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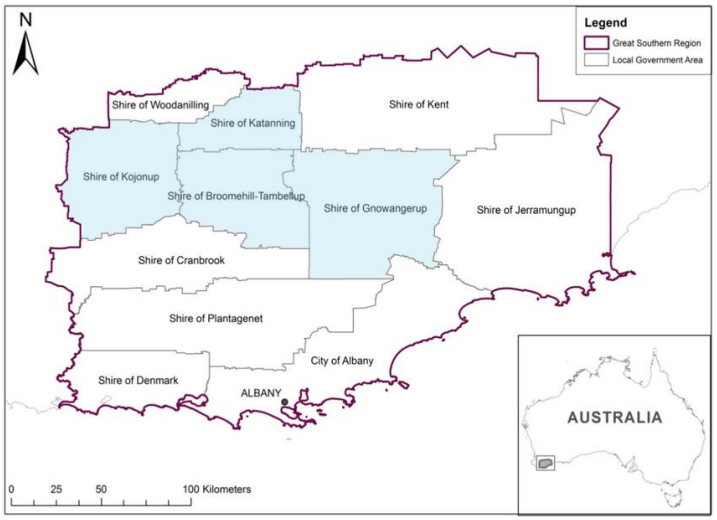

Evaluation of the Early Years Partnership

Central Great Southern Dental Health Project 2024

DISCOVER · PREVENT · CURE

Suggested citation

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Photo consent

Consent has been obtained for the use of photographs and images published throughout this report.

Acknowledgement of Country

The Kids Research Institute Australia acknowledges Aboriginal and Torres Strait Islander people as the Traditional Custodians of the land and waters of Australia. We also acknowledge the Nyoongar Wadjuk, Yawuru, Kariyarra and Kaurna Elders, their people and their land upon which the Institute is located and seek their wisdom in our work to improve the health and development of all children.

We also wish to acknowledge and respect the following Elders, their people, land and waters. We recognise their cultural heritage, beliefs, and the contribution they make to the lives of their people: in Bidyadanga we acknowledge the traditional owners, the Karajarri people, and also acknowledge the Juwalinny, Mangala, Nyangumarta and Yulpartja people who also call Bidyadanga home; in Derby the Nyikina and Warrwa people, and also members of the Bardi, Jawi, , Mangala, Unggumi, Bunuba, Walmajarri, Kija, Gooniyandi, Oogardang, Oomeday, Yow Jabi, and Wangkatjungka tribes that have made their home on Nyikina country; in the Mowanjum community, Worrorra, Ngarinyin, Warnambal Gambera families; the Nyoongar Wadjuk people in Armadale; and the Goreng and Kaneang people in the Central Great Southern.

Executive Summary

The Early Years Partnership (EYP) is a ten-year initiative (2018-2028) between the WA State Government and the Minderoo Foundation to improve child wellbeing and school readiness in four WA communities: Armadale West, Central Great Southern, Derby, and Bidyadanga.

This report presents the findings of the outcomes' evaluation of the 2023-2024 Central Great Southern Dental Health Project.

What did the Early Years Partnership do to improve children's well-being and school readiness in four Western Australian communities?

To improve children's wellbeing and school readiness, the Early Years Partnership (EYP) developed and implemented a Dental Health Project in the Central Great Southern (CGS) to address the issue of poor oral health among their children. Good oral health is crucial for a child's overall health, wellbeing, and quality of life (1). Early Childhood Caries (ECC) refers to dental decay in the primary teeth of children under six years (2). ECC is preventable, with factors including high sugar intake, poor oral hygiene, lack of fluoridated water, and limited access to dental services (3-5). Social, economic, political, behavioural, biological, and cultural influences also play a role. Higher ECC prevalence is linked to rural living, low parental education and income, lack of private health insurance, Aboriginal background, intellectual disabilities, feeding practices, and being a refugee or migrant (1, 6-8).

In Western Australia (WA), data on ECC and oral health is limited, with no active surveillance for children under five. Higher ECC rates are seen in Aboriginal and Torres Strait Islander children, those from Culturally and Linguistically Diverse (CaLD) backgrounds, and rural/remote areas (1, 9). In Australia, 8% of 18-month-olds and 23% of 3-year-olds have ECC (7).

Impact of Poor Oral Health

Poor oral health affects children's behaviour, learning, and development, leading to: difficulty eating and drinking, failure to thrive, growth and weight issues, higher risk of hospitalisation and emergency dental visits, diminished ability to learn, poor sleep, irritation, speech difficulties, chronic pain and discomfort, and caregivers face economic impacts from dental treatment costs and taking leave from work (3-5, 10).

Government Policy and Recommendations

The Australian Federal Government, through Medicare, does not cover most dental care costs. Low-income earners can access subsidised public dental services (11). The Child Dental Benefits Schedule (CDBS), a means-tested initiative, aims to improve oral health in children aged 0-17 years (12, 13). Eligibility depends on age, Medicare status, and receiving certain government payments. WA has low CDBS uptake, with 25% utilisation in 2021, compared to higher rates in South Australia and Tasmania (14).

The WA State Government also provides subsidised dental services to children aged 0-4 years living with disadvantage (15). Recommendations from national and state oral health plans include early oral health risk assessments and regular check-ups for children (16).

Early Years Partnership Dental Health Project

The CGS community identified poor oral health as a priority. The CGS Dental Health Project, funded in 2022, aims to reduce ECC through health promotion, screening, and treatment.

The project uses a student-based, specialist-led model, with dental students and a specialist paediatric dentist providing screenings and treatments in community settings. A Dental Health Coordinator manages health promotion, administration, and patient records, while an EYP Program Officer coordinates logistics and communications. The first funding period included five visits to the CGS between March 2023 and May 2024.

What is the strength and breadth of data and evidence supporting community priorities and actions?

To help us answer the overarching question above, we needed to know the following:

1. ***How many families and children were reached by the dental health initiative?***
2. ***What are the current levels of parental knowledge and behaviours relating to oral health and nutrition?***

To answer these questions, The Kids undertook a mixed methods evaluation comprising:

- Stakeholder interviews that were thematically analysed guided by the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) Framework.
- The Dental Health survey, conducted with parents/caregivers, comprising demographic information, and oral health and dietary behaviours.
- Incorporating the clinical data from the examinations into the survey data.

This showed that:

- The EYP Dental Health Project reached around 70% of the target population of CGS children aged 1 to 4 years, The project engaged some 332 (or 60%) out of 553[1] 0- to 4-year-old children in the CGS region.
- Caries were detected in the teeth of 56% of children aged 3 to 5 years, 36% of children ages 2 to 3 years, and 9% of children aged 1 to 2 years.
- Caries were associated with diets high in sugary drinks and snack foods.

To what extent have resources been mobilised and coordinated at community, state, and federal level?

While an implementation evaluation is required to fully answer this question, The Kids undertook a series of stakeholder interviews to help inform our understanding of these issues. This showed that:

- The 'Specialist-Led, Student-Supported Model' demonstrated effective mobilisation and coordination of existing resources:

[1] Number of children aged 0-4 in CGS recorded in the Census data 2021.

    - A visiting paediatric dentist and final-year dental students delivered dental services, providing both expertise and workforce capacity.
    - Students gained valuable rural and paediatric experience, which led to some seeking employment in rural locations.
- Service reorientation was achieved through coordination at the community and state levels:
    - The health system responded to local needs providing child oral surgeries locally thus removing many barriers to oral health care.
    - Collaborative practises led to previously underused clinical settings being used by visiting dental teams.
- Local leadership and collaboration were essential for effective implementation.

What did the Early Years Partnership learn about what it takes to create change for children across Western Australia?

To help us answer the overarching question above, we needed to know the following:

1. ***How do dental students and local EYP stakeholders reflect on the experience of the dental health initiative?***
2. ***What are the barriers to dental services experienced by families in the CGS?***

While an implementation evaluation is required to fully answer these questions, The Kids undertook a qualitative evaluation comprising:

- Stakeholder interviews that were thematically analysed guided by the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) Framework.

This showed that:

- Exposing students to paediatric dentistry in rural settings can lead to increased rural health workforce capacity.
- Providing low or no cost oral health examinations and treatment locally overcame barriers to families such as travel, time requirements, dentist availability, and cost.

What has worked for who and why and how can these be scaled up?

Findings from stakeholder interviews showed that the important elements of reach and effectiveness were outreach into the community, using trusted and culturally safe methods of connecting family and services, reforming existing health service organisations, and trialling new, innovative service provision.

- Community Engagement included:
    - Partnerships with local organisations, including Aboriginal and CaLD service providers, to build trust and reach vulnerable families.
    - Community connectors played a pivotal role in bridging gaps between services and hard-to-reach families.
- Innovative Service Delivery:
    - Screenings were conducted in familiar, non-clinical community settings like daycare centres and playgroups, which increased accessibility and comfort for children and families.

- The informal setting encouraged participation and created a friendly atmosphere.

What evidence was generated by the Early Years Partnership in implementing prioritised system interventions in the four partner communities?

Findings from stakeholder interviews showed that :

- Culturally Relevant Practices:
  - The program prioritised cultural safety, particularly for Aboriginal families, and adapted methods to respect culture (e.g., revising examination techniques to accommodate cultural sensitivities).
- Flexible and Iterative Approach:
  - Feedback from stakeholders after each visit informed service delivery.
  - Solutions like expanded screening schedules enhanced accessibility.

Recommendations for future service models:

- Future dental health initiatives consider the high prevalence of caries when designing intervention strategies.
- Oral health promotion messages focus on reducing sugary drinks and snack food consumption by children.
- Dental initiatives work with food security initiatives so that families can access healthy food.
- Models delivered in partnership with key local organisations to ensure adequate resources are available and utilised.
- Future dental health initiatives work with providers of higher education and relevant organisations to embed rural and remote placements into all relevant oral health courses and degrees.
- Local situational analyses are undertaken to identify existing opportunities for health services to pivot to provide oral health care to young children.
- When scaling, local leadership groups are established to facilitate implementation of any place-based, population initiative.
- Health providers work with local communities when developing service models of care.
- Incorporate innovative approaches including delivery in non-clinical community settings.
- Upskilling local allied health and early years' service providers in tele dental practices, emergency dental trauma procedures, and application of preventative fluoride varnish treatments.
- Connectors with lived experience are employed to provide a bridge between service providers and families.
- All services adopt trauma- informed and culturally safe practises.
- Free oral health screenings are accessible for all children aged 0 to 4 years.
- Implementation and outcomes evaluations are embedded into systems interventions to ensure continuous development and improvement.
- Develop a centralised dental database that would feed into already existing databases to minimise administrative burden.

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1 Introduction

1.1 Background

Good oral health impacts a child's overall health, wellbeing, and quality of life (1). Early Childhood Caries (ECC) refers to the dental decay present in the primary teeth (baby teeth) of children under the age of six years (2). This is a largely preventable condition with many contributing factors including: high sugar intake; lack of good oral hygiene; lack of fluoridated water and lack of access to dental services (17). There is also an interaction between these and other factors including social, economic, political, behavioural and biological, and cultural influences (18). More specifically, living in rural areas, low parental education and income, no private health insurance, being of Aboriginal background, or having an intellectual disability are associated with a higher prevalence of ECC (6). Other factors associated with ECC are feeding practices, being a refugee or migrant, or a child of a refugee or migrant from developing countries (8).

In Western Australian (WA), there is limited reliable data collected on ECC and oral health, and no active population surveillance of children under the age of five years (9). Higher rates of childhood caries are experienced by Aboriginal and Torres Strait Islander children, children from Culturally and Linguistically Diverse (CaLD) backgrounds, and those living in rural/remote areas of Australia (1, 9). It has been estimated that in Australia, 8% of 18 month old children have ECC, and that by 3 years of age the proportion is increased to 23% (7).

The impact of poor oral health and ECC on child health is substantial. The effects are seen in a child's behaviour, learning and development (10). The most common problems encountered by children with poor oral health are: difficulty eating and drinking (leading to poor nutritional intake), poor growth and weight issues, higher risk of hospitalisation and emergency dental visits, diminished ability to learn, poor sleep, irritation, speech difficulties, and chronic pain and discomfort (3-5). The quality of life is diminished for both children and their families (10). Caregivers bear the economic impact of taking leave from work and the cost of dental treatment and care.

1.2 Government Policy

In Australia, the Federal Government, through Medicare, offers highly subsidised public dental services to low-income families via the Child Dental Benefits Schedule (CDBS), a means-tested initiative started in 2014 to improve oral health in children aged 0-17 years (11-13). However, Western Australia has one of the lowest uptake rates, with only 20% of eligible children using the program in 2017, rising to 25% in 2021, compared to higher rates in South Australia (44%) and Tasmania (39%) (14). Additionally, the WA State Government provides subsidised dental services to financially and geographically disadvantaged children aged 0-4 years listed on their parent's Health Care or Pension Card (15).

1.3 Government Recommendations

National and State Oral Health plans exist and, when enacted, will provide more equitable oral healthcare for all Australians. Australia's National Oral Health Plan 2015-2024, the State Oral Health Plan 2016-2020, and the Sustainable Health Review recommend that

children aged 0-4 years should have an oral health risk assessment by a healthcare provider as soon as their first teeth appear, receive an oral health check-up and preventive care at least every two years, and be seen more frequently if needed (15, 18, 19). Based on these recommendations, in 2021, the WA State Government committed to providing free dental assessments and treatment to all children aged 6 months to 5 years, with the State Early Childhood Dental Program expected to start in mid-2025 (20).

In 2002, recommendations were developed that aimed to address the inequitable oral health status of rural and remote families, at risk community members in WA, including Indigenous people, low income earners and children under five years, by establishing oral health programs (16). No program was made available in Central Great Southern (CGS).

1.4 Early Years Partnership Dental Health Project

The Early Years Partnership (EYP) is a ten-year (2018-2028) commitment between the WA State Government (Departments of Communities, Health, and Education) and the Minderoo Foundation to improve child wellbeing and school readiness among children aged 0-4 years in four partner communities. The partner communities are in metropolitan (Armadale West), regional (the Central Great Southern (CGS)), remote (Derby) and very remote (Bidyadanga) locations. Following community consultations during 2022, each developed community plans of actions to improve the wellbeing and school readiness of their children. These plans were launched in 2023: the CGS Community Plan summary can be found in Appendix A.1 .

The EYP targets community-identified priority areas to create better outcomes and lasting change for Western Australian children. Reducing the number of preventable hospitalisations of children under the age of five years, due to dental conditions, was prioritised by the CGS Local Working Group (LWG) (21).

Allied health professionals and early childhood educators observed poor oral health among very young children in the community, and these observations were supported by hospital emergency data. In the CGS, between 2015 and 2019, 5.6% of potentially preventable hospitalisations of children under nine years were due to dental conditions, the rates in the Shire of Katanning were 2.9 times higher than the state average (22). CGS has a substantial Aboriginal and Torres Strait Islander population (13% of children aged 0-4 years), a large CaLD population, and over 22% of residents speak a language other than English at home (22). Furthermore, more than one in four children in CGS are developmentally vulnerable (23). To help address these issues, the CGS Local Working Group (LWG) applied for and received grant funding from the EYP Innovation Fund for the Dental Health Project in November 2022. The aim of the grant was to reduce the impact of a high sugar diet, improve dental hygiene, and reduce early childhood caries (ECC) in children aged 1-4 years through health promotion, screening, and treatment. The project, overseen by the CGS LWG Dental Subcommittee and led by the EYP Program Officer at the Western Australia Country Health Service (WACHS), involved five weeklong visits by final-year dental students and a specialist paediatric dentist from the University of Western Australia. They provided dental screenings and treatments at day care centres, kindergartens, and playgroups across four CGS shires. A Dental Health Coordinator from Amity Health managed health promotion materials, patient records, and treatment scheduling, while the EYP Program Officer coordinated logistics and communications. Clinical facilities were available for more involved procedures.

Details of the project strategies are available in Appendix 0 CGS Dental Health Project Strategies. The practice model used for the Dental Health Project was a student based, Specialist led approach, see Appendix A.4 Dental Model.

1.5 Guiding Frameworks

We use Developmental Evaluation (DE) to assess EYP projects, which is ideal for tackling complex problems and innovative initiatives (24). DE provides real-time feedback to stakeholders, promoting continuous learning and improvement. Within this framework, we use Community Based Participatory Action Research (CBPAR) to involve the community and give timely feedback (25). CBPAR encourages collaboration among community members, service providers, stakeholders, and researchers to drive social change. This method relies on the idea that those affected by an issue are best suited to address it, using their experiences and insights to improve community outcomes (25). We use RE-AIM (Reach, Effectiveness, Adoption, Implementation and Maintenance) to guide the analysis of the interview data. RE-AIM is used to provide consistency in reporting the research results that are translatable to practice (26).

1.6 Evaluation Aims and Objectives

The aim of the CGS Dental Health Project was to reduce the impact of a high sugar diet, improve dental hygiene, and reduce early childhood caries (ECC) in children aged 1-4 years through health promotion, screening, and treatment.

The following Research Questions (RQs) guide the evaluation (the EYP RQs are non-italicised and the project RQs are italicised):

What did the Early Years Partnership do to improve children's wellbeing and school readiness in four Western Australian communities?

What is the strength and breadth of data and evidence supporting community priorities and actions?

How many families and children were reached by the dental health initiative?

What is the current level of parent knowledge and behaviour relating to child oral health and nutrition?

To what extent have resources been mobilised and coordinated at community, state, and federal level?

What did the Early Years Partnership learn about what it takes to create change for children across Western Australia, that could inform reform?

What are the barriers to dental services experienced by families in the CGS?

How do dental students and local EYP stakeholders reflect on the experience of the dental health initiative?

What has worked for who and why and how can these be scaled up? (partially applicable)

What are the current levels of child oral health outcomes as they relate to child/parent practices.

What evidence was generated by the Early Years Partnership in implementing prioritised system interventions in the four partner communities?

Appendix A.5 Research Questions and Impact Pathways, provides an overview of the alignment of the RQs.

1.7 Ethics

This evaluation abides by the principles of ethical human research, following the Australian Institute of Aboriginal and Torres Strait Islander Studies Code of Ethics (27) .

The evaluation was approved by the WA Health Department's Child and Adolescent Health Services (CAHS) Human Research Ethics Committee (RGS4598) and the WA Aboriginal Health Ethics Committee (WAAHEC), (HREC1048).

2 Methodology

The evaluation utilised a mixed-methods design; stakeholder interviews, an online Dental Health Survey (for parents), a Student Experience survey and the VicHealth Partnership Analysis Tool (28). Clinical data collected by the UWA Dental team as part of their screening examinations, was de-identified and matched with the Dental Health Survey data.

This report includes data from the March 2023, July 2023, September 2023, March 2024 and May 2024 visits by the dental health team. All data collection instruments are included in the appendices.

2.1 Stakeholder Interviews

In-depth, semi-structured, online interviews (n=40) were conducted after each dental health visit with key stakeholders (n=23, including 3 students from visit 1) who were involved in planning or implementing the program. Interviews, which ranged from 30 to 60 minutes, were transcribed verbatim and analysed using NVIVO 12 (29). The RE-AIM framework was used to guide the inductive, thematic analyses (30-32).

