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Promoting healthy weight in the preschool years: a portfolio and planning guide to address barriers in primary care

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Glossary

Benefit: Refers to the probability that a protective/promotive factor will result in a positive health event.

Context: The circumstances which influence how and what services can be delivered, such as resources as well as social, cultural and environmental factors.

Criteria for selecting intervention: The specifications which the decision making group agree will inform its final decision on the interventions to be included in the portfolio.

Custodianship: Portfolio caretaking or stewarding role central to the development, implementation and sustainability of action to address an underlying health issue.

Delphi Method: is a structured process for collecting and distilling knowledge from a group of experts by means of a series of questionnaires interspersed with controlled opinion feedback, thus facilitating a group judgement.

Determinant: Cause of good or bad health. Determinants can be characterised by the type of causal link they demonstrate (immediate, underlying), their level (social, environmental, specific) and their effect (protective or hazard).

Efficacy: Capacity of an intervention to produce a desired effect.

Energy dense foods: Refers to foods high in energy per volume and usually includes those high in fat and/or sugar. Foods of low energy density are high in water and fibre, including vegetables, fruit, legumes and whole grain cereals.

Fundamental movement skills: Skills of locomotion (e.g. walking, running and hopping), body management (e.g. balancing, tumbling and dodging) and object control (e.g. throwing, catching, striking and trapping) that underlie successful participation in physical activity. Children who do not reach competence are less likely to enjoy or to seek opportunities for physical activity in the future.

GP: Doctor in a general or family medical practice.

Intervention: Refers to possible actions to address a health issue. Public health interventions refer to actions involving groups of people rather than individuals.

Obesogenic environment: Refers to the concept that obesity is a normal physiological response to an abnormal or inappropriate environment.

Population health: Population health is an approach to health that aims to improve the health of the entire population and to reduce health inequities among population groups.

Portfolio: A mix of interventions with related objectives that best meets specified public health needs within given resources. It represents the best sub-set of all possible interventions, where best is defined in terms of meeting a specified set of criteria.

Portfolio Objectives: Define the broad purpose of the portfolio and help guide the initial search for interventions - the long list. These are based on an analysis the dimensions and causes (determinants) of the problem.

Portfolio goals: Are consistent with the PMOs but specify in more detail what the portfolio is trying to achieve. They reflect the real decision-making context and therefore the range of values and priorities of the decision-making group. Portfolio goals can help narrow the long list of interventions for the decision-making group to consider for the final portfolio

Primary care: Addresses community needs through provision of promotive, preventive, curative and rehabilitive services. The focus is on population health approaches requiring multi-sectoral cooperation and coordination.

Primary Health Care Providers: Primary health care providers include GPs, practice nurses, maternal and child/community/school health nurses, paediatricians, dietitian/nutritionists and other allied health care workers, ethnic and indigenous health workers and health promotion specialists.

Primary prevention: Refers to prevention strategies commenced before a disease process has started in healthy individuals. Primary prevention aims to prevent the occurrence of ill health by eliminating or reducing causal risk factors or determinants.

Promising interventions: In the absence of previous programs that have been adequately evaluated, the concept of 'promise' allows consideration of potential for change, rather than demonstrated effectiveness. 'Promise' combines the level of potential impact from a an intervention with the level of certainty of effectiveness, using a matrix approach.

Priority populations: are defined as identifiable populations with a significant health disadvantage and specific access problems.

Secondary prevention: Refers to early detection of biological abnormalities and early management to reduce morbidity. Secondary prevention is commenced in the early natural history of the disease or illness process and limits the progression of that illness process. It is also possible for secondary prevention activities to reverse some illness processes. Secondary prevention may occur at a population level (eg screening for disease) or within a clinical setting.

Stakeholder: Refers to all who may be affected by the health issue, its determinants, or interventions undertaken to address the issue and its determinants. It also refers to those who have information or knowledge that may be useful, have been involved in managing similar health issues, or will be involved in implementation of interventions. Finally it refers to those who may oppose any intervention or be annoyed if they are not involved.

Sweetened drinks: Refers to soft drink, cordial, fruit juice drinks, sweetened fruit juice.

Tertiary prevention: Refers to interventions that attempt to minimise the impact, complications and disabilities arising from established disease. Tertiary prevention takes place in a clinical setting.

Risk: Refers to the probability a hazard will result in an adverse health event.

Upstream determinants: Factors that are precursors of the immediate cause of an outcome.

Abbreviations

AIHW   Australian Institute of Health and Welfare

AHS   Area Health Service

APHCRI   Australian Primary Health Care Research Institute

ARACY   Australian Research Alliance for Children and Youth

BMI   Body Mass Index

CHPRC   Child Health Promotion Research Centre

DOHA   Australian Department of Health and Ageing

IOTF   International Obesity Taskforce

NHF   National Heart Foundation

NHMRC   National Health and Medical Research Council

PFPHP   Planning Framework for Public Health Practice

PHCP's   Primary Health Care Providers

SES   Socio-economic status

WHO   World Health Organisation

Table of Contents

Part 3: Information for Planning

References

Appendices

Introduction

The rapidly rising incidence of overweight and obesity in Australia, particularly among young children has led to an urgent need for effective prevention. Recent figures indicate that 15% of preschool children in Australia are overweight, and a further 6% are obese[1,2], with rates rising steadily especially among children from lower socioeconomic groups.

Family, childcare, primary health care, early childhood education and the community are influential environments for young children[3-7] with the potential to engage in an integrated approach to promote healthy weight and development of healthy eating and active lifestyle habits during the pre-school years[5,8,9].

In 2006, the Child Health Promotion Research Centre (CHPRC) team conducted a major systematic review on the prevention of overweight and obesity among children aged 2-6 years, on behalf of the Australian Primary Health Care Institute (APHCRI), with funding from the Australian Department of Health and Ageing (DOHA)[10].
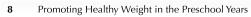
Key findings of the study indicated that although current policies and strategies recognise the critical roles played by parents, primary health care providers (PHCPs), early childhood carers and educators in promoting healthy weight among children aged 2-6 years, a series of organisational, attitudinal, knowledge, skills and training, barriers presently hamper effective engagement and collaboration between groups[11].

The review identified 982 interventions aimed at the primary prevention of overweight and obesity among children, but few addressed 2 to 6 year olds and only 45 interventions met the inclusion criteria, including 30 from Australia. In addition, only 11 of the 45 interventions were ranked either medium or high in terms of engaging PHCPs and parents[11].

Subsequently, in 2007, CHPRC initiated a second project funded through APHCRI and DOHA, that involved working with primary health care and early childhood provider groups from all states and territories of Australia, as well as parents across three states (Victoria, Western Australia and Tasmania), to review barriers to engagement and to assess their opinions on the importance, acceptability and feasibility in Australia of 'promising' interventions identified in the initial review.

Additionally, in 2007, two members of the CHPRC team received an international travel fellowship, also funded through APHCRI, to visit projects in the UK, Canada and US to review innovative approaches used in these countries to engage parents and work with government policy to translate policy and research findings into practice.

The result of these three research projects is collation of a range of types of evidence and this planning guide to assist policy makers to select a portfolio of interventions to overcome barriers to engagement of PHCPs with parents and other carers to promote healthy weight and development of healthy eating and active lifestyle habits during the pre-school years.

About this resource

About this resource

Aims and objectives

This resource is for policy and program planners, and service providers with an interest in the primary prevention of overweight and obesity and recognising the importance of building strong foundations for prevention during early childhood.

