort, pain or embarrassment. Good oral health for all, for life, starts with promoting oral health for the youngest and most vulnerable members of our society.[4]

Poor oral health is largely preventable, yet it is also one of the most common chronic health problems experienced by New Zealanders of all ages. A body of evidence links poor oral health to several risk factors and determinants common to other chronic diseases such as cardiovascular disease and cancer.

Approximately 60% of 5-year-old children are free of dental caries. However, there are notable differences in oral health status associated with ethnicity, region and access to water fluoridation. Inequalities in oral health, particularly between Māori and non-Māori, are persistent and there are sizable differences in the severity of oral disease in young children. Māori and Pacific adults, children and those living in areas of high deprivation have higher rates of tooth decay and poorer oral health than the general population.

Disparities in child oral health are large and longstanding. Figure 2 shows that caries-free rates for Māori and Pacific 5-year-olds have been roughly half those for other ethnic groups for many years.

Relatedly, in 2022 there were big differences in mean numbers of decayed, missing and filled teeth for 5-year-olds:

- 3.1 for Māori
- 3.3 for Pacific
- 1.4 for other ethnicities.[5]

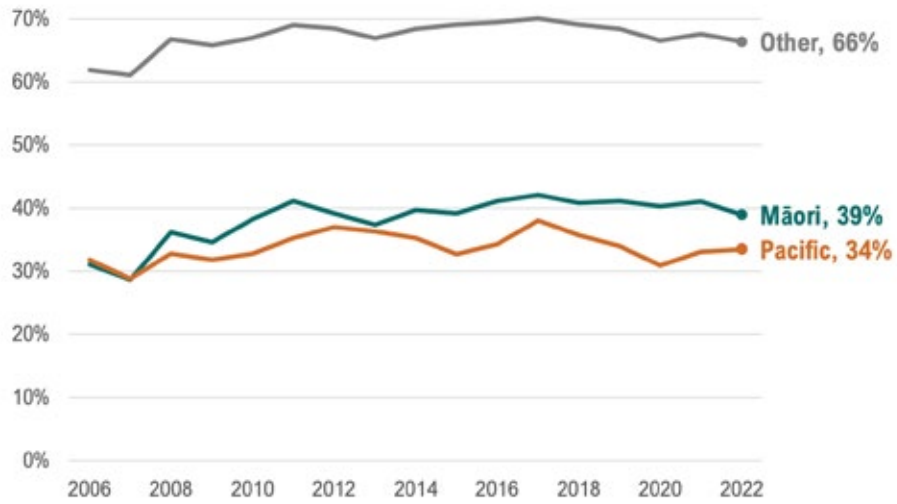


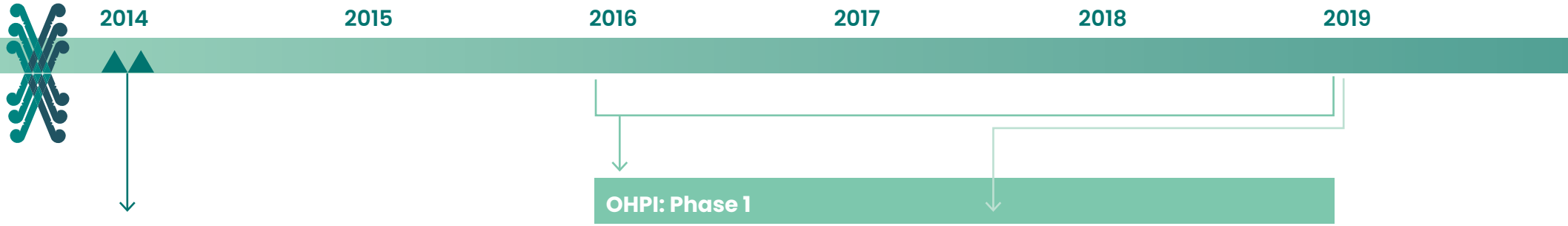
***Figure 3**: Proportion of 5-year-olds attending the Community Oral Health Service who were caries-free, by ethnic group (source: Ministry of Health[4])*

Evidence indicates that oral health status at age five predicts oral health status at age 26, so supporting good oral health from an early age gives children a good start in life. With an intentional focus on Māori and Pacific preschool children and those living in high areas of deprivation, TTI provides an opportunity to address persistent and sizeable inequities in oral health outcomes (along with fluoridated water, a healthy diet and increased access to publicly funded oral health services).

[4] Ministry of Health (2006). Good Oral Health for All, for Life: The Strategic Vision for Oral Health in New Zealand. Wellington: Ministry of Health.

[5] https://www.health.govt.nz/nz-health-statistics/health-statistics-and-data-sets/oral-health-data-and-stats/age-5-and-year-8-oral-health-data-community-oral-health-service Years 2006–2018 copied from Maessen et al, 2019, Table 8.1, but correcting 3 numbers.

1.3 Brief overview of the Oral Health Promotion Initiative: Phases 1 and 2



Budget 2014 appropriated $2.5 million for promoting better oral health outcomes for children and/or adolescents. Across the oral health sector there was a range of views about where and how funds should be invested. Following evidence-based work and sector consultation, it was agreed the most effective way to do this was to distribute free toothbrushes and fluoride toothpaste to preschool children and their whānau, four times a year up to age 5, in conjunction with a social marketing campaign.[6]

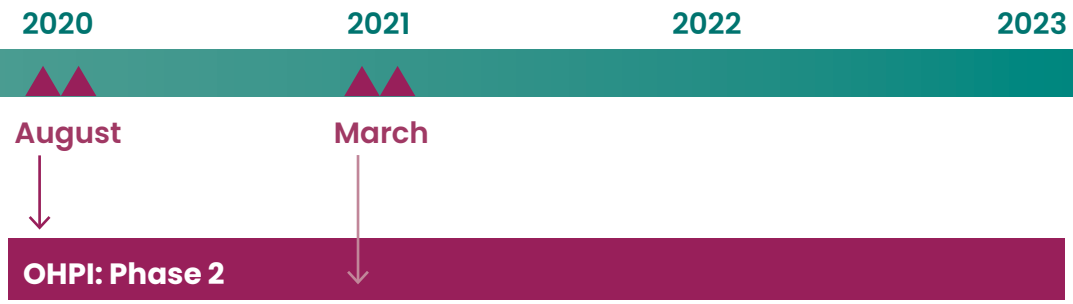
OHPI: Phase 1

2016 to 2019: Phase 1 of the OHPI was the successful 'baby teeth matter' social marketing campaign led by Te Hiringa Hauora featuring the tooth fairy advertisement. An independent evaluation of the campaign found that it significantly improved toothbrushing behaviour. Thirty-one percent of parents and caregivers who saw the advertising reported having changed their child's toothbrushing in the previous month. (The campaign ran again from June to August 2021).

The Well Child Tamariki Ora (WCTO) review[7] recommended implementing a toothbrushing programme with infants and preschool children by introducing toothbrushing in preschools and toothbrushing demonstrations as part of Well Child visits, and providing toothbrushes and toothpaste to families.

[6] O'Connor Sinclair. Strategic Scoping of an Oral Health Promotion Project: Final Report. 12 September 2014.

[7] Maessen SE, Derraik JGB, Broadbent JM. Oral health promotion and early preventive interventions in a community setting. In: Cutfield WS, Derraik JGB, Waetford C, Gillon GT, Taylor BJ [editors]. Brief Evidence Reviews for the Well Child Tamariki Ora Programme. A Better Start National Science Challenge. Auckland, New Zealand; 2019; p. 217-254.



Ministry and DPMC officials met with the Minister for Child Poverty Reduction (the Prime Minister) to discuss improving access to child and adolescent oral health services. Part of the discussion involved Phase 2 of the OHPI, and advice was subsequently provided to the Office of the Minister of Health regarding next steps. A commitment was made to implement Phase 2 of the OHPI by December 2021.

A Cabinet paper regarding the Review of WCTO noted that one of the short-term improvements underway to sustain the current WCTO programme was to: "build on existing connections across child health services. For example, support improved oral health by utilising WCTO providers as a network to distribute free toothbrushes and toothpaste to whānau." The research evidence also noted the important role of parents and caregivers, particularly mothers, in determining a preschool child's oral health due to their influence on the child's dietary intake, engagement with health services and modelling of healthy behaviours. Toothbrushing was also seen as a largely home-based activity involving the building of family routines.

Building on sector feedback, research evidence, the WCTO review, and the Government's equity and child wellbeing priorities, it was decided to deliver the toothbrushes and toothpaste through:

- The WCTO programme (Well Child Tamariki Ora providers and Whānau Āwhina Plunket services). Packs of toothbrushes and fluoride toothpaste would be given out as part of the WCTO programme at the 5 to 7-month check and then targetted to Maori, Pacific children and children from low income communities at the 9 to 12-month and 15 to 18-month checks.
- Māori and Pacific health providers and community and iwi organisations to opportunistically reach preschoolers. This aspect of the implementation design recognised that a proportion of young children were not enrolled with a WCTO provider and the Community Oral Health Service (COHS) was not reaching them, many of whom were Māori, Pacific or from low-income families.

2

Overall, the TTI design is fit for purpose and implemented well

2.1 Summary of the design of TTI

TTI enables invited organisations that directly serve preschoolers who are Māori, Pacific or living in areas of high deprivation to access toothbrush and toothpaste products for free. These organisations are then able to offer toothbrushes, toothpaste and complementary promotional materials to these tamariki and their whānau.

Organisations order products through an online portal. Each organisation invited to participate has its own login to the online portal and can choose who places their orders. Organisations have control over how much of each type of product (toothbrushes for 0-6 years and 7+ years, toothpaste for 0-6 years and 7+ years, and promotional bags, magnets and stickers) they order.

TTI is an ongoing initiative, which means organisations can make multiple orders. They can choose how often they receive orders and change the quantity of products in each order.

Organisations can choose how they offer products to whānau. Most are offering the products as part of the business-as-usual activities. They can offer products more than once to a whānau.

Organisations receive free products but do not receive any additional funding for implementation or reporting. As a result, there is no requirement for mandatory reporting and participation in the evaluation was optional.

2.2 Selection and onboarding of providers

2.2.1 Rollout occurred progressively

TTI began in 2021 with providers that deliver Well Child Tamariki Ora (WCTO) contracts and Whānau Āwhina Plunket. The Ministry of Health envisaged that these organisations would offer toothbrushes and fluoride toothpaste as part of the WCTO programme universally at the 5 to 7-month check, and to targeted whānau at the 9 to12-month and 15 to18-month checks.

Prior to TTI, Whānau Āwhina Plunket was delivering a similar programme offering free toothbrushes and toothpaste to tamariki in partnership with Colgate Palmolive. This programme ended in June 2022, and Plunket Wellington Region piloted TTI (for Plunket) in May-June 2022. A national rollout of TTI for Plunket followed in July 2022 and the remaining Plunket regions progressively came on board from July 2022 as their own stocks of products were used up.

In May 2022, Te Whatu Ora (TWO) invited Māori and Pacific health providers and community and iwi organisations to participate in TTI. TTI providers (excluding WCTO and Whānau Āwhina Plunket) are currently limited to Māori and Pacific providers, most of whom had a health/hauora contact with the Ministry of Health and now with TWO. Unlike for WCTO providers, there was no confirmed list of Māori and Pacific providers. TWO worked from lists of Māori and Pacific providers provided by the Ministry of Health. Through their community networks, some Māori and Pacific organisations heard that free toothbrushes and toothpaste were available and contacted a local TTI provider or TWO. For example, information about the initiative was shared with a rongoā provider, who then contacted TWO through their website. In another case, a provider who works with kōhanga reo received products through public health vision and hearing services. Although they would like to order the products directly, they do not currently have the ability to do so.

The demand for free toothbrushes and toothpaste is high, and there has been pressure on TWO to expand and increase the number of providers.

By the end of June 2023, a total of 140 organisations and contacts were added to the online platform. Some organisations, including Whānau Āwhina Plunket, had multiple contacts set up in the online platform to order for their local regions and hubs.

Figure 3 gives an overview of the rollout in terms of the number of organisations and contacts. The total number of units of toothbrushes and toothpaste ordered by organisations has generally increased over time. Figure 4 shows the volume of total toothbrushes and toothpaste distributed each quarter. There appears to be a slight lag between when organisations are added to the platform and first orders. There is also some variation in the amount of product ordered by each organisation as they come on board.

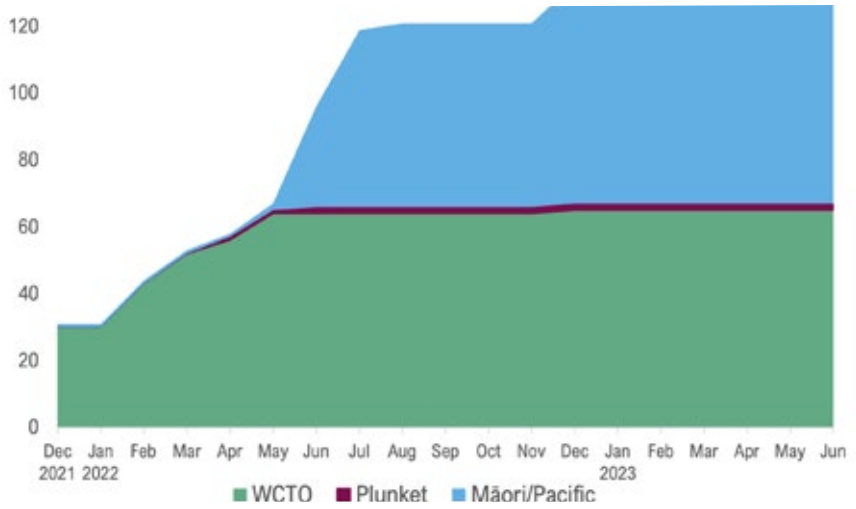


***Figure 4**: Rollout over time – Number of organisations added to the order platform*

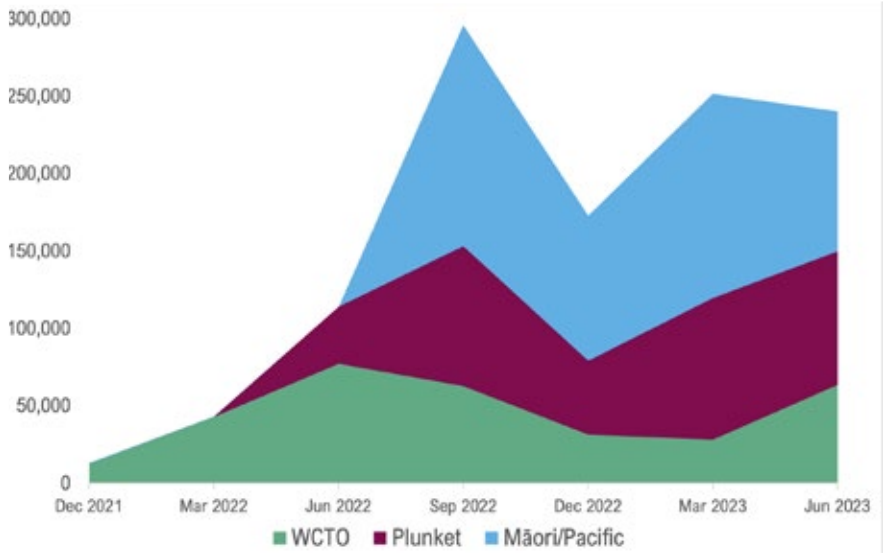


***Figure 5**: Rollout over time – Total toothbrushes and toothpaste dispatched (quarterly)*

2.3 A variety of organisations are participating in TTI

Along with WCTO and Whānau Āwhina Plunket, a range of Māori and Pacific providers are involved in the TTI. This includes Kaupapa Māori, Whānau Ora, Pacific and Family Start and iwi, marae and community organisations. (There are a small number of public health and community health trusts). These providers and organisations reach whānau and tamariki through a range of services, programmes and opportunistic engagement. This includes:

- Whānau Ora
- Hapū Māmā programmes
- Antenatal programmes
- Outreach immunisation
- Public health nursing, vision and hearing services
- Before school checks
- Emergency housing
- Supported bail
- Youth mentoring
- Whānau mentoring
- Early Start
- Family Start
- Teen parenting programmes
- Health promotion
- Māori Women's Welfare League
- Oranga Tamariki services
- Kōhanga reo
- Kura kaupapa Māori
- Planned engagement e.g. sporting events and community events
- Opportunistic engagement e.g. street intercept.

