

VEGKIT TOOLS AND INTERVENTIONS FOR INCREASING CHILDREN'S VEGETABLE INTAKE:

INFANT AND EARLY YEARS ADVICE TO FACILITATE CHILDREN'S EARLY VEGETABLE ACCEPTANCE

Pathways to adoption – case studies

This activity aims to support adoption of practical evidence-based strategies to support children's liking of vegetables in the early years, and ultimately influence their long-term vegetable intake.

The following case studies illustrate how the projects' research and dissemination activities are working towards influencing both policy and practice across a range of stakeholders and settings to support vegetable liking in young children. Recommendations highlighting opportunities to further expand impact are also provided.



1. POLICY & PRACTICE

Government and health practitioners play a critical role in disseminating practical feeding advice to encourage liking and intake of vegetables in the first years of a child's life. However, a lack of practical strategies for vegetables in current dietary advice limit their effectiveness. An opportunity exists to strengthen advice through incorporating practical strategies into national and state feeding guidelines and policy documents. These strategies, endorsed by government policy and guidelines, can be readily used by researchers and communicated to caregivers by Health Care Practitioners (e.g. Maternal Child and Family Health Nurses). Caregivers of young children are then supported and equipped with the knowledge required to help children learn to enjoy and eat vegetables and ultimately increase intake.

It is crucial that national, state/territory and jurisdictional feeding guideline documents and associated resources, such as educator guides, contain practical strategies that will assist in increasing the vegetable intake of children in the first years of life.



Case study 1: Maternal Child and Family Health Nurses



**MATERNAL, CHILD & FAMILY
HEALTH NURSES AUSTRALIA**

VegKIT collaborated with the Maternal Child and Family Health Nurse Association to embed advice in maternal health nurse practice. This collaboration enables direct communication between Maternal Child and Family Health Nurses and parents and caregivers equipping them with useful and practical strategies to help children learn to enjoy and eat vegetables.

In the initial phase of evidence synthesis and advice development, VegKIT researchers adopted a co-design approach with key stakeholders. Stakeholders actively participated in reviewing the evidence, developing the wording of the advice statements, and prioritizing them. This ensured relevance and facilitated adoption into practice by involving end-users in

the development process. Maternal Child and Family Health Nurse Association were identified early in the project as a critical partner due to their direct interface with parents and young children. Through the co-design process, prioritised advice statements were identified as complementary to current practice indicating they would be readily accepted by nurses.

“not overly controversial priorities in maternal and child health area therefore think they (advice statements) could co-exist with current practice”

- Maternal Child and Family Health Nurse Association National Executive, Advice statement development workshop, February 2020

Following positive engagement in the advice development stage a tailored and bespoke live webinar was delivered to the Maternal Child and Family Health Nurse Association Annual General Meeting in 2020. This meeting was attended by leaders of all state divisions and national executives. The live webinar was well received, resulting in the webinar recording being made available nation-wide, via the [VegKIT website](#) and national executives encouraging adoption of the advice statements into practice and resources.



“Those present at the AGM found the presentation very informative, thought-provoking and something definitely worth sharing more broadly throughout the national network.... (we) encourage you to consider how the new advice statements can be embedded into our practice and the resources we use. We are well positioned to communicate this practical advice to families and carers of infants and toddlers we work closely with.”

- National Executive of Maternal Child and Family Health Nurse Association communicating with state membership

Next steps (recommendations)

VegKIT has established a positive relationship with the Maternal Child and Family Health Nurse Association and the organisation remains a key stakeholder given their direct interface with parents of young children. There remains an appetite for ongoing dialogue and opportunity for further education sessions to strengthen the impact of work to date.

Further policy and practice opportunities

The Australian Dietary Guidelines are currently under review and there exists an opportunity to submit supporting evidence regarding effective strategies to promote early exposure and familiarisation to vegetables that encourage intake. Currently the call for evidence is scheduled to commence final quarter 2022, [NHMRC Dietary Guidelines Timeline](#).

In addition to the upcoming submission of evidence to the formal review process, VegKIT has been communicating with key

government agencies to support adoption. A video briefing was provided to Australian Commonwealth Department of Preventative Health Policy branch representatives. This briefing addressed the recently developed infant feeding advice statements and opportunities to strengthen advice within current guidelines to support vegetable liking and intake. Supporting tools ([Evidence summary](#), scientific papers^{1,2}) and resources ([infographic](#)) were provided and several follow-up meetings have occurred to maintain contact and currency of review processes. In addition, a personalised communication to state health department contacts (including state nutritionists and relevant health promotion agencies) was distributed providing information on the new infant feeding advice statements, a link to the VegKIT website, a presentation on the advice development process and opportunities for adoption at the state level. An update on recent dialogue held between VegKIT representatives and The Commonwealth Government regarding opportunities to strengthen Australian Dietary Guidelines and Infant Feeding Guidelines was also communicated.

2. TARGETING SETTINGS WHERE CHILDREN SPEND THEIR TIME

Long day care centres are ideally placed to increase children's vegetable intake by providing more vegetables in snacks and meals, as well as helping to improve children's familiarity with vegetables through play and learning experiences.

