



Best practice guidelines for increasing
children's vegetable intake

Long Day Care

Helping the children in your care to eat more vegetables



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Contents

Introduction	4
The seven guidelines - overview	6
Foundation	8
Action	12
Review	15
What you can do: A checklist of simple ideas that work in Long Day Care	16
Engaging with families	18
Program examples and resources	19
References	21



Introduction

We all know that eating more vegetables is good for us and for the children in our care. Making it happen is not always easy.

Most Australian children are not eating enough vegetables. Only 6% of children aged 2–17 years of age eat the recommended amount [1].

This guide supports long day care centres as they seek to increase children's vegetable intake.

It sets out seven best practice guidelines that can be used in existing programs or to develop new initiatives. These can be applied across the range of activities in your centre, from policy and curricula through to menus, mealtime practices and interactions with children and families.

There are a number of useful resources to support families, carers and educators in encouraging children to eat more vegetables. Some of these are listed at the back of this guide.

This guide is an important addition to these resources, founded on a robust review of the literature.

The seven best practice guidelines have been developed through analysis of previous programs and initiatives [2]. All the activities suggested in this guide are drawn from programs that have worked in the past [2].

Long day care centres can help children eat more vegetables

Long day care centres are ideally placed to increase children's vegetable intake, as well as children's familiarity with vegetables.

- 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 week [3].
- For children attending care for eight hours a day, the majority 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 centre [4].

In achieving any goal, you need to know the environment in which you are operating and the enablers and barriers to success. Among these are psychological, cultural, social, regulatory and policy factors.

National Quality Framework

The [National Quality Framework](#) tasks long day care centres with promoting healthy eating and providing appropriate nutrition to meet the requirements of Element 2.1.3: Healthy lifestyle of the National Quality Standards [5].

Using the best practice guidelines in this guide can help you to meet this standard.

Barriers

Centres may come across a range of common barriers that impact on children's vegetable intake while in care [6-9], such as:

- access to staff nutrition training
- children's taste preferences
- children's fear of trying new foods
- food storage and preparation regulations
- challenges in consistent communication between care and home.

Whole-of-service approach

Taking a whole-of-service approach can help overcome these barriers and change nutrition practices in care [7]. Simple measures include:

- revising menus to include more vegetables
- involving children in hands-on vegetable-related education
- supporting staff to improve their skills for nutrition education and food preparation.

The seven guidelines

The guidelines are focused on increasing children's intake and are grouped into three segments:

- Foundation: identify the concepts and structure that will enable change
- Action: set goals and plan for success
- Review: monitor and provide feedback.

It is recognised that long day care services already have nutrition policies and practices in place that support the intake of vegetables. Services are encouraged to review what they are currently doing and decide where they can have the greatest (and perhaps quickest and easiest) impact.



Foundation

1

Make vegetables the hero

Have simple vegetable specific messages with a clear focus.

2

Coordinate sustained effort across multiple players

Coordinate long-term action among key players involved in providing and promoting vegetables to children.

3

Grow knowledge and skills to support change

Identify and act on gaps in knowledge and skills to support children's vegetable intake.

4

Minimise barriers to increase success

Understand and identify ways to address barriers to children's vegetable intake.

Action

5

Plan for and commit to success

Set clear and measurable vegetable-specific goals and commit to a plan of action.

6

Create an environment that supports children to eat vegetables

Make vegetables the easy choice by providing an environment that promotes vegetable familiarisation and intake.

Review

7

Monitor and provide feedback on progress

Monitor progress and achievement against goals and provide feedback at regular intervals.

Further details on each guideline follow. Additional resources and proven ideas for action are included later in this guide.

Foundation

1 Make vegetables the hero

Initiatives that focus more specifically on vegetables, with clear and consistent messages on increasing children's vegetable intake are more effective.

What you can do

- Educators and co-educators can include vegetables in relevant learning experiences, resources and interactions.

[Munch & Move Healthy Eating Learning Experiences Resource](#) links activities to learning outcomes in the Early Years Learning Framework.

Eat a Rainbow also has a [book list](#) of reading ideas.

- Cooks can provide vegetable-based meals and snacks, such as vegetable platters.

Example recipes can be found at:

- [SNAC](#) (login required).
- [Healthy Eating Advisory Service](#).
- Munch & Move: [The Yummy Tummy Book](#).



Educators and co-educators can include vegetables in relevant learning experiences, resources and interactions.