(Note: quotes from Māori providers are in dark teal ❮ Pacific providers in mint ❮ and Whānau Āwhina Plunket in plum ❮)

Māori involvement in TTI

Māori providers were interested in participating in the initiative as it fits well with their kaupapa to respond to whānau and tamariki needs, particularly the financial barriers for whānau and the lack of dental care services in some regions. They noted the value of ensuring everyone in the whānau had the tools to implement good oral health practices.

> *"Knowing you have given families the tools to carry out dental hygiene – hopefully they are then more likely to do this."*

> *"Being able to supply whānau with teeth care products that might not usually be affordable in the current cost of living climate."*

> *"Whānau are more likely to keep up with oral health for themselves and their children... Education opportunity on technique and the benefits of healthy teeth for effective speech development."*

Māori providers generally work holistically with a hauora and wellbeing focus. They have strong networks, good reach into their communities and positive relationships with whānau. However, they typically do not have in-depth oral health knowledge or experience.

Pacific involvement in TTI

All the Pacific providers shared that they wanted to offer support in oral health for families and communities. They noted the importance of ensuring access to toothbrushes and toothpaste for all children and families and guaranteeing sufficient resources are provided to enforce health messages.

> *"I wanted to ensure every child in our community, or their family, had access to it, so it was a great initiative."*

> *"It's complimenting the health messages that we're always preaching to ECEs."*

> *"We want to make sure that we're advocating for our families by providing the resources that go with the messages we are promoting."*

> *"Working with ECEs to create health promotion programmes and activities not only in the ECEs but also in the communities we work in."*

Pacific providers generally have good networks and reach into their communities and positive relationships with families across the different Pacific ethnic groups. However, they tend not to have in-depth oral health knowledge or experience.

Whānau Āwhina Plunket involvement in TTI

Whānau Āwhina Plunket staff noted the critical role of toothbrushes and toothpaste in improving oral health and overall health for tamariki and whānau. Similar to Māori and Pacific providers, they highlighted the value of being able to offer toothbrushes and toothpaste to the whole family. Offering products to the whānau as a whole addresses financial barriers parents face with the rising cost of living and provides an opportunity to reinforce good oral health practice.

> *"Being able to give all whānau living in the house a toothbrush and toothpaste and encourage brushing together is great."*

> *"Some parents tell us they struggle to buy new toothbrushes and toothpaste with the cost of living, so providing them is a great programme."*

> *"It is great to encourage families to brush their teeth and to also remind them that first teeth are super important. To encourage caregivers to start caring for teeth straight away. And to be an example to their children."*

> *"Preventing oral caries has long-term benefits for overall children and adult health, including physical, emotional, self-esteem and building healthy habits."*

2.4 Ordering

2.4.1 The online ordering platform is up and running and generally on time

In the early months of the initiative, organisations placed orders via email or telephone. However, NZ Health Partnerships (NZHP, now part of Te Whatu Ora) worked with USL to develop an online ordering platform to enable organisations to streamline the ordering process.

The online ordering platform was active from April 2022, with 23 organisations added by the end of April 2022. Organisations began ordering through the portal in May 2022. Since then, almost all orders have been placed through the online portal. TWO have provided direct intervention in a small number of instances where organisations required extra levels of assistance.

TWO has tracked order completion since the inception of the initiative in early 2022. Regular monthly reports to key internal stakeholders noted a target key performance indicator that 100% of orders be completed (fulfilled and shipped from the warehouse) within 2 weeks from the order being placed. Since April 2022, reporting showed that toothbrushes and toothpaste were being delivered within the target window 100% of the time. However, from December 2022, order delivery was delayed due to staff shortages at USL. This was resolved by April 2023, after TWO and USL implemented a pause on orders for 2 weeks, and order completion has returned to within the target window.

2.4.2 Most are happy with the online ordering experience

In general, providers said the ordering was a smooth and straightforward process. In many instances, this appeared to be related to when ordering is undertaken by one kaimahi, who then coordinates the delivery and distribution to services within the organisation.

> *"I think it is all ordered here by admin, and they are doing a really good job with that."*

Most Pacific providers described the ordering process as seamless and appreciated having one designated point of contact to handle the ordering.

> *"There's no problem for me. I have my own login and go straight into UCL logistics. I just put in what I require."*

> *"I order, my contact details are there, and all of the delivery instructions are there, so it's relatively seamless for me to order the toothbrush and toothpaste."*

Providers are pleased with the number of products available and the high quality of the toothbrushes and toothpaste. The Colgate Disney movie branding of the children's toothbrushes is particularly appealing to tamariki. Most providers feel comfortable they can give out what is needed. Whānau seem to be receiving one tube of toothpaste between two adults and one tube of toothpaste for the tamariki, while toothbrushes for the right age and stage go to each person in the home.

> *"I will give the Star Wars toothpaste and 2-4 years toothbrush to preschoolers and the adults toothbrush and toothpaste to children over 7 and adults."*

Several contacts reflected on past campaigns where toothbrushes and toothpaste were distributed to whānau. They commented that the TTI resourcing meant being able to give products to preschoolers and their whole whānau and was a significant improvement.

> *"Previously, we had to choose who we gave this resource to and who missed out. We would have 800-900 babies coming into our service but were only resourced with 350 toothbrushes and toothpaste. [Now] we have enough for everyone."*

2.4.3 Some experienced minor issues

There were a few initial problems for some providers when they first expressed interest. If they did not hear back straight away, they could not sign up as quickly as they wanted to. In one case, this took up to eight months. Other providers had ordered products but did not receive them. This was resolved once they followed up with TWO. Also, a few providers expressed interest but never heard back from TWO and have not been able to place any orders. Once made aware of this, TWO and NZHP have directly followed up with these providers.

There is also some confusion about the suitability of available products for different age ranges. In part this reflected earlier oral health initiatives, such as the Plunket/Colgate programme, which gave out toddler toothbrushes. Te Whatu Ora selected toothbrushes and toothpaste that were appropriate for children 0-6 years ("child toothbrush" and "child toothpaste") and for children over 7 years old and adults ("adult toothbrush" and "adult toothpaste"). This was to simplify the issuing, ordering and inventory control of products by providers, reduce decisions when ordering products for the entire whānau and streamline stock management. However, some providers remained confused about not being able to order toddler-specific toothbrushes and toothpaste. Ongoing communications with providers have clarified that the child toothbrushes offered have soft bristles, are small-headed (compared to the adult version), and can be used for children up to the age of six.

> *"The only thing I haven't been able to access well are the additional resources, so I have only been able to get toothbrushes and toothpaste for adults and children, not toddlers."*

Further to this, some Pacific providers noted there were issues regarding the strength and chemical components of products distributed, in terms of their suitability for children. The providers wanted to be given products suitable for their target age groups as well as adequate information regarding product differences.

> *"The junior toothpaste has a lower fluoride strength to this one, but I still gave them out. It would have been good to have information in terms of why and how different the strengths are in case they ask, and I don't know."*

> *"They changed it to Oral B, which has 1450pb in fluoride strength, and this one is 1000, so there's a 450pb difference. It's good to know this information before we give it out in case parents ask."*

> *"Our target group is 2 to 4-year-olds or 2-5 years, but the toothpaste provided says that it is for 6+ up. So, we had to repurchase the toddler one to make sure we are targeting the groups we're supposed to."*

Some providers also mentioned having sufficient storage as an issue with their initial orders, given the volume of products ordered. However, this improved over time, as providers were better able to predict what they would need and how much to order.

> *"So, we had limited storage capacity because these things would come on pallets and that was a challenge."*

> *"Being able to store these types of resources adequately and properly was an initial challenge."*

> *"I brought some of the boxes home with me so I could pack from home because there was no space to assemble over 100 pack."*

> *"In our office we had all these boxes, but we had no space."*

At times, different services within one organisation are participating in TTI as they work with different whānau and tamariki, e.g. WCTO and Family Start. This created some confusion among providers when one service ordered a product, and the other service received the product. NZHP responded to this by creating a unique login for each service.

2.4.4 The product order journey

The product ordering and distribution process i.e. getting the products to providers, is simple for some organisations and more complicated for others.

The simplest product order journey is where one organisation orders, receives and stores the product, and kaimahi offers products to whānau (as illustrated in Figure 5).

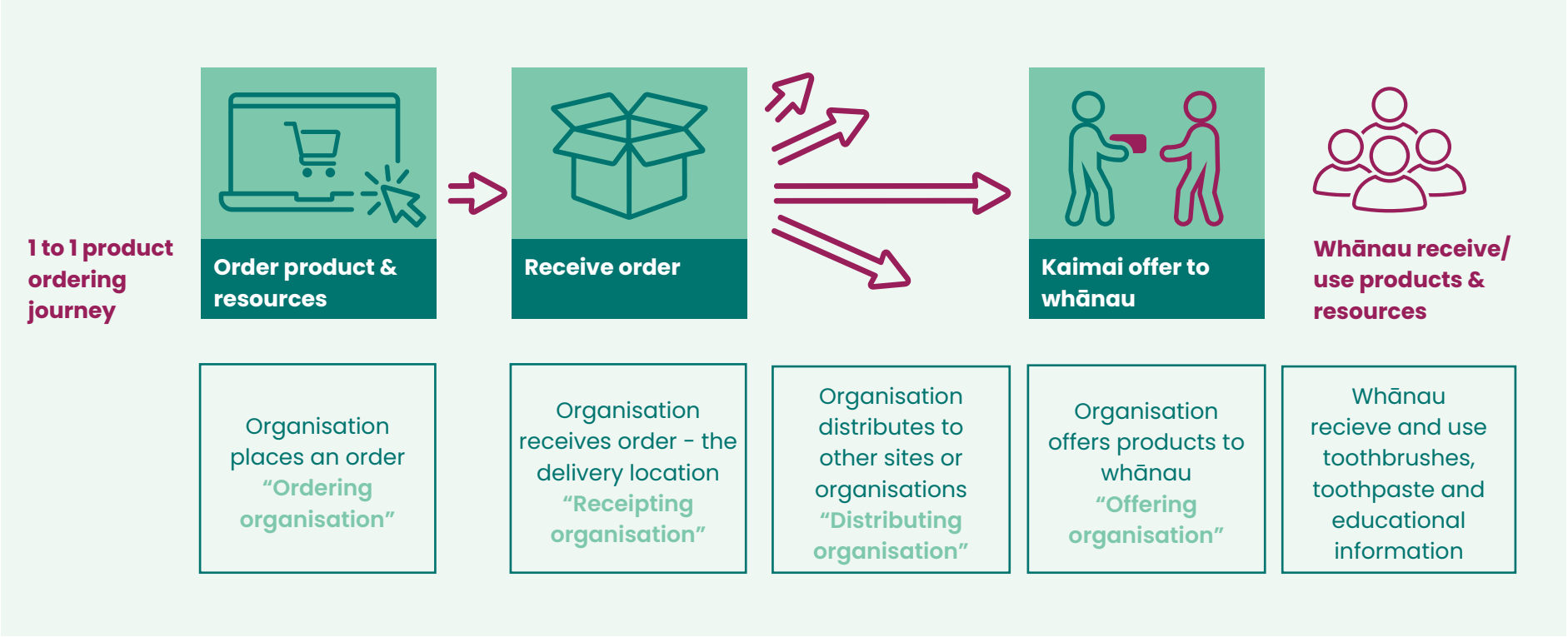


Figure 6: *Product order journey 1*

Product order journey two (see Figure 6) is where one provider orders for multiple organisations (including their own organisation). The product is delivered to the receipting organisation, and they, in turn, give it to the organisations they have ordered for (or these organisations arrange to pick it up). Each organisation stores and manages its own products and resources and kaimahi offers to whānau.