See Appendix A.6 for the Stakeholder Interview Participant Information and Consent Form, and the Interview Schedule.

2.2 Dental Health Survey

The Dental Health Survey collected a variety of information pertaining to the child participant. The survey was completed by parents/caregivers and comprised items relating to demographic information, oral health history and behaviours, diet, early feeding practices, and dummy use.

The survey also contained sections on barriers to service use, and parent perceptions of the oral health of the child. Parent perceptions were measured using a validated oral-related quality of life too, the Early Childhood Oral Health Impact Scale (ECOHIS) (4). This is a 13-question questionnaire divided into two parts: child impact and family impact. Responses were rated using a Likert scale (never=0, hardly ever=1, occasionally=2, often=3, very often=4). Scores were added with higher scores indicating higher oral health problems (4, 33-35).

The survey was administered online via REDCap 12 (36), a secure web-based survey platform. Paper-based versions of the survey were also available. See Appendix A.7 for a copy of the survey. Survey data were analysed using STATA (37).

2.3 Matched Dental Health Survey and Clinical Data

The paediatric dental team collected clinical data on each child's teeth as part of their screening process. Each tooth was classified as carious or not. The presence of caries was noted and the number of teeth with caries was reported. These data were merged with the Dental Health Survey data. Simple descriptive statistics (i.e.: Students' t-test, Chi-squared tests and non-parametric tests as appropriate) were used to explore differences.

2.4 Dental Student Experience Survey

Interview responses from the dental students during the first visit informed the development of the Dental Student Experience Survey. (36). Statements on elements of the student placement including overall experience and perceptions, accommodation, extra-curricular activities and student funding, safety and learning were rated using a 5-point Likert scale (strongly agree to strongly disagree). Two open-ended questions were included that asked about standout points of learning, and general feedback or comments. Simple descriptive statistics were undertaken.

2.5 Partnership Analysis Tool

The strength of the partnership between members of the CGS Dental Health project Implementation Team was measured using the Partnership Analysis Tool Survey (28). The survey (available from https://shorturl.at/j7s20) comprises seven domains (need for the partnership, choosing partners, ensuring partnerships work, planning and implementing collaborative action, minimising the barriers to partnerships, and continuing the partnership) with five items in each. The items were scored using a Likert Scale from 1 – 'strongly disagree' to 5 – 'strongly agree'. Scores were added with higher scores indicating a strong, collaborative partnership. Data from participants was primarily collected directly via a secure web-based survey platform, REDCap (36). Simple descriptive statistics were analysed using STATA (37).

3 Results

The 2021 Australian Census data provide a population estimate for the number of children eligible to participate in the Early Years Partnership (EYP) Dental Health Project (Table 1). The possible reach of the project in 553 children.

Table 1. Number of children aged 0 - 4 by CGS location based on ABS 2021 Census data.*

	Age in years (n=553)					
Shire	**0**	**1**	**2**	**3**	**4**	**Total**
Katanning	51	58	65	50	50	276
Kojonup	27	22	20	19	21	111
Gnowangerup	22	21	18	29	14	103
Broomehill-Tambellup	7	6	13	14	15	63

*Data from the ABS have random perturbation techniques applied for privacy reasons. These changes may cause the sum of rows or columns to differ by small amounts from the table totals.

The overall number of children screened by age group across the CGS Shire locations is summarised in Table 2, and by visit number in Table 3.

Table 2. Overall number of children screened per age group, by CGS location.*

	Age in years					
Shire	**0**	**1**	**2**	**3**	**4**	**n (%)**
Katanning	14	33	46	31	46	170 (62)
Kojonup	7	16	20	12	13	68 (61)
Gnowangerup	2	13	15	17	18	65 (63)
Broomehill/Tambellup	2 / 3	1 / 3	0 / 7	0 / 6	5 / 2	8 / 21 (46)
						332

* This is an indication of where children were screened and not necessarily the Shire in which they reside.

Table 3. Overall number of children screened per age group, at first screening, by visit number.

	Age in years					
Visit	**0**	**1**	**2**	**3**	**4**	**Total**
Visit 1 – March 2023	14	41	54	35	23	167
Visit 2 - July 2023	3	6	10	13	27	59
Visit 3 - September 2023	3	2	3	2	8	18
Visit 4 - March 2024	4	9	14	8	21	56
Visit 5 - May 2024	4	8	7	8	5	32
Total	28	66	88	66	84	332

The number of children screened for the first time and those returning for treatment or review at each visit, is provided in

Table 4. The number of contact points includes children seen single and multiple times. Children were more likely to be seen multiple times for follow-up treatment. These multiple visits present opportunities for intensive oral health promotion with the families who most need it.

Table 4. Overall number of children aged 0 - 4 screened, treated/reviewed by visit number and total contact points.

Visit	New Children screened	Review/ Treatment	Total contact points
Visit 1 - March 2023	167	0	167
Visit 2 - July 2023	59	42	101
Visit 3 - September 2023	18	61	79
Visit 4 - March 2024	56	89	145
Visit 5 - May 2024	32	56	88
	332	248	580

A breakdown of the total number of children seen in each Shire per visit is included below (Table 5) with an approximate percentage of children for that location.

Table 5. Overall number of children aged 0-4, screened, by Shire location.*

	Katanning n (%)	Kojonup n (%)	Gnowangerup n (%)	Broomehill / Tambellup n (%)
Visit 1 - March 2023	78 (28)	44 (40)	32 (31)	0 / 13 (21)
Visit 2 - July 2023	32 (12)	6 (5)	16 (16)	5 (8) / 0
Visit 3 - September 2023	4 (1)	11 (10)	0 (0)	3 (5) / 0
Visit 4 - March 2024	34 (12)	4 (4)	10 (10)	0 / 8 (13)
Visit 5 - May 2024	22 (8)	3 (3)	7 (7)	0 / 0

*This is an indication of where children are screened, and not necessarily the Shire in which they reside.

3.1 Stakeholder Interviews

Over the five rounds of interviews, some clear and recurrent themes emerged.

3.1.1 Reach

Reach includes the number of project participants overall, and by targeted sub-group/s.

The program reached 332 (60%) eligible children. When children under the age of one were excluded, 70.1% of children aged 1 to 4 years had been screened.

Overall, stakeholders were happy with the wide reach of the program as it effectively engaged with the many diverse communities in CGS across the four Shires by going to where the children are: in playgroups, primary schools, and day care centre settings.

Hard to reach

A known challenge has been seeking and attempting to engage with hard to reach and underserved families in particular towns and communities.

> *"And the endless quest of where the nought to four-year-olds are in [town name]. I don't know. I don't know where they are."*

> *"We've known that we haven't gotten into that [Name] community. I think they haven't really attended anything else because… They're unsure and uncomfortable. So, if we can just create a space, that's safe for them."*

> *"We've got lots of home school mums and we've got quite a few kind of alternative parents out there who, to be honest, we've only just recently found, it's quite frightening. So we've got a group … that are, none of them are immunised. They don't have birth certificates. They don't have Medicare cards. They're completely kind of not visible on a government website."*

As the model does rely on families accessing services, the issue of engaging marginalised or under-reached families remains.

> *"We saw for example the Aboriginal playgroup, where they had two kids and basically no one attending. Even though that was really the high-risk area in terms of these are really the kids we want to capture."*

> *"And of course, the tricky thing is the families that we most need to catch probably aren't engaging in any of those services, you know?"*

Concern for those hard-to-reach families and strategies to improve engagement, including expanding the program to other sites and more targeted approaches like house visits were suggested.

> *"…they need to explore different areas, you know, might be mums' groups rather than daycare centres… And then we might have to get some lessons from other primary health care sites with immunisation or something like that where they actively capture a massive portion of those people."*

> *"I don't know if we want to do door-to-door or house calls "*

> *"For daycares, not every child goes every day. There might be some kids that would maybe go on Monday, Wednesday, Friday…we can go on a different day and check in with them [daycare centres] around what days."*

> *"Like coming down for five days, but do say Tuesday to Saturday or Sunday to Thursday instead."*

> *"Saturday would be great if you could have like, you know from 9 till 3. So you've got six hours there where, you can just, kids can just rock up and get their teeth checked. Get some freebies. Have a feed. Have a play."*

One participant described specific community dynamics that impact the reach of health services, beyond the dental program.

"Mainly in the [community name]... the relationships between all the families aren't always positive, so if you get one family to come, the other one might say "well I'm not coming 'cause so-and-so's there". And it even plays out at service provider level. So that's something that's... It is tricky. And it's something that us, outside of it, can't solve."

Another proposed strategy to enhance program reach was to engage and upskill more general practitioners and other service providers in the referral process.

"Stakeholders, definitely primary health care providers. So if we could expand the tele dental side of things, then you're broadening your reach immensely."

Community Outreach

The EYP has forged relationships with key community members and service providers with strong connections to Aboriginal families. These community members have been a bridge to these hard-to-reach families, and without whom, the project would not have been able to screen and provide treatment to the children.

Having a strong connection with the Aboriginal community and providing a culturally safe environment has allowed the dental team to screen and provide treatment to children at high risk of caries.

During the first visit there was strong engagement with Aboriginal families as a direct result of the work of the Child Health Nurse from the Aboriginal Health team at the Western Australia Country Health Service (WACHS), supported by Aboriginal Liaison Workers. Subsequent participation of Aboriginal families waned when such intermediaries were not available. The dental team visited two aboriginal playgroups over the course of 18 months. One group was facilitated by an external coordinator from Albany and had very few consistent participants, the other group gained traction due to the involvement of local staff from Badgebup Aboriginal Corporation (BAC) (see Highlight below).

The engagement of South West Aboriginal Medical Service (SWAMS) has also meant that other families were being identified for the program: families not engaging with the Aboriginal Health team at WACHS, were likely being supported by SWAMS instead. SWAMS identified almost forty children in the 0-4 age group, in their database, that they could target for screenings.

SWAMS staff, though based in Bunbury, were well-known in the region through regular child health clinics. SWAMS also provided transport for families to attend the clinic, reducing the travel burden.

"[Name] and I go over and do regular child health clinics. So, the families are seeing us, sort of seeing us in that child health role."

"We can also do transport, which I think is really helpful for our families... we have a car that is based at the SWAMS clinic..."

Their involvement fostered a sense of comfort and trust, especially with the Aboriginal Maternal and Child Health Coordinator, who families were ...

> "comfortable talking to… they trust me enough to ask me that question… I felt really honoured."

Through familiar faces and culturally safe interactions, SWAMS staff helped parents complete the necessary paperwork, easing what might otherwise have been a stressful experience, especially when literacy is low:

> *"I pretty much prefilled what I could for mum, and then talked her through it… just to help her out and make that a bit easier."*

As a result, SWAMS' active involvement ensured families felt welcomed and supported, enhancing the reach and success of the program.

The Badgebup Aboriginal Corporation and their Community Connectors, Aboriginal Health staff and SWAMS, were integral to the effectiveness of this program. Their presence ensured the program was able to reach, screen and treat a large proportion of eligible Aboriginal children. CaLD Connectors based at BAC have also bridged the gap between their families and access to dental services. There is a level of community engagement and trust with services, upon which this program has relied, which has exceeded expectations. As a result, the total number of Aboriginal children reached over the 5 visits who also completed the baseline survey is 45 (19.7% of respondents) and CaLD children 29 (12.9% of the respondents).

Visit 4 Highlight: Engaging Aboriginal Families Through Moorditj Mums' Group

The Moorditj Mums' Group has proven effective in engaging Aboriginal families, especially those previously underreached by services. The facilitators' personal connections with the community were central to building trust and strengthening engagement with the Dental Health Project. As one facilitator describes, their established relationships foster a deep level of trust,

> "We are known and well known to most of the mums here because they're part... well, they're our family."

This familiarity helps break down access barriers, with facilitators "walking alongside" the families, making them feel supported and understood.

The group's reach is reflected in their success in connecting with families previously isolated from services. One participant highlights that,

> "fifteen of those weren't on the radar of any service previously,"

emphasising the program's impact in drawing in families who were otherwise disconnected. The dynamic of trust and convenience has been instrumental in engaging Moorditj Mums, as the participants are accustomed to engaging with new information through guest speakers in a comfortable setting:

> "They've gotten used to now having guest speakers and kind of taking that information on board."

A convenient approach to participation also plays a significant role in the success of the program. By offering transportation, such as a bus service, the program effectively reduces logistical barriers for families.

> "They come to you. So you're not having to remember there's an appointment, you don't have a car, or all of those things."

This accessibility allowed more families to participate in the dental screening and reinforced the program's reach within this community.

One facilitator described how many parents experience shame related to their children's dental health and education, which creates barriers to accessing necessary services. This challenge is compounded by previous traumatic encounters with government agencies and a lack of understanding and empathy from service providers. Connectors strive to break down these barriers by advocating for and guiding these families and "walking alongside".

> "We're there to advocate. So yes, there [are] barriers still, you know there [are] barriers for these mums, but I mean, because of our own experience, I can just say well... we're there to help you and we'll walk through this together."

Moorditj Mums group exemplifies a model of culturally relevant and accessible engagement, bridging gaps for Aboriginal families who may have otherwise remained out of reach for essential services.

SUMMARY: Stakeholders were satisfied with the program's reach, particularly due to the large turnout for children's screenings facilitated by visiting children 'where they are'. However, challenges remained in engaging marginalised families who didn't attend services. The program used Community Connectors and Aboriginal Health Workers to engage Aboriginal and CaLD families. Stakeholders suggested strategies to improve reach, including expanding to more sites, house visits, and upskilling service providers in referrals. Improving collaboration between services, Community Connectors and sharing of information will assist in identifying hard to reach families.

3.1.2 Effectiveness

The 'Effectiveness' domain of the RE-AIM framework was used to determine whether the program successfully provided dental care to children aged 0-4 years in the Central Great Southern, and what factors contributed to this achieved outcome.

Team Cohesion

Contributing to the success of the Dental Health Project was the strong sense of organisation and teamwork. Stakeholders praised the collaborative environment and shared understanding of roles, which have allowed the program to operate with minimal disruption and high efficiency in spite of barriers.

> *"... it was time that I could step away. Just in terms of everyone knows their roles. Everyone knew what they were doing. It was running really smoothly. So essentially, I guess I'd done the work in the lead up to get everybody to where they need to get to and then I could just leave everyone to it."*

> *"And I think now that I've done the trip a couple more times I'm a little bit better organised once I'm there, so it runs a little bit smoother."*

Reflecting on this team cohesion, one participant noted,

> *"Everybody has a role to play. And that's why it's been so successful, I think in the Central Great Southern that, we're very good at working together."*

Another stakeholder highlighted the well-connected team contributing to successful running of the program,

> *"It's an amazing team in Katanning... [Senior Community Engagement Officer (SCEO)]'s got her connections, [EYP Program Officer]'s got her connections, [Dental Health Project Coordinator]'s got her connections. So I think... it's amazing watching from afar and looking in and being a part of it, because everyone works together really well"*

The team's strong solution focus has allowed for the successful resolution of barriers.

Program delivery

The informal delivery of the program is an important contributing factor to its effectiveness. The traditional dental model, with its reliance on a medical facility has been used only when there has been a clinical treatment need. Most first screenings have been undertaken in natural settings, where children are already comfortable, at venues and at times consistent with their regular routines.

"I think it went really well having neutral ground where people felt comfortable going ... There were people there who they knew as well. So it's a safe and trusted environment."

"We noticed with this model it was a lot more family centred. We'd see the siblings together. The parents would be there. They're in a sort of open, familiar setting, which is quite a special and unique way of doing it."

This delivery method (in a natural setting) has been considered appropriate for CaLD and Aboriginal families and has been a valued aspect of the program. However, a concern was raised that one of the exam styles, used with the younger children, was not culturally sensitive. The tip back exam, where the child's head rests directly on the dentist's lap was not seen as acceptable among some community members. The dental team took action to address this concern and acquired a knee to knee board, to assist with the tip-back exam.

Overall, stakeholders were pleased with the impact of the dental visits on improving the oral health of 0-4-year-old children in the CGS with children continuing to be scheduled for preventative treatments and surgery.

"I think it's been another great week though. I mean that it's only gone from strength to strength. So it's fantastic really."

"So some of those higher risk kids will get seen almost every time we go down ideally."

Health Promotion and Knowledge Gap

There was a wide knowledge gap in the community in relation to oral health. This lack of knowledge was seen not only in the parents and caregivers but also in some of the service providers. The importance of dental checks in children aged 0-4, and maintaining good oral health from a young age was not a priority issue for many families.

"... a lot of the parents will say, you know, "school dental starts at 5 we thought that's when they have to go to the dentist from, we didn't think that we needed to take them before that", and especially in the really young years, parents are busy and have lots of other things to think about. So unless something prompts them ... it's not front of mind."

"I don't believe that parents see it as important... it would never have occurred to me to take my children to the dentist before they're seen by the school dental service."

"I was surprised by staff who didn't realise... my own staff, so professionals, who didn't appreciate the importance of early childhood dental care."

"You know when the child is with the dummy or bottle, or you think it's common sense not to put cordial and stuff like that in a child's bottle. But a lot of people do think it's okay."

"You're seeing lots of kids with lots of problems. You're seeing the lack of brushing, the dietary issues, the lack of education, or lack of understanding of what's important. And … a lot of parents were thinking "I'm doing an awesome job"."

"…some of the kids we saw had really extensive dental caries. But even then, the parents didn't really know how it got to that state or what to do about it."

Health Promotion messaging has been consistent and targeted to the needs of the community while keeping in mind the challenges some families face in just their normal day to day lives. Several interviewees noted that engaging parents enhanced the program's effectiveness by providing an opportunity for health promotion.

"But I still think it's the playgroups, the schools and the places that have access to the parents is the key."

"…you go to where the kids are, but having parents there, I think is important too because I think that's a really good way of starting that promotion, …"

Children who had been seen previously or had received guidance from their parents, including practising dental care at home, were notably more at ease with subsequent visits. This desensitisation approach proved effective, with children showing greater compliance and comfort during dental examinations.

"We had a child [who] was probably about a year, 18 months, and she just sat there on the mum's lap, opened up, had the mirror, no problem at all and the mum said it's because we saw her last time, we gave her a mirror to take home, and they've been doing sort of role modelling at home and she's very comfortable now. So I didn't expect that, but just showing the indirect effects that it has is just amazing."

It was felt that the Dental Health Program was helping to create awareness and improve knowledge about dental health in children aged 0-4 years and more broadly:

"The aim of this is not only do the treatment but that health promotion, health education, very much so."

"And hopefully, as those parents start to talk about dental care. The word will spread that it is a thing, and it is important. That it has to be done."

"Delighted to hear people say all the kids want to brush their teeth now and couldn't go to bed before they had brushed their teeth. So kids are always teaching their parents, aren't they?"

One participant emphasised the importance of tailoring the health promotion approach to the needs of the community.

"But, I think we have to be really mindful when we're working with our communities. We know the importance and value of what looking after baby teeth is all about. Some of our families, they're just trying to survive, right? Like it's not a priority, they're just trying to be safe. They just want to like get some food for their kids. They're living with FDV, mental health, substance abuse like… I think it's really important to meet people where they're at."