2 Coordinate sustained effort across multiple players

A coordinated and sustained effort across management, educators, co-educators, cooks and families, is most effective in increasing children's vegetable intake. Regular and ongoing efforts to expose children to vegetables will have the best results.

What you can do

- Cooks and educators can match what children eat at meals with what they learn in the curriculum.
- [Larry's Eat a Rainbow Sharing Book](#) is a story book designed for children to complete at home and share back at their centre.
- Educators and co-educators can encourage similar approaches to eating vegetables both in care and at home.
- All staff can communicate consistent vegetable-specific messages with families.
Eat a Rainbow and Munch & Move have pamphlets that can be taken home:
 - [Help Your Family Eat a Rainbow of Fruits and Vegetables.](#)
 - Munch & Move Fact Sheet: [Eat More Fruit and Veg.](#)
- Make sure everyone on staff is on the same page – communication is the key.

Regular and ongoing effort means at least once per week for a minimum of six weeks.



Encourage similar approaches to eating vegetables both in care and at home.

3 Grow knowledge and skills to support change

Being aware of your team's current knowledge and skills – and the gaps – can help identify areas for improvement. To create a collaborative effort, also find out what families know and do.

What you can do

- Find out knowledge levels and practices among staff and families.
- Cooks or management can assess their menu using [FoodChecker](#), which assesses menus against the Victorian Menu Planning Guidelines for Long Day Care.
- All staff can participate in training and education on vegetable-based nutrition.

[SNAC Plus](#) has activities, Dealing with Fussy Eaters, Menu Planning and Basic Nutrition.

Online nutrition training is also available from:

- [Healthy Eating Advisory Service](#).
- [Munch & Move](#).
- Management can tailor training and education to address gaps in knowledge and skills.

Specific nutrition topic information such as budgeting and dealing with fussy eaters can be found at SNAC relating to [support](#) and [activities](#).

- All staff can provide communication sessions for families.

Munch & Move has a [Family Information Session Package](#).

One serve of vegetables

75g = 1 cup raw vegetables or 1/2 cup cooked vegetables or legumes



4 Minimise barriers to increase success

Identifying and minimising barriers to children's intake of vegetables is a key component in increasing their vegetable intake.

Barriers are often complex and may overlap:

- Environmental, regulatory and health factors: policy restrictions relating to food storage and preparation; safety risks, such as allergies, and choking hazards with some hard, crunchy vegetables; competing priorities within curriculum requirements.
- Budget considerations: wastage of fresh produce; additional staff time required to prepare vegetable snacks.
- Knowledge and skills: limited knowledge of vegetable-based meal and serving ideas; lack of relevant cooking skills.
- Social influences: lack of positive role models enjoying vegetables; peer, sibling or parental dislike of vegetables; availability of other foods; distractions that create barriers to eating vegetables.
- Child development: developmental stages that create resistance to vegetables such as neophobia (the fear of something new), growth in independence or temperamental change.

You can address barriers in a variety of ways.

What you can do

- All staff can make sure vegetables are readily available.
The Healthy Eating Advisory Service has some fun [vegetable snack ideas](#).
- Educators can involve children in growing and preparing vegetables. HEAS has [recipes](#) that children can get involved with.
- Educators and co-educators can review activities to incorporate a vegetable focus, for example vegetable counting activities.

Resources to support this include:

- Healthy Eating Advisory Service: [Healthy Eating Games and Activities](#)
- Eat a Rainbow: [Book list](#)
- Munch & Move: [Music Playlist and Songbook](#)
- Cooks can plan menus so that they contain a variety of vegetables with different shapes and colours.
[SNAC](#) and the [Healthy Eating Advisory Service](#) have resources for menu planning.
- Cooks can use seasonal produce or alternatives such as canned or frozen vegetables to reduce cost and wastage.

Action

5 Plan for and commit to success

1. Identify a clear and specific goal

Be specific.

Decide which behaviour you want to target first. Eating behaviours can be divided into three simple types:

Increasing serves

Increasing the portion or amount of vegetables eaten at each meal.

Increasing frequency

Increasing the number of times vegetables are eaten each day.

Increasing variety

Increasing the number of different types of vegetables eaten each day.

What management and staff can do

- Target one behaviour in the first instance by reflecting by yourself and with your team:
 - What is the easiest behaviour to change?
 - What change or activity would most appeal to the children in our care?