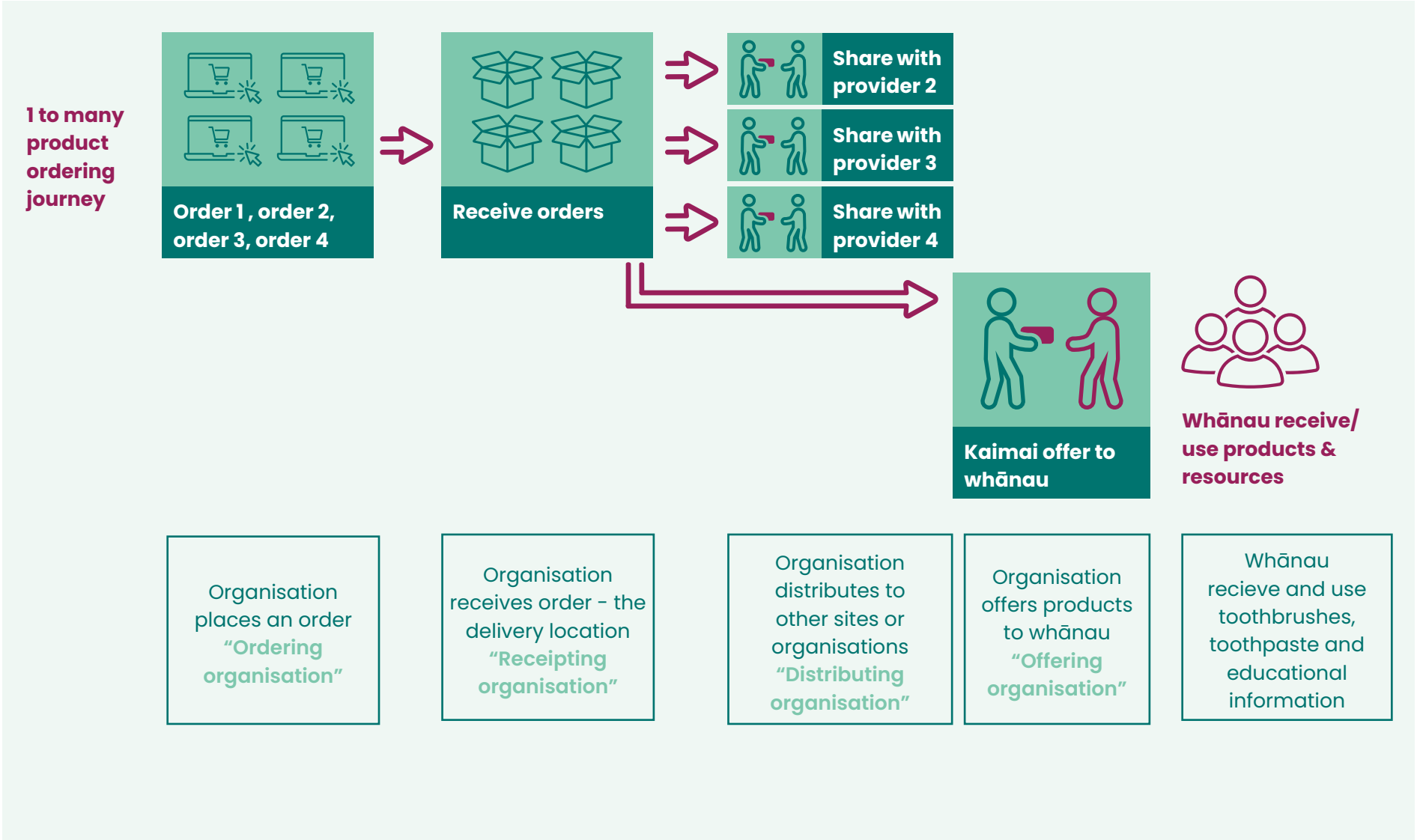


Figure 7: *Product order journey 2*

A third product order journey is the regional ordering approach employed by Whānau Āwhina Plunket (see Figure 7).

Orders are managed regionally for all services within the region. Products are delivered to regional hubs, and in turn, kaimahi either picks up the product from a centralised collection point, or it is shipped to them. This process reflects that some Plunket sites are not staffed five days a week and some may not have sufficient storage. For security and storage reasons, products and resources are ordered, stored and managed regionally.

Each of these product order journeys comes with its own challenges for some providers. NZHP has been responsive to requests for assistance from WCTO, Whānau Āwhina Plunket, Māori and Pacific providers to support a smoother product order and distribution process.

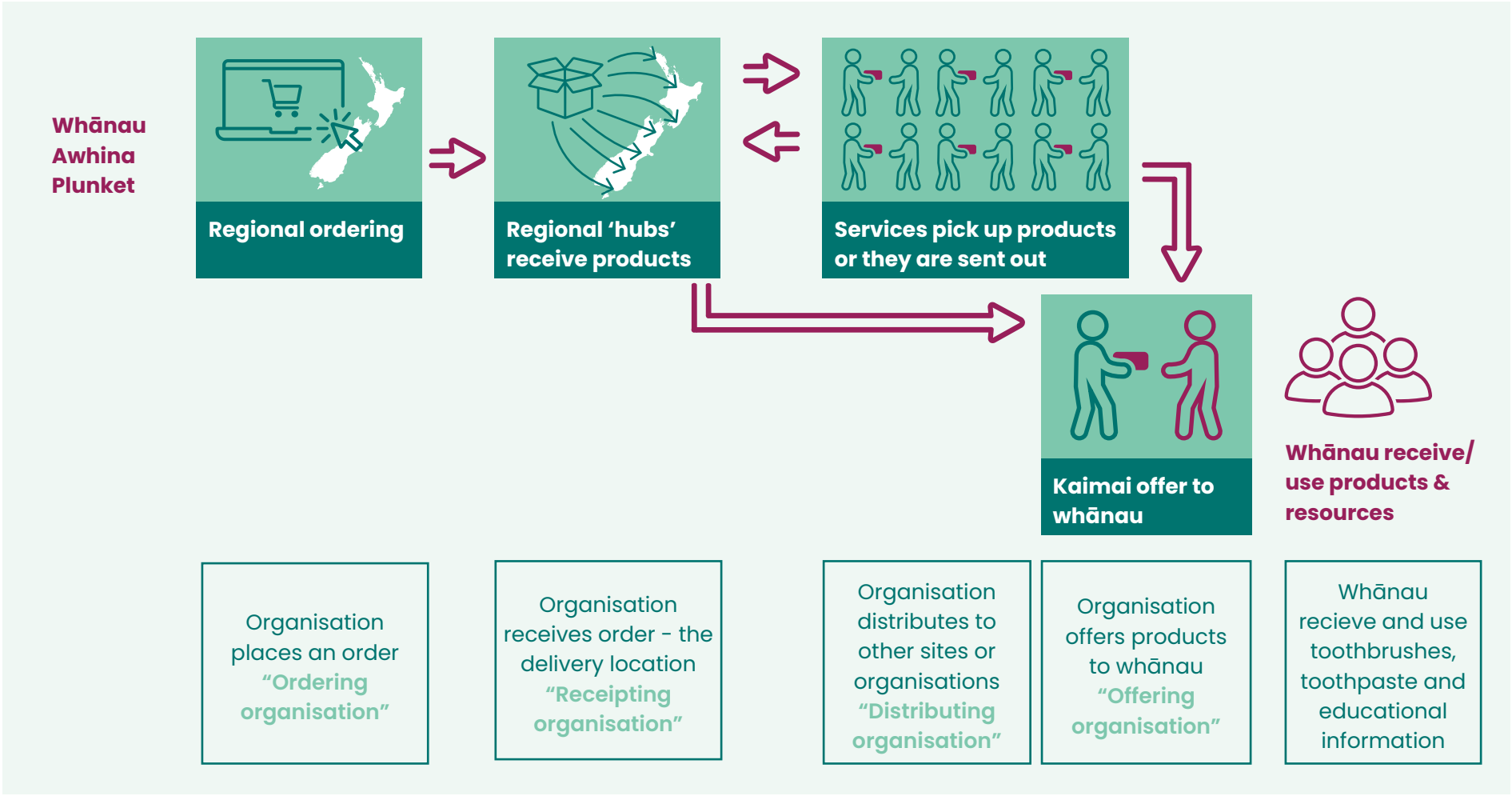


Figure 8: *Product order journey 3*

2.4.5 TWO and USL have demonstrated a commitment to continuous improvement

NZHP and TWO identified issues for TTI providers as part of their regular monthly reporting and project meetings. TWO have implemented iterative changes to the design and implementation of TTI since inception.

The shift to an online ordering platform early in the initiative gave organisations more control over who places orders on their behalf and when. It also reduced the workload for TWO and increased the order data available for project monitoring purposes, which enabled TWO to track the progress of the initiative and make further improvements.

In April 2023, TWO and USL decided to change the size of the order unit to make picking more efficient for USL staff and, as a result, reduce the risk of future delays to order delivery and maintain improved order completion time (as experienced in December 2022-March 2023). Previously, the units for orders were 'inners' or boxes of six, eight or 12 (boxes of six Oral B adult toothbrushes, boxes of eight Colgate children's toothbrushes, and boxes of 12 adult's toothbrushes, adult's toothpaste, children's toothbrushes, and children's toothpaste). The unit for orders was changed to be a full case (or outers), and each case included multiple boxes of the same item, for example, 16 times boxes of six Oral B adult toothbrushes, 12 times boxes of eight Colgate children's toothbrushes, or eight times boxes of 12 toothbrushes and toothpaste. A small number of providers did not notice the order unit change and ordered more products than they needed. Once discovered, providers were contacted to ensure they wanted the volume of products ordered.

As part of their monthly reporting, NZHP now reports on providers who have not ordered products in the last six months. This enables proactive follow-up of providers to check if they have sufficient products or if there are new staff who may need help to order products.

3

Overall, the TTI is effective at getting toothbrushes and toothpaste to tamariki and whānau that need it

3.1 Overview of distribution in the 2022-2023 financial year

Nearly half of the total product distributed in the 2022-2023 financial year went to Māori/Pacific providers (see Table 1). Although TTI officially began in December 2021, the progressive rollout meant that all provider types were actively involved in TTI from July 2022.

Table 1: *Product distribution by organisation type (July 2022 to June 2023)*

Organisation type	Total units (brushes and paste)	%
Māori/Pacific	458,812	48%
Plunket	315,928	33%
WCTO	186,438	19%
Total	**961,178**	**100%**

Source: June 2023 Oral Health report (Mallevialle 2023)

The split between organisation types in Table 1 is influenced by higher activity by a few key providers in the WCTO and Māori/ Pacific categories:

- 3 Māori/Pacific providers account for half of the total units distributed to the 68 Māori/Pacific providers (and hence nearly one-quarter of the grand total for all organisation types).
- 4 WCTO providers account for half of the total units distributed to the 42 WCTO providers (and hence around 10% of the grand total for all organisation types).

These seven providers combined with Whānau Āwhina Plunket account for around two-thirds of the total distribution. So, paying special attention to them may be helpful in future evaluations (e.g. prioritising them for qualitative interviews.)

Table 2 shows the distribution of different product types through TTI in the last financial year. That distribution builds on the units being distributed by Whānau Āwhina Plunket in previous years. The inclusion of Whānau Āwhina Plunket in TTI introduces the risk that TTI would be merely replacing the existing impact being achieved by another programme. However, TTI includes Māori/Pacific and other WCTO providers in addition to Whānau Āwhina Plunket and has distributed many more child toothpaste and toothbrushes in 2022-2023 than the previous Plunket programme typically did annually.

In broad terms, the child toothbrushes and toothpaste distributed by new providers can be seen as adding to the Whānau Āwhina Plunket work, not displacing it. In addition, TTI includes adult toothbrushes and toothpaste suitable for children 7 years and older, further increasing the range of tamariki and whānau who can receive toothbrushes toothpaste.

***Table 2:** Distribution by product category (July 2022 to June 2023)*

Product category	Units	%
Child toothbrush	321,224	
Child toothpaste	185,904	
Subtotal	**507,128**	**53%**
Adult toothbrush	273,726	
Adult toothpaste	180,324	
Subtotal	**454,050**	**47%**
Total	**961,178**	**100%**

Source: Order database supplied on 11 August 2023

3.2 Distribution by region and DHB district

3.2.1 Product distribution appears relatively consistent with the priority child population across TWO regions

One marker of successful distribution is whether the product is adequately getting to the target population of priority children. Priority children are aged 0 to 4 years and are Māori, Pacific or live in areas of high deprivation (the most deprived 20%). We used National Health Index counts of these children supplied by Manatū Hauora.

In the 2022-23 financial year, the total units (toothbrushes and toothpaste, both children and adults) distributed per priority child shows only slight variation (6.1 to 7.3) between the regions.[8] This minimal variation is also observed when considering the distribution of children's toothbrushes in a region in comparison per priority child in that region: the lowest was 2.1 and the highest was 2.3. As a result, when comparing the four health regions, TTI is delivering a relatively equal spread of product per priority child across the country.

[8] Our analysis of regions and DHB districts differs in 3 ways from the June 2023 Oral Health report (Mallevialle 2023). We reclassified several orders to the Central and Northern regions to other regions to match the delivery address (rather than the main address of the provider ordering). We reclassified Manaia into the Te Manawa Taki region and Taranaki district, and Oamaru into the Southern district.

3.2.2 Some big differences between DHB districts are worth exploring further

The size of the TWO regions increases the risk that distribution gaps may be hidden. The previous structure of DHB districts provides a level of detail that is familiar, and, given the history of reporting on health initiatives by DHB districts and the known differences of the population of Māori and Pacific in each district, it is likely to be more useful.

There are limitations to reporting at a district level. However, as noted in the interim report (February 2023), the way product is ordered and distributed includes organisations (that may reside in one district) ordering on behalf of other organisations (that may reside in another district). As a result, the order database shows product orders being allocated to one area (based on the location of the ordering organisation) that may later be delivered to another area (based on the location of the organisation receiving the order, or in instances where organisations forward to another hub or provider). This has been noted by TWO, and they have updated their internal project reports to reflect the location of both ordering and receipting organisations. Nevertheless, there will continue to be important limitations in that the address where the product happens to be delivered initially, particularly in urban areas, may not accurately reflect the DHB district of families who ultimately receive it.

With these limitations in mind, there remains a clear and significant variation in the distribution of products per priority child across the DHB districts. Volumes of products in the 2022-2023 financial year sent to most districts were fairly consistent with the number of priority children they have. For example, 6% of total units (toothbrushes and toothpaste) were sent to Canterbury, which has 6% of priority children. However, a few districts differed greatly. In particular, Whanganui, with 2% of priority children, received only 0.2% of total units.

Figure 8 summarises such comparisons using a single number for each district, total units (toothbrushes and toothpaste) per priority child.[9] Using total units per priority child, Whanganui received only 0.6, whereas most districts received 5 to 8.

