



WORKING TOGETHER TO INCREASE CHILDREN'S LIKING OF VEGETABLES

Position Statement

by the Vegetable Intake Strategic Alliance (VISA)

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The Vegetable Intake Strategic Alliance is a national research initiative that coordinates cross-sector collaboration to increase children's vegetable intake.

The Vegetable Intake Strategic Alliance comprises a wide range of stakeholders including the horticulture industry, State and Commonwealth government departments of Health and Agriculture respectively, nutrition and health agencies, research organisations, retailers, early learning and parenting organisations and various non-government organisations.

The focus of the Vegetable Intake Strategic Alliance is to leverage knowledge, funding and collaboration to achieve a shared vision of increased vegetable intake among Australian children and their families.

FOCUS ON AUSTRALIAN CHILDREN'S VEGETABLE INTAKE



Shift emphasis from health to liking and enjoyment of vegetables



Create opportunities for vegetable exposure



Work smarter through collaborative action

Vision

The VISA is a unified voice, sharing knowledge and collaborating to increase vegetable intake among children and their families.

Mission

Our mission is to create an active, functional alliance to provide a unified voice in the promotion of best practice for increasing children's vegetable intake in Australia.

Why a position statement?

Children's vegetable intakes have stagnated far below recommendations^[1]. Past efforts to increase intakes have been limited and not adopted at scale^[2, 3]. In this position statement, the VISA provides a unified voice in the promotion of evidence-based best practice using a paradigm shift to improve vegetable intakes.

Who is this position statement for?

Stakeholders and 'gatekeepers' who influence children's food & vegetable intake across community settings, including health, education, and sporting activities. This includes primary carers of children or parents and the provision of food through food service and the food system supply chain.

CHILDREN'S FOOD PREFERENCES FIRST

To remedy low vegetable intakes, a child first approach is recommended, seeking to reach children aged 2-11 years in all settings where they may eat. Food preferences and habits are established in infancy and childhood and can persist throughout adulthood^[4-6]. It is hard for adults to adopt new dietary habits, but children's preferences are malleable and children can learn to like foods.^[4, 5]