Examples of target behaviours to raise vegetable intake, increasing serves, frequency and variety:

Approaches	Increasing serves	Increasing frequency	Increasing variety
Target behaviour examples	Provide 1 serve (75g) of vegetables per child at lunch.	Present a side platter of vegetables with children's snacks.	Include two different types of vegetables in the lunch main meal.
	Include ½ serve (38g) of vegetables per child at snack times.	Ensure one snack per day contains vegetables.	Vary the preparation and presentation of vegetables within meals and snacks.

2. Choose a practical, simple approach

Keep it simple.

Once you know what behaviour you want to change – increasing serves, frequency or variety of vegetables – identify how best to achieve your goal.

What management and staff can do

- Identify one or two simple actions to achieve your goal by reflecting with your team:
 - What is the most practical option?
 - What is affordable and what do I have the resources to achieve?
 - What approach will most likely engage the children in my care?
 - What will deliver the best outcomes for the children in my care?

3. Plan for and commit to change

Make a plan.

There are lots of ways to make a plan. A tried and true way to start is by bringing your team or colleagues together and brainstorming the following:

Why are we doing this and why is it important?
What is the overall goal and what steps need to be undertaken?
When do we put these steps in place?
Where should the initiative and steps take place?
Who is responsible and who is the target audience?
How do we measure our progress and how can we improve?

Commit to the change and make it part of your overall work plan.

What management and staff can do

- Write down your aim, your action and your plan so that you and those involved can implement it. You might choose to incorporate your plan into your Quality Improvement Plan (QIP). See the VegKIT website for a [Sample QIP](#) that includes strategies to help increase children's vegetable intake.
- Involve staff across the centre.
- Communicate about the project through newsletters, charts and recognition of achievements.

6 Create an environment that supports children to eat vegetables

Make vegetables readily available and always at hand. Make them part of everyday life.

Young children eat foods that are familiar and liked. Whether that food is healthy or not may be of little interest to them, so make vegetables an ongoing and easy choice.

What you can do

- Educators can provide regular opportunities to interact with vegetables.
Eat a Rainbow has [Flash Cards](#) featuring vegetables of many colours.
- Cooks can prepare vegetables in fun and interesting ways and put them first in line when multiple foods are provided.

Try these resources for inspiration:

- Healthy Eating Advisory Service: [Making Veggies Fun for Kids](#).
- Munch & Move: [The Yummy Tummy Book](#).
- Educators can add cues to the environment to encourage vegetable intake, for example posters and place mats.

Some examples of posters include:

- Munch & Move: [Key messages and characters posters](#).
- Eat a rainbow: [Let's Eat](#) posters.



Cooks can prepare foods in fun and interesting ways.

Review

7 Monitor and provide feedback on progress

Monitoring and providing feedback are essential components of any initiative. They are undertaken at regular times during the initiative as well as at the end. To measure impact, evaluation at the start and end is a must.

Monitoring has a number of benefits. It keeps you on track. It allows you improve what you are doing as you go – as well as helping you design better initiatives in the future. And it helps you communicate with staff and families along the way. Giving feedback keeps everyone motivated and keeps you accountable.

An important part of your evaluation will be to measure any change in the amount of vegetables eaten by children during the initiative. To do this, you will need to use a well-developed measurement tool to ensure accuracy and reliability.

What management can do

- Track the process and initiatives you undertake.
- Evaluate the change in the team's understanding and practices.
- Evaluate the change in children's vegetable intake.
- Build your chosen vegetable initiative into your Quality Improvement Plan. Communicate its goal, metrics and its progress with staff and families.



Educators can involve children in preparing vegetables.

What you can do:

A checklist of simple ideas that work in long day care



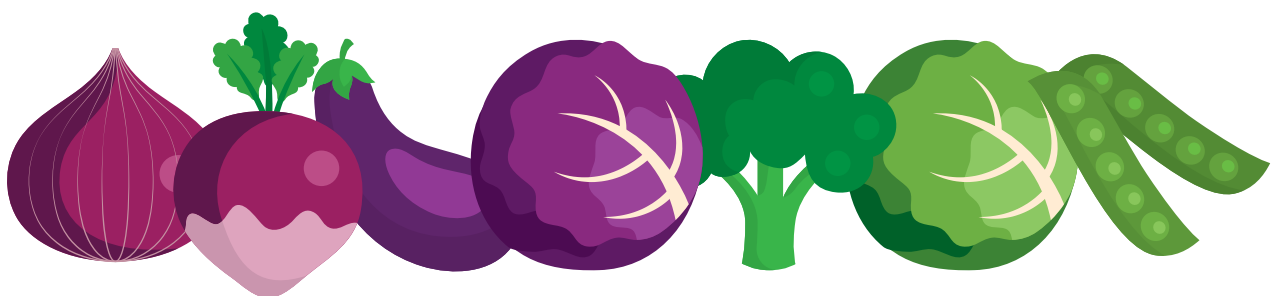
All the activities suggested are drawn from effective programs.