- Around 72% of children aged two to three years regularly attend formal care, such as long day care, spending an average of 16 hours in care every week³.
- For children attending care for eight hours a day most of their daily meals and snacks are provided in care.
- For those children attending centres that serve cooked meals, 40-60% of their daily food intake – including vegetables is provided by the centre⁴.



Case study 2: Long Day Care and Healthy Eating Advisory Service

VegKIT has developed a package of initiatives for long day care based on the [Best Practice Guidelines](#) and updated [infant feeding advice statements](#). This package supports providers to implement effective strategies that foster vegetable liking and intake in young children. This includes:



1. **Cooks training:** [Long Day Care online training](#) and FoodChecker menu assessment tool (licensed from Victorian government and Nutrition Australia's Healthy Eating Advisory Service)



2. **Educators mealtime environment training:** ['Encouraging healthy eating in long day care'](#) online training for educators (developed in partnership with the Healthy Eating Advisory Service)



3. **Curriculum:** ['Taste & Learn™ for Early Years'](#) curriculum (adapted from CSIRO's Taste & Learn for primary schools)

Key advice statements that support vegetable liking in early childhood have been embedded in these resources, providing long day care centres with evidence-based advice to support children's vegetable liking and intake.

Feedback from services using the initiatives has been positive:

“Discussions about vegetables and healthy eating are now embedded in our program and the children are more open to taste and try vegetables.”

- Educator

“It was very well presented, lots of information and makes you very interested and motivated”

- Cook

“The children really enjoyed exploring the different fruit and vegetables in different ways and it offered great experiences for our fussy eaters.”

- Educator

“I really enjoyed teaching the curriculum and feel that it has strengthened my understanding of how to promote children's knowledge of vegetables and to promote children's liking of vegetables.”

- Teacher

To drive adoption of the initiatives and early years advice, VegKIT have used a partnership model for disseminating and engaging relevant organisations within the sector as adoption partners. Using adoption partners will increase the reach of the initiatives and resources to a much larger potential national audience. It also ensures the sustainability of the initiatives beyond the VegKIT project without ongoing investment.

The Healthy Eating Advisory Service: the key adoption and delivery partner

The Healthy Eating Advisory Service has been identified and secured as the primary adoption partner for the VegKIT Long Day Care initiative package. The Healthy Eating Advisory Service is delivered by Nutrition Australia Victorian Branch, with funding support from the Victorian Government. The service supports early childhood services, outside school hours care, schools, workplaces, hospitals, sport and recreation centres, tertiary education, and parks to provide healthier foods and drinks. As part of the service, the Healthy Eating Advisory Service provides a range of resources to help settings understand and apply government policies and guidelines, train staff, develop healthier recipes, identify healthier food options and provide healthier menus and products. The Healthy Eating Advisory Service are actively engaged with the long day care sector in Victoria and South Australia, offering resources to support childcare centres provide healthier menus and positively contribute to children's health and wellbeing. Their resources and training modules are available nationally to all long day care centres.

The VegKIT Long Day Care package of resources to encourage children's vegetable intake was launched in July 2022 via the [Healthy Eating Advisory Service](#), [VegKIT](#) and [Taste and Learn](#) websites, providing access to all long day care centers nationally.

“Having evidence-based tools and resources tailored for the long day sector will support the directors, educators and cooks to embed practices that will impact the vegetable intake of children and have a lasting impact on their health and wellbeing”

- Margaret Rozman,
Program Manager,
Healthy Eating Advisory Service

3. VEGETABLE INDUSTRY: KEY PLAYERS IN SUPPORTING CHILDREN TO LEARN TO LIKE VEGETABLES

Food growers, manufacturers, suppliers and retailers are ideally placed to encourage liking and support for young children to eat more vegetables. This can be achieved by providing more vegetables in products, as well as helping to improve children's familiarity and exposure to vegetables through marketing and promotional activities.



Early life vegetable exposure and ready-made baby and toddler foods

Ready-made baby and toddler foods are a common choice for Australian families, one in three young children eat these foods at least once a week, and one in five eat them most days. For 40% of children, ready-made baby and toddler foods make up at least half or more of their meals and snacks, and for 15% of children these foods make up most or all their dietary intake⁵. The main reasons parents choose ready-made foods for children are convenience (92%), taste (78%) and because they believe it is a healthy choice (73%)⁵. However, the nutritional content of many Australian commercial infant and toddler foods are inconsistent with guidelines, including for vegetables, especially a lack of vegetable-only products.

VegKIT has produced and disseminated an industry-targeted resource that supports adoption of evidence-based advice into business practice - [Science Insights for Food Industry: Opportunities for product development and marketing of vegetable products for young children](#). By creating and marketing vegetable focused options that contribute to a child's love of vegetables early in life, food industry can create future demand for vegetables in years to come. Feedback received demonstrates interest from industry representatives, however further engagement is necessary to overcome barriers and support adoption.

“I think key messages are we need to consider how we create products that hit the nail in the head when it comes to health and promoting vegetables, but they also need to be enticing for the kids and parents and accessible. So that ideas of influencing across a food business from the very beginning to create new products.”