Visit 1 Highlight: Advocacy for Urgent Care

The story of a young child experiencing severe dental pain and facial swelling underscored the importance of advocacy in addressing urgent health needs and demonstrated how the EYP was able to provide treatment and funding options for a family who did not have Medicare or comprehensive private health insurance.

Due to severe early childhood caries, the extraction of many primary teeth was the recommended treatment plan, but considerable barriers limited this intervention.

Options to secure a funding solution to provide the family with financial support were explored by the Dental Health Coordinator.

As a community-based initiative, every effort is made to provide children with necessary support, irrespective of their health insurance status.

> *"I think that's one of the spinoffs from this program ... is that we don't just stop when we've seen them and say, well, you know it's out of our scope. We are actually trying to support these families to get the treatment that they need... we could easily go "well sorry, that's beyond us."*
>
> *"It's a huge advocacy. I mean, a lot of paediatric practices here, it'll be "Oh, you can't afford it, so sorry. See you later." And if you're lucky, you have a Medicare card and you can get it done through PCH end of line. [If] you don't have a Medicare card and you can't go private, you end up suffering. Or the kids that end up having ... emergency hospitalisation. The parents get a $3000, $4000 bill because they're a private patient being treated in public hospital, and it just adds so much burden."*

While the Dental Health Coordinator was in the process of finding a suitable funding solution, the child's condition deteriorated, prompting the family to seek immediate help. The family requested a specialist referral. With no financial support secured at the time of the child's deteriorating condition, the family had no choice but to incur the financial burden. The child underwent the recommended surgery as advised by the specialist paediatric dentist, addressing the severe early childhood caries and improving the child's oral health condition.

The Dental Health Coordinator maintained close contact with the family to provide assistance and support. Given the significant language barriers, the coordinator helped bridge the communication gap, ensuring that the family understood the treatment options, progress, and any additional support that may be required.

This case study underscores the challenges faced by an international family in accessing oral health care due to financial constraints and limited access to affordable dental care. It highlights the proactive efforts of the EYP Dental Health Project Team providing support throughout the treatment journey. By collaborating with a private specialist, the child received the necessary surgical intervention, ultimately improving their oral health and well-being. This case emphasises the importance of inclusive and accessible oral health care systems to ensure equitable treatment for individuals from diverse backgrounds, including those with limited financial resources and unique circumstances.

Dental Student Participation

A key driver to the successful implementation of the Dental Health Project was the support provided by the four UWA dental students who accompanied and supported the paediatric specialist. At each visit the students were very engaged with the work. Students were positive about their experiences citing the opportunity of rural experience to which they otherwise would not have exposure. Student participation is an effective leveraging of resources, as they obtain paediatric and rural experience in return for their services.

> *"I guess it's a lot for the students as well around giving them context around what the tyranny of distance I guess, and the barriers that people are up against to get their kids teeth seen to and also a bit of social context as well around hierarchy of needs."*

> *"... there's so many parts of this model that have so many benefits, for so many different people. Like obviously, our community being paramount, but then the experience that the dental students get, like (the dentist) was saying in March that these students would probably see three or four kids their whole dental degree."*

The dental students also integrated well into the larger team and their contribution was viewed very positively,

> *"I mean, the (dental) students were brilliant again, like every trip. There's different personalities and different dynamics going on, but they were fabulous, and they were so good with the kids, and they seemed like a really cohesive bunch."*

This dental model facilitates screenings in children but also provides those students with unparalleled exposure to children in the 0-4 age group and a unique learning opportunity in a rural context.

> *"They [the dental students] normally would only get school age children that they would see, so getting exposure to under 5s, you know I said to one of them: "by the end of the week - Congratulations - you've done now more knee to knee techniques, perhaps more, than a general dentist probably has". So I think exposing them to paediatrics is really good, and exposing them to the country is really good. None of those students had ever been outside of metropolitan regions before. And if you don't expose them to it, there's no chance they're ever gonna consider working there."*

SUMMARY**:** Interviewed stakeholders were pleased with the impact of the Dental Health Project. Despite challenges in parental knowledge about early dental care, the program has helped raise awareness and improve practices among Central Great Southern families. Dental student participation is an important part of the program's effectiveness.

3.1.3 Adoption

The adoption domain was qualitatively assessed by understanding the extent to which program partners, collaborators and services endorsed or opposed the Dental Health Project.

Community Support

The project involves not only the collaboration between the multiple stakeholders (UWA Dental Health School and Oral Health Campus; Rural Health West; Amity Health; Badgebup Aboriginal Corporation; South West Aboriginal Medical Service (SWAMS); A Smart Start and the Department of Education), but also the many services and community organisations that support the project on the ground in the community such as day care centres and schools. Access to a private dental clinic in one of the Shires has also been a positive collaboration.

The relationships fostered by the stakeholders as members of the community have engendered much goodwill across the community at large and has facilitated promotion and adoption of the program.

> *"Yesterday afternoon I sent out an email to all my peeps [people] at the schools about, you know, do you think this [promotion of the dental health initiative] is, you know, could this be OK for the Kindy orientation session? And within 5 minutes, my inbox was just like, yes, come, boom. Yes. Fabulous. Awesome."*

According to several interviewees, interagency collaboration continues to be a strength of the initiative.

> *"I think from a local agency perspective, I think that works well at the local level. You know... Rural Health West, Amity Health, and then even down to the school dental, now we've built a relationship with the school dental. I think having local people on the ground who are driving it, who can build those relationships with those who are important, but aren't on the ground, if you know what I mean, that we've built relationships with, say, Rural Health West now."*

UWA Dental Health School and Oral Health Centre are considered cornerstones of the program's success through the involvement of a specialist paediatric dentist and four final year dental students. It was considered an effective leveraging of resources, as dental students obtained paediatric and rural experience in return for their services.

> *"I think the integration of students is critical because (1) it provides a workforce that is constant. (2) It can potentially help recruitment of those students later as new grads into those areas. Also, it allows the university to continue to be engaged, whether it's on the research side or the clinical services side."*

The current model includes upskilling local healthcare practitioners to screen and photograph young children who may require dental treatment. A tele dentistry presentation for health service staff delivered by the dentist resulted in the triage of a child for surgery.

> *"...we already had one of the speech pathologists send me photos for a case that now definitely requires a general anaesthetic that we didn't capture. So that's quite a novel sort of pathway of involving other healthcare practitioners in screening."*

Dental Health Services sent senior staff to CGS in July 2023 to review processes and to understand the model that the EYP dental team were using. This resulted in greater

access to the clinical facility on the Katanning Primary School grounds being granted, allowing more children to be seen for treatment appointments.

> *"The other thing that's been amazing is the last session where we got DHS sort of executive to come down and watch the model of care work. They noticed that it was pretty adaptable, it was responsible, there was low risk, and they have never given any other external agency the key to their clinic to use and we sort of build that rapport, which initially to be honest, was shaky… "*
>
> *"From what they said that they thought it was fantastic, and you know they wanted to see how we could replicate it further in other centres because clearly the biggest thing is community involvement and the engagement that we get."*

System Supports and breaking barriers, Katanning Hospital (see Visit 3 Highlight)

Visit 3 Highlight: Dental Theatre List at Katanning Hospital

The most significant endorsement of the Dental Health Project emerged from the development of a new dental surgical list at Katanning Hospital. Concern had been raised by PCH about the capacity to cope with increased demand for surgical services resulting from the impending rollout of the WA State Government Early Childhood Dental Program (ECDP). While there was an already existing requirement to improve paediatric referral pathways in the Great Southern area, the EYP Dental Health Project's screening efforts, and the resulting data, provided the impetus for action.

Albany Health Campus had neither staffing nor theatre capacity to accommodate dental surgical lists. The private hospital did not have surgical accreditation for children under 20 kg.

> *"... the highlights were definitely you know the synergies that we had going on with the paediatric pathways that were being developed as well, separately, in a separate project, to then align with (our) dental work. So to have six children have surgery in Katanning that week was... Yeah, I get goosebumps every time I talk about it.*

The combined efforts of stakeholders, driven by a common goal to enhance dental care access for children in the region, facilitated the rapid establishment of the Katanning Hospital surgical list. The first local dental surgical list was undertaken on Friday 15th September 2023 and included procedures on six children, two of whom were identified during that dental week visit. The paediatric dentist originally involved in establishing the EYP dental model, performed these surgeries.

> *" ...some of these families have been hard to reach in the past, so to get them in, and have it all go so well, was a real coup. Great obviously for our health service, so two nurses ... had gone up to PCH to kind of see the workflow, see how they ran the surgery. So on the day we had staff that you know had a bit of an idea of how it was going to look and we also had two nurses come down from Perth."*

> *"The nursing staff had gone above and beyond ... the little tooth fairy packs and posters they had on the walls and stuff. Just to yeah make the kids feel comfortable was incredible and I think they were really excited about having the opportunity as well. So yeah, massive coup. Yeah, people were really impressed ... that is a service ... that kids in this region can access now."*

> *"The willingness of all the parties and the great timeliness of coming together of various factors... from the Early Years program to PCH"*

The impact of Katanning Hospital dental list is significant, with families no longer having to travel to Perth for surgery. Sustainability of the surgical list will depend on funding and staffing as well as increased capacity at Albany Hospital.

> *"And to remove all of the barriers and the logistical stuff that goes on for regional families ... these kids have now had the treatment that they need and what that will do for their quality of life is, yeah. If I died tomorrow, I'd be a very happy camper."*

> *"Like those kids who got to have their surgery at the Katanning hospital...all of those barriers driving to Perth to, you know have dental surgery for young children... if they're in pain in a 3 1/2 hour car ride up to PCH and trying to find accommodation for the parents and the families and if you're already in that tight lower income, that is something that you honestly, can't afford."*

As of November 2024, eighteen children aged under 4 years were referred for dental surgery as a result of this initiative. Sixteen out of the forty children who have had dental procedures at Katanning hospital, were referred directly by the EYP program .

SUMMARY: Stakeholders highlighted strong interagency collaboration as a key strength of the project. Having the Dental Surgical list come to fruition in a very short period of time at the local hospital was a highlight of this program. The professional development of the local workforce to meet the requirements of local surgical procedures demonstrates what can be achieved when collaborations are a key strength. The impact of the adoption of this Dental Health Project extended its capability beyond the scope of the original dental model.

3.1.4 Implementation

The implementation dimension aimed to assess how the program was organised, managed and administered. Interview participants were asked whether they felt that each visit was implemented as planned.

After each visit responses were very positive regarding the overall implementation of the program.

> *"It's just another great week. [Dentist name] is a great leader for the students. The students always conduct themselves really well. I think like you guys [The Kids staff] are amazing. It's always been a very rewarding week. And just to watch those kids and the families get so much out of it, and their gratitude, it's really rewarding."*
>
> *"From the families that we spoke to they all had really good feedback that "Oh it's so nice people coming down here".... it felt like it was appreciated what you were doing, which is nice..."*
>
> *"...the workflow seems to keep getting better and better every trip."*

Communication

All stakeholders identified communication as having a significant impact on the implementation of the program. Some felt that the communication between Dental Health Project staff and the service providers (at schools and day care centres) was effective and enhanced implementation, others could see specific areas for improvement.

> *"The communication was sound, well organised. It came to me in a timely manner. I was able to distribute it well. We had the platforms to do it"*
>
> *"There was no grey area, I knew what was happening. I knew what I needed to do.... It was very well planned and orchestrated."*
>
> *"So, one of the things that I really want to home in on and get better is that communication - this time with the Kindy's. And I think previous time it was with the daycares, I guess the first visit was very different to the second in that we didn't really know how it was gonna roll, what it was going to look like."*
>
> *"Just some of the communication with schools around what kind of space we would need, and obviously all the consent and paperwork getting out and getting back and just kind of explaining to the schools how many people are coming. We had an issue at one school, and they didn't realise it was going to be a whole team of us. But I think that's something that we can really bed down for next time."*

Better communication with staff at schools and daycare centres had a twofold purpose: to improve the staff's understanding of what the project teams requires of them; and to educate staff so that they are better placed to speak to parents about the program.

> *"Just the importance of having really clear communication with the daycare staff to then pass on to the parents. So, I know [Name] and I created a bit of a 'cheat sheet' for families so that they knew exactly which bits of the paperwork they needed to complete."*

> *"One of the comments I heard was that the [location] daycare, one of the girls, was like "Oh. These kids will be so overwhelmed by how many of you there are", which I think was sort of a bit of an indicator that I've been liaising with the manager of the centre. Then obviously that hasn't filtered down to the staff."*

Communication paths between the dental team and parents were also reported as requiring some work when treatment follow up was required. Exploring non-conventional methods such as Facebook messaging and having Community Connectors reach out directly to those families have been proposed.

> *"And so, one of the things that we've seen and whether it's booking patients in for the next appointment or whether it's an anaesthetic follow-up, etcetera, it's trying to just get the patient, get hold of the patient, because the only thing we have is a phone number."*

> *"[Phone calls are] pretty much the only path that we have. It's not like many have email addresses that they're gonna be checking, so having dedicated community liaison that know these people like [Name] knows quite a few."*

> *"So, [Name] actually Facebook messages them, which is a different sort of path that probably not, not everyone could be able to do or some other, you know, know exactly where they live and just knock on their door."*

Clinical process

The Clinical team has established clear processes, and was across not only the screening and treatment requirements for the visits but also the surgical requirements,

> *"We've got checklists, so this is what the students need to bring down. We've got an inventory, so we know what we have to order. And then I went to meet with the theatre staff- ...just to go through the list. How many kids there are? How many extractions and on average most of these kids were having, you know, 5 to 8 teeth extracted on average, and so, you know, making sure that everything was ready. We had all the instruments ready and anaesthetics, all of that was ready, so we basically had packs ready for each patient for tomorrow."*

> *"But because we had had all of it planned, we had so many plans just in case the first one didn't work, so that, you know, went really well. Umm yeah, there was no adverse events or anything. Worked smooth, flowed all the way through."*

> *"Having some levels of redundancy always helps the data and we saw that in the first session where all our paper records got shredded for confidentiality and lucky we had the App and Titanium, which is a dental software so we could regain all of that information."*

The effectiveness and implementation of the program is impacted by the ability of the team to be flexible in their work. If time at a location is limited, then the prioritisation of children who had not been previously screened was the most effective use of the time.

> *"we've pulled out the ones that, you know, prioritised the ones that hadn't been seen and then just screened the rest with the time we had"*

Incomplete paperwork by the parents and caregivers did inhibit care to some children. Children were not seen without the requisite permissions but where clinical staff had concerns, they did advise the early childhood staff.

> *"So the kids were there, but we didn't have permission from the parents to screen them. Because there was actually one kid that we saw running around who clearly did have a problem with the front tooth and we sort of had to say to the [location] staff, you know, please make it clear to the parents that we didn't screen the child without their permission. But we noticed them running around and they do need to go to a dentist."*

Paperwork, technology and software

Several interviewees expressed frustration with systems issues creating extra burden. While a trial version of Microsoft Power Apps, used by the dentists to record tooth charting, photograph teeth and manage child clinical data, had initially appeared to streamline processes, software anomalies and particular limitations began to undermine the integrity of the clinical record created in Power Apps.

From the dentist's perspective, the data management system could be improved.

> *"Something that we're struggling with at the moment. It's just that the paperwork's unreal, and there's just maybe too many systems that we have to go through. First, we do it on paper, then we take photos of it and goes on our app. Then all of that app has to go to the reception at (the Oral Health Centre of Western Australia) OHCWA. Then they find out that half of its not filled or doesn't match their Centrelink stuff, and so they only end up putting some patients on the actual dental database. And then we probably have to spend another six hours going back retrospectively, adding all the clinical information into the OHCWA dental database and so that whole thing is just painful."*
>
> *"We had a lot of problems with that [App], saving documents against incorrect patients... and then having to manually go through and to move them around"*
>
> *So, I mean, so then we have this spreadsheet and then you have to submit it and put it on to Titanium, which is a dental software. So, I guess there's issues with making sure that everyone is actually recorded. And I know for certain there's at least some kids that are not on Titanium because all the correct paperwork wasn't actually done, or Reception didn't find it or something. So, there's gonna be some people that we just didn't capture."*

While there was no budget or plan for IT infrastructure and this part of implementation has been unruly, it has not impacted the clinical care given. Ideally, a centralised dental database would be used, that would feed into already existing databases, especially if the program is to be expanded to other sites across the State. In addition to this,

Practice Software to manage appointments and send reminders to families would also improve the efficiency of the Dental Health Coordinator.

The importance of the paperwork for all facets of the program however was noted.

> *"I think that's a very important piece. The paperwork is really important that it goes with it, although we all think it's a pain in the neck, at times. It does play an important role and to be able to follow those kids through."*

Memorandum of Understanding

The work undertaken between March 2023 and May 2024 has been done without a formal MOU or any other explicit agreement between the different parties and organisations. All parties have worked together to their strengths under the EYP banner. However, the informal nature of this collaboration has meant that at times there have been unclear expectations regarding roles and responsibilities, patient privacy and data-sharing protocols. While all parties were working together cohesively and in good faith, organisational level issues, in particular with Compliance and Risk Policies, were raised as important Implementation issues to be addressed.

Community Based Participatory Action Research

Implementation was bolstered by the participatory action approach that was undertaken. Immediately after each of the visits, preliminary numbers were fed back to the Dental Sub-Committee and there were also online presentations of results to the Dental Sub-Committee. Preliminary findings from the visit 1 evaluation data were provided to the EYP Program Manager (WACHS) and the EYP Policy Officer (Department of Communities) for inclusion in their submission to the Select Committee into the Provision of and Access to Dental Services in Australia. There were multiple emails between The Kids and the Dental Health Coordinator regarding data cross-checking, work flow during visits, oral health promotion for CaLD residents and further data requirements. Updated results and PowerPoint slides were requested by and shared with the EYP Program Officer on multiple occasions. Other communications with the Dental Sub-Committee, the co-Chair of the CGS LWG, the SCEO, and the community more broadly, also occurred.

SUMMARY: Feedback from stakeholders after each visit indicated that implementation was smooth and well-coordinated overall. The persistent points of weakness have been effective communication between project staff and service provider personnel, and project staff and parents after treatment, and paperwork/technology and software systems. Barriers including extensive and rigid paperwork requirements and technology shortcomings, impacted workflow and efficiency.

3.1.5 Maintenance

The dimension of 'maintenance' refers to the sustainability of the Dental Health Project.

Factors considered in determining a program's capacity for sustainability over time come from the domains used in the Program Sustainability Assessment Tool as listed below (5).

- Environmental Support: Internal and external Champions and community support
- Funding Stability: Consistent financial base
- Partnerships: Connections with program partners

- Organisational Capacity: Operational and staff resourcing
- Program Evaluation: Assessing program to inform planning and document results
- Program Adaptation: Review effectiveness
- Communications: Strategies for internal and external communications
- Strategic Planning: Future directions, goals and strategies

The factors influencing the sustainability of the Dental Health Program centred around funding stability, organisational capacity and strategic planning.