Management: Build a joint approach

- ☐ Communicate with families through brochures, posters, newsletters and emails on the value of eating vegetables
- ☐ Provide take-home activities such as vegetable-rich recipes for children to share with their families
- ☐ Conduct education sessions for staff and families with practical classes such as making vegetables part of breakfast and snacks
- ☐ Ensure your centre's nutrition policy has an emphasis on vegetables that applies across all of its activities
- ☐ Create clear vegetable-related goals for education sessions and across all your activities
- ☐ Ask educators in each room to create their own vegetable goals and action plans

Cooks: Put vegetables on the menu

- ☐ Get creative and serve up vegetables so they look appealing
- ☐ Provide a variety of vegetables every day, including different types, colours, smells and textures
- ☐ Provide vegetables at snack time
- ☐ Monitor daily vegetable provision, for example through using menu planning software (e.g. FoodChecker)
- ☐ Audit or log practices that encourage vegetable intake, for example by using an afternoon tea or snack checklist



Educators and Co-educators: *Include vegetables in activities*

- ☐ Set challenges for children such as trying a new or disliked vegetable at lunch time
- ☐ Supply child-safe knives and chopping boards to preschool children to cut up their own vegetables
- ☐ Encourage children to interact with vegetables in different ways, such as playing, cooking, shopping, growing, looking, touching or drawing
- ☐ Ask preschool children to recall normal snacks or meal-time habits and discuss ways to add vegetables
- ☐ Establish a vegetable garden where the children can plant, grow and harvest vegetables
- ☐ Have children create posters or place mats that encourage vegetable intake or tell vegetable stories
- ☐ Use vegetable characters or mascots to encourage play and learning about vegetables.
- ☐ Conduct a food-related excursion, such as visiting a grocery store, market, vegetable garden or farm
- ☐ Provide non-food rewards, such as stickers, rather than rewarding with unhealthy foods
- ☐ Provide tailored feedback to families about children's eating behaviours such as stickers which state: "I tried [insert vegetable] today"

All staff

- ☐ Be a role model for eating vegetables



Engaging with families

Engaging with families has the best results for increasing children's vegetable intake. It ensures consistent messages. It can also improve vegetable intake at home. Australian children currently eat 54-65% of their vegetables at dinner time, so increasing intake at this meal can have results.

Below are a few ideas on how to engage with families. VegKIT also offers a range of resources, such as posters, newsletter templates, recipes and take-home activities, to help you engage with families. See the website and registry at www.vegkit.com.au.

Ways to engage with families



Include information and tips in newsletters.



Share videos on how to have discussions with children about vegetables or how to create healthy lunchboxes.



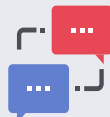
Share children's interest in vegetable activities through service apps and social media.



Organise education sessions for families.



Exhibit displays and posters of vegetables.



Talk with families at pick-up time about how to add more vegetables to dinner.



Provide information about children's intake and exposure to vegetables in communication books.



Create a challenge for families e.g. parents try two new vegetables this week.



Provide families with the same posters, placemats and marketing materials used in the service.



Provide take-home activities families can do with their children.

Program examples & resources

There are many freely accessible programs and resources that can help you increase children's vegetable intake.

See some of the excellent resources listed below, some are national, whilst others are designed to meet state-based guidelines.

VegKIT

The VegKIT project aims to increase the vegetable intake of Australian children. Designed to provide a collection of practical tools, resources and interventions, the five-year project centres around six key activities to support children, educators and health care professionals, and engage with industry.

Delivered via a collaboration between CSIRO, Flinders University and Nutrition Australia, and financially supported by Hort Innovation, VegKIT is the first Australian program to provide an integrated nation-wide approach to improving children's vegetable intake.

The VegKIT website offers many more resources for you to use free of charge. For more information: www.vegkit.com.au.