It is designed to assist those developing system wide programs for groups or communities rather than for individual therapy.

The resource is intended to provide a systematic approach to planning a portfolio of interventions targeted to local contexts and needs, recognising the importance of primary prevention strategies that focus beyond the child, on parents, communities, and primary health care and other early childhood service providers, as well as the potential benefits of coordination and collaboration between these providers.

The focus is less on the 'why' and 'what' to do to promote healthy weight among young children – issues which are already well-documented – and more on 'how' to engage families, other care providers and communities to take action.

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Intended users

The resource has grown from the need to develop multifaceted interventions to address local contexts and needs. It provides a systematic approach to planning for a range of users.

Policy Makers

For policymakers the resource:

- Is relevant at the local, state and national level.

- Highlights the need for support of local level action with upstream policy and environmental approaches.

- Proposes a custodian role for the health sector given the health consequences, but requires comprehensive, multi-faceted planning across many sectors.

Primary Health Care Providers

For PHCPs the resource:

- Proposes a change in ethos from a treatment orientation in school-aged children to a prevention orientation in the pre-school years.

- Identifies promising ways to increase primary health care provider capacity to work with and encourage parents and communities to develop healthier family lifestyles supportive environments.

Early Childhood Service Providers

For early childhood service providers the resource:

- Highlight promising programs and areas of action in which different provider groups such as child care, early childhood education, family and community services have potential influence.

- Provides guidance on the development of partnerships with PHCPs to achieve a consistent and coordinated approach across the sectors.

How to use this resource

The document is divided into several parts.

Part 1

Part 1 provides information about obesity as a public health issue and the importance of intervention in the early years. Particular emphasis is placed on current knowledge of barriers to action and opportunities for change. A portfolio of programs and enabling supports based on CHPRC research is presented. This section is intended to inform planners of the potential points for intervention and to provide a portfolio of promising interventions as the basis for contextual planning.

Part 2

Part 2 describes the portfolio planning process to select an optimal mix of interventions tailored to contextual needs and resources. It also describes important considerations for the implementation and sustainability of the portfolio of interventions. This section is intended to encourage planners to adopt a systems approach and to plan for sustained action.

Part 3

Part 3 provides information to assist planners to identify promising interventions to meet local needs. This section is based on recent reviews, and although the types of interventions are unlikely to change substantially this is an active area of research and planners should be alert for new evidence of effectiveness.

Appendices

The appendices provide summary details of the research underlying the development of this resource as well as more details of the portfolio planning stages.

To make most effective use of this guide, planners should:

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1. First read Part 1 to gain an appreciation of the individual, service and system wide barriers to promotion of healthy weight in primary care and potential points for intervention.

2. Next read Part 2 for an understanding of the portfolio planning process and to gain an appreciation of the scope of action and support mechanisms required to successfully translate planning into action.

3. Similarly, read Part 3 to become familiar with promising approaches to prevention in different primary care settings, as well as the barriers and opportunities that should be considered in local contexts.

4. Finally, work through the planning steps in Part 2 and Appendix 2, referring to sections and worksheets relevant to the your setting.

Part 1:
Obesity Prevention in the Pre-school Years

Part 1: Obesity Prevention in the Pre-school Years

Reasons for action in the pre-school years

- Increasing childhood obesity rate
- Trajectory to adult obesity
- Immediate and long term effects on health
- Evidence of unhealthy habits
- Healthy habits begin in the early years

Increasing childhood obesity rate

Over the past 20 years the prevalence of overweight and obesity in children has increased on a worldwide scale, raising serious public health issues with social and economic costs to the community[12-14]. Australia reflects this trend: in the ten-year period from 1985 to 1995, the level of combined overweight and obesity in Australian school children more than doubled, and the level of obesity tripled in all age groups and for both sexes[15]. Amongst Australian pre-school children 2-4 years old in 2002-4, about 15% were overweight, and a further 6% obese[1,2], with rates rising steadily especially among children from lower socioeconomic groups.

Trajectory to adult obesity

About one-third of overweight preschool children and one-half of overweight school children remain overweight as adults[16], with body mass index (BMI) at six years of age being a good indicator of adult BMI[17].

Immediate and long term effects on health

Obesity is associated with a range of physical, emotional, and social problems, many already evident with excess weight in childhood[18-20].

Problems co-existing with obesity include:

- Psychological – depression, low self-esteem, eating disorders, body image disorders

- Reproductive – menstrual irregularities, polycystic ovary syndrome

- Cardiovascular – high blood pressure and cholesterol, chronic inflammation

- Endocrine – insulin resistance, leading to type-2 diabetes

- Respiratory – asthma, snoring and difficult breathing at night, exercise intolerance

- Orthopaedic – slipped capital femoral epiphysis (dislocated hips), 'flat' feet

- Gastro-intestinal – non-alcoholic fatty liver causing impaired liver function

Evidence of unhealthy habits

In the absence of underlying medical problems, poor eating habits and sedentary lifestyles are recognised as the immediate cause of excess weight gain. In Australia, there is evidence of poor eating habits and inactivity of pre-school children at levels that are cause for concern and preventive action.

- On average children (aged 4-5 years) are spending 2.3 hours of their day watching television, a DVD or video, and almost half (46%) of Australia's infants are watching an average 1.4 hours per day[21];

- High fat foods are consumed one to four times in a day among 90% of 4-5 year olds[21];

- Fruit juice, soft drink or cordial are consumed on a daily basis by 80% of 4-5 year olds[21];

- Consumption of 'sometimes' foods, such as sweetened drinks, biscuits, chips and other high energy dense foods total to almost one third of an 18-month-old child's food and drink daily consumption[22].

Healthy habits begin in the early years
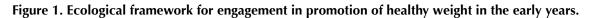
Foods and meal patterns introduced in the early years can shape food preferences and eating patterns that are retained into adulthood[23]. Equally, fundamental movement skills and activity patterns developed at an early age shape aptitude and enjoyment of physical activity at school and later in life[24].

A framework for action

A comprehensive ecological approach

Like other aspects of early childhood development[25], the causes of unhealthy weight gain are multi-factorial and multi-level, involving characteristics of and relationships between the child, the family, other significant care settings and the physical, social, cultural, economic and political environments surrounding them[3,4,7].

Figure 1. Ecological framework for engagement in promotion of healthy weight in the early years.

This multi-layered, ecological view is useful because it provides a framework for analysing factors that directly and indirectly affect the child. It also provides a guide to planning and development of comprehensive prevention programs. Broad ecological systems identified for pre-school children and used in this resource are shown in Figure 1.

Focus on barriers to engagement

The focus in this resource is not on the content of the broad messages and actions about promoting healthy weight such as healthy food and active play but more on 'how' these messages and actions can be conveyed and achieved through engagement and communication across the ecological systems surrounding the child. As such, the determinants are not the causes of unhealthy eating and sedentary lifestyles, but more the barriers to engagement within and between these systems.

Although the resource is intended to focus on engagement in primary prevention, many of the lessons learned are drawn from engagement through early intervention and are equally applicable to encourage healthy growth in children already overweight.

Opportunities for action

Engagement of families

The family unit is the most important influence on the development of children's lifestyle habits [7,24,26].

- Parental beliefs, modelling and parenting skills have a critical influence on development of young children's lifestyle 'norms' and habits.

- Parents are the 'gatekeepers' of what food is available at home and what opportunities are available for sedentary or active play.