Funding

The dependence on funding was potentially the greatest barrier to the sustainability of the program in its current form, reported by all the stakeholders across all five visits. Following the announcement that funding had been secured for an additional 18 months, there was a sense of both excitement and caution among the team. One participant emphasised the importance of seeing the program as a long-term commitment rather than a temporary initiative:

> *"So, there's a lot of work now to be done. But I think it's exciting that it's been recognised as being an important project to support. It's not really a project. Project means it indicates it's not sustainable. So, as you know, a once off thing, but we hope it's not going to be that. We hope it's going to become part of service delivery.*
>
> *"I think it's very exciting. It's been recognised. I think that's great. And it will allow us to continue, and also, maybe, go to all Great Southern rather than just Central Great Southern."*
>
> *"The aim is to make it sustainable… it will come down to those key risks of staffing level and costs."*

Alternate sources of funding stability could be sought elsewhere to ensure sufficient resources and staffing. The CDBS monies alone would be insufficient to cover all the operating expenses. The contribution from Rural Health West to cover student expenses has been a strong support but is also not guaranteed to continue.

> *'Yeah, it [the CDBS] is not enough. It's a nice little supplementary addition but definitely wouldn't be enough to sustain a full coordinated approach for this.'*
>
> *"So, it definitely would need to be funded by some, you know, whether it's government, philanthropic and it needs, yeah, just the amount of FTE, effort, involvement you know in place; paediatric dentists aren't cheap either!"*
>
> *"[the student component] would be backed by hopefully UWA. And hopefully, Rural Health West can continue to kind of fund that component. And obviously we need more people to come to the bush. So, I don't see that side of it being a problem as such. I guess it's more about funding like the paediatric dentists. And obviously, just all the equipment and whatever the dental team needs as well to make the week happen."*

The core funding required would be for the local Dental Health Coordinator role.

> *"...probably funding the actual dental component is not so hard. It's the project officer [Dental Health Coordinator] who helps coordinate it, is where we really need the greater funding."*

> *"I mean, we're operating on pretty minimal equipment. So as long as you've got, I mean, the personnel is the hardest part, as long as you've got that, then makes it [the initiative] a bit easier [to sustain]."*

The tele dental component of the program could be considered as an alternate service delivery model - a key driver in addressing cost savings to enhance the program's sustainability.

> *"The use of tele dentistry also provides another element ... training the child health nurses and the teachers and things to take photos of the teeth. And those could be then sent for, you know, assessment and planning remotely. So that's definitely a cheap and sustainable option."*

> *"And so, if we could somehow simplify all the recording process, there's potential for us not to even have to be there and someone could just send us photos. And I could complete an odontogram and chart and everything remotely. We've shown from the paper we wrote on tele dentistry that's pretty reliable doing that. So, you know, that could be quite good. So, if we could engage parents a bit more, you know, then we don't have to go there. The parents just take the photos of the kid's teeth. And we can screen every single kid all done remotely. So that's I think the way forward to some extent."*

Providing evidence of the program's success and communicating these results to higher authorities and stakeholders is critical to maintaining support and overcoming potential bureaucratic obstacles.

> *"It has to be continually worked on or worked with. And then also feeding up the line. Making sure that above know the results, know the success. Because they are often blockers."*

Organisational capacity

The model was trialled with a different paediatric dentist partway through the program, and this was felt to be a good step towards demonstrating sustainability in resourcing.

> *"Also, you know the succession plan for [Dentist 1], so not having [Dentist 1] that was a really interesting thing to watch just in terms of, I mean obviously we knew that he had great rapport with families and the kids, and then "could he be replaced?" And turns out he can be. [Dentist 2], had her own set of skills and was great with the kids and liaising with the families. And yeah, thought that was a real a real bonus as well, and moving forward in terms of succession and sustainability that that will be fabulous to know that you know it doesn't rely on one human to make this work."*

> *"My role was to try and build more capacity for the program to see whether it was feasible for someone else other than me to lead the team and the clinical side of things, along with supervising the students. So, Doctor [Dentist 2] is also a paediatric dentist*

and has just started at UWA seemed to be the right candidate ... she's also from the southwest area, ... so she's quite familiar with some of the challenges that the families face."

Staff turnover and recruitment were concerns in the Organisational Capacity domain. The original Dental Health Coordinator resigned shortly before the second dental week visit which left the new Coordinator with little time to prepare.

> *"...and (the Dental Health Coordinator) she had a big task ahead of her with, you know, first, you know, couple of weeks in her new role. And she did exceptionally well with getting all the client list together and all the data files and everything that you know needed to have happened."*

Training assistance was given to the new Coordinator to navigate new systems, but there were concerns that resourcing could pose issues in the future.

> *"I got a private Practice Manager to give her [Dental Health Coordinator] a call to go through how to do it [lodge CDBS claims] and stuff. And so that's always an issue because, you know, she might leave tomorrow, and they have to do the whole thing all over again."*

Strategic planning

The future direction of the Dental Health project has tentatively been linked to the State Early Childhood Dental Program (ECDP). Representatives from the ECDP met with stakeholders at various sites during the dental health weeks. This was viewed positively by the stakeholders as a way for the State team to observe how this program differs from traditional approaches.

"Also to have the early childhood dental project team come down and have a look at what we're doing. I know they've spent quite a lot of time with [Dentist 1], sort of chewing his ear off about how it works and what would be needed if this was something to be rolled out across the State."

"I think it's just a really timely conversation to be having around what might be in the works. What this might look like and yeah, that that was exciting to think that some of the stuff that we've been doing could be the way forward for the rest of the State."

"I know they were impressed with what we had going on, but whether you can replicate that across the state, when you look at the people that you need to make it happen."

Of great concern was how to replicate that Environmental Support, that community collaboration, that is evident across the CGS, in the ECDP:

"... how did this [EYP Dental Health] Project build so much community engagement? So if you had to replicate this anywhere else, how do you get by-in from daycare centres, from playgroups, you know, contact all these people. How do you even know who is zero to four? They obviously have the [Community Program] register down there [in CGS], but other places don't. And so that's gonna be a bit of a challenge."

"And I think that's the thing in the Central Great Southern, and I think it's the thing in rural areas that you know, who your players are, and the often the blockers you get are above, not the locals."

The program's success relied heavily on personal relationships with community members and local providers. Participants expressed concerns that these critical relationships might be lost in a transition to a larger, more bureaucratic system:

> *"Our community is pretty happy with what we've provided... I don't know what it's going to look like after we transition out."*

> *"I think that personal relationship with people who can bring families is really important, and I'm not sure the new statewide thing understands how important that aspect is."*

SUMMARY: Securing ongoing funding will impact the sustainability of the program. In terms of organisational capacity, the model is not dependent on a single Specialist resource and while there is the ongoing availability of final year dental students, there is redundancy in the clinical operations. The expansion of tele dentistry and alternative service delivery models, have been suggested as ways to enhance program sustainability. The strategic direction of the Dental Health Project is likely to converge with the State project in the medium term.

3.2 Dental Health Survey

Table 6 details the baseline demographic characteristics of the children who participated in the Dental Health Survey during the EYP Dental Health Project. A total of 332 children were screened, of these, 228 completed surveys (Response Rate = 68.7%).

Demographic results showed that about half the sample were male (52.6%). The most common number of children per family was two. Approximately one-fifth of the sample identified as Aboriginal (19.7%). A quarter of the participants were 2 years of age (26.8%) with the mean age being 2.2 years (*SD*: 1.3). English was the language predominantly spoken at home (87.1%). Half of the survey respondents (50.9%) resided in Katanning and almost half of children were screened at playgroups (46.9%) .

Table 6. Demographic characteristics

Characteristics (N=411)	**Total (n=228)** N (%)
Gender	
Male	120 (52.6)
Female	108 (47.4)
Number of children	
≤ 2	142 (67.0)
>2	70 (33.0)
Indigenous Status	
Indigenous	45 (19.7)

Characteristics (N=411)	Total (n=228) N (%)
Non-indigenous	183 (80.3)
Age	
<1 year old	20 (8.8)
1 year old	54 (23.7)
2 years old	61 (26.8)
3 years old	45 (19.7)
4 years old	48 (21.0)
Language spoken at home	
English	196 (87.1)
Other	29 (12.9)
Residential Shire	
Katanning	116 (50.9)
Broomehill-Tambellup	29 (12.7)
Kojonup	38 (16.7)
Gnowangerup	36 (15.8)
Other^	9 (3.9)
Setting	
Day Care Centre	36 (15.8)
Playgroup	107 (46.9)
Katanning Dental Clinic	20 (8.8)
Kojonup Dental Clinic	<5
Community Resource Centre	14 (6.1)
Library	6 (2.6)
Primary School	35 (15.3)
Other	9 (4.0)

^Other residential shires include Cranbrook and Woodanilling.

Oral health behaviours as described by parents are reported in About half of the children (50.8%) were reported to have their teeth brushed at least once a day but 1 in 6 children were brushing less than once per day. Most were breastfed either exclusively (36.4%) or in combination with bottle feeding (38.2%). Almost two-thirds (62.3%) of children were falling asleep with their bottle. Most respondents (77.8%) also reported feeding their children on demand as opposed to providing scheduled feeds (22.2%). Nearly one third (30.4%) of the sample used dummies, a small percentage sucked their thumbs (6.2%), and a very small number did both (2.2%).
Table 7.

About half of the children (50.8%) were reported to have their teeth brushed at least once a day but 1 in 6 children were brushing less than once per day. Most were breastfed either exclusively (36.4%) or in combination with bottle feeding (38.2%). Almost two-thirds (62.3%) of children were falling asleep with their bottle. Most respondents (77.8%) also

reported feeding their children on demand as opposed to providing scheduled feeds (22.2%). Nearly one third (30.4%) of the sample used dummies, a small percentage sucked their thumbs (6.2%), and a very small number did both (2.2%).

Table 7. Oral health behaviours

Behaviour	N (%)
Teeth brushing	
≥Twice a day	78 (34.2)
Once a day	116 (50.8)
<Once a day	34 (14.9)
Type of feeding	
Breast fed	83 (36.4)
Bottle fed *	58 (25.4)
Both	87 (38.2)
Length of breast feeding	
0-12 months	53 (41.4)
>12 months	75 (58.6)
Fall asleep with bottle	
Yes	142 (62.3)
No	86 (37.7)
Feeding system	
On demand	172 (77.8)
Scheduled	49 (22.2)
Use dummy / suck thumb	
Dummy only	69 (30.4)
Thumb only	14 (6.2)
Both	5 (2.2)
None	139 (61.2)

* including expressed breast milk

Snacking behaviours were recorded by type and frequency by asking "in the last 24 hours, how many times has your child had the following foods and drinks?" (Table 8). Approximately half the children had plain milk (55.8%), savoury snacks (56.5%), other packaged snacks (45.8%) and flavoured yogurt (52.7%) at least once. Almost all of the children had at least one serve of fresh fruit (93.8%).

Table 8. Dietary intake prior to dental visit

Snacks	N	None	Once	Twice	> Twice
		n (%)	n (%)	n (%)	n (%)
Plain milk	224	99 (44.2)	71 (31.7)	29 (13.0)	25 (11.1)
Milk drinks e.g., flavoured milk, milkshakes, smoothies	221	176 (79.6)	38 (17.2)	6 (2.7)	<5
Water	226	<5	9 (4.0)	12 (5.3)	201 (89.9)
Soft drink, cordial or sports drink	220	196 (89.1)	14 (6.4)	<5	6 (2.7)
Fruit juice of any type	224	169 (75.4)	46 (20.5)	6 (2.7%)	<5
Biscuits, doughnuts, cake, pie or chocolate	224	91 (40.6)	110 (49.1)	20 (8.9)	<5
Cooked or raw vegetables, or salad	226	44 (19.5)	73 (32.3)	63 (27.9)	46 (20.3)
Potato chips or savoury snacks e.g., Twisties	223	97 (43.5)	93 (41.7)	27 (12.1)	6 (2.7)
Other packaged snacks e.g., muesli bars, roll ups, dried fruit	225	122 (54.2)	70 (31.1)	27 (12.0)	6 (2.7)
Fresh fruit	225	14 (6.2)	44 (19.6)	73 (32.4)	94 (41.8)
Flavoured yogurt	224	106 (47.3)	84 (37.5)	26 (11.6)	8 (3.6)
Ice cream or ice confections	224	188 (83.9)	30 (13.4)	<5	<5
Lollies	119	90 (75.6)	23 (19.3)	<5	<5

Behaviours and barriers to accessing early dental care are detailed in Table 9. Results showed that 15% of children had seen a dentist prior to their check-up within this project and of these children, over half had seen a private dentist. The most common barriers to visiting the dentist were cost (70.2%), and travel/accommodation (62.7%) followed by time (33.3%). About one-third (38.2%) of parents said that there were no barriers to them accessing dental services. Approximately one-third (31.5%) of respondents said that arranging dental treatment for their child would be difficult or very difficult. Almost 80% of respondents rated their child's oral health as very good or good.

Table 9. Dental barriers and behaviours

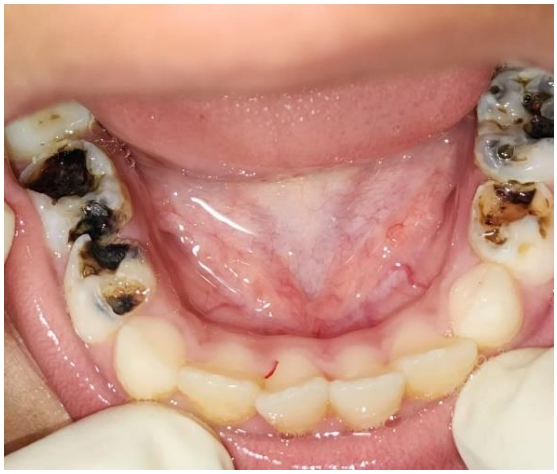
Barriers and behaviours		N (%)
Barriers for accessing dental care		
Cost	Yes	160 (70.2)
Travel/accommodation	Yes	143 (62.7)
Finding a dentist	Yes	63 (27.6)
Lack of insurance	Yes	31 (13.6)
Time	Yes	76 (33.3)
Other	Yes	9 (4.0)
None	Yes	87 (38.2)
Child prior dentist visit	Yes	34 (15.0)
Dentist location		
Community – public	Yes	7 (5.8)
Community – private	Yes	20 (9.1)
Frequency of dental visits	Clinic arranged review	5 (15.1)
	3 monthly	0 (0)
	6 monthly	<5
	Yearly	18 (54.6)
	When in pain	6 (18.2)
Ease of arranging dental treatment	Difficult	70 (31.5)
	Easy	152 (68.5)
Parent rated child oral health	Very good / good	181 (79.4)
	Poor / very poor	47 (20.6)

Table 10 ECOHIS mean scores and standard deviations

ECOHIS	N	M	SD
Child Impacts section	202	1.0	2.4
Family Impacts section	219	0.5	1.6
Total ECOHIS Score	196	1.5	3.5

Table 10 shows the parents' responses to the Early Childhood Oral Health Impact Scale (ECOHIS). The overall mean scores are very low, close to zero, which indicated few or no perceived impacts of oral health issues on the child or their family.

3.3 Matched Dental Health Survey and Clinical Data



Two hundred and twenty-eight children who completed the Dental Health Survey at baseline had their teeth comprehensively screened by the specialist paediatric dentist. Approximately one-third of children had carious teeth while the remainder were caries-free (Table 11). The mean number of carious teeth among caries-positive children (n=79) was 4.8 (*SD* = 4.1).

The prevalence of caries increased with age. Children under 1 year of age were caries-free while 9% of 1 year-old children had developed caries in their teeth. More than 50% of the children aged three years or higher had experienced caries.

Table 11. Caries prevalence of children who completed the Dental Health Survey

Characteristics (N=228)	**Total**	**Females**	**Males**
	N (%)	n (%)	n (%)
Caries presence			
Yes	79 (34.6)	37 (34.3)	42 (35.0)
No	149 (65.4)	71 (65.7)	78 (65.0)
Caries presence by age group - yes			
< 1 year	0	0	0
1 year to < 2years	5 (9.3)	0	5 (17.9)
2 years to < 3years	22 (36.1)	13 (52.0)	9 (25)
3 years to < 4years	25 (55.6)	11 (54.5)	10 (43.5)
4 years to < 5 years	27 (56.3)	13 (50)	14 (63.3)
Caries number	M (SD)	m (sd)	m (sd)
Average for those with caries	4.8 (4.1)	4.8 (3.9)	4.9 (4.2)

Caries prevalence was not associated with frequency of teeth brushing, or type of feeding (Table 12). Caries prevalence was associated with length of breastfeeding (children breastfed for longer than 12 months were more likely to have caries), falling asleep with a bottle (significantly more likely to have caries than not falling asleep), feeding on demand (more likely to have caries than scheduled feeding), thumb sucking or dummy use (less likely to have caries than those who did neither) and parental reporting of oral health status (poorer ratings were associated with the likelihood of caries).

The mean number of caries was associated with parent rating of oral health; on average, children whose parent's rated their oral health as poor or very poor were found to have a greater number of caries. No other associations were found.

Table 12. Caries association with oral health behaviours

Behaviour	Total	No caries	Caries positive	Number of carious teeth
	N (col. %)	n (row %)	n (row %)	M ± SD
Teeth brushing recoded				
≥Twice a day	78 (34.2)	47 (60.2)	10 (39.8)	4.5 ± 3.7
Once a day	116 (50.8)	76 (65.5)	40 (34.5)	4.9 ± 4.5
<Once a day	34 (14.9)	26 (76.5)	8 (23.5)	5.4 ± 4.0
Type of feeding				
Breast fed	83 (36.4)	49 (59.0)	34 (41.0)	4.1± 3.4
Bottle fed	58 (25.4)	36 (62.1)	22 (37.9)	6.5 ± 5.4
Both	87 (38.2)	64 (73.6)	23 (26.4)	4.3± 3.6
Length of breast feeding				
0-12 months	53 (41.4)	*38 (71.7)	15 (28.3)	2.5 ± 2.0
>12 months	75 (58.6)	40 (53.3)	35 (46.7)	4.4 ± 3.3
Fall asleep with bottle				
Yes	86 (37.7)	**43 (50.0)	43 (50.0)	5.5 ± 4.4
No	142 (62.3)	106 (74.7)	36 (25.3)	4.0 ± 3.6
Feeding system				
On demand	172 (77.8)	*106 (61.6)	66 (38.4)	5.1 ± 4.3
Scheduled	49 (22.2)	39 (79.6)	10 (20.4)	3.6 ± 2.9
Use dummy / suck thumb				
No	139 (61.2)	*84 (60.4)	55 (39.6)	5.3 ± 3.9
Yes	88 (38.8)	65 (73.9)	23 (26.1)	3.9 ± 4.5
Parent rated oral health				
Good / very good	181 (79.4)	**128 (71.3)	52 (28.7)	**3.7± 0.5
Poor /very poor	47 (20.6)	20 (42.5)	27 (57.5)	6.7± 0.9

* Significantly different <.05; ** Significantly different <.01
NB: Students' t-test, Chi-squared tests and non-parametric tests were used where appropriate

Children who consumed two or more SSBs in the 24 hours prior to the survey recorded higher caries prevalence than those who consumed one SSB, and the latter had higher caries prevalence than those who did not consume SSBs. Similarly, there was a significant and strong association between consumption of HFSS/packaged snacks with caries prevalence. Children who consumed three or more HFSS/packaged snacks in the

last 24 hours had higher caries prevalence than those who consumed one or two HFSS/packaged snack. There was no association between the mean number of carious teeth and consumption of SSBs and HFSS or packaged snacks.