Healthy Eating Advisory Service

The Healthy Eating Advisory Service (HEAS) is a free service that supports Victorian long day care services to provide and promote healthy foods and drinks.

HEAS provides a free telephone and email infoline, recipes, fact sheets, online training, and a food and drink assessment tool, FoodChecker.

Wherever you are, you can visit the HEAS website to access practical resources and templates, such as:

- menu planning resources
- recipes and healthy food and drink ideas
- case studies
- online training
- FoodChecker – a free online tool to assess menus, recipes and packaged products, and receive feedback.

For more information: heas.health.vic.gov.au.

HEAS is delivered by Nutrition Australia Vic Division, with support from the Victorian Government.

Munch & Move

Munch & Move is delivered by NSW Health to promote healthy eating and activity in children up to five years of age.

The program offers a suite of resources and professional development, including menu planning workshops, for long day care, preschool, occasional care and family day care in New South Wales.

Among the online resources is Caring for Children – Birth to 5 Years, a booklet of practical information for cooks, directors and educators to meet the food and nutrition needs of children aged from birth to five years. Other online resources include newsletters, posters and brochures.

For more information:

www.healthykids.nsw.gov.au/campaigns-programs/about-munch-move.aspx.

Eat a Rainbow

SA Health's Eat a Rainbow educational program encourages children to eat a range of different coloured fruit and vegetables. It includes curriculum activities as well as ideas for families.

The website includes resources such as:

- teachers' guides
- a program toolkit, including certificates, fact sheets and tasting charts
- posters, flashcards and games
- colour-coded recipes.

Search Eat a Rainbow resources on www.sahealth.sa.gov.au.

SNAC: Supporting Nutrition for Australian Childcare

SNAC is a support site for early years' educators and childcare centres. It is part of a research project by Edith Cowan University in WA to support nutrition education. It hosts a range of resources.

You can register for free to access resources such as fact sheets, recipes, videos, quizzes and discussion forums.

For more information: snacwa.com.au.

Australian Children's Education & Care Quality Authority

The Australian Children's Education & Care Quality Authority website provides a range of materials to assist services in aligning centre practices with the National Quality Framework. You can download a Quality Improvement Plan template from here to help you set up a vegetable-related plan of action and monitor its progress.

The Resources and Research section of the website offers information sheets, educational games and videos.

For more information: www.acecqa.gov.au/resources/supporting-materials.

References

1. Australian Bureau of Statistics. 4364.0.55.001 - National Health Survey: First Results, 2017-18. 2018 [cited 2019 19 Sept]; Available from: <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4364.0.55.001~2017-18~Main%20Features~Children's%20risk%20factors~120>.
2. Hendrie, G.A., et al., Best practice guidelines for increasing children's vegetable consumption: A comprehensive report of the development of best practice guidelines to inform interventions aiming to increase children's consumption of vegetables. 2018, CSIRO, Flinders University, Nutrition Australia (VIC).
3. Australian Bureau of Statistics. 4402.0 - Childhood Education and Care, Australia, June 2017. 2018 [cited 2019 19 Sept]; Available from: <https://www.abs.gov.au/ausstats/abs@.nsf/PrimaryMainFeatures/4402.0?OpenDocument>.
4. Pollard, C., J. Lewis, and M. Miller, Food service in long day care centres - an opportunity for public health intervention Aust N Z J Public Health, 1999. 23(6): p. 606-610.
5. Australian Children's Education & Care Quality Authority, Guide to the National Quality Framework. 2018: Sydney, New South Wales. p. 636.
6. Grady, A., et al., Barriers and enablers to implementation of dietary guidelines in early childhood education centers in Australia: Application of the Theoretical Domains Framework. J Nutr Educ Behav, 2018. 50(3): p. 229-237.e1.
7. Lyn, R., et al., Barriers and supports to implementing a nutrition and physical activity intervention in child care: Directors' perspectives. J Nutr Educ Behav, 2014. 46(3): p. 171-180.
8. Needham, L., et al., Supporting healthy eating among preschoolers: Challenges for child care staff. Can J Diet Pract Res, 2007. 68(2): p. 107-110.
9. Matwiejczyk, L., K. Mehta, and J. Coveney, Factors influencing food service provision decisions in centre-based early childhood education and care services: Cooks' perspective. Health Promot J Austr, 2019. 0: p. 1-10.