- Cultural and socioeconomic circumstances of the family as well as physical and social aspects of the community in which they live are in turn important influences on parents.

Effort to promote healthy lifestyle habits of young children requires engagement of parents to raise their awareness of the issues and to motivate them to take any action.

Engagement of child care and early years education services

Services which have regular contact with children and their parents during the early years are in an influential position to promote healthy lifestyles at an individual, family and community level and to monitor and provide support to modify factors that contribute to unhealthy weight gain.

Child-care and early education services and providers are important in[27,28]:

- providing a structured eating and playing environment to support healthy growth

- teaching and modelling healthy eating and active play for young children

- providing useful information and practical advice for parents.

Efforts to promote healthy lifestyle habits of young children through child-care and early education services will require engagement of providers, who in turn must engage with parents and others in the care system.

Engagement of primary health care providers

Primary health care providers in regular contact with pre-school children and/or their families include GPs, practice nurses, maternal and child/community/school health nurses, paediatricians, dentists and dental hygienists, dietitian/nutritionists and other allied health care workers, ethnic and indigenous health workers and health promotion specialists.

Primary health care providers have a custodian role in providing:

- scientifically based information and evidence-based practical advice to parents

- policy advice, training and resources to child-care and early education providers

Because of their expert status and standing in the community, PHCPs also have a potential role

- influencing community attitudes

- advocating for change in broader social and environmental policy that impacts on healthy growth of children

Whilst the traditional role of primary health care practitioners such as GPs and nurses has been to work in an individually oriented, case finding and treatment focused paradigm (Figure 2), engagement in prevention will require a more active role in upstream paradigms[29-33].

Some providers such as public health nutritionists and health promotion officers already have a more upstream focus as community and provider educators and advocates for changes in environmental and social policies that facilitate healthy lifestyles[34].

Figure 2. Current roles and focus of primary care providers.

Focus			Type of intervention	Typical Provider
Individual ↓ Population	COMMON MESSAGES	Downstream	Continuing care	Community nurse, ethnic health worker, GP, practice nurse, allied health
			Treatment	GP, practice nurse, allied health
			Screening and case identification	GP, practice nurse, child health nurse
		Upstream	Individual and group education and prevention services	Practice nurse, child health nurse, allied health
			Population education and prevention services	NGO, community agency
			Environmental and policy approaches	NGO, professional organisations, public health, community agencies

Collaboration and integration between care providers

Whilst individual providers and programs in services with regular contact with parents and children can have a significant influence on development of healthy lifestyle habits of young children, their efforts will be enhanced by a more integrated approach across service providers[35].

Increased collaboration, agreed role delineation, consistent messages and coordination between PHCPs and other service providers, and facilitated at both service and policy and administration level, may result in a more comprehensive service for families[36].

Efforts to promote healthy lifestyle habits of young children through primary health care providers will not only require engagement of parents and families, but also engagement of the various care providers with each other at service and system level.

Barriers to engagement between parents and care providers

Importance of identifying barriers

For progress in engagement of families and key stakeholders in prevention of childhood obesity, it is critical to identify barriers at different levels of the early childhood service system. Knowledge and understanding of the barriers is the first step towards identifying strategies to enhance collaboration and participation between system levels and groups.

Sources of evidence

The CHPRC systematic, international review of approaches to prevention of overweight and obesity amongst pre-school children identified a range of organisational, attitudinal, knowledge, skills and training barriers to PHCPs engaging not only with families and other care providers but also with each other[10,11] (see Appendix 1, Research phase 1).

The severity of these barriers in the Australian context was further explored in a Delphi survey of primary care providers in all states and focus groups with both providers and parents in three states (see Appendix 1, Research phase 2).

Additional information, not available at the time of the systematic review, is provided by the Weight of Opinion studies conducted in NSW in 2006-7 by the Centre for Overweight and Obesity[6,37,38], and a review of communication of information to parents whose children are outside the healthy weight range by the University of Canberra Healthpact Research Centre for Health Promotion and Wellbeing[39].

Barriers to engagement

Barriers to engagement between parents and providers include factors related to parents and providers themselves as well as factors related to health and early childhood care services and systems. Key barriers identified within the general practice, maternal and child health, community and public health, and childcare and early years education are summarised in Table 1. More details concerning these barriers are provided in Part 3.

Barriers to engagement and collaboration between care providers were also largely related to service and system factors. These included siloed service provision and physically isolated practitioners with no formal links and minimal informal links between practitioners and services, compounded by time pressures on providers due to long waiting lists.

Importance of context

Although barriers are often described in a generic way in literature reviews and reports, they are context driven, and during planning should be explored for specific provider groups and parents at specific operational level, be it local, area, state or national.

Contextual issues may include existing policies, practices, and resources as well as the social, cultural and physical environments.

Table 1. Barriers to engagement of parents and primary care providers.

	General Practice	Maternal & Child Health	Community & Public Health	Childcare & Early Years Education
System Level	Treatment ethos No financial incentive for prevention Siloed services Limited advocacy to address social determinants Limited evidence to guide practice	Siloed services across health and with other sectors	Lack of financial commitment to prevention Siloed service provision Limited evidence to guide practice	Siloed early childhood service
Service Level	Treatment ethos Lack of practice protocols & tools for prevention Limited support staff No recall systems Limited referral options Lack of parent education materials Family unfriendly environment	Screening not prevention ethos Limited recall systems for 2+ years Little focus on diet and growth in service protocols after 2 years Insufficient child health nurses Inconvenient service hours for working parents	Different agency priorities, commitment, planning mechanisms Different power relationships between agencies and service providers Differences in professional values and priorities Inadequate resources to implement multi-dimensional programs Incompatibility federal, state and local level initiatives Less information/resources in rural	Inadequate resources and time for multi-dimensional programs Different professional values/priorities High staff turnover Fundraising using unhealthy food Less information/resources in rural

Provider Level	Time pressure Core job focus on treatment Provider-parent relationship concerns Low behavioural counselling skills Lack of knowledge of referral options Sense of powerlessness	Time pressures Isolated practitioners Lack of support staff Provider-parent relationship concerns	Perceived role as provider of expertise to other PHCPs not direct to families Poor role definition in provision of individual and group counselling Varied skills in advocacy for social and environmental change	Overweight not perceived a pre-school problem No skills to detect overweight Concern for parent-staff relationship No training in raising life style or weight issues with parents
Parent Level	Poor concept of child 'overweight' No perceived role of GP in prevention Non-teachable during acute consult Sensitivity about weight and lifestyle Poor parental role models	Non-recognition or concern re overweight Low priority in face of life issues Parent sensitivity to weight issues Perceived challenge to parenting role Poor behavioural parenting/role model Cultural and social norms Low attendance after 2 years	Obesogenic social norms Poor parental role models Low priority compared to other life issues Low participation in programs	Non-recognition or concern re overweight Low priority in face of life issues Parent sensitivity to weight issues Perceived challenge to parenting role Poor behavioural parenting/role model Cultural and social norms Not accessed by all families

Overcoming barriers to engagement

Focus on 'how' not 'what'

Whilst identification of barriers to engagement of parents and PHCPs in prevention is an important first step, identifying and implementing effective actions to overcome them is more challenging.
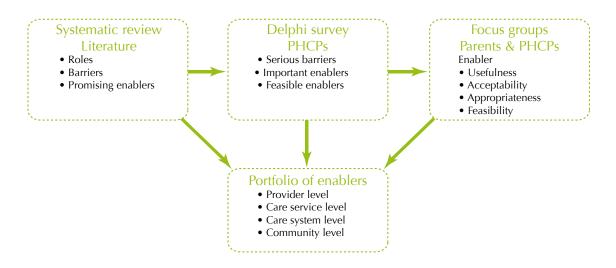
Evidence based research has focused more on 'what' to do to prevent and manage childhood obesity rather than 'how' to overcome barriers to action.