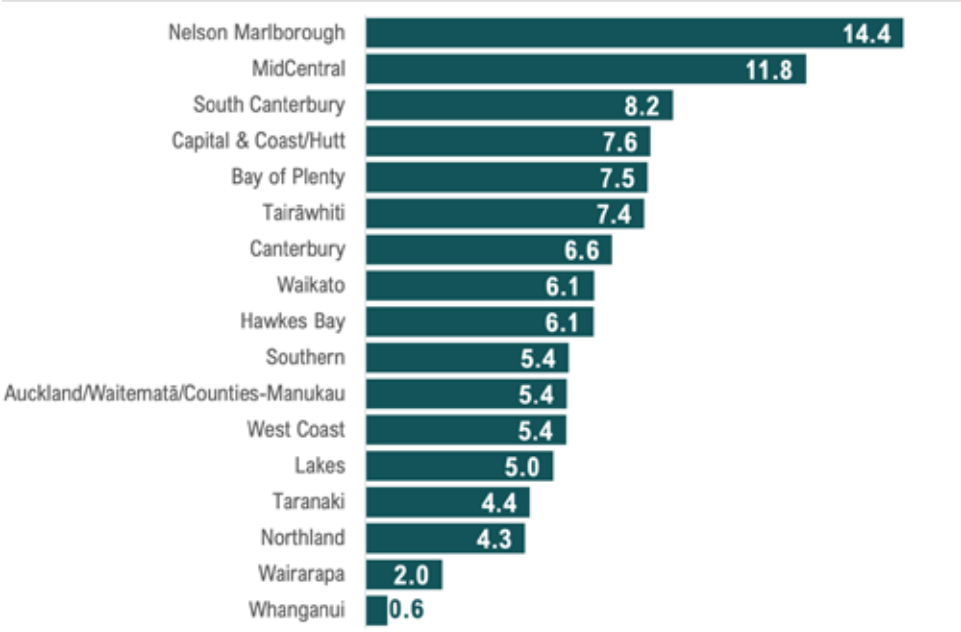


Figure 9: *Total units (toothbrushes and toothpaste) per priority child, by DHB district*

[9] Note that the three Auckland DHB districts have been treated as one district, and Hutt and Capital & Coast have been treated as one district to reflect the close operational and administrative ties in place in those organisations. They have a history of sharing and pooling resources.

The outliers of Nelson Marlborough and MidCentral, at one end, and Wairarapa and Whanganui at the other end raise important questions about the accuracy of the order database, as well as the potential need to review the involvement of organisations in Wairarapa and Whanganui. These same districts show the highest and lowest values when analysed based on child toothbrushes per priority child only (instead of total units). The Whanganui and Wairarapa districts also stand out as needing a closer look if we compare the volume of distribution to the total number of children under 5 (rather than to the number of priority children)

The initial answers in Table 3 are a starting point to build on to improve future implementation.

Table 3: *Questions about the geographical distribution*

Question	Answer
Do the high levels for Nelson Marlborough and MidCentral suggest that implementation there may have lessons useful for other districts?	With MidCentral, one provider distributed around half of the total for the district. Hence that single provider largely explains the extent to which the district exceeds nationwide averages. A contrasting partial explanation for the high MidCentral result may be that substantial amounts of product sent there were subsequently forwarded to Whanganui (e.g. the orders data shows distribution to Plunket in Palmerston North but not in Whanganui).
Is distribution to Whanganui insufficient?	Even if Plunket supplied Whanganui from a hub elsewhere at a level similar to Plunket nationwide, Whanganui's units per priority child would still be less than half the average nationwide. Furthermore, it is surprising to see no providers active in Whanganui classified as Māori/Pacific.
Is distribution to Wairarapa insufficient?	Distribution data for 2022-2023 shows deliveries to only one provider (WCTO) in the district. The low distribution per priority child may suggest a distribution weakness or merely that other providers prefer to forward product initially delivered elsewhere (e.g. to the Hutt).

Better comparisons between DHB districts will be possible in a few months. By then:

- The backlog stock of toothbrushes and toothpaste that some providers (e.g. some Plunket areas) had when they started TTI will have likely been used up. As a result, the order count for all providers will likely be a more accurate reflection of their actual activities.
- Impacts of Cyclone Gabrielle (February 2023) on some districts will presumably be less.
- Improvements to the coding of DHB districts in the NZHP distribution database will better reflect where product was sent (when this differs from the main address of the provider).

3.3 Organisations offer product in a variety of ways to whānau

Across the three categories of providers and organisations participating in TTI, whānau were offered product in a variety of ways.

Māori and Pacific providers have both planned and opportunistic whānau engagement approaches. These types of approaches were successfully employed as part of influenza and COVID-19 immunisation campaigns. The holistic approach typically employed by Māori and Pacific providers means every whānau engagement is an opportunity to have oral health conversations. Providers go to whānau in planned and opportunistic ways and whānau go-to providers for oral health as well as general health and wellbeing. The key strategy here is wherever whānau work, play, pray and stay, then providers need to engage by either going to them or having whānau come to providers.

Māori and Pacific providers were more likely to use multiple channels to connect with whānau and offer product than the channels reported by Plunket participants. They were also more likely to include offering product as part of their other services, augmenting their overall approach to providing wrap-around services to whānau. Scheduled or planned visits are common to both Māori and Pacific providers as ways to offer products to whānau.

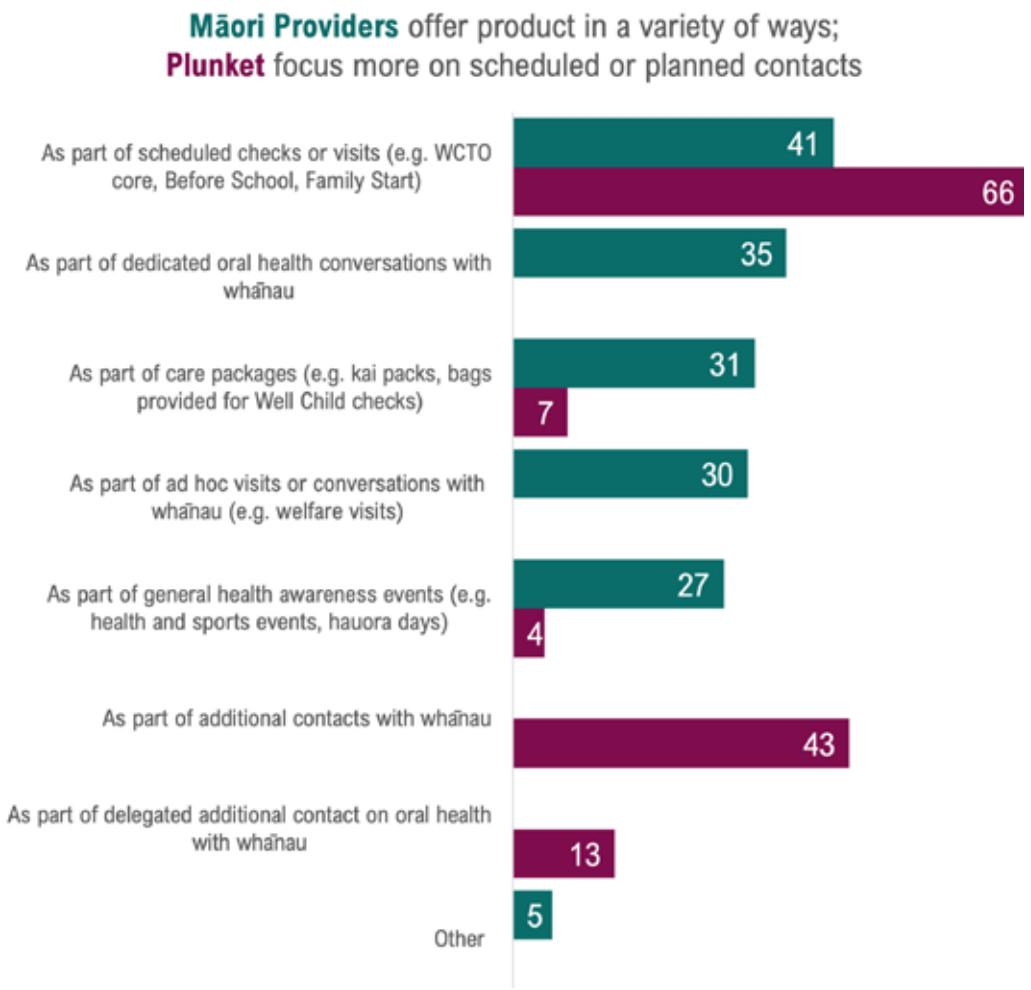


Figure 10: *Ways that Māori providers and Plunket offer product to whānau*

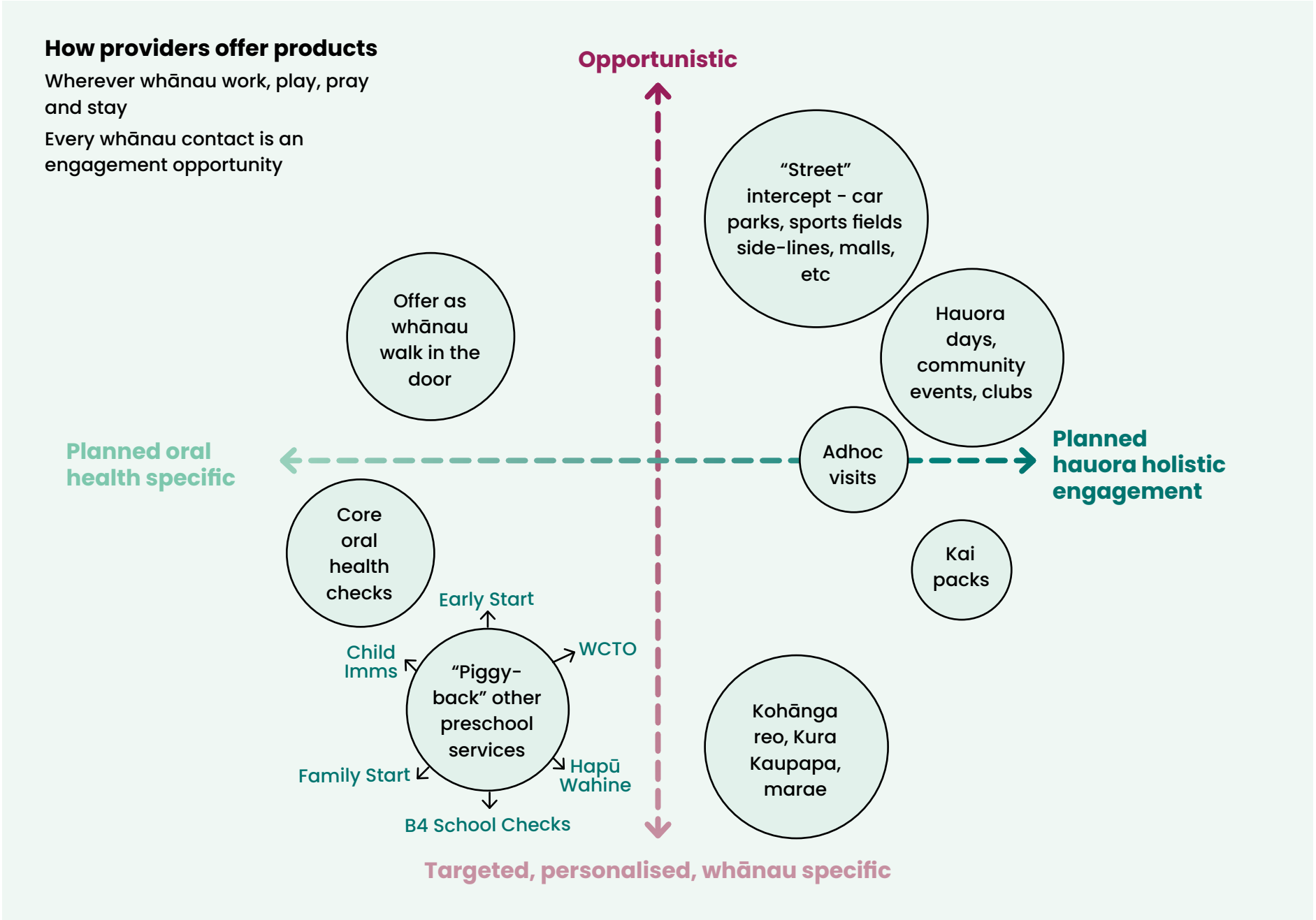


Figure 1: *Ways that providers offer product to whānau*

3.3.1 Māori delivery of TTI

Māori providers offer products to whānau and tamariki across their services. Offerings to whānau and tamariki involve a mix of general hauora engagement, opportunistic events and activities, scheduled hauora visits and checks, and targeted personalised approaches.

> *"So, we are giving them out at the Before School checks predominantly with public health nurses. I also have been getting the toothbrushes for the Well Child nurse who does our rural area. As the vision and hearing technician I take them into kōhanga reo, and we are also getting them to our Pacific community. We also have a few other promotional opportunities and health education. We do a whole family approach and just make sure there is no sharing of toothbrushes and that there is healthy eating."*

> *"We discuss whānau oral health and provide adult toothbrushes and things at that time too. As a Māori health provider, we have never been comfortable with just giving a toothbrush at Core 4 to one pēpi in the home."*

> *"We give out toothbrushes at Core 4 once they start having teeth, but if there are other children we definitely give toothbrushes out [to them]. It's definitely not just one child getting the toothbrush it is the whole whānau, whoever is there."*

Within some organisations multiple services have access to the resources. Ordering is undertaken by one person within the organisation and then coordinated across services and programmes. This means that all kaimahi can provide the toothbrushes and toothpaste to whānau and tamariki they are working with, as well as giving them out at community hauora days or other opportunistic events and engagements that occur.

Offering product as part of general hauora services

Providers are offering the toothbrushes and toothpaste as part of their general hauora service delivery to whānau and tamariki. Oral health may be just one part of the conversation, planned or opportunistic. Providers are using it as an opportunity to initiate conversations on other health subjects like immunisation, nutrition and parenting or add to other health services and programmes.

> *"We use it with our ordinary casework… If the nurses go round to the homes and they're a vulnerable family or Māori and Pacific particularly and just with poverty the way it is we supply a lot of products. We are a bit like a warehouse at the moment. That's us really."*

> *"We have both a community clinic and a GP clinic which our whānau have access to. When people come in for things unrelated to oral health like social work assistance and counselling they usually bring their families in too, so we take the opportunity to talk about oral health."*

Offering product when and where the opportunity arises

Providers take an opportunistic approach to giving out toothbrushes and toothpaste. At any stage, when engaging with whānau, providers are offering the products and sharing oral health messages and information. This may include kai packs, food banks, hauora days and community events. Providers felt that having the resources was a great way to engage with whānau in unplanned and unexpected ways, taking advantage of circumstances as they arise. Providers often carry oral health packs in their cars and give them out to whānau and tamariki as needed. One of the key differences when offering the resources opportunistically is whānau may not always receive educational information as well.