Table 13 outlines the association of caries with the consumption of sugar sweetened beverages (SSB) and high fat, sugar or salt (HFSS) snacks.

Children who consumed two or more SSBs in the 24 hours prior to the survey recorded higher caries prevalence than those who consumed one SSB, and the latter had higher caries prevalence than those who did not consume SSBs. Similarly, there was a significant and strong association between consumption of HFSS/packaged snacks with caries prevalence. Children who consumed three or more HFSS/packaged snacks in the last 24 hours had higher caries prevalence than those who consumed one or two HFSS/packaged snack. There was no association between the mean number of carious teeth and consumption of SSBs and HFSS or packaged snacks.

Table 13. Caries association with consumption of sugar sweetened beverages (SSB) and high fat, sugar or salt snacks (snacks)

Dietary items	Total	No caries	Caries positive	Number of carious teeth
	N (col. %)	n (row %)	n (row %)	M ± SD
Sugar-sweetened beverages				
0 time	127 (58.3)	**98 (77.1)	29 (22.8)	4.6 ± 4.0
1 time	42 (23.6%)	35 (61.4)	22 (38.6)	4.5 ± 4.4
≥2 times	32 (18.0%)	10 (29.4)	24 (70.6)	5.7 ± 4.3
HFSS/packaged snacks				
0 time	32 (14.4)	**28 (87.5)	<5	N/A
1-2 times	99 (44.6)	70 (70.7)	29 (29.3)	4.1 ± 3.7
≥3 times	91 (41.0)	48 (52.7)	43 (47.3)	5.2 ± 4.2

* Significantly different <.05; ** Significantly different <.01
NB: Students' t-test, Chi-squared tests and non-parametric tests were used where appropriate
Note. HFSS = High in Fat, Salt and Sugar

3.4 Dental Student Experience Survey

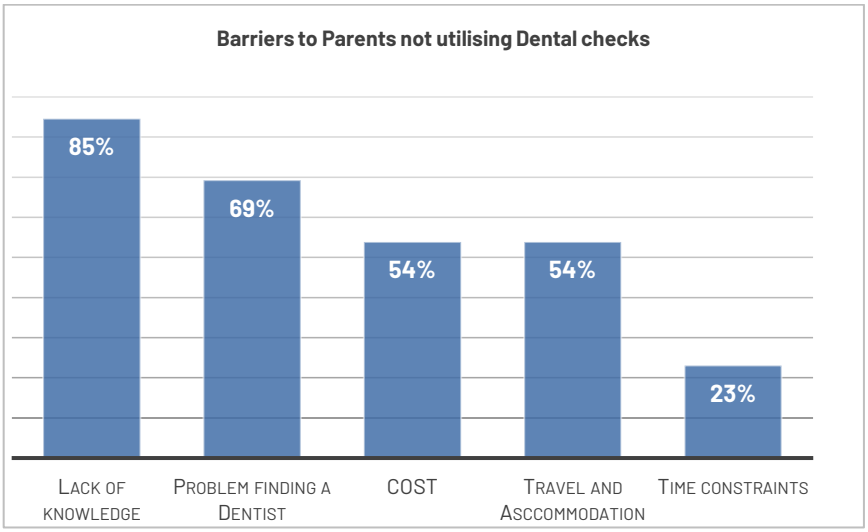
Thirteen final year UWA dental students participated in the Student Experience Survey at the completion of their project rotation. All the students had heard of the rural and remote Dental Health initiative via the UWA Dental School or the Oral Health Centre of WA (OHCWA). All the students strongly agreed / agreed that participation was rewarding and that they would recommend it to fellow students.

Almost all the students nominated the country location and the opportunity for practical experience as their main areas of interest. About half chose the opportunity to work with children. About one-third agreed that it would be good for their CV.

Two of the 13 respondents (15%) had experience working with children prior to this placement. About 15% responded that they had heard of the EYP prior to the placement.

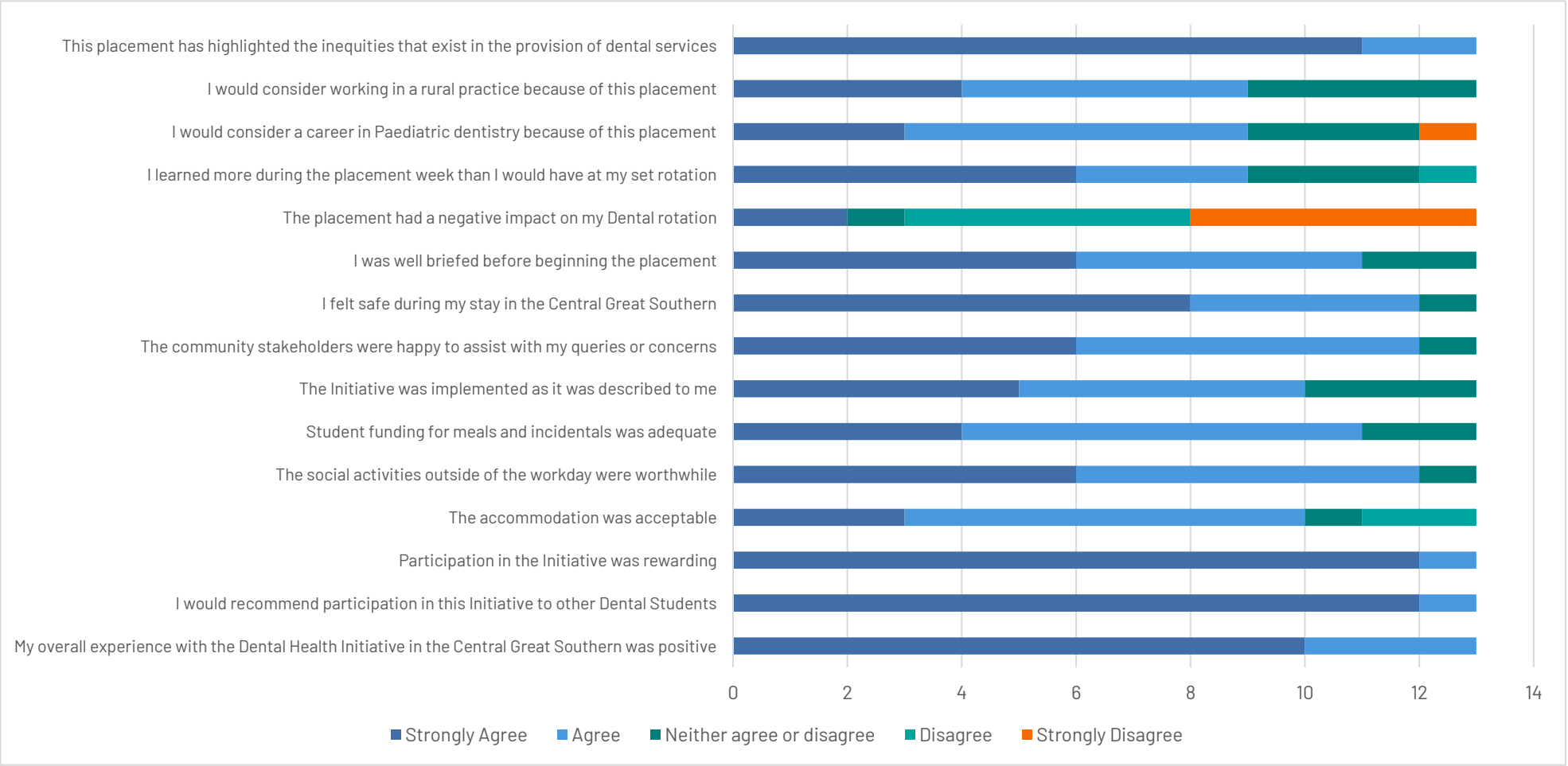
Based on their experience, the students nominated perceived barriers to accessing dental services (Figure 1). Lack of knowledge and finding a dentist were the most commonly perceived barriers. Cost and accommodation also featured.

Figure 1. Perceived barriers to parents accessing dental services



Student experience, perceptions and outcomes of their placement is illustrated in Figure 22 . Notably, the rotation highlighted, to the students, the existing inequities in dental service provision in the CGS. Overall, it was a positive and rewarding experience and the students would recommend participation to other students.

Figure 2. Student Experiences and Perceptions during the CGS Dental Health Project



3.5 Partnership Analysis

The overall and sub-section results for the Partnership Analysis Tool are presented numerically in a table (Table 14).

The overall scores and scores for each section were positive. The total means score of 151.7 indicates that the EYP Central Great Southern Dental Action Group (CGSDental) partnership is based on genuine collaboration and the challenge is to maintain its impetus and build on the current success. Results should be interpreted with caution due to the low number of respondents (n=3).

Table 14 EYP Central Great Southern Dental Action Group: scores of the Partnership Analysis Tool overall and by sub-section

Section	N	Mean	(SD)	Possible range
Determining the need for a partnership	3	23.7	2.3	5-25
Choosing partners	3	22.3	3.1	5-25
Making sure partnerships work	3	20.0	4.6	5-25
Planning collaborative action	3	20.0	4.6	5-25
Implementing collaborative action	3	23.0	2.0	5-25
Minimising the barriers to partnerships	3	19.3	6.0	5-25
Reflecting and continuing the partnership	3	23.3	1.5	5-25
Total of complete scales	3	151.7	22.5	35-175

Determining the need for a partnership

The items in this sub-section sought information on the need for the partnership in terms of areas of common interest and complementary capacity, common goals, shared understanding and commitment, willingness to share ideas, resources, influence and power to fulfil the goal, and the perceived benefits outweighing the costs of the partnership.

In 2024, there was generally agreement or strong agreement that there was a need for an EYP CGSDental partnership.

Choosing partners

This section sought opinions on whether partners share common ideologies, whether their core business was partially interdependent, whether there was a history of good relation between partners, whether the partnership brings added prestige to the partners individually as well as collectively, and whether there was enough variety among members to have a comprehensive understanding of the issues being addressed.

In 2024, there was broad agreement for all items.

Making sure partnerships work

This section asked about the level of support for the partnership from those higher up in the system, the level of skills necessary for collaborative action, the strategies to enhance skills of the partnership, the clarity of roles and responsibilities, and the simplicity of the administration, communication and decision-making structures.

In 2024, there was broad agreement about all items except for:

- There are strategies to enhance the skills of the partnership through increasing the membership or workforce development

Planning collaborative action

This section focused on whether all partners were involved in planning and setting priorities for collaborative action, partners having the task of communication and promoting the partnership to their own organisations, staff having roles that cross boundaries, the clarity of lines of communication, roles and expectations, and the level of participatory decision-making.

In 2024, there was broad agreement for the items in this sub-section except for:

- The lines of communication, roles and expectations of partners are clear

Implementing collaborative action

The items in this sub-section sought information on whether processes common across agencies had been standardised, whether there had been an investment in the partnership of resources, whether management rewarded collaborative action, the action adding value for the communities, clients or agencies involved in the partnership, and the opportunities for informal and voluntary contact between staff from the different agencies and other members of the partnership .

In 2024, there was broad agreement across all items.

Minimising barriers to partnerships

This sub-section comprised items seeking information on whether differences in organisational priorities, goals and tasks had been addressed, the presence of a core group of skilled and committed staff, the existence of formal and informal structures for sharing information and resolving demarcation disputes, and of strategies to ensure alternative views are expressed within the partnership.

In 2024, there was broad agreement around:

- There is a core group of skilled and committed (in terms of the partnership) staff that has continued over the life of the partnership
- There are strategies to ensure alternative views are expressed within the partnership

The following items elicited disagreement or uncertainty:

- Differences in organisational priorities, goals and tasks have been addressed
- There are formal structures for sharing information and resolving demarcation disputes
- There are informal ways of resolving disputes

Reflecting on and continuing the partnership

In this sub-section respondents provided their views on the existence of processes for recognising and celebrating collective achievements and/or individual contributions, the ability of the partnership to demonstrate or document the outcomes of its collective work, the need for and commitment for continuing the collaboration in the medium term, the availability of resources to continue the partnership, and the processes for reviewing the range of partners and

bringing in new members or removing some. In 2024, there was broad agreement on all items in this section.

4 Discussion

This evaluation sought to answer the EYP and Dental Health Project research questions as referenced in Appendix A.5 .

The CGS community identified child oral health as a priority for action and it is contained in their community plan (see Appendix A.1 for full details). The plan contains several local and systems actions that aim to address the issue of poor oral health among children aged 0 to 4 years in the CGS. Some of the local actions include implementing the project, health promotion, distribution of health promotion resources, increasing awareness of, and promote access to, the Commonwealth Government's Child Dental Benefits Schedule and supporting attendance at child health checks to facilitate the 'lift the lip' assessment. The two systems actions included providing the project evaluation to the Office of the Chief Dental Office and aligning all dental work with food security work.

What did the Early Years Partnership do to improve children's wellbeing and school readiness in four Western Australian communities?

The CGS Dental Health Program directly targeted improving child wellbeing as maintaining good oral health is essential for overall child health, wellbeing, and quality of life (38). School readiness can also be improved through addressing oral health issues. Primary teeth play a crucial role in helping a child eat, develop speech, and maintain the proper shape of the face to ensure that permanent teeth erupt correctly. However, these teeth have thinner and more permeable enamel than permanent teeth, making them more susceptible to dental caries (39).

What is the strength and breadth of data and evidence supporting community priorities and actions?

It has been estimated that in Australia, 8% of 18 month old children have ECC, and that by 3 years of age the number is increased to 23% (7). The prevalence of caries among children in the CGS aged three years was 55.6% which is higher than the Australian estimate for that age group (7). Also, most children had not seen a dentist by the recommended time (when first teeth appear) as only 15% of children in the CGS had previously seen a dentist. These figures indicate that the CGS Dental Health Project is rightly a high priority for the community.

Early childhood caries (ECC) is significantly more common among children from low socio-economic, remote regions, and Indigenous backgrounds (40). Australian First Nations children have a higher prevalence of caries than non-First Nations children (41, 42). Similarly, previous studies have indicated that children from refugee and migrant families have worse oral health compared to the broader population (43, 44). Recently, it was shown by Lopez, Hegde (45) that the absolute inequalities in the prevalence of ECC has increased by 7% for children from CaLD backgrounds. The population of the CGS comprises many refugee and migrant groups and a high proportion of Aboriginal families.

What is the current level of parent knowledge and behaviour relating to child oral health and nutrition?

The findings from the CGS Dental Health Project indicate the urgent need for population level oral health interventions among young children. The prevalence of caries among children aged three years was 55.6% which is higher than the Australian estimate of 23% (7). The prevalence reported in this project reinforces the need for all WA children to have access to dental care. This project reached underserved sub-populations.

There is a strong association between consuming sugary drinks and/or eating high fat/ high sugar snacks and dental caries among this cohort of children. Similar findings are reported in the literature. The connection between caries and carbohydrates is unambiguous where acidic by-products from bacteria in dental plaque demineralize dental hard tissues by fermenting dietary carbohydrates (46). Various systematic reviews and guidelines have provided evidence linking sugar intake and/or snacking to the development of caries (47-50). Sugar-sweetened beverages (SSBs) and High in Fat, Salt and Sugar (HFSS) or packaged snacks contain a high amount of fermentable carbohydrates.

It is not just sugary drinks that promote caries, going to sleep with a bottle can also have a similar effect. When sugar consumption is paired with reduced saliva production, e.g., if children go to sleep with a bottle containing sugary liquids, their risk of developing ECC significantly rises (51). Our results suggest that sleeping with a bottle has a significant association with the development of caries. Other studies also have demonstrated that sleeping with bottle is associated with caries presence (52, 53).

The level of disadvantage experienced by families can impact food choices. There is also strong evidence linking food insecurity with poor oral health in children (54-57). A significant finding is that the more food insecure a child, the greater the number of dental caries present (54). Food insecurity has many facets including lack of resources, lack of access to affordable healthy food and a lack of knowledge regarding food preparation (58). Families from low socio economic backgrounds struggle most with food insecurity as their limited resources impacts the choices they can make regarding the quantity, quality, and affordability of nutritious food, as well as impacting their capacity to afford oral care products and services (54, 59). A consistent finding in international studies is that diets high in vegetables and fruit cost more than diets high in fat, sugar and salt (59). As a result, disadvantaged families are more likely to choose unhealthy, highly processed, cheap food options over more expensive and nutritious options (57, 59). Sugar consumption is one of the main modifiable influences attributed to the caries difference between those children from low socio economic versus higher socio economic families (60). Disadvantaged families are less likely to buy healthy food and health promotion strategies focusing on healthy eating alone, fail to recognise and address this cost barrier (59).

Addressing food security in the CGS community should target making nutritious food affordable and accessible. Health policies addressing food insecurity would have the unintended consequence of also reducing ECC (56).

How many families and children were reached by the dental health initiative?

Australian census data 2021 estimated that there were 553 children aged between 0 to 4 years in the CGS (61). This project screened 332 children which translates to a reach of 60% among children aged 0-4 years. The target population specified in the original grant application was 1-4 year old children. The project screened just over 70% of children in this 1-4 age group. This level of reach within a community-based intervention among children is very high. A Canadian intervention into childhood obesity reported a reach of 0.09% of eligible families (30), another Canadian intervention reported a reach of approximately 0.45% of the potential target

population (31) and a school-based intervention targeting emotional trauma reported a reach of 54% (32). Of the sample screened, almost 20% of the children were Aboriginal which is higher than the population percentage of Aboriginal children aged 0-4 years in CGS (13%) (61). Unfortunately children from CaLD families were under represented in the dental screenings. CaLD children made up almost 13% of the sample however, over 22% of CGS residents are known to speak a language other than English at home (61). The CaLD families were a targeted group in the first visit, but their participation became more incidental during later dental weeks compared with the targeted sessions for Aboriginal families. This provides evidence of proportionate universalism where a framework is applied that aims to reduce health inequalities by providing universal services at different scales and intensities to groups with varying needs (62).

Culturally appropriate oral health promotion resources and activities need to be developed and distributed. These should target eating a healthy diet, eliminating sugary drinks, improving feeding practices, such as not putting baby down to sleep with a bottle, and good dental hygiene practices including tooth brushing and not sharing toothbrushes.

Cleaning teeth and gums regularly is an essential part of good oral hygiene practices and habits established during early childhood lay the groundwork for maintaining oral health and hygiene practices in adulthood. It is advised to wipe or gently brush children's teeth as soon as they come in, and to start using fluoridated toothpaste from 18 months of age. Australia's fluoride guidelines suggest brushing teeth twice daily starting at 18 months and maintaining this routine at least twice daily from age 6 onward (63). According to our survey responses, around 35% of children have been brushing their teeth at least 2 times per day. A 2018 national poll study by The Royal Children's Hospital Melbourne involving 2073 Australian primary caregivers revealed limited knowledge about child oral health and suboptimal practices among parents (64). The study found that 42% of children aged 0-3 years and 61% of those aged 3-6 years brushed their teeth at least 2 times per day. It is important to note that prior research has highlighted the possibility of social desirability bias in parents reporting tooth brushing behaviors in their children (65, 66).