The focus of CHPRC research has been on identifying effective enabling action which is appropriate, acceptable and feasible in a broad Australian context.

Sources of evidence

Evidence for development of the portfolio of enabling action was drawn from three levels of research (Figure 3).

Figure 3. Sources of evidence for portfolio development.

Promising enablers

The CHPRC systematic review of approaches to prevention of overweight and obesity amongst pre-school children[10] used inclusion criteria that not only assessed the methodological rigour and program impact and transferability of interventions but also parental participation and PHCP engagement in family, community and population oriented prevention activities.

Whilst 45 interventions met the criteria, including 30 from Australia, only 11 were ranked either medium or high in terms of engaging PHCPs and parents (Appendix 1, Table 2). A list of promising actions or enablers to overcome barriers to engagement of parents and providers was compiled from these interventions.

Important and feasible enablers

The most serious barriers and the importance and feasibility of the enablers in Australia were explored in a Delphi survey of care providers. Provider scores for enablers were weighted and collated and the highest ranked were short listed (Appendix 1, Table 5).

Appropriate, acceptable and useful enablers

The short list of enablers was compiled for further exploration in focus groups with parents and providers. Focus group discussions included experience of the enabling actions in care settings, usefulness and acceptability to parents and appropriateness and feasibility for care providers.

Choosing appropriate interventions

Need for a portfolio approach

Addressing local needs

The multi-factor, multi-level array of barriers and enablers to engagement between parents and PHCPs identified in this resource may not be appropriate or action to address them not feasible in all jurisdictions or local contexts[40].

The notion of a portfolio allows selection of a mix of interventions that best meets local needs within given resources. It represents the best sub-set of all possible interventions to address identified barriers or problems, where best is defined in terms of meeting a set of criteria specified for the local context.

Balance of evidence and innovation

Evidence of effectiveness is a fundamental criterion for public investment. Whilst empirical evidence may not be available for specific enablers given the complexity of parent-provider engagement across the primary care system, process, impact, parallel, and intuitive evidence may suggest potential gain from some approaches[41,33].

The portfolio approach recognises the merits of balancing investment in tried and tested interventions for which there is sound evidence of effect with prudent investment in potentially high-gain interventions, but which are high-risk due to uncertainty about their effectiveness[43].

Comprehensive approach

The complexity of barriers to engagement of parents and other carers in promotion of healthy lifestyles and prevention of unhealthy weight gain in young children will require a range of different interventions to address them.

Whilst the role of primary health care providers has traditionally comprised individual and some group oriented services, there is need to consider a more comprehensive approach with inclusion of population level action and review of infra-structure and system supports[8,33,44] (see Table 2).

Table 2. Range of interventions in a comprehensive portfolio (adapted from Keleher and Murphy, 2004)[44].

	Populations	Populations, groups and individuals			Individuals
Type	Infrastructure and systems change	Community and health development	Health education and empowerment	Communication	Health care interactions
Example	• Policy • Legislation • Organisational/ environmental change	• Engagement • Community action • Advocacy	• Knowledge • Understanding • Skills development	• Health information • Behaviour change campaigns	• Systematic and opportunistic risk reduction approaches

Systematic approach to planning

Given the complexity of the issue and the multiple stakeholders involved, a systematic approach to selection of interventions is required.

The planning approach used in the CHPRC research and in this resource is based on the Planning Framework for Public Health Practice[45], a tool developed by the National Public Health Partnership to provide a systematic approach to planning and management that is applicable across a diverse range of public health issues.

The strengths of the Planning Framework for Public Health Practice (PFPHP) are:

• Analysis of both obvious and underlying causes or barriers

• Systematic identification and review of potential actions

• Defined and transparent decision processes

• Promotion of a comprehensive approach to addressing the problem

Four key steps

Four key steps are recommended by the PFPHP to choose a portfolio of appropriate interventions. These are:

1. Identification of stakeholders and the decision context

2. Identification of barriers and potential intervention points

3. Identification and assessment of intervention options

4. Short-listing and selection of a portfolio of interventions

These steps were applied in the CHPRC research as shown in Table 3. A brief summary of the methods and results of each step is provided in Appendix 2.

Table 3. Application of portfolio planning steps in CHPRC research.

Step	CHPRC method
1. Identification of stakeholders and the decision context	Systematic review of literature Scoping of stakeholders
2. Identification of barriers and potential intervention points	Systematic review of literature Delphi survey of PHCPs
3. Identification and assessment of intervention options	Systematic review of literature Delphi survey of PHCPs Focus groups
4. Short-listing and selection of a portfolio of interventions	Iteration from Delphi survey & focus groups

Portfolio of interventions

Overview

The outcome of CHPRC research was a series of portfolios to address barriers for engagement of parents with different provider groups (see Parts 1 & 3) and a final comprehensive portfolio to promote an integrated approach to addressing the problem (Table 4).

The portfolio represents a comprehensive range of interventions that have some evidence of promise and that are considered important, appropriate, useful and feasible by a cross-section of Australian PHCPs and parents.

It includes a suite of defined programs as well as supports to enable the implementation of the programs in a collaborative and coordinated way across health, education and community domains. As such, it extends beyond addressing inter-personal communication barriers between PHCPs and parents to addressing system and service wide barriers to engagement.

Goals and objectives

The overall goal of the portfolio is to increase engagement of primary care providers and families in promotion of healthy eating and active play in 2-6 year old children.

Analysis of barriers to engagement identified the following intervention points as portfolio objectives:

Objective	Timeframe
1. Increase the capacity of primary health care providers to engage with parents of 2-6 year old children about healthy family lifestyle	Medium term
2. Increase integration within and between early childhood health and education services in relation to healthy family lifestyle education	Medium term
3. Re-define community norms in relation to:	
- Healthy weight, diet and activity of pre-school children	Long term
- Roles of primary care providers	Short term
4. Empower families to establish and maintain healthy lifestyles	Medium to long term

Rationale and promising approaches

Objective 1: Increase capacity of primary health care providers to engage with parents of 2-6 year old children about healthy family lifestyles

Primary health care providers need structures, resources, skills and commitment to engage with parents of 2-5 year old children about healthy lifestyles and promotion of healthy weight.

Maternal and child health nurses

Maternal and child health nurses are recognised by parents and all providers interviewed as the critical interface with parents in education and support related to antenatal preparation, infant feeding, pre-school child nutrition, growth, development and parenting.

However, nurses report having limited contact with parents of 2 to 6 year old children concerning lifestyle issues due to:

• Markedly reduced parent attendance after 2 years

• Service protocols for this age group that place little emphasis on lifestyle issues

• Limited time to address complex issues

• Sensitivity or lack of awareness of parents to raise the issue.

Nurses often work part-time as sole practitioners with no support staff or professional support networks, limited in-service training opportunities, limited suitable parent education materials and limited referral options.

The capacity of nurses to engage with parents of pre-school children concerning healthy lifestyles and weight would be increased by better information and recall systems to track attendance and growth; revised service protocols at 2-6 years of age for risk assessment and practices related to family and child diet and activity with simple lifestyle screening tools, not just weight screening; a parent education toolkit and training in behaviour change techniques. Adequacy of nurse staffing levels related to the number of young families in the service area should also be monitored and addressed.