"I stopped at a small shopping centre and without knowing it I had parked in between two vans with Mongrel Mob members in them. I got out and said, "Excuse me, do you have babies in your house?" And they looked at me like I was strange. I said, "I've got toothbrushes and toothpaste in my car" and that changed their whole attitude. I gave them a couple of boxes and said, "Please share with your whānau." This took place outside a shopping centre, and it was awesome… I think I got a cuddle from them to."

"So if somebody comes in for an immunisation we will be like "hey do you have toothpaste, do you have toothbrushes? How are you guys with dental health?" And what we found is that families don't realise they need help with dental health until you talk about it."

"We find a lot of it is the community picking products up and getting access to them when they come in for unrelated things, rather than specifically coming in for anything to do with dental health specifically. But yes, we just have products available for as many clients or people who aren't enrolled with us that may come in. You know, they usually come in with their families or to enrol somebody else, and we will be like hey how are you getting on with your dental health, do you guys have a toothbrush for your little one? Yeah, it usually goes well from there."

Giving out the resources at organised events held by kōhanga reo, community health services, marae and kura has generated some good interest from people who have heard about the resources. The resources are helping to build relationships within the community and among providers.

"We had lots of call from schools who found out we had been handing them out at one of our local community cultural festivals, which had performances from our kōhanga reo, kura kaupapa and then each marae."

"It has been distributed to kōhanga and also to clients. Also, we have had the Matariki celebrations so this year we gave them out with our whānau ora packs. So, the whānau all came and it didn't matter what colour, race or creed we were just grateful we could add it to the whānau ora packs."

Some providers display the toothbrushes and toothpaste in their organisations and consulting rooms so that whānau can see them. Often whānau will ask if they can have a toothbrush or toothpaste. At this point one of the provider staff may offer some health education as well. This has been a simple and effective process for providers to distribute product.

"Delivery occurs when one of our kaimahi are working with families or people may come in and ask about oral health care because we have a display downstairs of the toothbrush and all the little accessories you can get as well like the bag, stickers and information."

Providers also shared that involvement in hauora days are a good way to promote the resources and their services in a way that does not "step on other people's toes". Also, providers will find out where the dental van is in the community and work alongside it, giving out the resources or supplying them to the dental van kaimahi to give out.

Offering product as part of scheduled specific oral health engagements

Scheduled checks or visits with whānau and tamariki are proving to be an effective way to provide toothbrushes and toothpaste. They are given out by providers during Well Child Tamariki Ora Core checks, B4 School Checks, and Family Start home visits. Visits can be focused on other priorities, including health and social services like immunisation, vision and hearing screening, family circumstances, environment and safety. Kaimahi use this opportunity to give out the resources and have a brief conversation about oral health. Otherwise, oral health checks may be part of the scheduled visits with the tamariki. For example, for the Well Child

Tamariki Ora 15-18 month check the Tamariki Ora nurse will check teeth and gums as part of an overall health check.

> *"When doing the oral check, I commence by asking if they want a new toothbrush and toothpaste. When they choose their one, I then ask if they think mum or dad would like a new one and give them colours to choose from."*

> *"At the time I do the lift the lip for the B4 School Check and offer hygiene education I give out the toothbrushes and toothpaste to whānau who attend with their tamariki."*

Most scheduled engagements are home visits with some visits held at provider sites and clinics. Scheduled checks also occur through other avenues like kōhanga reo and early learning centres. All whānau will receive a dental pack regardless of the reason behind the scheduled visits.

> *"We mostly do it through our tamariki ora service. We have about 1,400 tamariki on our caseload with the team. Predominantly 95% of our visits are done in the whare so that resource is going out every day to whānau, which has been just amazing. It's such an awesome programme."*

Providers also give the resources based on the needs of whānau at the time. In many cases providers are able to provide the resources over 3-monthly cycles and can give out new toothbrushes and toothpaste as needed. This is extremely effective for embedding new routines and toothbrushing behaviours.

> *"I give toothbrushes and toothpaste out usually at the second, third or fourth contact depending on whether of course they need them. I give them alongside dental advice and also when they enrol in the dental service."*

Offering product in targeted and personalised engagements

Most providers have an equity focus and it is important to them that the products support the vulnerable whānau in their rohe. Whānau with high needs are a priority. To ensure the resources reach their intended communities, many providers have taken a targeted and personalised approach. This has included focusing on high-deprivation areas, school-aged children, small rural communities, and teen parents, as well as emergency housing and supported bail houses. There is a strong focus on Māori and Pacific whānau.This involves working closely with kōhanga reo, kura kaupapa, Māori cultural festivals, such as Matariki, and events such as national and regional kapa haka competitions.

> *"Those families that we know are lower socio-economic or more high risk, we give it to all siblings, and we offer it to the adults as well. We have the little bags and stuff, so we can make up packs for that. We are giving it out more than what the initiative stated but we've found that people have been really appreciative of it. We have one dental clinic on the island but it's only open once a week in school terms so that's got to cover all the schools as well. Our children aren't being seen by dental services before two years of age and some are probably not being seen before three. So, this has been really useful."*

> *"The [school] hauora day came about as an educational focus that the school decided to run. They wanted lots of services there and we joined that. The other one was through a health organisation that wanted to go out and raise awareness of their health service in the local area. I took part by liaising with the people involved, and I suppose it would be about 180 families that ended up with toothbrushes."*

Building relationships with a range of community organisations, if they are not already established, is a critical enabler to connect with Māori and Pacific whānau.

> *"We are going to those early learning services and schools that are above deprivation level seven. We're talking about mostly developed areas where whānau live and the schools in those areas. We are quite equity-focused, so we will spend our time and resources with that focus. Through that approach, we have had the opportunity to go to a couple of schools. Both had many vulnerable whānau. We contribute to their hauora days."*

Offering product in a whānau-centred way (case study example)

As the example below illustrates, going to where whānau are, taking a whole of whānau approach, working holistically and responding to the needs and aspirations of whānau, drawing on cultural knowledge and anchored in a deep understanding of the concept of whānau[10] works to get products to tamariki and whānau.

Tū Kotahi Māori Asthma Trust and Kōkiri Marae Health and Social Services work together within Takiri Mai te Ata Whānau Ora Collective, which comprises eight Māori health and social service providers. Tū Kotahi formed in 1995 and was the first Māori asthma society in Aotearoa New Zealand. They provide education, support, advocacy and asthma resources to whānau and tamariki. Kōkiri Marae was established in 1979 and offers a wide range of services and programmes in Whānau Ora social and health services. Together they have been offering the toothbrushes and toothpaste.

> *"So, between us we service a population of around 17,000. Our GP centre alone has 6,500 whānau registered and a large number of tamariki and pēpi are a part of our GP service, with over 65% Māori and Pacific."*

Working together, Tū Kotahi and Kōkiri Marae provided the resources for most of the services and programmes delivered out of their organisations. This includes parenting courses, GP clinics, education, physical activity programmes and Family Start. Every tamaiti and their matua involved with the providers receives a toothbrush. Alongside that kaimahi are sharing oral health information and education.

> *"So, a lot of the toothbrushes and toothpaste have gone to our services like Nāku Ēnei Tamariki. That services a huge population of tamariki and pēpi and focuses on parenting and parenting support with programmes like Family Start. We also now have a play group that runs daily and at Tū Kotahi we go into the kura and schools as well."*

> *"Through Kōkiri and Tū Kotahi we have supplied every single kōhanga reo in the Hutt Valley, so that's pretty much 13 Kōhanga reo, with a total of around 360 tamariki and their whānau given toothbrushes. At our kura kaupapa here, Te Ara Whānui, we have provided those toothbrushes to every one of those children. And that goes alongside the education as well."*

Takiri Mai te Ata Whānau Ora Collective principles underpin the distribution approach of Tū Kotahi and Kōkiri Marae. Whānau are encouraged to take charge of their lives through whānau-centred services that wrap around the whānau and respond to their cultural, social, economic and environmental needs. The resources enable a whole of whānau approach and kōrero with whānau as kaimahi successfully link oral health information and hauora and kaupapa together.

> *"So [we're] really mindful of promoting the whole kaupapa under that whānau ora approach. So even though we are talking about asthma, we talk about the importance of brushing their teeth after they have used the inhalers. If it's a [different] kaupapa like ki-o-rahi, where we do that with probably 60% of the kura and schools in Wellington region, we have also given out toothbrushes, [as] part of that kaupapa, and part of the hauora approach. So even though we are focusing on physical activity, health and wellbeing, we also talk about health in general."*

[10] Wehipeihana, N., Sebire, K., Spee, K., & Oakden, J. (2022). In Pursuit of Māori Health Equity: Evaluation of the Māori Influenza and Measles Vaccination Programme. Wellington: Ministry of Health.

3.3.2 Pacific delivery of TTI

Pacific providers most commonly delivered TTI through their workplaces, for example, through Pacific Primary Health Organisations (PHOs). The initiative was also delivered through Pacific early childhood education (ECE) centres, community groups and home visits.

At Pacific PHO's

Pacific PHOs used a variety of methods to deliver the TTI. Many made toothbrushes, toothpaste and oral health resources available to all families through the reception area. In some instances, they were available on a self-service basis, and in other cases they were delivered alongside other child health initiatives such as vaccinations.

> *"We have them out in our waiting room area for patients to help themselves..."*

> *"When children come in to see the doctor, we give it to them. They also get it when they have completed their vaccinations."*

The TTI resources proved to be too popular to allow a self-service model in some cases, with one of the providers pivoting away from making the resources available at reception, due to supply running out. The provider opted instead to make the toothbrushes, toothpaste and oral health resources available specifically to children and families when they attended appointments, thus ensuring a more equitable distribution in their context.

> *"We had initially put out a supply at reception for parents to take without having to ask, but we ran out very quickly. Now, we hand it out to kids when they come in for appointments."*

The resources available via the TTI were also distributed by PHOs via dental practices and in care packs for families and children.

> *"In our food boxes, in care packs for families with children and at our dental practices."*

Through ECE's and Pacific community groups

Pacific providers involved in delivering the TTI identified the vital role played by early childhood education centres (ECEs), Pacific churches and marae to achieve the distribution of TTI resources. When working with these groups, provider staff deliver packs and ensure the purpose of the TTI is made clear, often working alongside these organisations and supporting both general and oral health promotion initiatives. This collaborative and complementary approach was seen as adding value to existing initiatives as well as creating new opportunities to deliver oral health messaging and improve the health literacy of the staff, community leaders and families that engage.

> *"Providing resources to ECEs who have a relationship with the parents allows for an upskilling in oral health, adding value and collaborating with existing oral health initiatives in the early years space."*

> *"Most of the ECEs I work with are part of the Niho Oranga fluoride programme in ECEs. This was initiated by ARDS (Auckland Regional Dental Service) back in 2018-2019. So, providing oral health packs adds value to what is already happening in the ECEs."*

> *"Toothbrushes and toothpaste are packed and I deliver them to the ECEs. I speak to the centre manager about what is in the packs and their purpose. Some have reserved a week dedicated to health topics where they do their oral health* lesson with the kids, healthy eating, etc. Other centres have said they will give packs to parents at their parent hui night."

Pacific providers also described applying a whole team approach, working alongside staff from other teams to ensure a suite of positive health messages beyond oral healthcare are shared with whānau, and maximising the opportunity to connect and engage with whānau.

> *"Given the high incidence in our community around poor oral health for Pacific, we also partnered alongside the population health team to provide other health promotion messages. So these were not limited to things like having school holiday oral health checks where we can bring our tamariki and whānau to see some oral health specialist."*

Home visits

To ensure that mobility and transportation did not create barriers to accessing TTI, Pacific providers also distributed toothbrushes and toothpaste during home visits to families, particularly vulnerable families. This facilitated much wider distribution than a purely location or workplace-based approach.

> *"We provide toothbrushes and toothpaste in their package with additional education notices when we do our home visits."*

> *"Visiting the community members and stakeholders and handing them out personally when we visit."*

> *"They are distributed as part of our Family Start programme. Staff will give them out as part of home visits."*

> *"Social navigators also give them out while out in the community."*

3.4 Organisations use TTI to share oral health2 messaging alongside offering product

Messages about oral health promotion work well with the TTI (and other) resources. Whānau and tamariki can start brushing their teeth almost immediately, building on the 'novelty value' for tamariki and putting the newly learned information into practice. Providers know that consistent and up-to-date messaging needs to be repeated frequently, and including all whānau in an oral health kōrero (discussion) works best when trying to introduce new family routines and build whānau oral health literacy.

> *"Yes, it has been great to be able to encourage healthy oral care and ensure that toothbrushes and toothpaste are available to all whānau members. It is a great way to start good oral hygiene routines."*

3.4.1 Providers are sharing a variety of good oral health education messages with whānau and tamariki

Providers are sharing toothbrushing information and broader information on oral health and the dental care system. A key focus of these conversations is the impacts or benefits of brushing teeth and other factors that support good oral health. These discussions can occur spontaneously or as part of a dedicated oral health conversations. Topics frequently discussed include:

- The importance of brushing teeth for the whole family
- The need to brush regularly
- Importance of healthy teeth
- Nutrition, sweets and sugar, the importance of a healthy diet to maintain oral health and teeth
- Healthy food, lunch box and snack ideas
- The habits and routines that can be adopted as a whānau
- When tamariki are due for checks and how to access the publicly funded basic dental treatments.

"I guess what I do is I have a nice big stand that's set up with the messages on it, the oral health messages. I usually have a board there that has some good information on it, nice and brightly coloured. At the moment my board is really about it's best to eat your fruit, don't drink it. So, I was trying to promote the message that fruit is great, but don't drink fruit juice. It's very bad for your teeth. I'd talk to children about it, I'd ask them what's the best drink, and lots of the children could tell me it was water, which was fantastic. I just try to engage families really about some of the things that do impact their oral health."

In addition to toothbrushing information, providers are promoting oral health and dental care. Providers share when and where dental care is available in their communities, including how to access mobile dental vans. Some providers present statistics on rates of dental decay and share ways for whānau to assess their tamariki oral health like the 'lift the lip' assessment.

Given the limited access to dental care services for some whānau, providers are having conversations about the importance of fluoride, drinking water and non-sugary food to reduce cavities and for good oral health. They are also partnering with dental care services, where possible, to further promote good oral health hygiene and access to dental care if needed by the whānau.

"[Lack of dental care] is an ongoing issue in New Zealand and this pilot provides ongoing resources and support. [It is] not just a one-off initiative and products and support are going to a wide range of tamariki and rangatahi that would not be reached otherwise."