To what extent have resources been mobilised and coordinated at community, state, and federal level?

Service providers, community members, and collaborators came together to make the project successful. The Implementation team formed a strong collaboration as evidenced by the findings from the Partnership Analysis tool and from the interviews with stakeholders.

There has been a level of coordination and collaboration between the multiple stakeholders that continues to be a strength of this initiative.

South West Aboriginal Medical Service (SWAMS) made its local staff and facility in Katanning available for screenings. It's important to note that their Maternal Health team are based in Bunbury but promote the dental health weeks and then attend the Katanning location to participate and look after their patients as trusted service providers. They have extended their capacity to participate in the Dental Health Project. Support has also been received from the Aboriginal Health Service based at Katanning Health Service.

Day care centres, libraries, schools and playgroups have welcomed the dental team across the four Shires to allow the screenings to take place.

Private dentists in both Katanning and Kojonup have been happy to assist when called upon to provide extra equipment or supplies. The Kojonup dentist himself only practises a few days a

fortnight in the area and has made his practice available for use by the clinical team for both treatment and screening needs.

UWA Dental Health School and Oral Health Centre are keystones of the program's success through the participation of the specialist paediatric dentist and four final year dental students. This practitioner/student model provides effective leveraging of resources, as dental students obtained paediatric and rural experience in return for their services.

Access to the Dental Health Services clinic on the grounds of Katanning Primary School, beyond their standard operating hours, and without their direct supervision, has allowed a greater number of children to be treated.

The provisioning of resources (equipment and staffing) at the state level through discussions between Child and Adolescent Health Service (CAHS), Western Australia Country Health Service (WACHS) and Perth Children's Hospital (PCH) has allowed for the use of the theatre at Katanning Health Service to operate a surgical dental list. Nurses from Katanning Health Service were sent to Perth for additional training and theatre nurses from PCH were sent to assist with the first theatre list. An Anaesthetist from Albany was made available for the procedures. The impact of this theatre list in the community has broken many barriers faced by rural families.

OHCWA made health promotion resources available from their wide selection at their resource library at Salter Point and directed the team to their website for further access to print material.

Connected Beginnings is a federal program and learnings from this project could inform similar undertakings in other similar areas. The Connected Beginnings team has been pivotal in CGS, allowing reach into underserved and marginalised communities. The staff have been bridges to families that would not otherwise engage with service providers.

What did the Early Years Partnership learn about what it takes to create change for children across Western Australia, that could inform reform?

Some process data has been captured through the interviews with stakeholders throughout the project. These data provide a narrative review, however, for more robust evidence on which parts of the implementation worked best, an implementation science framework must be applied.

Strong collaboration, across local and state agencies, along with strong community engagement has been the core driver for change in CGS.

What are the barriers to dental services experienced by families in the CGS?

Rural Australians have fewer dental practitioners available to them compared to those in urban areas, and generally, they experience worse oral health than residents of major cities (40). Other barriers to maintaining good oral health include, but not limited to, reduced access to fluoridated water, and higher costs for nutritious foods and oral hygiene products (67).

Cost was the most common barrier reported by caregivers in our survey, followed by travel/accommodation. One in three parents found time and availability of dental practitioners as barriers for accessing dental care. The proportions are significantly higher than the percentages reported in the 2018 national poll study by The Royal Children's Hospital Melbourne (64) where 19% of parents indicated cost and 7% reported a lack of time as barriers to accessing dental care for their child. This reinforces the notion that there is a higher burden of oral health issues in rural regions.

Most of the dental students perceived parental lack of knowledge and access to dental services to be the two most common barriers. Other stakeholders cited cost, travel/accommodation and lack of local dental services to be the primary barriers while also acknowledging a wide knowledge gap in their community.

The Royal Children's Hospital Melbourne poll study also showed that 32% of those aged 3-6 and 72% of those aged 1-3 had never visited a dentist (64), while our survey shows that around 85% of the 0-4 year-olds screened had never seen a dentist before. Our results also show that caries-positive children were more likely to have seen a dentist previously. This further demonstrate that pre-schoolers have problem-oriented visits to the dentist rather than routine dental check-ups.

According to our results, while almost 40% of survey respondents had not encountered any barrier for accessing dental care, 68% found it easy to arrange dental treatment. This is probably due to the lack of good oral health knowledge by the parents. Over three-quarter of parents are unaware of screening guidelines for children, and only 17% of children in an Australian poll had visited a dentist by their second birthday (64).

How do dental students and local EYP stakeholders reflect on the experience of the Dental Health Project?

All the stakeholders have been overwhelmingly positive, engaged and dedicated to the children and their families in the community. When issues have arisen with implementation factors, communication, technology failures and other problems, the solution focussed nature of the team ensures that challenges are addressed. The strong interagency collaboration is a strength of this initiative.

The students' experiences were also positive, with many points of learning. The practice model has worked well in this EYP community.

> *"Learning how to screen children under 4 years old and developing more confidence in screening this age group was a stand-out point. It was great being able to learn tips and tricks for carrying out examinations on children"*
>
> *"I learnt a lot about treating children and how it can be done effectively. This was largely facilitated by Dr [Dentist] who did an excellent job at portraying the skills of paediatric dentists that we could try to imitate while trying to treat children positively and effectively. The standout point was the large volume of children we saw, and seeing Dr [Dentist] work her great skills as a paediatric dentist. Working with all the young children is very challenging, and it has very much increased my appreciation and respect for the field of paediatric dentistry and specialist paediatric dentists overall."*

What has worked for who and why and how can these be scaled up? (partially applicable)

The recruitment and retention of Dental workforce is a global challenge especially in rural areas (68, 69). Utilising Dental students in rural and remote areas during study years has been reported to be an effective strategy in partially addressing the shortage and maldistribution of dentists in those areas (69). An overwhelming majority of dental students who participate in rural or remote placements felt they had gained from the experience in both a personal and professional capacity (1, 68, 70-72). Previous studies have found that final year dentistry students at University of Western Australia undertaking professional placements, in rural locations while still in training,

has been linked to an increased likelihood of practising in a regional or rural location post-graduation (73, 74).

The student placement was a rounded experience that included social activities. These activities included tours and events that highlighted a historical, cultural or rural experience which would not generally be part of the students' usual life. Examples include, farm tours, visiting with Aboriginal elders, Mosque tour, dinners, and museum visits. Social activities provide an enhanced understanding of the challenges and disparities of rural and remote communities, cultural awareness and immersion, the development of socially responsible behaviours and the practising of cultural protocols in health care delivery. The students' experiences were overwhelmingly positive, with many points of learning. This approach provides mutually beneficial outcomes. Of the twelve final year students who participated in this project in 2023 (visits 1-3), and who have since graduated, three have gone on to practise dentistry in regional Western Australia.

The students have been well regarded by all the stakeholders *"The students always conduct themselves really well".* They have been very engaged with the work and have happily participated in the extracurricular activities. One particular group of students was quite invested in following the treatment journey of one of the children and asked to return for the subsequent visit.

The upskilling of Allied Health staff has been undertaken by introducing them to tele dental practises and by running an emergency medicine seminar including dental trauma procedures for doctors and nurses.

Community Outreach has been successful among Aboriginal families by making access to services easy. This has been done by having Community Connectors provide transport when required for families to attend SWAMS and playgroup events. For the dental team, being flexible, acknowledging cultural differences, actively listening and making changes (e.g. to how knee to knee exams are performed) has resulted in better engagement and improved clinical practise. Children in rural areas, from Aboriginal and CaLD backgrounds are at a higher risk of poor oral health. This project's engagement has afforded the team the opportunity for targeted health promotion with each family as the children are screened. Survey and matched data allowed us to know where the weaknesses are and how to approach / alter practices, for example recommending differing bedtime routines for children falling asleep with a bottle due to increased caries risk.

What are the current levels of child oral health outcomes as they relate to child/parent practices.

The majority of the children screened had not seen a dentist prior to this project and this project allowed for accessible dental care to be provided.

The EYP has forged relationships with key community members and service providers with strong connections to Aboriginal families Using targeted outreach, these community members have been a bridge to hard-to-reach families, and without whom, the project would not have been able to screen and provide treatment to the children.

Caregivers reported that most children have their teeth brushed at least once a day but 1 in 6 children were brushing less than once per day. Most children were breastfed either exclusively or in combination with bottle feeding. In terms of dummy use, nearly one third of children used dummies, less than one in ten sucked their thumbs, and a very small number did both (not reported due to low numbers) .

Overall, two in five children were found to have caries. The mean number of carious teeth among caries-positive children was 4.92 (SD = 4.13). Prevalence of caries increased with age as did the number of carious teeth. Exclusively bottle-fed children had a higher prevalence of caries, compared with breast-fed exclusively or combination of breast and bottle. There was a significant and strong association between both the consumption of sugar-sweetened beverages and consumption of snacks with caries prevalence.

What evidence was generated by the Early Years Partnership in implementing prioritised system interventions in the four partner communities?

The systems actions contained in this project were to provide the project evaluation to the Office of the Chief Dental Officer, and to align all dental work with food security work.

A community-based participatory action approach was undertaken. Within this framework, findings are feedback to the relevant groups during the implementation period so that changes can be made to the strategies to make the intervention more effective. Immediately after each of the visits, preliminary numbers were fed back to the Dental Sub-Committee and there were also online presentations of results to the Dental Sub-Committee. Preliminary findings from the visit 1 evaluation data were provided to the EYP Program Manager (WACHS) and the EYP Policy Officer (Department of Communities) for inclusion in their submission to the Select Committee into the Provision of and Access to Dental Services in Australia. There were multiple emails between The Kids and the Dental Health Coordinator regarding data cross-checking, work flow during visits, oral health promotion for CaLD residents and further data requirements. Updated results and PowerPoint slides were requested by and shared with the EYP Program Officer on multiple occasions. Other communications with the Dental Sub-Committee, the co-Chair of the CGS LWG, the SCEO, and the community more broadly, also occurred. This report will be distributed to all relevant EYP partners for use within their organisations.

5 Conclusion

The Dental Health Project has been a successful program with benefits to the children and families in the community, increasing the agency of allied health staff, and promoting rural and paediatric placements to dental students.

Barriers to care, that are known to exist in the community are being challenged and overcome by continued collaboration among the agencies involved.

Dental screening, preventative treatments including health promotion, and adhesive restoration of teeth, as well as surgery continue to be undertaken. In terms of overall reach and including those families who have intentionally not participated in the dental screenings, this project has reached over 72% of children in the 1-4 age group across the CGS and successfully screened and treated those children known to be more at risk of adverse oral health.

While it is premature to appropriately address outcomes relating to long term oral health behaviours and parental knowledge in this population, the stakeholders and the Dental Health Project team continue to promote this initiative and remain committed to improving the oral health outcomes for children in the 0-4 age group. Early preventative treatments will curtail caries progression and continued, targeted health promotion endeavours are recommended.

6 Recommendations

Recommendations for future dental health service models:

- Future dental health initiatives consider the high prevalence of caries when designing intervention strategies.
- Oral health promotion messages focus on reducing sugary drinks and snack food consumption by children.
- Dental initiatives work with food security initiatives so that families can access healthy food.
- Models delivered in partnership with key local organisations to ensure adequate resources are available and utilised.
- Future dental health initiatives work with providers of higher education and relevant organisations to embed rural and remote placements into all relevant oral health courses and degrees.
- Local situational analyses are undertaken to identify existing opportunities for health services to pivot to provide oral health care to young children.
- When scaling, local leadership groups are established to facilitate implementation of any place-based, population initiative.
- Health providers work with local communities when developing service models of care.
- Incorporate innovative approaches including delivery in non-clinical community settings.
- Upskilling local allied health and early years service providers in tele dental practices, emergency dental trauma procedures, and application of preventative fluoride varnish treatments.
- Connectors with lived experience are employed to provide a bridge between service providers and families.
- All services adopt trauma- informed and culturally safe practises.
- Free oral health screenings are accessible for all children aged 0 to 4 years.
- Implementation and outcomes evaluations are embedded into systems interventions to ensure continuous development and improvement.
- Develop a centralised dental database that would feed into already existing databases to minimise administrative burden.

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8 Appendices

A.1 CGS Community Plan

Why we need change

In Central Great Southern more than **1 in 4**

children are considered developmentally vulnerable.[1]

1 Commonwealth of Australia and Department of Education, Western Australia, 2019. Early childhood development for children living in Western Australia by region: Australian Early Development Census 2018. Accessible via https://www.education.wa.edu.au/dl/vnnm73

How we will create change

Five key priorities have been identified locally to improve the wellbeing and school readiness of children living in Central Great Southern:

Child Health
To improve the health of babies and children including reducing the number of preventable hospitalisations of children due to dental conditions, and to increase the proportion of children entering school who meet the developmental physical domain (AEDC).

Child Development
To increase the number of children meeting developmental milestones and entering school developmentally ready.

Financial Wellbeing
To increase the number of families with children aged 0–4 years who have a stable home and regular, nutritious meals.

Family Safety
To reduce the number of children aged 0–4 years who have interactions with family violence.

Maternal Health
To improve access to and attendance at antenatal services to ensure mothers are healthy and babies have the best possible start to life.

Who will be involved

The Central Great Southern community, State Government, the Minderoo Foundation and Telethon Kids Institute (TKI) as evidence and evaluation partner, are working in partnership to create change. The Western Australian Government participates via the Department of Communities (lead partner), Department of Education and the Department of Health.

What we will do to create change

The detailed Children Growing Strong – early years plan that outlines action for change can be found at **earlyyearspartnership.org.au**

Central Great Southern Priorities

Child Health

Aims: To improve the health of babies and children including reducing the number of preventable hospitalisations of children due to dental conditions, and to increase the proportion of children entering school who meet the developmental physical domain (AEDC).

1. Access to dental services

Local level action

- Implement the Dental Project which will include:
  - Dental health screening using photo identification prior to triaging by the University of Western Australia (UWA) dental team.
  - Local dental services for five days, three times per year to treat minor dental issues.[2]
  - Increase awareness of, and promote access to, the Commonwealth Government's Child Dental Benefits Scheme.

Systems level action

- Ensure the project evaluation is provided to the Office of the Chief Dental Officer to inform the development and implementation of the State Government's commitment to provide free dental assessments to Western Australian children aged between 6-months and 5 years old.
- To align all dental work with food security work to improve long term oral health.

2. Prevention

Local level action

- **Health Promotion:** The Dental Project Coordinator will work with local community connectors and champions to build relationships and engage with local families, to address the underlying issues and causes of poor oral health including knowledge and understanding regarding healthy diets, barriers to healthy eating such as access to food and poor cooking skills.
- **Distribution of health promotion resources:** Promote dental health and oral hygiene through the distribution of localised health promotion resources (funded by the Communities for Children Facilitating Partner program, Amity Health), including tailoring existing resources to meet local cultural needs.
- Continue to work with Edith Cowan University on its project to assess and improve parent/carer's dental health literacy and knowledge including promoting good dental hygiene practices such as toothbrushing and the importance of not sharing toothbrushes.

3. Knowledge of the effects of poor oral health on the child

Local level action

- Support attendance at child health checks as child health nurses practice 'lift the lip' assessments which leads to children's dental issues being identified and referred earlier.
- Promote dental health and oral hygiene through the distribution of localised health promotion resources.

Child Development

Aim: To increase the number of children meeting developmental milestones and entering school developmentally ready.

1. Health checks and parental knowledge

Local level action

- Increase attendance at universal child health checks (with a focus on 2 years health checks).
- Increase parent knowledge of availability and access to additional community child health services to meet the family's needs.
- Improve transport infrastructure for parents to attend child health checks (bus).

Systems level action

- Explore international recommendations in relation to best practice for the ages at which scheduled child health checks should be administered, then if justified, the working party to advocate to Department of Health to trial additional child health checks to be added. Noting current attendance is low and therefore the first priority is to increase attendance at existing checks.
- Explore different models of child health nurse service delivery, e.g. virtual.

2. Engagement with early learning

Local level action

- Improved transport infrastructure for parents (as noted above) to increase engagement with early learning.
- Support local government authorities to work with early childhood service providers in developing grant applications for the Attraction and Retention Packages for Regional Child Care Workers Program.

Systems level action

- Support the co-location of early years services at the planned Katanning Hub, once the building is complete.
- Support advocacy by parents and community members for better pay and conditions for early childhood educators to assist in attracting and retaining staff, through adding their voice and experiences to current national campaigning on this issue.

3. Family/kin relationships

- Action to be developed.

4. Cultural considerations

- Action to be developed.

5. Service delivery

Local level action

- To re-establish an Early Years Network in the region.

Financial Wellbeing

Aim: To increase the number of families with children (aged 0-4 years) who have a stable home and regular, nutritious meals.

1. Food security

Local level action

- To engage with families to understand the extent of food insecurity and explore the underlying causes of food insecurity in Central Great Southern.
- To address issues of access to emergency food relief to ensure such access is provided in a dignified and culturally appropriate manner.
- To explore existing evidence of successful food security projects and engage with them.
- To co-design a food security project with the community to ensure people have access to healthy food.
- WACHS to lead the delivery of the Food Sensations program in playgroups, antenatal groups etc across the Central Great Southern.

Systems level action

- To explore current Western Australia systems of access to emergency food relief to ensure dignity is prioritised in access to these services.

2. Employment and training

Local level action

- Promote Early Childhood Education and Care (ECEC) as a career option.
- Seek accessible training opportunities for CaLD families, to increase access to adequately paid employment.

Systems level action

- Explore and support opportunities for more local training options in ECEC sector.

3. Financial stress

Local level action

- Seek resourcing for additional financial counsellors and/or support services in the Central Great Southern.

4. Stable and affordable housing

Systems level action

- Explore innovative social and affordable housing models that could be adopted in the regional context and seek resourcing for additional social and affordable housing in the region.

Family Safety

Aim: To reduce the number of children (aged 0-4 years) who have interactions with family violence.

1. Service providers and first responder skills and knowledge specifically related to cultural competency to ensure a culturally appropriate response to family violence

Local level action

- To engage local cultural organisations (as far as possible) to deliver cultural competency training to all FDV service providers and first responders working in Central Great Southern.
- Provide mental health first aid training.
- Create awareness of lateral violence.
- Promote Safe and Together training for local service providers.

Systems level action

- Compulsory FDV awareness training as part of first aid / Cardiopulmonary Resuscitation (CPR) refresher courses for first responders.

2. Cultural safety

Local level action

- To engage local organisations (as far as possible) to deliver cultural sensitivity training.

3. Contributing factors and drivers of FDV

Local level action

- WACHS to train health professionals, and other cultural support workers, in the Baby Makes 3 program.

Systems level action

- Department of Communities to release FDV data to Shire Council.

4. Service availability and access

Local level action

- Establish a community reference group with the aim of strengthening co-ordination and collaboration between all agencies providing family violence services to Central Great Southern.
- This reference group will work with the Central Great Southern Family and Domestic Violence (CGSFDV) Action Group to build awareness of the impact of high rates of family violence in the local community.