Engagement of parents concerning healthy family lifestyles could be enhanced by an integrated package of family lifestyle and parenting education building on existing universal services provided by maternal and child health nurses, commencing in the ante-natal period and extending through to school entry. Components would include:

• Lifestyle review in parenthood preparation

• Infant feeding, solids, growth and development

• Lifestyle parenting training for parents of pre-school children

• Family lifestyle education for parents

The availability of these programs should be more widely promoted so that participation is accepted as a 'normal' part of becoming a parent.

Nurse access to families for lifestyle counselling may also be enhanced by co-location of maternal and child health services with pre-schools and child care (see objective 2) or routine well health checks conducted in these and other community settings eg play groups or in conjunction with 18 months and 4-5 years immunisation visits.

General medical practitioners

In the case of GPs, neither GPs nor parents saw the prevention of overweight and obesity in pre-school children as a core part of the GP's job and GP services were not set up with recall systems, standard protocols, assessment tools, parent resources, support staff or referral pathways to fulfil this role. Short consultation times and parent concerns with the presenting problem (usually acute infections) are not conducive to detailed assessment and counselling on this issue. Both parents and providers also expressed concern at lack of expertise and skills to provide practical advice about changing family lifestyle patterns, which was reflected in a sense of powerlessness by GPs to make a difference in what they considered was a social problem. Lack of evidence of effectiveness was also a barrier to GP intervention.

Other reasons given by parents for not engaging with the GP for general health advice include:

• Difficulty getting a GP appointment

• Cost of GP service

• Long waiting time and exposure of children to infection in the waiting room

If GP services are to play an active role in prevention of childhood obesity in young children there will need to be an occasion of service that is recognised by parents and GPs for this purpose and reimbursed through Medicare. Linkage of a funded well-child health check with early childhood immunisation visits to GPs has been suggested[46].

Whilst the focus of discussion about a well-child health check has been on assessment of weight status, for primary prevention there also needs to be assessment of risk, such as child and family diet and exercise habits. The NHMRC guide for general practitioners on clinical management of weight in children and adolescents[47] contains a checklist that may be suitable (see Part 3, General Practice), although the evidence base for use of the checklist is not provided.

The age at which the assessment is conducted will also be important, with checks at younger ages when habits are forming more conducive to prevention. Protocols, practice tools, training, parent resources and support staff or referral pathways to follow up children identified at risk will also be needed.

Focus group discussions with GPs and evaluation of the Australian GP based *Lifescripts* and *SNAP* programs for lifestyle intervention with adults, suggest that even with financial incentives it is unreasonable to expect GPs to undertake more than brief intervention with families[48,49]. Whilst the child well-health check associated with a universal immunisation will help to engage families otherwise difficult to reach, the enhanced package of antenatal and early childhood family lifestyle and parenting education suggested above would provide an valuable referral point.

Growth assessment

There is contradictory evidence of the benefits of measurement of children's height and weight for engaging parents in promoting healthier lifestyles for their children. Child health nurses reported that parents of very young children are interested in knowing if their child is growing well and are reassured that their infant feeding regime is appropriate. Both GPs and nurses reported that height and weight measurements compared to standard growth charts are a useful starting point for discussion about a child's growth and trajectory to overweight. Parents in focus groups also strongly supported the role of GPs and nurses in monitoring children's growth. However, both GPs and nurses noted the sensitivity of discussions when the child was found to be overweight. Parents in another Australian study said they would be displeased at this information about their child but would expect a GP to raise it with them and to provide advice to help address the problem[38]. A review of the literature[39] has suggested a number of ways to reduce this sensitivity, including:

- Having a plan about what, who, when and how to communicate

- Acknowledging parental emotions and showing concern and support

- Acknowledging the societal nature of the problem and the child's strengths to overcome them

- Focus on solutions that consider parents' views, perceptions, understandings, culture and readiness to change

- Emphasise ways to become healthy, not thin and reinforce health gains of small successes.

Regular checks of growth that identify the emerging problem may also help to alleviate the sensitivity of the issue. NHMRC guidelines for GPs recommend measurement once every six months as part of routine primary care for all children and adolescents, with assessment of trend more important than a single measurement[46]. Parents who are familiar with growth charts and have observed the trajectory of their child's growth may be more amenable to discussion about potential causes and solutions to unhealthy weight gain. Serial measurements are essential in this regard and the challenge is to maintain measurements beyond two years of age. A single measurement that indicates overweight at the 4 year old immunisation or at school entry tells parents and practitioners little about the trajectory.

Aside from the clinical value for individual children and families, routine measurement of height and weight with systematic collation of data has value in population monitoring of childhood obesity. A UK review has clearly shown that systematic analysis of routinely collected three year old child growth data could have predicted the current obesity epidemic and triggered preventive action[50].

Objective 2: Increase integration within and between antenatal and early childhood health, childcare and education services

Maternal and child services in all states and territories currently provide antenatal education and early childhood developmental screening and parental support, including parenting programs[51].

However, nurses report that attendance by parents drops significantly after two years when child lifestyle habits are forming and when advice and support are most needed. Attendance also falls after the first child. In contrast, participation of children aged 2 to 5 years in childcare and universal pre-school education is increasing, with increasing emphasis on education in childcare and services sometimes co-located[52]. Co-location has benefits for parents in reducing the number of visits needed and benefits for providers in increasing access to families.

Integration and co-location of early childhood health and education services is well tested and successful models exist in Australia and elsewhere[53]. However, specific objectives and outcomes in relation to obesity prevention in young children have not been documented. To achieve gains in this area, the following approaches show promise:

• Co-location and integration of antenatal, early years health, education & child care services

• Enhanced focus in existing antenatal, child development and parenting education programs on developing healthy family eating and activity environments, with consistent messages, parent educational materials and training between providers

• Consistent health policies and practices in childcare and pre-school with seamless transition into primary and secondary school

• Consistent protocols and procedures for identification and referral of high risk families

If co-location of services is not achievable, increased integration of services may be achieved through collaboration and planning at local level, with agreed role delineation, consistent messages and education materials, joint training and referral pathways.

Objective 3: Re-definition of 'normality' in relation to healthy weight, diet and activity of pre-school children and roles of primary care providers

Although parents acknowledge that healthy eating habits and being active are important for pre-school children, they appear to have little concern about development of obesity in this age-group[38,54]. In fact they have more concern about underweight and may offer less healthy foods just to coax their children to eat. As well, most parents in focus groups reported high levels of physical activity in their pre-school children and some were grateful for the respite offered by sedentary activities such as television viewing.

Perceptions of normal growth and behaviour

Apparent lack of parental concern about overweight in pre-school children may be related partly to lack of recognition of excess weight in this age group. Mothers participating in the focus groups reported little experience of overweight children in this age group, and when asked were not confident they could identify a pre-school child marginally overweight. With increasing rates of overweight in young children, parental perceptions of normal growth may become further distorted.

Similarly, high consumption of unhealthy foods is prevalent in Australian pre-school children. Nearly one third of the food and drinks an 18-month-old child consumes are 'sometimes' foods, such as sweetened drinks, biscuits, chips and other high energy dense foods[22]. Also, on average, 4 to 5 year old children watch more than the maximum recommended two hours of television or videos per day[21]. Unhealthy eating and sedentary play is part of the 'norm' for many pre-school children.