"We partner with our oral health services in each location. So, we have a whole lot of information about oral health and that's how we've been promoting this."

Providers are also explaining the pragmatics of oral health care. These conversations include telling whānau and tamariki when and how to brush their teeth. Important messages include brushing twice a day with fluoride toothpaste and spit don't rinse. Providers show whānau and tamariki the correct way to brush their teeth and there is a significant focus on looking after baby teeth, the why and how. Providers typically tell parents the following information.

"Brushing teeth two times a day, flossing, nothing to eat and drink after brushing their teeth at night, parent to help brush teeth until children are 8 or 9, what tooth decay looks like, no bottles of milk to go sleep with, spitting out toothpaste, no rinsing, pea-sized amount, full strength fluoride toothpaste."

"Brush twice a day with fluoride toothpaste, drink water, and avoid sugar. If giving cheese, give it at the end of a meal. High-quality nutrition is one of the building blocks of a healthy life; get your child off to the best start by offering healthy food options that are homemade and fresh. Be suspicious of foods that are convenient or packaged as it usually means they're unhealthy."

3.4.2 Providers also share with whānau general health educational information

Overall, the TTI resources are seen as valuable conversation starters and enable positive discussions with whānau – initially oral health-focused, but they also discuss general health and well-being aspects. Importantly, educational resources help to inform whānau and tamariki who may not have the opportunity to access oral health in their communities. While providers recognise the need to pass on oral health education to whānau and tamariki, this is happening to varying degrees and is based on the awareness and availability of oral health educational resources and the oral health knowledge of kaimahi.

Kaimahi access education and information resources through a variety of means and note that this takes considerable time. At times, they are unsure of the validity of the information and

question, "Is it the right and most up-to-date information to be given." Therefore, many providers felt a single depository of information and education resources to complement the TTI resources would be useful.

> *"I just need the latest information to be sure of the information I'm giving people. Because I'm going using what I know from 10 years ago, and it's that updated information I'm after."*

Māori providers and Whānau Āwhina Plunket mentioned a variety of resources that they are currently using (listed in Table 4). Some providers are also developing their own resources to ensure they are fit for purpose (e.g. resources for kōhanga reo).

Pacific use of resources

Pacific providers used a variety of resources in addition to the TTI resources. While the majority of participants stated that they gave out pamphlets and information sheets about oral health, not all Pacific were accessing the TTI magnets, stickers and bags. This highlights a need to ensure that all providers are offered and know about the available TTI resources for kaimahi to use and to share with families. Pacific providers feel this is important to ensure consistent messaging to whānau and access to accurate resources.

> *"The educational resources we provide are from Te Whatu Ora (TTI), together with other pamphlets from other areas specifically targeting oral health."*

> *"Before this programme, posters from the HPA were given to each centre. We also have standard information sheets …"*

> *"It is distributed as part of the toothbrush packs. In it are toothbrushes for all family members within the household and toothpaste, magnets and oral health information."*

***Table 4**: Resources mentioned by Māori providers and Plunket staff*

Resource type	Example resource mentioned		
Magnets	Talk Teeth / Baby Teeth Matter - 5 tips Plunket Lion		
Stickers	A link to website 'Let's Talk Teeth' Certificate and stickers		
Tools and tips to support new oral health behaviours	Brushing charts ARD website flyer 'How to brush children's and baby's teeth' App and songs to support brushing time	Big set of teeth and toothbrushes Mirimiri Mai – ECE resource, set of teeth and toothbrushes Lift the lip assessment Waiata – Twinkle Twinkle Little Star	Warrior and toothbrush taiaha for rangatahi YouTube videos on tooth brushing and tooth brushing hacks for older children Waikids and laminated toothbrush chart for tamariki
Oral health Information	NZDA pamphlet in different languages Fluoride in toothpaste pamphlet TWO Oral Health pamphlet 0800 Talk Teeth Talk Teeth cards with DHB registration information BeeHealthy website	Caring for teeth – health education website Auckland Regional Dental Service – A4 sheet, double sided – healthy eating, what to drink, how to brush etc, and on the other side all the dental care available for children up to 18 years old DHB oral health website links	Dr Rabbit resources Toothpaste photographs – the big tick The children's' picture education cards (possibly from Colgate) ABC for your baby's teeth Photos of varying stages of decay in the B4 School pack Mannequin
Booklets	'It's easy to protect your families smile' The Wellchild booklet Healthy Smile Healthy Child		
Dental care service information	Oral health enrolment forms Community oral health service brochures Trinity Dental Van		
General hauora information	Nutrition and healthy eating pamphlets Beef and Lamb pamphlets		

3.4.3 Improving promotional resources

Providers felt that the resources played an important role in sharing knowledge about good oral health with whānau and tamariki.

Providers mentioned the need for te reo Māori resources.

> *"Definitely continue what you are already doing, it's just an amazing service in itself… but I just wanted to make a comment about health education in te reo Māori. As a lot of our kōhanga kids are coming through whose predominant language is te reo Māori that can be a communication barrier when seeing professionals about oral health. So more information, health education, flyers in te reo, resources in te reo, or even the kaimahi themselves delivering the full consent in te reo. So professional development I guess for kaimahi [also]."*

Similarly, Pacific providers wanted more educational resources in Pacific languages. This was particularly important as many Pacific families live in multigenerational households with elders and grandparents playing a key educative and support role and often English is not their first language.

While the existing resources are valued, there is recognition from TTI that resources and the information they contain need to be tailored in ways that appeal to Pacific children and families, and not simply a translation of the English language resources or the use of Pacific images without reference to Pacific peoples and their diverse linguistic and cultural backgrounds.

> *"If there were improvements in the development of resources so they were a little bit more child friendly, not so much colouring in, but something interactive for families to continue to build up their kit of knowledge and understanding would be useful."*

Nearly all providers commented on the link between eating and drinking to good oral health. They wanted to know about or be given specific oral health resources, particularly in relation to healthy food, drinks and nutrition.

> *"And we make the link between good foods and good drinks for good teeth. Regularly brushing their teeth is important but so is healthy food, not having sugary drinks and drinking water. Regular toothbrushing is a really good habit but it's just the start."*

3.5 Workforce needs

Workforce capability, particularly oral health knowledge, is variable across the provider groups. WCTO and Whānau Āwhina Plunket staff tend to have good to excellent oral health knowledge as it is part of their core service. Historically there was oral health education delivered to WCTO kaimahi. In contrast Māori and Pacific providers tend not to have strong specific oral health knowledge and experience.

3.5.1 Workforce capability

Providers are drawing on the skills and experience of kaimahi where they can, but there is a general feeling among providers and kaimahi that additional training in oral health would be good. This would help to ensure there is consistent messaging and information being shared across organisations and provider services.

> *"It was one of the realisations that we are giving the resources out but maybe the messaging that is going with them isn't adequate. Because I have done training for oral health, but I am aware that not many of my fellow kaimahi have had that message. So, whether there is the opportunity to do further education among kaimahi… Because it is all very well giving them out but we should be backing that up with some messaging, not a huge spiel, but just something."*

An enabled workforce can support whānau to achieve improved oral health. Kaimahi are aware of their level of oral health knowledge. When they are not confident to answer questions raised by whānau, some prefer to refer them to online sources of information or ask kaimahi who are more knowledgeable and share the information when they next visit the whānau.

> *"I think it's really important that we are enabling a capable workforce... Like being able to do an oral assessment and being able to share that information with whānau."*

There is a strong desire for further training to better support whānau through preventative information, detection of issues that may require dental interventions and improved access to ongoing dental care.

> *"Several of our kaimahi are quite skilled in their own specific areas and what we do is a lot of information sharing and sessions together so that everyone is on the same page... we all try and get the same message out and support each other when we are promoting such awesome initiatives such as the toothbrush and toothpaste one."*

Several organisations have relationships with the community oral health services. However, these relationships are on a more personal level rather than across the whole organisation. Some providers feel that TTI needs to be better connected to the wider oral health sector. In particular by supporting whānau to engage with their local community oral health service or dental services. They see these organisations as potentially offering oral education and training to their staff.

> *"We have three registered nurses attached to our organisation... [but] they don't particularly deal with oral health. What we do have in our nearest township is the oral dental bus and we have a relative of ours that actually works in that space. So we have those connections... But what would be more suitable for our large organisation is if we could have someone come in and take a workshop with our whole team on oral health care... It's not only getting the resources and the products, it's actually having those rich conversations in context about how important oral health care is."*

3.5.2 Workforce capacity

Workforce staffing appears adequate, with a wide range of skilled and experienced staff in health and social services who are able to participate in the distribution of the resources. However, a few providers commented that although there are staff within existing services that can distribute the resources, they do not always have the time to have in-depth conversations about oral health or to do more than give out the resources to those in need.

> *"I do not have the capacity within the current funding of the well child contract to do more that I currently do. I do try to fit in as much dental education as I can at each visit and ensure the families who need it have regular access to toothbrushes and toothpaste, but additional intervention would need to come with additional funding."*

It was also noted that funding for dedicated full-time employee (FTE), particularly so that oral health promotion becomes business as usual, would also help improve distribution and engagement.

> *"It would have been nice to have some FTE allowance."*

Providers feel it is important to have a workforce that can mobilise and go to where whānau and tamariki are.

> *"Therefore, the workforce needs to go where they are needed, build relationships, and broaden the reach of oral health care and hygiene. "More community support workers who can get out in the real world and discuss health with the community, home visits, day care visits. Working with marae and kōhanga to encourage youth to get dental checks and engaging with local providers to offer low-cost dental care."*

Given the sensitivities and whakamā (shame and embarrassment) related to poor oral health providers shared it is also important to have a compassionate and non-judgemental workforce.

> *"What we give is advice, and if the whānau is using it, it's not for us to say how. As long as they are using it and that is somehow getting to the child's mouth, we are OK with that. You know, there is no perfection in this life. And we work with whānau that are really difficult to get into, and if we started going in there with that judgmental mantle, we would have no luck."*

Providers appreciate being able to focus on getting products to whānau. Minimal reporting requirements mean providers can maximise their time and effort with whānau. Providers deliver the products in a way that meets the needs of the whānau they work with. Through regularly scheduled engagements with whānau and opportunistic situations, providers ensure whānau receive the products. They can act in a way that aligns with their service delivery kaupapa, without restrictions that hinder their response to whānau.

4

Overall, the TTI is valuable to whānau and kaimahi

4.1 Providers

The vast majority of staff from Plunket, Māori and Pacific providers believe TTI is an important initiative, that whānau appreciated and valued the toothbrushes, toothpaste and educational resources and that it is leading to positive changes in behaviour and outcomes for whānau.

"I wholeheartedly believe that this programme is of immense value and has the potential to bring about significant improvements in oral health for these communities. Preschool years are crucial for establishing lifelong habits, and by targeting tamariki at this stage, we lay a solid foundation for their oral health. When equipped with toothbrushes, toothpaste and the knowledge of how to use them effectively, children are more likely to develop consistent oral hygiene habits that will benefit them well into adulthood."

Māori provider

"Through this programme we emphasise the significance of prevention and early intervention in oral health. By focusing on these communities, we have the opportunity to detect and address oral health issues at an early stage, potentially preventing more significant problems later on. This proactive approach can lead to improved oral health outcomes and reduced treatment needs."

Māori provider

"In conclusion, the programme's value in improving oral health outcomes for Māori, Pacific and lower socio-economic preschool tamariki cannot be overstated. By addressing disparities, empowering through education, establishing lifelong habits, focusing on prevention and early intervention and enhancing confidence and wellbeing, we create a positive ripple effect that can shape the oral health landscape of these communities."

Māori provider

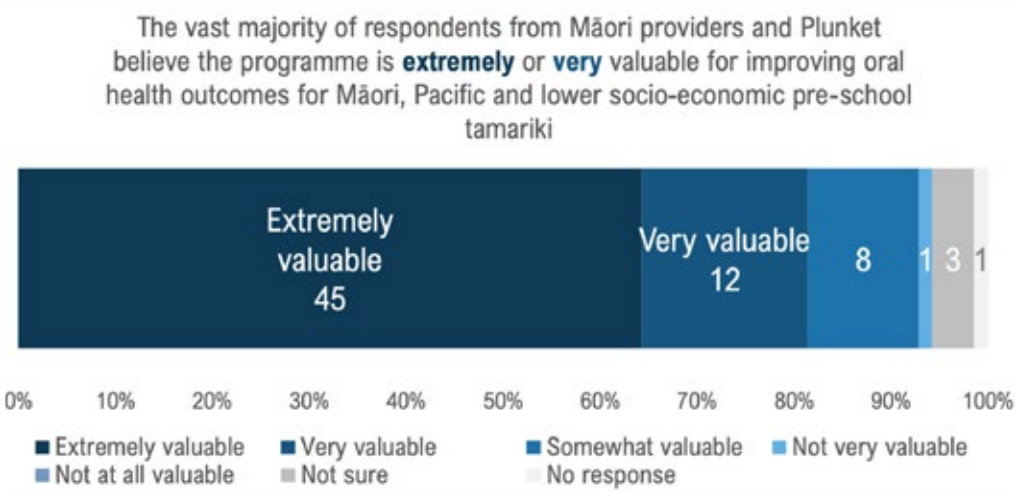


Figure 11: *Survey responses from contacts from Māori providers and Plunket (70 respondents, 1 chose not to answer)*

Despite a few minor challenges, participants from Pacific providers shared that the initiative has been successful and valuable. They would celebrate being able to extend the TTI both in terms of its duration and to include the wider community through the incorporation of school-aged children and elders as many Pacific families live in multigenerational households.

"It would be really good to be able to pass it over to our social workers in schools to be able to pass it out."

"It needs to be distributed wider because not everyone is part of Family Start who have children, it would be good to widen our reach."

4.2 The programme is supporting whānau and tamariki oral health

Within TTI there are several key mechanisms that support whānau and tamariki towards being better informed about oral health and healthy oral health practices. The programme is addressing barriers for whānau and tamariki and promotes preventative practices and behaviour. Building relationships is a critical component of the initiative, and through connections and networks, providers can support whānau through a whole of whānau approach.

Important results relevant to behaviour change are emerging. In mid-December 2023 the NZ Health Survey released results about toothbrushing twice a day with fluoride toothpaste by children aged 0 to 4.[11] The 2022/23 result (53.5%) is around **10 percentage points higher** than the pre-TTI levels (between 41.3% and 43.6% each year from 2017/18 through to 2020/21).[1] That size of increase is clear statistically, but we must remember that TTI is not necessarily the only cause of such a change. It will be useful for TTI to get extra NZ Health results more specific to the intended TTI target groups (Māori, Pacific and those living in areas of high deprivation).