- P11 Food Manufacturer Representative

“This document has been really useful in terms of my presentations or trying to get our marketing teams to support.”

- P10 Food Manufacturer Representative

“I think obviously talking about variety, introduction of vegetables as first foods and getting them adjusted to liking vegetables. I guess through tasting and repeating exposures.”

- P9 Vegetable Industry/Grower Representative

Interviews conducted with industry representatives highlighted that a key barrier to developing vegetable-based products is sales dominance of sweetened infant and toddler food products, the cost of developing new products and their economic viability.

“I can’t if they’re not being purchased. Our teams are looking at sales data and if the most popular seller is an apple and strawberry puree, if I’m trying to be like, let’s get a broccoli pouch across the line, they’re not going to be able to get that across the line because there’s no supporting evidence for it or even looking at the costs.”

- P10 Food Manufacturer Representative

“If you want to get a lot of people involved there needs to be a transactional benefit.”

- P06 Vegetable Industry/Grower Representative

Next steps (recommendations):

Suggested strategies to address these concerns and support sector level adoption include:

- A collaborative approach to reduce the use of fruit purees in infant and toddler products and open the market for vegetable-based products.
- Tighter labelling and regulation of front-of-pack product names and claims to accurately reflect ingredients, i.e. only products that contain a particular percentage of vegetable can be marketed as a vegetable product.
- Targeted consumer communications to promote vegetable focussed products to parents and caregivers, using a co-designed approach with input from industry representatives and leveraging the collective knowledge from consumer research and product testing.
- Development of case studies of successful product reformulation examples, e.g., process for reducing addition of flavour maskers such as fruit puree to products and customer acceptance (similar to sodium reduction approach with breakfast cereals and other processed food products).
- A coordinated approach across government, industry and community promoting a consistent message.

“It’s very hard as a single entity to try to change that behaviour, and what I’d probably like to see more of, is the whole industry come together, working with government to promote healthy eating and collectively working together off the same message ... if people can eat more vegetables in total, well then, they’ll eat more of our vegetables as well.”

- P9 Vegetable Industry/Grower representative



Case study 3: Food industry example of best practice for supporting children to learn to like vegetables – Nourishing Bubs

Founded by Olivia Bates, Pediatric Dietitian and Nutritionist, “[Nourishing Bubs](#)” offers a range of convenient snap-frozen, individually portioned vegetable purées for young children. The products are available in major retailers Australia-wide. Nourishing Bubs demonstrates the application of a number of the VegKIT best practice guidelines and early years advice statements for increasing vegetable intake in children.

The product range includes single flavour vegetable cubes, unmasked by fruit purees or other additives or flavours. Product messaging and promotion clearly highlights the importance of early exposure to vegetable flavours. Additionally, product packaging and an online blog provides useful and practical information on childhood feeding practices and nutrition.



“The first 2 years of an infant’s life provide the key window of opportunity to encourage a love of savoury items such as vegetables.

As a collective, it is the responsibility of the food industry to help rather than hinder parents in their efforts to lay healthy foundations. Through repeated exposure and learnings children can learn to love veggies.

Manufacturers need to reduce the use of sweeteners often in the form of fruit purees. Vegetable forward purees need to be the norm, not the exception.”

- Olivia Bates, Nourishing Bubs



4. UTILISING SOCIAL MEDIA TO TARGET PARENTS AND CAREGIVERS

It is widely accepted that the growth of social media has permanently changed parenting and specifically where parents and caregivers of children seek out health advice. Traditionally parents sought advice from health professionals and medical or health organisations, however whilst these channels are still used, parents are shifting to online channels. In one survey, 31% of parents

using social media reported having posted parenting questions to their online network in the last 30 days⁶. VegKIT acknowledges this shift and whilst working with government, industry and health organisations, like the Maternal Child and Family Health Nurses Association, also sees the need to target parents and caregivers of children directly.

Case study 4: Social media to promote evidence-based advice on supporting children to learn to like and enjoy vegetables.

A series of social media posts were developed communicating the advice for supporting children to learn to like and enjoy vegetables. A small number of pitches were also developed targeted to health organisations, infant food manufacturers, and influential parenting brands and personalities encouraging them to help communicate the evidenced-based messages through their respective social media platforms. Only organisations or individuals whose mission or values align with the intent and evidence-based approach to feeding advice were targeted.

Nutrition Australia directly engaged with this activity executing social media activity via Instagram, Facebook, LinkedIn and Twitter. In total, 64 posts appeared across these Nutrition Australia owned platforms in two one-month long campaigns. Social media has consistently contributed 20% of all traffic to the VegKit website.



Next steps (recommendations):

Working collaboratively across multiple sectors to increase children's vegetable intake must undoubtedly include communication directly with parents and caregivers. A strategic communication campaign targeting parents and caregivers should incorporate messages around:

1. the importance of early exposure to vegetables flavours,
2. effective strategies to increase children's liking of vegetables, and
3. the limitations of some commercial infant and toddler products.

Social media campaigns have the potential to improve parental (consumer) knowledge and behaviours as well as shift purchasing choices (demand) to more vegetable first products (supply).

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