5. Family and kin connections

Local level action

- Services to recognise the existence of diverse family structures and work inclusively with all models of family structures.
- Build capacity and provide support for fathers and male caregivers in positive parenting practices.

6. Availability of refuge accommodation with appropriate resourcing

Systems level action

- To source funding for appropriate refuge accommodation for women and children escaping family violence based on demonstrated need.

7. Behaviour change programs for those who commit acts of family violence

Systems level action

- To explore preferred models of behaviour change for those who commit acts of family violence.
- To source funding for the preferred model of behaviour change for those who commit acts of family violence.

Maternal Health

Aim: To improve access to and attendance at antenatal services to ensure mothers are healthy and babies have the best possible start to life.

1. Birthing on-country

Local level action

- Work with, and encourage relationships between, South West Aboriginal Medical Service (SWAMS), WACHS antenatal team and Aboriginal women to ensure they feel more connected to country when giving birth.

Systems level action

- Work with Western Australia Country Health Service (WACHS) to investigate options for all women in the Central Great Southern to give birth closer to home.

2. Parent-child health

Local level action

- Create a safe space (health hub) for mothers to access culturally sensitive health checks and advice.
- Culturally appropriate pre-natal and post-natal education and support services (safe, accessible, face-to-face education and support / counselling services). Education workshops could also include information on FASD, blood born viruses, sexually transmitted infections (STIs) and safe sex.

3. Maternal stress and trauma

Local level action

- Support the Volunteer Family Connect worker commencing at Wanslea in February 2023 by referring new mothers as appropriate.

Systems level action

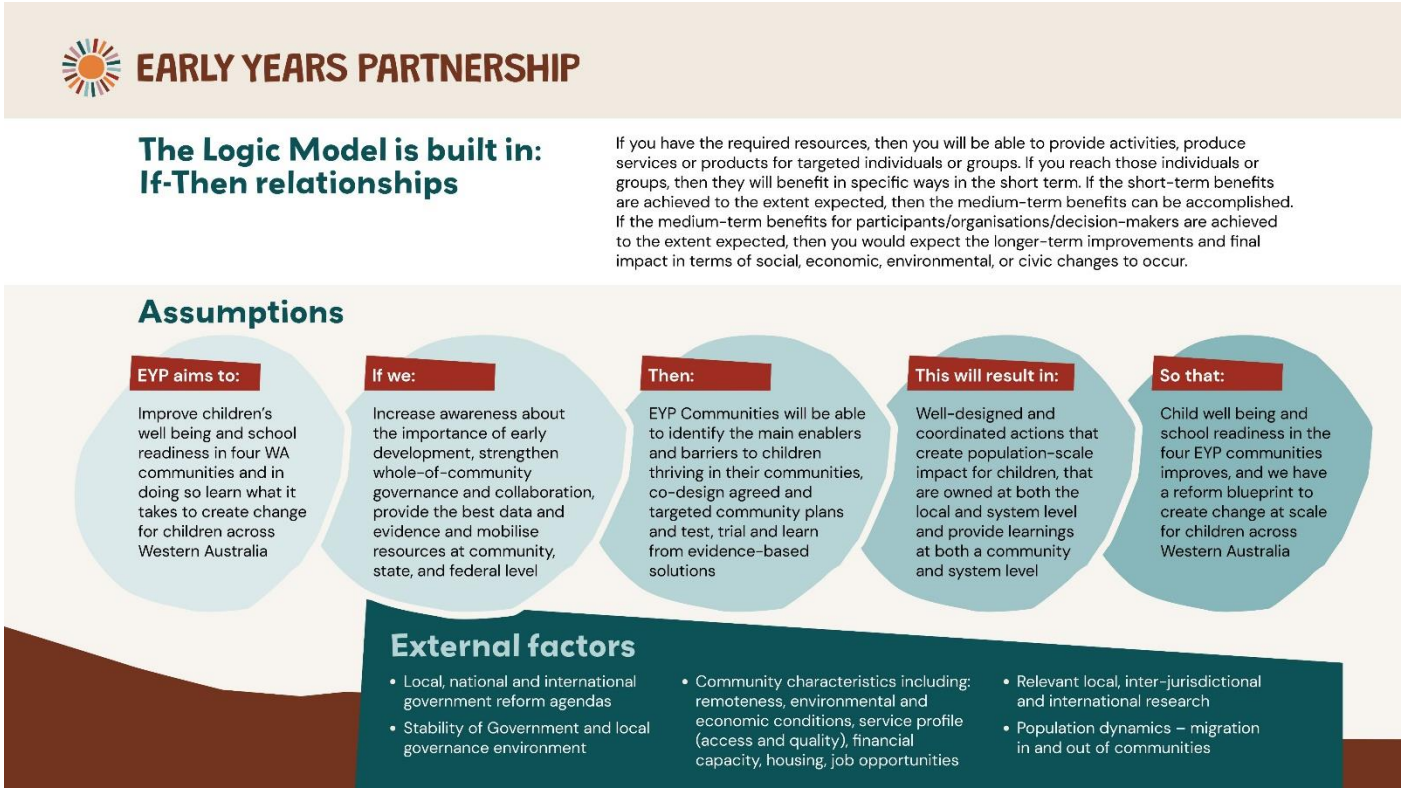
- Work with WACHS to identify relevant evidence-based initiatives that aim to reduce the stress and trauma experienced by women during the defined maternal period.

2 Initially there may be a higher percentage of children presenting with acute needs, however it is expected that this will reduce over time with the effectiveness of health promotion and early detection.

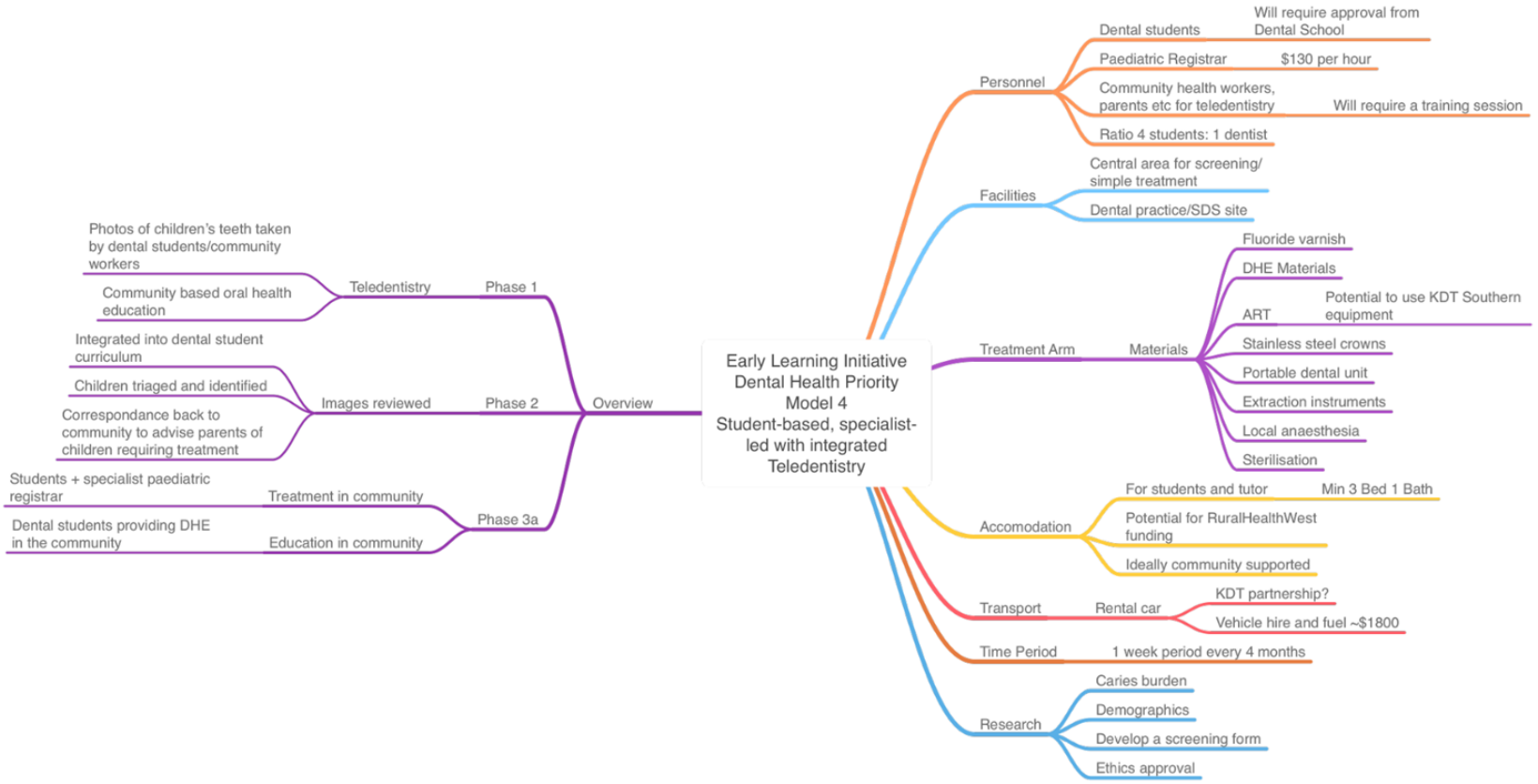
A.2CGS Dental Health Project Strategies

Health Promotion	Identification	Intervention/treatment
• Engaging with families to understand the extent of food insecurity and understanding of a nutritious diet. • Identifying existing programs that may potentially be delivered in CGS (e.g. Foodbank's Food Sensations for Children). • Educating families on the importance of good oral hygiene, a healthy diet and eliminating sugary drinks. • Promoting good dental hygiene practices including toothbrushing and the importance of not sharing toothbrushes. • Distributing localised, culturally sensitive health promotion resources (funded by the Communities for Children Facilitating Partner program, Amity Health). • Increasing awareness of, and promoting access to, the Commonwealth Government's Child Dental Benefits Schedule. • Potential to align dental visits with family friendly activities such as 'play in the park' while families are waiting to see the dental team. This may also provide an opportunity to distribute health promotion resources and food parcels (subject to the creation of additional partnerships with food providers).	• Dental health screening using photo identification (initially taken by dental students and child health nurses with parents to be trained to take photos). • Photo is sent to UWA team to be reviewed and triaged with treatment allocated accordingly. • Child health nurses currently "lift the lip" and this has led to children being identified earlier, however the number of children who attend child health dramatically declines by the 2-year-old checks . Lift the Lip checks are conducted by School Health Nurses as part of the School Entry Health Assessments (SEHAs) (75). This means children are not identified early when intervention is most effective.	• Minor dental issues (fluoridization, sealing fissures, fistulas, minor early childhood caries) to be treated locally by the visiting dental team. • Emergency dental or children with chronic medical conditions to be referred to Perth Children's Hospital (PCH), Oral Health Centre or a private dentist.

A.3 EYP Theory of Change



A.4 Dental Model



A.5 Research Questions and Impact Pathways

Overarching EYP Research Questions		**Dental Health Project Research Questions**	
RQ2: What did the Early Years Partnership do to improve children's wellbeing and school readiness in four Western Australian communities?			
	Sub-question 2.2: What is the strength and breadth of data and evidence supporting community priorities and actions?	*How many families and children were reached by the dental health initiative?*	*What is the current level of parent knowledge and behaviour relating to child oral health and nutrition?*
	Sub-question 2.4: To what extent have resources been mobilised and coordinated at community, state, and federal level?		
RQ3: What did the Early Years Partnership learn about what it takes to create change for children across Western Australia, that could inform reform?		*What are the barriers to dental services experienced by families in the CGS?*	*How do dental students and local EYP stakeholders reflect on the experience of the dental health initiative?*
	Sub-question 3.2: What has worked for who and why and how can these be scaled up? (partially applicable)	*What are the current levels of child oral health outcomes as they relate to child/parent practices?*	
	Sub-question 3.3: What evidence was generated by the Early Years Partnership in implementing prioritised system interventions in the four partner communities?		

A.6 Stakeholder Interview PICF and Stakeholder Interview Schedule

Early Years Partnership Evaluation

Dental Health Case Study – Central Great Southern

Participant Information Sheet (Stakeholders)

You are invited to take part in a research project called the Early Years Partnership Evaluation. This Information Sheet tells you about the research project. It explains the processes involved with taking part. Knowing what is involved will help you decide if you want to take part in the research.

Please take the time to read this Information Sheet. If you have any questions or concerns you can contact the research team (contact details are provided at the end of this form), or discuss with a trusted friend or colleague, or with your manager.

You may require the approval of your agency or organisation before agreeing to take part in this research project. This is something you may wish to discuss within your agency or organisation.

Why are we doing this research?

The Early Years Partnership is being conducted over ten years by the WA Government (through the Departments of Communities, Education and Health) and Minderoo Foundation in four WA communities. The aim of the Early Years Partnership is to work closely with each community to improve health, development, and learning in children from conception to 4 years of age. Central Great Southern agreed to be one of the four partner communities.

Telethon Kids Institute is evaluating the Early Years Partnership to see how well it is achieving its aims. This interview will help us understand and capture the experiences of Dental Students and other EYP Dental Health Stakeholders following each wave of the Dental Health Initiative.

What does participation in this research involve?

If you agree to take part, you will be asked to participate in an interview with a researcher from Telethon Kids Institute's EYP Evaluation Team.

We will ask for feedback on the Dental Health Initiative in the Central Great Southern. Interviews will take approximately 30 minutes, at a time and in a place that is convenient to you.

If you continue to participate in the Dental Health Initiative, you may be invited to participate in future interviews. This will help us to determine if anything is changing in the community over time. If you are invited to participate in any future interviews, you will again be provided an information sheet and asked to provide consent.

The interview will be audio recorded and transcribed verbatim; only the research team will have access to the audio recording and transcription.

There are no costs associated with participating in this study. You will not receive reimbursement for your participation in this study.

Do I have to take part in this research project?

Participation in any research project is voluntary. You do not have to take part if you don't want to. If you decide not to participate in this research, you do not have to give us a reason for your decision.

If you consent to participate in this research, you may withdraw that consent and end your participation in the interview at any time, without needing to give us a reason.

What are the possible benefits of taking part?

There may be no immediate or direct benefit for people taking part in interviews, however we hope the information you and others provide will help the Early Years Partnership to understand and improve the experiences and outcomes of young children and their families.

What are the possible risks and disadvantages of taking part?

There are minimal risks and disadvantages of taking part in this research.

What if I withdraw from this research project?

Nothing will happen if you withdraw from this research project. If you tell the researcher that you no longer wish to participate in an interview, they will ask if you wish to withdraw the answers that you have already provided. If you choose to withdraw answers you have already provided, any audio recordings we be deleted and any written notes from the interview will be destroyed.

What will happen to information I have provided?

By signing the consent form, you consent to the research team collecting and using information provided by you during the interview. Any information obtained in connection with this research project that can identify you, or the organisation you work for, will remain confidential. The interview data will be kept in a password protected computer and a secure server for a minimum of five years. Your information will only be used for the purpose of this research project, and it will only be disclosed with your permission, except as required by law.

The results of this research may be published and/or presented in a variety of forums. The results will be provided back to the community, service providers and government departments. In any publication and/or presentation, information will be reported in such a way that you, and the agency or organisation for which you work, cannot be identified.

Is this project approved?

This project has been approved by the Child and Adolescent Health Service Human Research Ethics Committee and the West Australian Aboriginal Human Ethics Committee. This project will be carried out according to the *National Statement on Ethical Conduct in Human Research (2007)*. This statement has been developed to protect the interests of people who agree to participate in human research studies.

Further information and who to contact

If you want any further information concerning this project or if you have any problems which may be related to your involvement in the project, you can contact the Telethon Kids Institute study team by contacting Lynne Millar on 08 6319 1536 or emailing lynne.millar@telethonkids.org.au

If you have any concerns about the project, the way it is being conducted or your rights as a research participant and would like to speak to someone independent of the project, please contact the Executive Director of Medical Services at Perth Children's Hospital on 6456 2222. Your concerns will be drawn to the attention of the Ethics Committee which is monitoring the study.

Yours sincerely

Lynne Millar

Dr Lynne Millar

Coordinating Principal Investigator

Early Years Partnership Evaluation

Telethon Kids Institute

Early Years Partnership Evaluation

Dental Health Case Study – Central Great Southern

Consent Form (Stakeholders)

Declaration by Participant

- I have read the Information Letter or someone has read it to me in a language that I understand.
- I understand the purposes, procedures and risks of the research described in the project.
- I have had an opportunity to ask questions and am satisfied with the answers I have received.
- I agree for researchers to contact me to complete another interview within the next 18 months. I understand that I am not obliged to complete another interview.
- I freely agree to participate in this research project as described and understand that I am free to withdraw at any time.
- I understand that if I decide to leave the research project any information already collected as part of an interview will be deleted or otherwise destroyed.

Name of Participant
Signature Date

Dental Health Evaluation Interview Guide for Stakeholders

This interview aims to capture experiences of Dental Students and other EYP stakeholders in the Central Great Southern, as part of the Dental Health Initiative.

Before session begins:

Arrange for participant to complete a Participant Information and Consent Form

Session elements

1. Welcome to interview.
   a. Introduce self (include some personal details to facilitate connection with participant)
   b. Confirm that written consent has been provided by participant.

2. Briefly outline of the EYP and discuss that the purpose of today's interview is about their perception and experience of the impact of the Dental Health initiative in Central Great Southern

3. Orientation / warm-up (this may yield data, but key purpose is to build connections with participant and set them at ease, e.g.:
   a. Can you begin by telling me a little bit about yourself? Which organisation do you work for? What is your role in this project and/or EYP?
   b. Is this your first experience of an EYP initiative?

4. Questions (and prompts if required)

   a. If Dental Student only:

Tell me about your experience in participating with this Dental Health initiative. (How did you hear about it? What interested you about the placement? What was the placement like? Was the initiative implemented as described?)

What are your reflections on the dental session in relation to families? (Why do you think parents do or do not take their children for dental checks?)

What **barriers** did you hear about or encounter that hindered your experience/participation in the Dental Health initiative? What were the roadblocks? (For example: participant engagement or EYP engagement, the funding process, bureaucratic elements, access to students, access to facilities, particular people or roles, communication factors, other system level considerations?)

What were **facilitators** in the process? What made things easy? What helped the process? What do you think worked well? (For example: participant engagement or EYP engagement, the funding process, bureaucratic elements, access to students, access to facilities, particular people or particular roles, communication, other system level considerations)

Would you recommend participation to other students? (Why? What are the reasons for your answer?)

Do you have anything else at all that you would like to tell us about your experience as part of the Dental Health initiative in Central Great Southern? Do you have any other feedback?

b. If Dental Health or Key EYP Stakeholder:

Tell me about your experience in participating in this Dental Health initiative. (What was your role? Who did you need to rely upon? How did you hear about it? Why do you think children are not getting their teeth checked in this age group?)

Tell me about how the initiative was implemented? Was it implemented as described?

What **barriers** did you hear about or encounter, that hindered your experience of the Dental Health initiative? What were the roadblocks? (For example: participant engagement or EYP engagement, the funding process, bureaucratic elements, access to students, access to facilities, particular people or particular roles, communication factors, other system level considerations?)