Another possible source of behaviour change and impact evidence will be dental checks (e.g. the percentage of 5-year-olds who are caries-free as in Figure 2 on page 10 above). However, we will need to be careful in interpreting changes in the levels of caries found in children over time because of things other than the TTI also affecting these checks and caries frequencies. For example, COVID-19 and workforce pressures have reduced the number of checks and led to more focus on high-risk children. In 2021 and 2022, Community Oral Health examined only about 33,000 5-year-olds, well below the 40,000 in 2019 and 47,000 in 2016, even though total numbers of 5-year-olds changed little across all those years (63 to 64 thousand each year).[12] Note that we do not expect all 5-year-olds to be checked, some low-risk children at this age have 18 months between checks.

4.2.1 TTI is addressing some of the barriers for whānau to have good oral health

TTI is supporting whānau to access dental care

There are several challenges for whānau when trying to access dental care. Providers commented on the limited number of dental care facilities, particularly in small, high deprivation and rural communities. Whānau experience long wait times for dental appointments, including dental intervention in hospital services. Call-backs and follow-up from dental services to whānau often do not occur, and there are limited days available for school dental services (if whānau have such a service in the community). As a result, many whānau may wait until after age 2 to have their children seen.

> *"Holes in teeth, long wait times for a dental appointment and hospital services. Parents are keen to access services but are unsuccessful in contacting dental clinics via phone, and their calls are not being returned. Parents should not have to be chasing after health or oral care services."*

For some whānau, there is a lack of trust due to previous bad experiences with dental services and/or the health care system. Whānau engagement with health services, therefore, may not be frequent and/or sporadic. They may feel whakamā, embarrassed and/or anxious because of their own oral health, traumatic experiences with dental services when younger, or because they are struggling to provide for tamariki needs.

[11] Ministry of Health. 2023. Annual Data Explorer 2022/23: New Zealand Health Survey [Data File]. URL: https://minhealthnz.shinyapps.io/nz-health-survey-2022-23-annual-data-explorer/
[12] Stats NZ estimated resident population estimates, accessed from infoshare.stats.govt.nz

> *"Since we became involved with the initiative last year our community have been positively receptive of what the initiative offers, very much so. Because there's that barrier of the cost sometimes. You know, you can't afford a tube of toothpaste sometimes or toothbrushes. It's a real thing out here for all of our communities. So, we can offer that, we can do that and a lot of families are a bit whakamā, they're a little shy to come in and say, "Oh we know that you've got it there, but can we have it." So, I don't know it's with talking and conversation and knowing your communities that it can happen. So, just like everyone else has said, I think we are all doing the same thing."*

> *"Definitely having that physical thing to give them and the kids love it, it's like they're getting a gift. And I think having something physical to give them is a great opener to that education and they're really receptive to it because they're like 'I didn't know that', 'Oh you mean I just brush their teeth just like mine?' and I'm like yup! Right from that first one! So, it's a great conversation starter and then they feel more comfortable that we are willing and able to give it to the whole whānau that I think it takes away that whakamā so they're more than happy to ask next time or just say 'Oh look have you got another one?' or 'You know, they threw it down the toilet!'"*

The TTI resources support access and engagement of whānau in the health system, especially when the provider offers a wrap-around, whānau centred approach and links whānau to other services. Māori and Pacific providers are key to whānau building trust in other services and programmes.

Most kaimahi act in a way that is non-judgemental and understand the challenges that whānau are facing. Māori providers relate to whānau with genuine kindness and compassion. They build a relationship with whānau that is often based on shared lived experiences. Kaimahi do not blame or shame whānau for knowing little about oral health or not practising the correct oral health behaviours. They talk less about whānau "not prioritising oral health" and instead frame it as "whānau have not had the opportunity" to engage in oral health.

> *"Yeah, sure is, like I, with my moko, none of them brush their teeth at the sink, because it just turns into a major mess, they get wet, they have to be changed again. So they all brush their teeth in bed, which means they don't spit the fluoride out, but I guess, you take your wins where you can get it, and they all brush them while they are getting read stories. So, I think that we do have to be realistic. I think it's a really good point that there is good, better, best and sometimes good is good enough."*

On one hand, some providers took quite a deficit-based view and commented that whānau did not access dental care because it was not a priority "to look after their tamariki teeth." Other providers took a more strengths-based approach and discussed how whānau had "not had the opportunity to learn" about oral health and the importance of healthy teeth on the overall hauora. However, looking after their tamariki was a priority, and once whānau had the knowledge and toothbrushes and toothpaste, they were making some positive changes.

> *"What I have found is that a conversation based on the relationship you have is your best way in, for everything but especially this. And often there is a significant mamae that you need to navigate. Because if the baby has abscesses, or you lift the lip and you realise, like we did last week, a new little guy that had moved into our community three weeks ago has significant decay and he is probably going to need a GA. There is mamae and guilt that comes with that, and you only have to look at mum to see her mouth and her teeth that she has not had the opportunity to care for."*

Regardless of their points of view, all providers were informing whānau where they can access free dental care. In many cases, they are linking with community oral health services including mobile dental care services and taking whānau and tamariki

to appointments. Providers also enrol tamariki with dental care services and make regular appointments for them. As a result, providers felt that whānau were receiving more oral health checks by professionals.

> *"I also supported the kōhanga to get the dental van into them because that's part of the contract. The other is Trinity Koha, it's a free dental service especially in low poverty, they provide free dental care for our adults that can't afford it, can't afford the dentist bills. It's an amazing service. They're a team of volunteer dentists that will come into the communities and actually provide dental care for our whānau in the community."*

Other barriers to accessing dental care include:

- general lack of dental treatment options in many areas including preventative work
- cost of dental treatment and dental emergencies
- appointments often during work hours
- lack of available transport.

Occasionally, whānau are unable to get themselves or tamariki to appointments. This could be related to living in isolated areas a long distance from services, the cost of petrol, or only having access to one car used to get to and from work. Some providers take whānau and tamariki to appointments and let them know when mobile buses are in the area, so they do not have to travel further afield to dental practices, and/or try to organise for mobile dental vans to visit areas closer to where whānau are living.

> *"We have had no dental caravan in a very long time. Getting some buy in with free dental items has hopefully helped reduce decay even if only a small amount."*

TTI is addressing financial barriers

The price of toothbrushes and toothpaste is high, especially when having to purchase regularly and for the whole whānau. Providers also talked about the cost-of-living crisis generally, and that whānau who may have been able to afford high quality toothbrushes and toothpaste now find them difficult to purchase. Whānau know what they should be doing but can't always afford to.

> *"Some of our families have not been able to afford toothpaste over the recent months, so have been very grateful for the packs we are providing. The children have also been very excited to receive their colourful toothbrushes and have been very eager to begin using these."*

When whānau are living in crisis there are competing priorities that demand more attention than others. In most cases, whānau know the importance of brushing teeth but due to increased hardship, they have to decide between milk and bread or toothbrushes and toothpaste. Whānau may not be able to purchase when the immediate need is there, and providers all feel the initiative is filling that gap.

> *"Whānau appear to be open to their children having better teeth than the parents and thus are keen to learn and share dental health messages but sometimes can't afford a new toothbrush."*

> *"I had one of the teenagers say to his mum "I need a new toothbrush and I need some toothpaste," and she said, "Oh, you'll have to wait until payday and that's not until next week." And I thought, oh, heck, and I said, "I'll get some for you." So, I took some over for them and they were pretty happy with that, yeah. So we ask our parents and our clients. We ask them if they need toothbrushes and toothpaste and they're happy to receive them."*

Access to the resources is making a significant difference to many whānau by relieving financial pressure for them and removing some hard decisions about how to spend their money.

> *"So, I've had really good feedback from families and it's great to be able to give them something. I think with the whole increase in food costs and everything, it's just one less thing they have to try and buy. So even though it can be something so small, it's actually made a huge difference to so many people. People that might not necessarily be in our lowest poverty range are still really struggling now so they're extremely grateful, but they're the people that would never, ever ask either. So yeah, it's really been a huge help. We also have no fluoride, we are all on tank water, so it puts us at higher risk, as well as many other people around New Zealand."*

> *"Cost of living has gone up, petrol has gone up, rents have gone up and I also work in the homeless space as well. So, I give out free toothbrushes there and anything we can give so they can take a bit more care of themselves."*

> *"[A] barrier [is] removed for whānau, they can choose to spend their money on food and don't have to stress about food versus toothbrushes and toothpaste."*

Free products help alleviate financial stress

As well as creating an opportunity to build further rapport, strengthen relationships with families and discuss health issues, Pacific providers also identified that providing free toothbrushes and toothpaste for Pacific families helped ease the financial burden many families face, particularly among the most vulnerable. In both the online survey and the individual talanoa, Pacific providers shared that traditionally, high quality brand oral health products are not priority items when shopping because of the need to address a range of other basic family needs. They acknowledge:

- *"[Pacific families] know the importance of good oral health but when you just have to decide when you're in the supermarket, do I get the $3.99 toothpaste and the cheap $2 toothbrush which then translates to 6 people in the family it comes to about $24 that is going to be a low priority of spending $24."*

- *"The resources are free for our whānau, and the cost of living is so high at the moment. Having access to a no cost oral health service makes a difference."*

- *"Being able to provide free toothbrushes and toothpaste has been excellent for the Pacific families we connect with. The families are on low incomes and have children in need of developing good oral health habits."*

- *"There's some real stories of survival and just real struggles in life that continue to be compounded with whatever's happening nationally, locally and of late as you are aware when COVID-19 came."*

- *"It is also one less thing that our families have to worry about financially."*

Whānau may not have oral health literacy and knowledge to support their tamariki

Many whānau do not have the necessary oral health information and feel unsure about what to do and how to care for their pēpi and tamariki teeth. As some providers mentioned, this is likely due to the limited access to dental care and lack of opportunity throughout their lives to learn about oral health. Despite this, there is a willingness by whānau to engage, and with newly acquired information, whānau act with agency and support their tamariki by role modelling and helping to set up good routines.

Providers also noted a lack of general knowledge about dental care services, how to access them, where and when.

Many whānau think the dental care services will contact them when their child needs a check-up or becomes a certain age.

- *"Once they get the information, they can and do make changes and try to support their tamariki."*

- *"We capture any opportunity to kōrero with whānau on oral health, which allows whānau to take charge of their health and not be whakamā about their oral health."*

Preventative messages promote good oral health practices with Pacific whānau

TTI provides an avenue to talanoa/talk about oral health

The majority of participating Pacific providers also stated that they believed the initiative increased oral health literacy by providing an opportunity to talanoa about oral health. When handing out toothbrushes and toothpaste, providers were able to support the development of families' oral health literacy by talking with them about how to best use a toothbrush and toothpaste and about how often someone should brush their teeth. This knowledge sharing took place across generations, with opportunities for parents to teach their children and for children to share their new knowledge with their parents.

- *"Go over the adult toothbrushes for parents/adults at home, the junior toothbrush for the kids. The toothpaste for both adults and kids … including the pea size toothpaste for kids …"*

- *"That oral health has to be maintained and that using toothbrushes and toothpaste is one of the ways to keep teeth healthy and encourage your young ones to start early."*

- *"We interact with the children, asking them how they would brush their teeth and then to show their parents."*

- *"Reading the instructions and looking at the pictures to help with teaching their child how to brush – and a small amount of toothpaste rather than a huge blob on the toothbrush."*

As noted earlier, the providers wanted to be given products suitable for their target age groups as well as adequate information regarding product differences. This was seen as being important to oral health literacy as it would enable differences to be meaningfully explained to families and the best advice shared.

> *"The junior toothpaste has a lower fluoride strength ...it would have been good to be provided information in terms of why that was and what the different strengths are in case they ask, and I don't know."*

> *"They changed it to oral B and so Oral B has 1450 pb in fluoride strength...but it's good to know this information before we give it out in case parents ask."*

As noted earlier, support for staff around explaining the products, as well as the provision of general oral health literacy teaching aids, were desired. Such information or resources would make it easier to engage families in conversation about oral health literacy and would support the sharing of accurate, consistent information. Pacific providers also used TTI as an opportunity to talanoa with families about the importance of registering with dental providers. They reflected that many Pacific families are still unaware that oral health care is free for children up until 18 years of age in New Zealand.

> *"Some of our families don't know that its free until their kids are 18."*

> *"Not a lot of people know about it, so I wouldn't know how you would disseminate all that information to make sure that a lot of our families, especially in South Auckland and West Auckland, know about this programme because it's free and it's all about prevention."*

Consequently, the TTI has helped by creating opportunities to raise awareness of what families are eligible for, whilst actively improving oral health care.

> *"Access to resources and having conversations with families around oral health. We are able to remind families of where to go and how to register for dental assistance."*

> *"I know it's a way to have a conversation around oral health and making sure that the kids, especially our 2-year-olds are registered with their health provider."*

Through conversations about the importance of oral health, Pacific providers are also able to discuss the importance of diet with families, further highlighting how the TTI has helped to contribute to the provision of wrap-around health support for Pacific families.

> *"We also talk about food choices, sugary content, effects of not brushing your teeth, etc."*

> *"We talk about reducing sugary drinks ..."*

4.2.2 Resources are helping to build relationships an connections

As already mentioned, the resources are helping to strengthen and build relationships, connections and networks. Providers shared how being able to give free, high-quality toothbrushes and toothpaste supports positive relationships with whānau.

> *"I would probably just say that I think it increases the relational trust when you're going there and you're not just talking about something, you're actually able to give the thing that makes the difference."*

> *"Having that physical thing to give them is good, and the kids love it, it's like they're getting a gift. And I think having something physical to give them is a great opener to that education and they're really receptive to it because they're like 'I didn't know that', 'Oh you mean I just brush their teeth just like mine?' and I'm like, yup! Right from that first one! So, it's a great conversation starter and then they feel more comfortable that we are willing and able to give it to the whole whānau that I think it takes away that whakamā and they're more than happy to ask next time."*

"We work with a lot of vulnerable whānau, and we visit weekly primarily, fortnightly at the least so our staff have really good relationships with whānau. It was a good opportunity for us to be able to continue those [visits] and give whānau something."

Providers are also partnering with oral health services and building those relationships. This means in many cases providers and oral health dental services are working together. With better relationships between providers and dental care services there are more prompt responses to referrals, and improved follow up information to kaimahi working with whānau.