Creating social 'norms'

Sense of normality is influenced by observation of our environments[55]. It is not surprising that the majority of parents do not actively seek advice from primary health care providers to counter behaviours and growth patterns that are no different than for other children and families in their environment. Also they will not seek advice from a source that is not perceived as 'normal'. Maintaining a healthy family diet and active play for children will be further challenged as community 'norms' continue to be distorted by the increasingly obesogenic environment[56].

As a counterbalance, parents need to receive clear and consistent messages about healthy growth and desirable eating and activity from respected and authoritative sources[57,58]. Environmental and policy approaches as well as population level education and prevention services have the most promise of universal reach to influence all sectors of the community[24].

The most important environments of pre-school children are the family home, childcare and early education services. In the family home, parental culture, beliefs, modelling and parenting skills shape the 'norm'[59]. Universal programs to provide information and support to parents related to healthy child development and parenting show promise in changing knowledge, attitudes and behaviours of parents from diverse backgrounds, particularly when cultural needs are addressed[60,61]. However, the challenge is to create a culture of participation to engage parents who would most benefit. Whilst integration of lifestyle message into existing antenatal and early childhood parent education packages is recommended, promotion and social marketing to advertise the availability and benefits of these to parents is needed to increase engagement. The objective of marketing would be for participation to be accepted as a 'normal' part of becoming a parent.

Likewise, because GP services are not currently widely perceived as a source of preventive lifestyle counselling and information, introduction of a child well-health check and advice linked to immunisation would require promotion and marketing to increase acceptance and engagement.

Child care and early education services have potential to influence child and parent lifestyle norms through centre policies, teaching and modelling desirable behaviours as well as providing useful information and practical advice for parents. A range of evidence-based comprehensive childcare interventions with these objectives are already well established in Australia[27]. Whilst parents are difficult to engage directly through childcare interventions due to time pressures on working parents, award schemes and enforcement of policies are promising approaches to modelling 'normality' for healthy eating and activity[6,62].

Finally, health sector leadership and advocacy have been essential components of other campaigns to change attitudes and community norms related to health issues such as tobacco smoking and seat belt legislation[63,64]. PHCPs and their professional organisations have important roles to play in raising issues in the media and advocating for community wide obesity prevention activities and policies[29-34]. GPs interviewed in focus groups felt powerless to support parents in the face of aggressive marketing of unhealthy foods, yet parents saw an important role for GPs in advocating for policy change to address such issues. Whilst public health practitioners expressed more confidence in this area, all PHCPs focus groups expressed a desire for more training is this area.

Objective 4: Empowerment of families to establish and maintain healthy lifestyles

Parents play a critical role in influencing pre-school children's food habits and physical activity[7,23,24]. They are the main providers of food, supervisors of activities and role models for children to follow. Whilst their behaviours and parenting norms are to a large extent influenced by their own life experiences and broader social, structural and cultural norms, parents are usually most receptive to healthy lifestyle and parenting information when their children are young.

Food is an emotional issue for mothers because they value providing adequate food as part of their role as a mother, but experience conflict about providing food treats and feel pressured by the judgement by others[38,65]. Marketing of unhealthy foods, carers and other family members sometimes undermine their efforts to encourage healthy lifestyles and time poor mothers expressed frustration with finding healthy, inexpensive and quick food options.

Physical activity is less of an emotional issue for mothers who agreed that pre-school children should be active and developing good habits. Mothers in focus groups recognised the importance of parental involvement and role modelling although time constraints were a barrier.

Development of knowledge, skills, self efficacy and social supports are important to encourage parents to adopt and maintain healthy lifestyles in the face of opposing contextual pressures. The integrated package of universal family lifestyle and parenting education described under Objective 1 would provide a solid foundation when parents are most receptive.

Whilst PHCPs are recognised as important sources of expert nutrition, physical activity and child growth information, mothers in focus groups also identified friends as major sources of practical advice. Training parents to become peer educators and advocates for healthy eating and physical activity within their own communities is a promising approach to promoting healthy family lifestyles, particularly in minority populations and when access to expert PHCPs in limited. Messages are likely to be more salient when using parents as educators of other parents, and local solutions to local problems are facilitated.

Guided self-help approaches such as nominated resources in local libraries and on-line internet were valued by parent focus group participants, particularly in rural areas and when access to PHCPs was limited.

Program supports

Equally important to the range of portfolio programs described above are the supports required to implement them (Table 4).

System level policy decisions concerning resource allocation and service design are fundamental to portfolio implementation. These will require action at the national and state level.

Service level supports such as development of practice protocols, tools and training programs may also benefit from collaboration at national and state level.

Table 4. Portfolio of enabling programs and supports to overcome barriers to engagement of parents and primary care providers in promotion of family healthy lifestyles and prevention of unhealthy weight gain in children 2-6 years.

	General Practice	Maternal & Child Health	Community & Public Health	Childcare & Early Years Education
Programs	Universal well child health check (3-4 yrs)	Universal preventive health screening (0-6yrs)	Peer healthy lifestyle education programs	Healthy child care award schemes
	Parenting education (0-6 yrs)			
	Healthy family lifestyle education, promotion and modelling (antenatal to 6yrs)			
	Social marketing and advocacy			
System Supports	Medicare item for child health check Remuneration for practice nurse National/state service agreements Pre-service training prevention focus Marketing to providers and parents	Information systems to track children and monitor growth Marketing of integrated 0-6 service to parents and providers Practice guidelines that promote consistent recommendations from all PHCPs Parent friendly resource with consistent lifestyle guide for antenatal to 6 years Service agreements between national/state and health and other early childhood service sectors	Collaborative planning and service agreements between health, education and community services Information & organisational systems to support rapid translation of research into practice	Formal service agreements between early childhood services Co-location of early childhood services Policy and licensing standards

Service Supports	Prevention practice protocols/tools Tools integrated into practice software Engagement of practice nurses Immunisation linked recall systems Local referral options for parenting, lifestyle behavioural support Service agreements with local prevention support services Parent education materials Marketing to parents & other PHCPs	Simple lifestyle screening tools Revised service protocols re diet and activity education Collaborative planning and service agreements between local health, education and community services Referral pathways for high risk families Co-located early childhood services Increased capacity including more child health nurses	Collaborative planning and service agreements between local health, education and community services Community development approach to support healthy family lifestyles	Healthy children's meals available for purchase at childcare pick-up Taste tests, demonstrations and recipes for healthy meals and snacks Formal system of daily parent communication and action plans Parents on Centre management groups
Provider Supports	In-service on prevention practice protocols and tools Knowledge of referral options	Support networks for isolated practitioners Training in motivational interviewing and other behaviour change techniques Parent education toolkit for nurses Referral pathways for diet and other lifestyle education Regular in-service on healthy lifestyle issues and health promotion	Agreed role definition Training and mentoring to provide leadership Training and mentoring to undertake community advocacy Information systems to ensure up-to-date knowledge and translation to practice	Pre-service and inservice training in communication skills Networks of centre cooks/family daycare providers
Parent Supports	Focus on antenatal to start healthy family lifestyle habits Education about normal child growth Attend GP for well child health check	Marketing of lifestyle screening as a routine part of early childhood service	Access to healthy lifestyle and parenting courses Consistent healthy lifestyle and parenting messages Supportive cultural, social, and policy environments	Displays, demonstrations and take home explanatory information

Next steps

Multi-level planning

The portfolio represents a comprehensive range of interventions that have some evidence of promise and that are considered important, appropriate, useful and feasible by a cross-section of Australian PHCPs and parents to increase their engagement in promoting healthy weight in the pre-school years.