What were **facilitators** in the process? What made things easy? What helped the process? (For example: participant engagement or EYP engagement, the funding process, bureaucratic elements, access to students, access to facilities, particular people or particular roles, communication, other system level considerations)

What changes would you make to implementation strategies in a second wave of dental health checks in this community?

To what extent is this Dental Health initiative sustainable in regional communities? (e.g., consider continued participation of dental students; funding model options, dental school curriculum options; should the program be scaled up? how could it be scaled up?)

Can you tell me about any further collaborations that would strengthen the service delivery for children 0-4?

Do you have anything else at all that you would like to tell us about your experience as part of the Dental Health initiative in Central Great Southern? Do you have any other feedback?

5. Salutations and thank you

A.7 Dental Health Survey PICF and Dental Health Survey Instrument

Early Years Partnership Evaluation

Dental Health Case Study – Central Great Southern

Participant Information Sheet (Parents)

You are invited to take part in a research project called the Early Years Partnership Evaluation. We are asking you because you are the **parent or primary caregiver** of a young child who lives **in the Central Great Southern area.**

This Information Sheet tells you about the research project. It explains the processes involved in taking part. Knowing what is involved will help you decide if you want to take part in the research. Please ask any questions or discuss it first with someone you trust.

All the information you give us is confidential and will not be used in any way that identifies you, your children, or your family.

Why are we doing this research?

The Early Years Partnership is being conducted over ten years by the WA Government and Minderoo Foundation in four WA communities. The aim of the Early Years Partnership is to work closely with each community to improve health, development, and learning in children from conception to 4 years of age. Central Great Southern is one of four partner communities involved. The Telethon Kids Institute is evaluating the Early Years Partnership to see how well it is achieving its aims.

A key component of child health is oral health. Good oral health impacts a person's overall health, wellbeing, and quality of life. The information you provide will help the Telethon Kids Institute evaluate whether having regular dental checks with children aged 1-4, helps with their general wellbeing and also determine whether the implementation strategies used in this project were successful.

What does participation in this research involve?

As part of this Dental Health Project, Telethon Kids will ask questions about your child's diet, toothbrushing habits and the status of their oral health. You can choose not to answer any

questions and you can choose to stop at any time by asking the interviewer to stop. The Dentist will also collect clinical data on your child's teeth. The clinical data collected by the Dentist will be aggregated and linked to the Telethon Kids evaluation data, however all identifying information will be removed and neither you, your child or your family will be identifiable.

If you continue to participate in the Dental Health Project, you may be invited to participate in future surveys. This will help us to determine if anything is changing in the community over time. You may be invited to participate up to three times over the next 18 months. Each time you will be provided an information sheet and asked to provide consent.

Do I have to take part in this research project?

Participation in any research project is voluntary. You do not have to take part if you don't want to. Your decision whether you take part or do not take part, or to take part and then withdraw, will not affect services for you or your child or your relationships with your health professional.

What are the possible benefits of taking part?

While there may be no immediate or direct benefit for completing this survey, we hope the information you and others provide will help the Early Years Partnership to understand and improve experiences and outcomes of young children and their families in Central Great Southern.

What are the possible risks and disadvantages of taking part?

You may feel that some of the questions we ask may lead to feelings of being uncomfortable or upset. If this occurs, you can tell us to skip questions or stop the survey altogether.

If any of the questions make you feel upset or uncomfortable, there are support agencies you can speak to. Depending on where you live and your circumstances, one of these agencies may be the best option to provide support:

- Southern Agcare – (08) 9827 1552
- Relationships Australia (Tambellup) -1300 364 277
- Beyond Blue - 1300 224 636 Information and Support, 24 hours a day, 7 days a week
- Lifeline - 13 11 14 Crisis Support Chat, 24 hours a day, 7 days a week

What if I withdraw from this research project?

Nothing will happen if you change your mind and withdraw before you finish the survey. You can stop the survey any time. If you choose to stop the survey, we will not use any of the information that you have provided to us unless you specifically give us consent to do so.

What will happen to information about me?

Any information obtained in connection with this research project that can identify you or your family, will remain confidential. Your information will only be used for research and evaluation purposes, and it will only be disclosed if required by law.

The results may be collated with other research and published in peer-reviewed journals. The results may also be published and/or presented in a variety of forums, for example: written into a report to the funding body, service providers, government departments or reported back to

the community. In any publication and/or presentation, information will be provided in such a way that **you cannot be identified**.

Is this project approved?

This project has been approved by the Child and Adolescent Health Service Human Research Ethics Committee and the West Australian Aboriginal Human Ethics Committee. This project will be carried out according to the *National Statement on Ethical Conduct in Human Research (2007)*. This statement has been developed to protect the interests of people who agree to participate in human research studies.

Further information and who to contact.

If you want any further information concerning this project or if you have any problems which may be related to your involvement in the project, you can contact the Telethon Kids Institute study team: lynne.millar@telethonkids.org.au

If you have any concerns about the project, the way it is being conducted or your rights as a research participant, and would like to speak to someone independent of the project, please contact The Executive Director of Medical Services at Perth Children's Hospital, phone 6456 2222. Your concerns will be drawn to the attention of the Ethics Committee who is monitoring the study.

Yours sincerely

Lynne Millar

Dr Lynne Millar

Coordinating Principal Investigator

Early Years Partnership Evaluation

Telethon Kids Institute

CGS Dental Health Case Study - Evaluation MAY 2024

Thank you for bringing in your child to see the dentist today.

This Dental Health Project aims to provide

i) oral health education for parents
ii) dental checks for 0-4-year-old children and
iii) simple preventive treatment for children where appropriate.

Before the examination, the Telethon Kids Institute would like to collect some information from you about your child's dental history. This information will help Telethon Kids evaluate whether very young children benefit from having regular dental checks in the community and whether the implementation strategies used for this project were successful.

Filling in this survey is voluntary. Your child will receive appropriate advice and referral, and access to standard dental care, whether you take part in this survey or not.

For more detailed information about the project, please click on the link below.

[Attachment: "AppD Dental Health CGS Survey_PICF_v1.0_16FEB2023 ONLINE.pdf"]

Declaration by Participant

- I have read the Participant Information Sheet or someone has read it to me in a language that I understand.
- I understand the purposes, procedures and risks of the research described in the project.
- I have had an opportunity to ask questions and I am satisfied with the answers I have received.
- I freely agree to participate in this research project as described and understand that I am free to withdraw at any time during the project without affecting my, or my child's future care.

Yes, I consent to participate

No, I do not consent to participate

Is this the first time your child has seen the dentist as part of the Early Years Partnership, Dental Health Project?

Yes

No

Child's unique identifier

_____

(A staff member will provide this number.)

Have you completed a Telethon Kids Dental Health Survey for this child previously?

Yes

No

Unsure

What is this child's gender?

Male

Female

Other

What is this child's date of birth?

_____

In which Shire does this child live?

Katanning

Broomehill-Tambellup

Kojonup

Gnowangerup

Other (please specify) _____

Where is the child being seen?

Day Care Centre

Playgroup

Katanning Dental Clinic

Kojonup Dental Clinic

Community Resource Centre

Library

Primary School

Other (please specify) _____

What is the main language you speak at home?

English

Other

If other, please specify the main language you speak at home.

_____

Is this child Aboriginal and/or Torres Strait Islander?

No, neither

Aboriginal

Torres Strait Islander

Both

How many children do you have?

One

Two

Three

Four

Five

Six

Seven

Eight

Nine

Ten

Eleven or more

How often does your child brush his/her teeth?

Twice or more a day

Once a day

Less than once a day

Occasionally

Never

Was your child:

Breast fed

Bottle fed (including expressed breast milk)

Both

Was your child mainly fed:

Breast milk

Formula

How long was your child fed breast milk?

0-6 months

6-12 months

12-18 months

> 18 months

Did your child ever fall asleep with a bottle?

Yes

No

Sometimes

Did you ever add anything to the bottle instead of breast milk or formula? (Select all that apply)

Coke

Orange juice

Other (please specify) _____

No

When feeding your child, did you feed:

Whenever hungry (on demand)

At set times (by schedule)

Does your child currently use a dummy/pacifier, or suck their thumb?

Yes, only uses a dummy/pacifier

Yes, only sucks their thumb

Yes, uses dummy/pacifier and sucks their thumb

No

Do you put anything on the dummy/pacifier/thumb?

Yes (please specify) _____

No

In the last 24 hours, how many times has your child had the following foods and drinks?

	Not at all	Once	Twice	More than twice
Plain milk				
Milk drinks e.g. flavoured milk, milkshakes, smoothies, milo				
Water				
Soft drink, cordial or sports drink				
Fruit juice of any type				
Biscuits, doughnuts, cake, pie or chocolate				
Cooked or raw vegetables, or salad				
Potato chips or savoury snacks e.g. Twisties, rice crackers				
Other packaged snacks e.g. muesli bars, roll ups, dried fruit, fruit pouches				
Fresh fruit				
Flavoured yogurt or yogurt pouches				
Ice cream or ice confections e.g. icy poles				
Lollies e.g. lollipops, marshmallows, snakes				

Are any of the following a barrier for you accessing dental care for your child? (Select any that apply)

Cost

Travel/Accommodation

Finding a dentist

Lack of insurance

Time

Other _____

No barriers

Has your child visited a dentist previously?

Yes

No

Don't know

If your child saw a dentist, was this:

(Select all that apply)

As part of the Early Years Partnership, Dental Health Project, (in March, July, Sept 2023 or March 2024)

In community (public/school dentist)

In community (private dentist)

At Perth Children's Hospital

At Oral Health Centre of Western Australia (OHCWA)

Other (please specify) _____

Outside of Australia

Does your child visit the dentist:

When the clinic arranged review

Every 3 months

Every 6 months

Once per year

Only when in pain

How easy or difficult is it for you to arrange dental treatment for your child?

Very difficult

Difficult

Easy

Very Easy

How would you rate your child's present oral health?

Very good

Good

Fair

Poor

Very poor

In the last 12 months, was there any time you have run out of food and not been able to purchase more?

Yes

No

Don't know

Problems with the teeth, mouth or jaws and their treatment can affect the well-being and everyday lives of children and their families.

For each of the following questions please choose the response that best describes your child's experience or your own, as applicable.

Consider the child's entire life from birth until now when answering each question.

If a question does not apply, choose "Never".

How often has your child had pain in the teeth, mouth or jaws? (Not associated with teething)

Never	Hardly ever	Occasionally	Often	Very often	Don't know

How often has your child had difficulty drinking hot or cold beverages because of dental problems or dental treatments? (Not associated with teething)

Never	Hardly ever	Occasionally	Often	Very often	Don't know

How often has your child had difficulty eating some foods because of dental problems or dental treatments? (Not associated with teething)

Never	Hardly ever	Occasionally	Often	Very often	Don't know

How often has your child had difficulty pronouncing any words because of dental problems or dental treatments? (Not associated with teething)

Never	Hardly ever	Occasionally	Often	Very often	Don't know

How often has your child missed preschool, daycare or school because of dental problems or dental treatments? (Not associated with teething)

Never	Hardly ever	Occasionally	Often	Very often	Don't know

How often has your child had trouble sleeping because of dental problems or dental treatments? (Not associated with teething)

Never	Hardly ever	Occasionally	Often	Very often	Don't know

How often has your child been irritable or frustrated because of dental problems or dental treatments? (Not associated with teething)

Never	Hardly ever	Occasionally	Often	Very often	Don't know

How often has your child avoided smiling or laughing when around other children because of dental problems or dental treatments? (Not associated with teething)

Never	Hardly ever	Occasionally	Often	Very often	Don't know

How often has your child avoided talking with other children because of dental problems or dental treatments? (Not associated with teething)

Never	Hardly ever	Occasionally	Often	Very often	Don't know

How often have you or another family member been upset because of your child's dental problems or dental treatments?

Never	Hardly ever	Occasionally	Often	Very often	Don't know

How often have you or another family member felt guilty because of your child's dental problems or dental treatments?

Never	Hardly ever	Occasionally	Often	Very often	Don't know

How often have you or another family member taken time off from English classes, work or school because of your child's dental problems or dental treatments?

Never	Hardly ever	Occasionally	Often	Very often	Don't know

How often has your child had dental problems or dental treatments that had a financial impact on your family (e.g. you could not afford treatment or bills)?

Never	Hardly ever	Occasionally	Often	Very often	Don't know

A.8 Student Experience PICF and Student Experience Survey Instrument

Early Years Partnership Evaluation

Dental Health Case Study – Central Great Southern

Participant Information Sheet (Stakeholders: Dental Students)

You are invited to take part in a research project called the Early Years Partnership Evaluation. This Information Sheet tells you about the research project. It explains the processes involved with taking part. Knowing what is involved will help you decide if you want to take part in the research.

Please take the time to read this Information Sheet. If you have any questions or concerns you can contact the research team (contact details are provided at the end of this form), or discuss with a trusted friend or colleague, or with your manager.

You may require the approval of your agency or organisation before agreeing to take part in this research project. This is something you may wish to discuss within your agency or organisation.

Why are we doing this research?

The Early Years Partnership is being conducted over ten years by the WA Government (through the Departments of Communities, Education and Health) and Minderoo Foundation in four WA communities. The aim of the Early Years Partnership is to work closely with each community to improve health, development, and learning in children from conception to 4 years of age. Central Great Southern agreed to be one of the four partner communities.

Telethon Kids Institute is evaluating the Early Years Partnership to see how well it is achieving its aims. This survey will help us understand and capture the experiences of Dental Students following each wave of the Dental Health Initiative.

What does participation in this research involve?

If you agree to take part, you will be asked to complete a survey by the Telethon Kids Institute's EYP Evaluation Team.

We will ask for feedback on the Dental Health Initiative in the Central Great Southern. The survey will take approximately 10-15 minutes to complete. If you continue to participate in the Dental Health Initiative, you may be invited to participate in future interviews or surveys. This will help us to determine if anything is changing in the community over time. If you are invited to participate in any future interviews or surveys, you will again be provided with an information sheet and asked to provide consent.

There are no costs associated with participating in this study. You will not receive reimbursement for your participation in this study.

Do I have to take part in this research project?

Participation in any research project is voluntary. You do not have to take part if you don't want to. If you decide not to participate in this research, you do not have to give us a reason for your decision.

If you consent to participate in this research, you may withdraw that consent at any time, without needing to give us a reason.

What are the possible benefits of taking part?

There may be no immediate or direct benefit for people taking part, however we hope the information you and others provide will help the Early Years Partnership to understand and improve the experiences and outcomes of young children and their families.

What are the possible risks and disadvantages of taking part?

There are minimal risks and disadvantages of taking part in this research.

What if I withdraw from this research project?

Nothing will happen if you change your mind and withdraw before you finish the survey. You can stop the survey any time. If you choose to stop the survey, we will not use any of the information that you have provided to us unless you specifically give us consent to do so.

What will happen to information I have provided?

By signing the consent form, you consent to the research team collecting and using information provided by you in the survey. Any information obtained in connection with this research project that can identify you, or the organisation you work for, will remain confidential. The data will be kept in a password protected computer and a secure server for a minimum of five years. Your information will only be used for the purpose of this research project, and it will only be disclosed with your permission, except as required by law.

The results of this research may be published and/or presented in a variety of forums. The results will be provided back to the community, service providers and government departments. In any publication and/or presentation, information will be reported in such a way that you, and the agency or organisation for which you work, cannot be identified.

Is this project approved?

This project has been approved by the Child and Adolescent Health Service Human Research Ethics Committee and the West Australian Aboriginal Human Ethics Committee. This project will be carried out according to the *National Statement on Ethical Conduct in Human Research (2007)*. This statement has been developed to protect the interests of people who agree to participate in human research studies.

Further information and who to contact

If you want any further information concerning this project or if you have any problems which may be related to your involvement in the project, you can contact the Telethon Kids Institute study team by contacting Lynne Millar on 08 6319 1536 or emailing lynne.millar@telethonkids.org.au

If you have any concerns about the project, the way it is being conducted or your rights as a research participant and would like to speak to someone independent of the project, please contact the Executive Director of Medical Services at Perth Children's Hospital on 6456 2222. Your concerns will be drawn to the attention of the Ethics Committee which is monitoring the study.

Yours sincerely

Lynne Millar

Dr Lynne Millar

Coordinating Principal Investigator

Early Years Partnership Evaluation

Telethon Kids Institute

Dental Student Experience Survey May 2024

The Early Years Partnership is being conducted over ten years by the WA Government (through the Departments of Communities, Education and Health) and Minderoo Foundation in four WA communities. The aim of the Early Years Partnership is to work closely with each community to improve health, development, and learning in children from conception to 4 years of age. Central Great Southern agreed to be one of the four partner communities. Telethon Kids Institute is evaluating the Early Years Partnership to see how well it is achieving its aims. This survey will help us understand and capture the experiences of Dental Students following each wave of the Dental Health Initiative.

For more detailed information about the survey, please click on the Participant Information Sheet link below:

[Attachment: "AppD Dental Health CGS Dental Student Survey_PICF_v1.0_23072023.pdf"]

Declaration by Participant:

- I have read the Participant Information Sheet or someone has read it to me in a language that I understand.
- I understand the purposes, procedures and risks of the research described in the project.
- I have had an opportunity to ask questions and I am satisfied with the answers I have received.
- I freely agree to participate in this research project as described and understand that I am free to withdraw at any time.

Yes, I consent to participate

No, I do not consent to participate

How did you hear about the Dental Health Initiative?

UWA Dental School

Students/friends

Oral Heath Centre WA

Other (Please specify) _____

What interested you about the Student placement opportunity in the Central Great Southern?

(Tick all that apply)

Country location

Working with children

Opportunity for practical experience

Good for the CV

Other (Please specify) _____

Had you screened or provided treatment to children under four years of age before this placement?

Yes

No

Unsure

How many children under four years of age would you have provided treatment to, or screened?

_____

Had you heard about the Early Years Partnership before this placement opportunity?

Yes

No

Unsure

Based on your experience in the community, what were the biggest barriers that parents conveyed about why they did not take their children for dental checks? (Tick all that apply.)

Cost

Travel/Accommodation

Finding a dentist

Lack of insurance

Time

Lack of knowledge

Other (Please specify) _____

Please indicate to what extent you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
My overall experience with the Dental Health Initiative in the Central Great Southern was positive					
I would recommend participation in this Initiative to other Dental Students					
Participation in the Initiative was rewarding					
The accommodation was acceptable					
The social activities outside of the workday were worthwhile					
Student funding for meals and incidentals was adequate					
The Initiative was implemented as it was described to me					
The community stakeholders were happy to assist with my queries or concerns					
I felt safe during my stay in the Central Great Southern					
I was well briefed before beginning the placement					
The placement had a negative impact on my Dental rotation					
I learned more during the placement week than I would have at my set rotation					
I would consider a career in Paediatric dentistry because of this placement					
I would consider working in a rural practice because of this placement					
This placement has highlighted the inequities that exist in the provision of dental services					

Please describe any standout points of learning from the placement whether from a health promotion or clinical perspective...

Do you have any other feedback or comments about your experience as part of the Dental Health Initiative in Central Great Southern?