"Working alongside [a mobile oral health community van] they'll go to asparagus paddocks and fruit orchards and park up with their van and provide dental care for our adults that can't afford it. There is eligibility criteria but it's not that big and they seem to manage to navigate through all that stuff. They can see up to 100, 200 people in two weeks in our community."

The resources are also helping to build relationships in the community with kōhanga, kura and schools. In small communities, providers are able to advocate for better services and access to oral health products.

"We are going out to those early learning services and schools that are above deprivation level seven. So mostly deprived areas where those whānau live and the schools that are in those areas. We are quite focused on equity, focused on where we spend our time and our resource. I've met with the principal there and we've chatted about the school and who the students are. What we've done at both of those schools is that we've contributed to… the hauora days have come about differently."

"I am really lucky in that I live here in a small community, and we only have one grocery store, so I petitioned them, along with the kura to remove one of their [oral health] products, because it is confusing [and different from professional oral health messages]."

4.2.3 Providers are giving additional support to improve oral health outcomes

Providers are offering additional support to whānau needing to complete enrolments, to get tamariki to brush their teeth, access dental care, and understand and reinforce the benefits of brushing teeth. Providers wrap-around whānau offering support that is holistic. Whānau and tamariki are given access to other services within the provider organisation like social services. Where possible providers are linking whānau to other organisations that are not just focused on oral health.

"When we first enrol the little person in dental services, [they are] probably 9-10 months. Whenever they have some teeth and then we give them new toothpaste and a toothbrush every 6 months. And because we go in weekly, we are doing lots of education around routine, keeping toothbrushes in a container in the bathroom. We talk about sugary drinks, healthy food, just everything there is be done around oral health. We take our little people to the dental nurse from around a year old, [as] that is one of the Early Start, Family Start criteria. And then we get them there every 6 months for the first couple of years just to get them into that really good habit."

"We always try and make sure that the young person or children are enrolled and attending the oral health services because enrolment and attending are two different things. If that doesn't happen, or it isn't clear at the time then we try and facilitate that. We might ring and help navigate where the nearest clinic is or when it's going to happen because there's a lot of young families who are very mobile at the moment with housing and all sorts of things. They might be enrolled and then miss a clinic and then they just never get picked up. A lot of it is navigation for these families so we use it as an opportunity for health promotion."

4.2.4 Whole of whānau approach is empowering

A critical component of the provider response is the whole of whānau approach. This is helping to break down barriers and build trust in whānau and tamariki. No one has to share a toothbrush and this signals that everyone is important. By giving resources to all the whānau, parents are not singled out as bad parents who cannot provide for their tamariki. Instead, it is something that everyone is getting to spread good oral health messages.

As whānau feel more comfortable and confident with the providers they will open up about other health concerns. Providers can then provide whānau centred support.

> *"It's about the whole whānau being on and a part of the journey."*

> *"It's been great taking a toothbrush for older siblings as it then engages the whole whānau in oral health education."*

> *"Have had more adults willing to discuss their own issues which has enabled me to check they know what is available for emergency care and through WINZ (it isn't enough but some families haven't known of it at all)."*

Māori providers apply kaupapa Māori principles and ways of working through manaakitanga, reciprocity, and mana-enhancing practice. It supports the important role that adults play in tamariki lives. Whānau can learn together and have fun brushing their teeth together. It is adding new interest and life into everyday practices of teeth brushing.

> *"This program not only supports physical health but also contributes to the emotional and psychological wellbeing of these families."*

> *"Access to toothbrushes and toothpaste empowers families to take control of their oral health. They can now practice good oral hygiene routines, which in turn boosts their self-esteem and sense of dignity. This programme restores a sense of agency to families who may have previously felt helpless due to financial constraints."*

Tamariki are involved in the conversation too.

> *"When doing the oral health check, I start by asking if they want a new toothbrush and toothpaste. When they choose their one, I then ask if they think mum or dad would like a new one and give them some colours to choose from."*

A whānau-centred approach works for Pacific families too

The Pacific providers that delivered the TTI shared that having a whānau-centred approach was essential to genuine engagement with Pacific families.

Pacific providers reflected that mainstream approaches that tend to focus on individuals do not necessarily work for Pacific communities.

> *"It's about the Pacific approach, so you know the standard mainstream approach doesn't work here but of course we've got to be the driver to make sure that this is our normal approach."*

This had implications for how the initiative was delivered, with providers recognising that each Pacific child and family could, if given more than an individual allocation of resources, provide resources and information to others within their family, thus increasing the reach and efficacy of the TTI.

> *"The whānau approach rather than just one per child which is what mainstream would have us do."*

4.2.5 Understanding the Pacific context is crucial, and Pacific providers are best placed to do this

Understanding Pacific whānau dynamics is essential when delivering health messages to Pacific families because it allows for a better understanding of who the information should go to and in what form. Central to this was the consideration of ethnic-specific Pacific languages, approaches, values and ways of being – the way that Pacific families live and express their unique cultures. For example:

> *"Sometimes the caregiver will be the grandparents, so instead of providing whole documents, having key words available in Pacific languages for our people helps our children. When our navigators go out, they're able to communicate in the languages so that goes a long way."*

Consequently, the Pacific providers who delivered the TTI suggested further investment in developing information and or resources in Pacific languages, with a particular emphasis on empowering grandparents who act as caregivers.

> *"Again, as a Pacific person, you know here in this community, the caregivers during the day will be the grandparents. So sometimes things like not whole documents but keywords could remain available in Pacific languages for our people."*

They go on to say:

> *"Presentation around information in languages was a big learning, but not a learning in a sense that we don't already know."*

> *"I've long been an advocate for extending the scope of the resources that are given to be whānau-centered. Awesome that you are looking at zero-to-five-year old's, but actually, we also need to build the education, the resilience and the understanding of good oral hygiene by extending it to the whānau as a whole because that is the only way it will be ongoing."*

This means building a Pacific workforce that can address language barriers and who can connect with other aspects of different Pacific cultures. Participants spoke to the importance of understanding Pacific values and of upholding, nurturing and respecting the vā (the relational space). They noted that TTI provided a platform for strengthening relationships, allowing trust to be built and facilitating discussions that would not have otherwise been possible.

"Connecting with families during the initiative and handing out of resources and building relationships cannot be underestimated. This initiative has allowed us to open doors, to start those conversations, but it has come from continual engagement."

TTI is embedded within wrap-around services

The Pacific PHOs involved in the TTI offer wrap-around services as part of their business as usual (BAU). This was noted as being key to the success of past initiatives. With TTI being able to provide tangible support and work across multiple areas of health and helps to build rapport with Pacific communities. This, in turn, means they were receptive to, and had faith in, new initiatives and information being shared. Many of the providers engaged in the initiatives had built strong relationships with the families they serve and felt this made it easier for them to get oral health messaging across.

"We're highly visible, we're trusted in a number of spaces because we offer wrap-around services."

"Our level of engagement with our families guaranteed utilisation of that service. I think the use of the resources has allowed us to have more conversations. Even making sure that families are registered with a dental provider."

The TTI was also seen as strengthening the provision of wrap-around services, supporting providers in their efforts to address and support diverse areas of health.

"It was providing the whole wrap-around support. I wanted to ensure every child in our community or family had access to it, so it was a great initiative."

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Appendix: Methodology

This final report builds on the findings and insights described in the interim report (February 2023).

The aim of the Phase 1 implementation evaluation is to test the efficacy of the distribution model and to generate insights to inform implementation from 2023 to 2025 (Phase 1 is for an 18-month period from 1 January 2022 to 30 June 2023).

The evaluation was designed to answer the following Key Evaluation Questions (KEQs):

- KEQ 1: How well was the programme designed and implemented?
- KEQ 2: How effective was the programme at getting toothbrushes and toothpaste to Māori and Pacific children and low-income families, and preschool children?
- KEQ 3: How valuable were the toothbrushes, toothpaste and information resources to whānau and providers?
- KEQ 4: What barriers and enablers made the difference between successful and disappointing implementation?

The evaluation design uses a kaupapa Māori evaluation approach. Kaupapa Māori means a 'Māori way' of doing things, and the concept of kaupapa implies a way of framing and structuring how we think about and do evaluation with Māori. Kaupapa Māori is concerned with both methodology (a process of enquiry that determines the methods used) and methods (the tools to produce and analyse data).

A kaupapa Māori approach is open to a wide range of methods but critically signals the interrogation of those methods in relation to tikanga Māori (Māori values and practices). Kaupapa Māori research practices guide ethical research with Māori communities. These include a respect for people (aroha ki te tangata), being a face that is known in the community (kanohi kitea), looking and listening before speaking (titiro, whakarongo, korero) and being humble (ngakau mahaki), being careful in our conduct (kia tupato) and ensuring we hold the mana of all people (kaua e takahia te mana o te tangata).

The evaluation used a mixed-methods approach to data collection, analysis, and synthesis. The mix of methods selected and the integration of the data collected and analysed provide both a breadth of information (ensuring data and feedback from a broad range of providers) and a depth of information (deepening insight and understanding from provider perspective and to a lesser extent from whānau). Multiple methods help to mitigate the data limitations of any one method. Findings from all methods are woven together to provide overall evaluative conclusions and insights relative to the key evaluation questions and programme and evaluation aims.

This report draws on data and findings from:

- order distribution data, prepared by New Zealand Health Partnerships (now part of TWO) and HSCM Solutions (on behalf of NZHP)
- monthly monitoring reports, prepared by New Zealand Health Partnerships (now part of TWO) and HSCM Solutions (on behalf of NZHP)
- surveys of participating organisations (2)
- focus groups with representatives from participating organisations (4)
- interviews with representatives from TWO (2) and participating organisations (14)
- correspondence and background papers with representatives from the TWO and NZHP
- relevant literature, including journal articles and research and evaluation reports.

Pacific methodology

Moana Connect, a Pacific research and evaluation group, worked alongside Weaving Insights and undertook all engagement and data collection with Pacific providers.

The Kakala framework[1]

Moana Connect applied the Kakala framework to gather insights from Pacific providers delivering TTI. The Kakala framework comprises six components that align with the steps of traditional Tongan garland making. These steps are Teu, Toli, Tui, Luva, Mālie, and Māfana.

Teu - Planning and Development: Moana Connect met with Weaving Insights to discuss the project and was provided with information relevant to TTI. The Pacific lead, Dr Seini Taufa, worked alongside Weaving Insights throughout all stages of the evaluation.

Toli - Data Collection: Weaving Insights provided Moana Connect with the contact details of the TTI Pacific providers from across Aotearoa. Moana Connect approached these providers via telephone and email with a request that they take part in an online survey and talanoa (interview).

- Quantitative data collection: quantitative data was gathered through an online survey 14 of 16 Pacific providers throughout Aotearoa, New Zealand, completed the survey. Moana Connect used a survey template provided by Weaving Insights to ensure consistency in the questions being asked.
- Qualitative data: In the online survey, providers were asked if they wished to be interviewed. A total of seven providers said yes. However, four sent through their apologies, while three took part in a Talanoa hosted either face-to-face or via Zoom, depending on the provider's preference.

Tui - Analysis: For the quantitative component, themes were coded and analysed manually. They were reviewed by another member of the team for quality assurance.

- For the qualitative component, a general inductive approach was utilised. NVivo 11 software was used to help organise and analyse data from the transcripts. This was also reviewed manually to ensure themes were not lost.
- A sense-making workshop was held internally, and Moana Connect met with Weaving Insights to discuss key findings, looking at similarities and differences.

Luva - Reporting: A first draft of the Pacific report was provided to Weaving Insights. Following feedback and discussion with Weaving Insights, Moana Connect undertook minor revisions and submitted a revised report. The content of the revised report was used in the final evaluation report.

Mālie and Māfana - Response and Reflection: The recommendations of Pacific providers for continued funding of TTI informed the evaluation recommendations to TWO

Qualitative data collection

Three provider interviews were undertaken in Auckland, Porirua and Tokoroa:

- Porirua/Wellington provider; Samoan female, 45-54 years old
- Auckland provider; Tongan female, 35-44 years
- Tokoroa provider; Cook Islands' female; 55-64 years old.

These interviews were undertaken as Talanoa – a Pacific interview research method (Vaioleti, 2006[2]) over Zoom video and lasted approximately 60 minutes. A discussion guide was developed by

[1] Thaman, K. H. (1993). Kakala. Suva, Fiji: Mana Publications.
[2] Vaioleti, T. M. (2006). Talanoa research methodology: A developing position on pacific research. Waikato Journal of Education, 12, 21-34.

Weaving Insights and adapted by Moana Connect, as informed by the TTI evaluation brief and tailored for Pacific contexts.

Quantitative data collection

A total of 16 Pacific organisations that had participated in the TTI programme were invited to participate in an online survey providing feedback about their experience of delivering TTI to Pacific communities. The survey developed by Weaving Insights asked a total of 12 questions. Of these groups, 14 completed a survey informed by the TTI evaluation brief.

Limitations

There is no direct voice from whānau, although the initial evaluation plan included focus groups or interviews with a small number of whānau over the second half of the evaluation phase, connecting through providers. Staff from participating organisations shared stories about whānau in their survey responses, interviews and focus groups. However, in the next phase of evaluating TTI, with a focus on outcomes and impact, whānau voices will need to be a priority.

As mentioned in the body of the report, the accuracy and precision of the product order distribution data improved over the duration of the TTI implementation and evaluation. All care was taken to ensure insights and determinations were based on the most recent versions of order data, and where evaluators have accounted for orders differently to the data provided by TWO this has been clarified in the report.

In the design phase of the evaluation, we undertook research about the current data collection and reporting for WCTO and Plunket providers. The research aimed to identify what data is captured and reported for all oral health services and assess its utility for the evaluation. We also looked at the distribution data to see how it could contribute to the evaluation.

In line with the overall programme aims and goals, ideally, we wanted information about:

- Volumes – the number of child and adult toothbrushes and toothpaste given out by providers.
- Whānau profile – the number of whānau engaged, ethnicity and socio-economic status.
- Profile – the age breakdown of children in the whānau or those who receive products, particularly preschool children.
- What did providers do, and what strategies were most and least effective for each target group?

However, noted evaluation data limitations existed:

- The evaluation relied on the distribution data – to estimate the number of products by cohort, by provider – and to estimate the number of adults and number of children, using the volume of products ordered.
- With no ethnicity or socio-economic data, the evaluation was not able to provide a clear answer about whether the number or proportion of products is reaching Māori, Pacific and low-income whānau/families.
- With no or incomplete age data, the evaluation was not able to provide a clear answer about whether the number or proportion of products are getting into the hands of children, particularly preschool children under 5 years.

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