It is not a strategic plan but provides a the basis for selection of promising interventions in different domains and at different service levels. Policy makers can assess the range of interventions included in the portfolio in the light of existing actions as well as the political, social, structural, and economic context of the service. Guidelines for this task are provided in Part 2.

Action to implement the portfolio will be required at national, state and local policy and service level. Given the influence of system wide policies on local level services, early action at national and state level is paramount.

Importance of custodians

Identification of custodian groups to provide leadership and advocacy for implementation of the portfolio at different levels is desirable. Early childhood interdisciplinary networks would be appropriate custodians, given their early childhood focus and their reach across different sectors.

Health sector organisations with an interest in primary prevention of obesity may also be appropriate in certain contexts. Candidate organisations include government health departments, PHCP professional and special interest groups and relevant non-government health agencies.

Collaboration, coordination and communication

Fragmented and uncoordinated primary care service delivery between domains, between government and non-government agencies and between different levels of government were identified in focus group consultations and have been highlighted in reviews of the early childhood service sector nationally and internationally[53,66,67].

Issues that need to be addressed include improving collaboration, coordination and communication, developing joint planning and planning in partnership with communities, and ensuring supportive and accountable governance and management.

Capacity building

Implementation of portfolio programs will require a range of capacity building activities. Considerations include developing new models of care and funding, restructuring of service delivery and resource allocation, joint training and staff development, and co-location of services. Progress in this direction will require organisational commitment and transformational change.

Part 2:
Portfolio
Selection Guide

Part 2: Portfolio Selection Guide

Introduction

A portfolio is a mix of interventions to address a common problem or goal in a given context. It represents the best sub-set of all possible interventions, where best is defined by a set of criteria specifically for the portfolio[45].

The portfolio approach to health promotion planning may be compared with financial investments in a diversified portfolio of short-term, medium-term and long-term investments with different levels of risk and reward. This type of approach encourages classification of interventions on the basis of their estimated impact and the level of certainty around these estimates[33,43].

Why develop a portfolio?

Overcome complexity and local variation

Barriers and enablers to engagement between parents and PHCPs are multi-factorial and arise at different levels of the primary care system. In addition, both the level and significance of barriers and enablers may vary between locations.

Portfolio development allows for selection of solutions that not only address complexity and variation but also reflect the priorities and resources of the planning group.

Balance variable evidence with need for action

Evidence of effectiveness of actions and programs is desirable to justify investment. However, when high level evidence such as from randomised controlled trials is not available, 'best available' evidence may include a mix of observational, experimental, extrapolated and experiential process and outcome information from a variety of sources[43].

When the policy imperative is for action, the portfolio approach recognises the merits of balancing investment in high level evidence-based interventions with prudent investment in unproven but potentially high-gain approaches[42].

General principles

Portfolio planning

The process of selection of a portfolio depends on the needs and objectives of the policymakers. For the purposes of this resource, the Planning Framework of the National Public Health Partnership has been used[45].

This Framework was developed to promote a rigorous, strategic and collaborative approach to public health planning, recognising that such planning usually requires partnerships between government, communities and organisations and collaboration across levels of government and between different sectors.

The approach also recognises that public health problems usually have multiple causes that need to be understood and that judgements need to be made about what can be changed as well as the level of evidence that is needed before action can be taken.

Systematic approach

The Planning Framework for Public Health Practice[45] comprises a cycle of inter-related steps as illustrated in Figure 4, with key stakeholders as decision-makers defining a portfolio of actions and management plan to address a specific health problem in a defined context.

The approach includes analysis of both obvious and underlying causes of a problem, systematic identification and review of potential actions and a transparent process for selecting the final portfolio.

Figure 4. Key steps in the planning framework for public health practice[45].

Portfolio Planning in Public Health

Context driven

Specific definition of the problem and the context in which it will be addressed is central to portfolio development.

Contextual issues may include existing policies, practices, and resources as well as the social, cultural and physical environments.

The decision group defines an over-all goal, or outcomes to be achieved within the timeframe, resources and broad context in which they work.

Stakeholder engagement

Stakeholders should be identified before the planning process begins and a representative group convened to participate.

Considering the multiple barriers to engagement of parents and primary health care providers in preventive action will require multi-faceted interventions with partnerships between communities, organizations and governments and collaboration across levels of government and between different sectors.

The goals to be pursued in the exercise are also specified by the participants.

Comprehensive approach

Potential actions or interventions to address the determinants are identified through literature review and advice from expert practitioners.

The process identifies three types of public health interventions that combine to give a comprehensive intervention portfolio: policy interventions (including legislation); program interventions; and infrastructure support (such as research, training, management structures). Consideration of all types of interventions is desirable to ensure a comprehensive approach to addressing the problem (see Table 5).

Table 5. Types of possible interventions[45].

Policy	Program	Infrastructure
• Public policy • Organisational policy • Legislation & regulation • Resource allocation • Incentives	• Education • Communication& social marketing • Service delivery • Community development	• Leadership • Management infrastructure • Collaboration • Workforce development • Design/technical • Information systems • Research

Variety of evidence

Ideally, options appraisal should be based on the highest level of evidence, preferably systematic review of scientific studies that demonstrate a strong link between the intervention and the desired outcome. However, difficulties can arise when established methods of evidence-based medicine are used to evaluate research on public health preventive interventions.

Alternative methods of evaluating evidence related to public health interventions have been developed[42,68,69] and applied in recent reviews[10,70,71]. Table 6 outlines the types of evidence that are relevant.

Table 6. Types of evidence and information relevant to obesity prevention.

Type of evidence	Type of data	Examples
Observational	Observational epidemiology	Cross-sectional, case-control or cohort studies
	Monitoring and surveillance	Morbidity rates, TV ownership
Experimental	Experimental studies	Randomised, controlled trials
	Program/policy evaluation	Process, impact and outcome evaluation
Extrapolated	Effectiveness analysis	Efficacy, uptake, reach
	Economic analysis	Intervention costs, cost-utility
	Parallel evidence	Evidence for another public health issue using similar strategies
	Theory and program logic	Rational and pathways to effect based on theory and experience
Experience	Informed opinion	Considered opinion of experts in the field

Defined and transparent decision processes

One of the strengths of the Framework approach is the definition of decision-making criteria that assist systematic, transparent selection from this list[40]. The decision group define and weight decision criteria that will help them to select the most appropriate portfolio of actions to achieve the goal. These criteria vary between groups but often include criteria such as effectiveness, feasibility, sustainability, and acceptance by stakeholders. Consideration of interventions by setting also helps to simplify the process.

A range of values which are debated and decided by the decision makers can be specified in the definition of the **criteria** for portfolio selection.

A key feature of the portfolio planning process is that values are made explicit and that consensus on what is of value and the benefits to be achieved is obtained.

Conducting portfolio planning

Four key stages

The Planning Framework for Public Health Practice approach has been adapted for portfolio planning in this resource, with a focus on four key stages:

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1. Definition of the context and engagement of stakeholders

2. Identification of barriers and potential intervention points

3. Identification and assessment of intervention options

4. Short-listing and selection of a portfolio of interventions

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A schema of questions to ask, the overall process and the outputs of these portfolio planning stages in relation to overcoming barriers to engagement of PHCPs and families in promoting healthy eating and active play in 2 to 6 year old children is provided in Figure 5. Detailed procedures for implementing each stage are provided in Appendix 2.