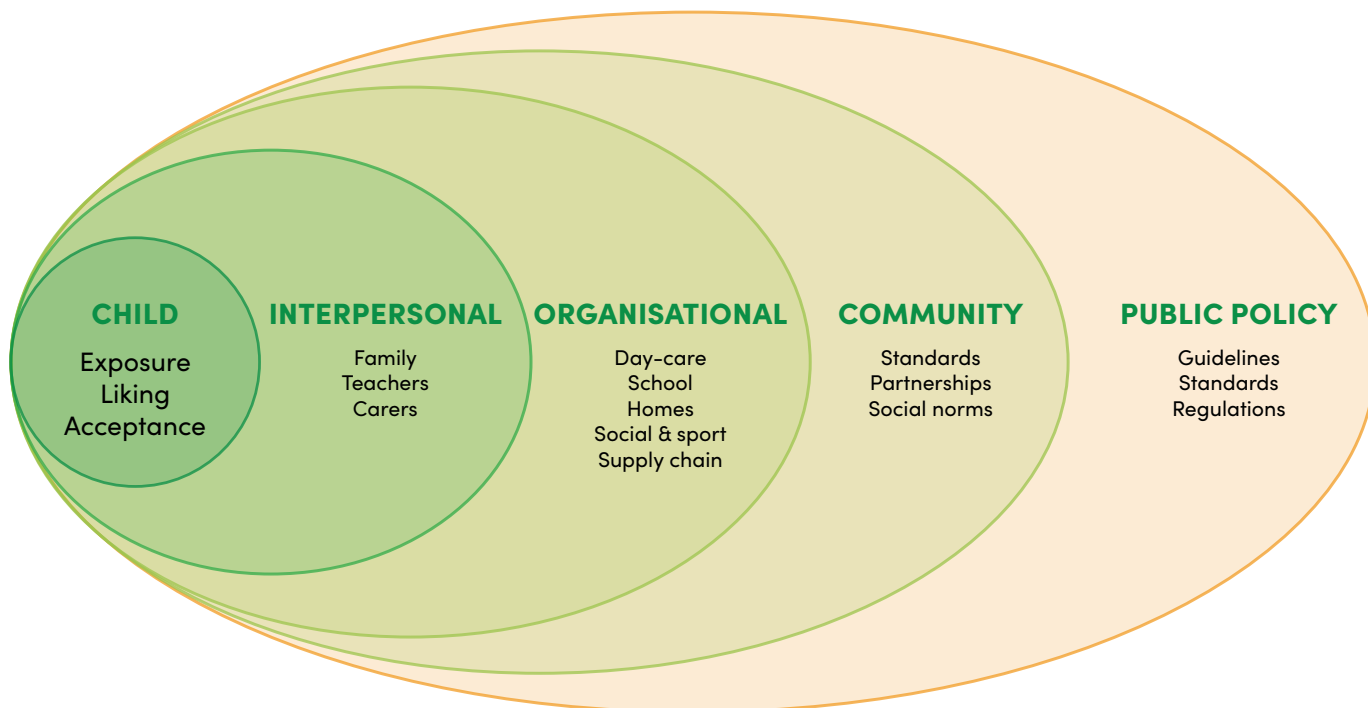
Position

Children need to be repeatedly and consistently exposed to a variety of vegetables from an early age to achieve an increase in vegetable intake.^[7] A focus on enjoyment and learning to like eating vegetables at an early age is critical to forming favourable lifelong eating habits.^[4, 5]

Working in a coordinated way to ensure vegetables are available and promoted in a range of settings, using evidence-based initiatives, create an environment that will support children's acceptance of vegetables, in turn facilitating increased intake, and ultimately realising the associated health benefits.

Theoretical Framework

This position statement can be viewed through the lens of the Social-Ecological Model as illustrated in Figure 1.



NEED FOR A PARADIGM SHIFT TO ADDRESS THE CURRENT CHALLENGES

Vegetables are the cornerstone of a healthy diet. Vegetable intake as part of a healthy eating plan helps promote health and prevent disease, but despite the well-known health benefits, low vegetables intakes occur in Australian children.^[1]

There have been significant efforts made to encourage children to eat more vegetables but longer term sustained success is modest at best.^[1] There are several challenges that may have limited the success of past efforts and interventions:

1. Taste and other sensory properties

Children are driven by the appearance, taste, flavour and texture, and not the healthiness, of food.^[8, 9] The concept of health and the delay in reward to achieve healthiness are hard for children to understand. Children struggle to process multiple concepts at the same time.^[10] Health messages can evoke disliking and set an expectation of poor taste.

Vegetables can taste bitter or bland. These sensory characteristics of vegetables are not innately liked by children and enjoyment of foods with these tastes may take time to develop.^[8]

2. Time and occasion of eating

Australian children eat most of their vegetables within their dinner meal and including vegetables and vegetable products within other meals or as snacks throughout the day is not common.^[8, 11-13] This is problematic because the number of eating occasions is insufficient to facilitate familiarity, exposure, quantity and variety consumption opportunities.

3. Dietary advice

Recommendations for healthy eating tend to be broad and lack action-orientated advice. Fruit and vegetables have commonly been combined in recommendations and interventions^[2, 14, 15], but

they taste different, and are eaten in different ways at different times. When combined with fruit, fruit intakes tend to increase but not vegetables. Encouraging vegetable intake requires specific vegetable strategies and messaging.

4. Distribution and access

There are supply and distribution challenges in getting a regular supply of vegetables and vegetable products onto the daily menus of early education centres and schools.^[16]

5. Marketing and promotion

Vegetables and vegetable products aren't marketed as widely as other products that are less healthy but more appealing to children.^[17, 18, 19]

6. Stakeholder coordination

Coordination of efforts is challenging because motivated stakeholders such as growers, retailers, early education centres, educators, health scientists and public health specialists are not integrated but ultimately have the same goal of greater intake of vegetables by Australian children.^[20] There is little co-ordination or connection across the sectors and there is disparity between the sectors and their ideal outcomes.

THE NEW PARADIGM SOLUTION

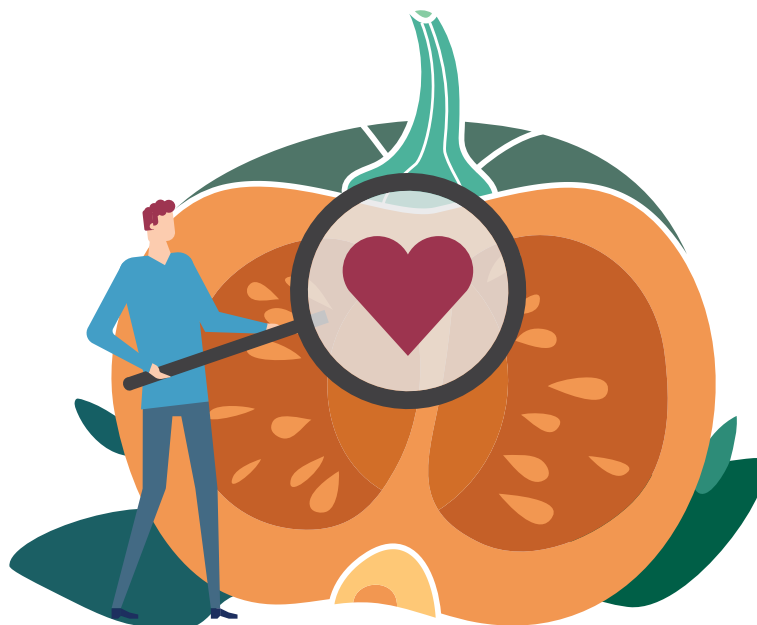
Evidence suggests greater success could be achieved through a coordinated shift in focus towards teaching and supporting children to become familiar with, accept and like vegetables through increased exposure to a greater variety of vegetables and vegetable products from an early age. There are three focus areas:

1. SHIFTING FOCUS TO LIKING AND ENJOYMENT OF VEGETABLES

- **Change the message to enjoyment (not health as an outcome)**
- **Vegetable specific guidelines**
- **Repeated exposure to vegetables**

STEPS

1. **Implement initiatives** to emphasise and encourage children's enjoyment of eating vegetables in multiple settings and through curriculum activities, e.g. in day care, pre-school and school.^[8, 21]
2. **Provide practical advice to parents and carers** on repeated exposure to new vegetables and positive reinforcement of vegetable tasting by children.^[7, 22]
3. **Provide evidence of best practice to help shape existing and future dietary recommendations**, guidelines or infrastructure about repeated exposure and variety as strategies to increase children's liking of vegetables across life stages and in all settings where children eat food.^[22]
4. **De-emphasize explicit health messages**^[8] as the key rationale for increasing vegetable intakes among children.
5. **Consider including framing messages** that refer to the low environmental impacts of plant-based diets to encourage a positive response from providers (seeking to lower their carbon footprint) and carers ('green' values).^[23]
6. **Incorporate innovative techniques** in food marketing and apply them to vegetables.^[24]





2. CREATE VEGETABLE EXPOSURE OPPORTUNITIES FOR CHILDREN

- **Increase availability at children's eating occasions**
- **Increase the ease of vegetable supply to children's settings**
- **Facilitate involvement and familiarity with vegetables**

STEPS

1. **Incorporate evidence** that early introduction and repeated exposure, particularly to a variety of vegetables would encourage intakes.^[8, 22]
2. **Develop new vegetable snacking occasions** so children can more easily consume vegetables for snacks, out of the home (i.e. in lunch boxes) or at any time.
3. **Develop new vegetable products** so children can more easily consume vegetables for snacks, out of the home (i.e. in lunch boxes) or at any time.^[25]
4. **Support caterers in settings** (schools, early education centres) through initiatives such as new tasty vegetable products, direct delivery, chefs' and carers' training.^[16] Provide support at the organisational level through policy (food supply/ distribution included).
5. **Incentivise and reward the inclusion of vegetables** and vegetable products in menus at schools and early education centres through recognition and award, e.g., 5-star food service (analogous to health star ratings of foods).
6. **Optimise the taste, flavour and texture qualities of vegetables** and vegetable products according to children's preferences through product development and preparation; provide guidance, training and support to industry and food service for development of vegetable-based products with high sensory appeal.^[8, 26]
7. **Involve children in preparation and cultivation of vegetables** at home, in school^[28] and in early education centres^[29] so that they have experiential familiarity of vegetables.
8. **Initiate 'incursions' from growers** into early education centres and schools to increase children's familiarity with the origins of vegetables and leverage children's love of nature.^[30]



3. WORKING TOGETHER

- **Co-ordinate efforts**
- **Centralise resources**
- **Support every child's opportunity to learn to like vegetables**

STEPS

1. **Develop interrelated efforts** across relevant food systems (distribution, food marketing, packaging, food relief and retail) to ensure all Australian children have access to a variety of vegetables ^[20].
2. **Create a coordinated delivery system** that helps supply vegetables from farms to children via early education centres and school settings.^[16] For example, delivered produce boxes supported by training for carers and cooks ^[16, 31].
3. **Strengthen school canteens and other food services policies** ^[32, 33] and create national school canteen and food service policy guidelines to include serves of vegetables in settings where at least one meal or snack is provided to children aged 2 - 11 years, i.e., school canteens, OSH Care, early education centres, sporting facilities, food service outlets etc.
4. **Create a sustainable model of coordination across stakeholders** –for example, through a sustained VISA, the VegKIT Registry and/ or integration into State Government Health and Wellbeing policy & initiatives, The Fruit and Vegetable Consortium, and the National Nutrition Network.^[24, 33, 34]
5. **Australian children are supported to learn to like a variety of vegetables**, with resources available for multiple settings (e.g., home, early education centre, school). Additional assistance may be required for remote regions that cannot receive fresh vegetables in having access to frozen or healthy processed forms of vegetables. Provision in early education centres and schools reduces the cost burden of food purchase for low-income families.
6. **Create a centralised hub of information for stakeholders.** The hub could contain resources such as: vegetable-based recipes, video content on repeated exposure training for introducing vegetables for families, introduction of vegetables as a first food for new parents, snack and lunch box vegetable ideas, and education about vegetables from paddock to plate.

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