Figure 5. Overall process and outputs of portfolio planning stages - more details Appendix 2.

Goal: Overcoming barriers to engagement of primary care providers and families in promotion of healthy eating and active play in 2-6 year old children

Planning Stage	Questions to ask	Sources of information/process	Planning output
Stage 1: Identify stakeholders and context	What is the service context? What are the social, cultural and environmental contexts?	Brainstorming the context	List of contextual issues
	Which families are at risk?		
	What is the time frame to achieve goals? What resources are available for implementation?		List of key stakeholders
Stage 2: Identify barriers and potential intervention points	What is helping or preventing engagement? What are the direct and indirect causes?	Literature searches Local surveys Expert knowledge Brainstorming with stakeholders	**List of barriers in each domain**
	Which are the biggest barriers? Which barriers are amenable to change?	Brainstorm a short-list of barriers. Score for importance and amenability to change. Select the top 6-10	**Short list of the barriers of most importance and most amenable to change in each domain**
	What do we want to achieve in relation to this barrier?	Specification of SMART objectives	**List of objectives for each domain**

Planning Stage	Questions to ask	Sources of information/process	Planning output
Stage 3: Identify and assess intervention options	What local initiatives are happening now to address this barrier ?	Review of current service provision	**List of potential interventions for each objective in each domain**
	What initiatives are happening elsewhere?	Literature searches	
	What are some possible untried approaches?	Focus groups with target groups and practitioners Brainstorming with stakeholders	
	What criteria will guide our choice of interventions?	Brainstorm with decision group	**Criteria for scoring interventions**
	What is the relative importance of the criteria?	Rank and weight criteria	
Stage 4: Decide the portfolio	What is the evidence related to the criteria for each intervention?	Literature searches Local surveys Expert knowledge	**Set of ranked interventions for each domain**
	Which interventions best meet the criteria?	Score the interventions	

Variety of approaches

Portfolio planning can be implemented in a variety of ways, usually depending on the timeframe, the level of information about barriers and enablers, and the commitment and availability of stakeholders.

Workshop approach

The most common approach is for a stewarding agency to convene a workshop or series of workshops of stakeholders to progress through stages one to four (outlined in Figure 5)[40,72,73].

If numbers are small, participants may work as one group to progress through the stages. Informed decisions will require the participants to be knowledgeable about all service areas, achievable by circulating information before the workshop, presentations at the workshop and expert consultants present to answer questions as they arise.

If numbers are large, stakeholders may work in service or provider level groups for stage 2 and 3 to identify barriers and enabling interventions. The whole group or a smaller representative group of stakeholders may then participate in the stage 4 decision-making steps.

Whilst the planning process may be completed in a day, more satisfying results are usually achieved by separate workshops for stages 1-3 and stage 4, allowing time for reflection and collection of critical information between sessions.

Virtual approach

Virtual approaches are useful when stakeholders are separated geographically or when clinical or other commitments make scheduling of meetings difficult. This approach was used in some planning stages by CHPRC to develop the portfolio described in Part 1.

The Delphi Method[74], using a series of questionnaires interspersed with controlled opinion feedback, is an appropriate approach to gain consensus amongst stakeholders about barriers, enabling interventions and criteria for selection. Questionnaires may also be used to for the final ranking and decision stage.

The stewarding agency assumes a greater workload but also greater control over the process which may take several months depending on the number of cycles of consultation.

Mixed approaches

A combination of workshops and virtual methods has benefits in combining discussion to better clarify or resolve issues with anonymity and logistical convenience to work through the stages of planning.

Workshops preceding the virtual stage allow stakeholders to develop a more thorough understanding of the problems and potential solutions before they make judgements. This approach is desirable in inter-sectoral planning when stakeholders from different sectors have limited knowledge across sectors[73].

A virtual stage or series preceding a decision workshop allows wider stakeholder consensus to be obtained on important decision criteria such as feasibility and acceptability before a decision is made by a smaller group. This approach was used by CHPRC to develop the portfolio described in Part 1.

Portfolio implementation

Strategic and action plans

Implementation of the portfolio of interventions requires development of both strategy and action plans in different contexts (national, state, local) and domains (general practice, maternal and child health, population health, childcare and early years education).

The progression from defining to implementing the portfolio should include consideration of the change process, interactions and time sequencing of each portfolio intervention as well as the infrastructure and coordination that is required.

The roles and relationships between different stakeholders at the national, state and local level need to be considered for each intervention.

Change process

Change at individual and organisational level often progresses in stages: from awareness to contemplation, testing, adoption, implementation and institutionalisation of change[75,76.]

The level of change can be from incremental, which may only involve fine tuning, through to transformational change involving major restructure at individual level of attitudes and behaviours and at institutional and system level of policies, structures and services.

Time frames

Realistic time frames for implementing change are important to allow planning of resources and evaluation. Whilst precision may not be possible, classification as short term (~2 years), medium term (3-5 years) and long term (over 5 years) will be helpful in deciding priorities and staging implementation.

There may be short or medium term action to be taken as steps towards implementing longer term actions.

Working together

Whilst roles and responsibilities of different stakeholders can be readily defined in strategic planning processes, working together presents extra challenges.

Types of relationships

Individuals, agencies and governments can work together in a range of ways, from relatively short-term engagements with specific purposes to more sustained, formal and strategic developments[77]. Some examples are provided in Figure 6.

Figure 6. Organisational structures for working together.

Joint ventures: The association of people, natural or corporate, who agree by contract to engage in some common undertaking for joint profit by combining their respective resources.

Collaborations: Shared planning and/or delivery of work across different organisations, involving different professional traditions and skills.

Alliances: Collaboration between two or more parties to pursue agreed goals.

Coalitions: Alliances among different sectors, organisations or constituencies for a common purpose.

Partnerships: Capitalise on each organisations unique strengths, to work together to achieve shared or related goals that neither could achieve as well by working alone.

Depth and level of participation

The depth of the relationship may vary between[77,78]:

- Sharing information
- Consulting each other
- Co-ordinating activities
- Joint management
- Partnership organisation
- Formal merger.

The level of participation may also vary with organisations and over time (see Figure 7). A critical mass of active participants is desirable, with defensive and opportunistic participants either becoming active or leaving the partnership over time[78].

Figure 7. Levels of participation in working relationships.

Defensive participation: Often new to partnership working, such organisations are concerned about the perceived resource implications or threat of participation – their presence is often defensive (to ensure that their agency does not 'lose out').

Opportunistic participation: Such organisations may not see the partnership as core to their own objectives, but are able to see and grasp potential benefits opportunistically. This type of partner is often seen as taking more from the partnership than it contributes.

Active participation: Such organisations are strongly committed to the partnership and see taking part as a natural extension of their repertoire for tackling items on their own agenda, as well as those of other partners.

Advantages and disadvantages

Whilst working together provides organisational members with opportunities for networking, sharing knowledge and skills, and exchanging learning, the process is also time consuming and may slow down progress due to consultation processes and quest for consensus[79].

Key questions to ask when considering a partnership are[79,80]:

1.   Partnership with whom and for what?

2.   How will the partnership add value?

3.   How will the partnership be managed?

Governance and leadership

Governance of portfolio implementation not only encompasses the tasks of management and coordination of dispersed activities but also refers to the mechanisms for managing the relationship between organisations – or networks of organisations – and the social and political environment in which they operate.

Identification of custodian groups to provide governance, leadership and advocacy is important to ensure implementation of the portfolio, especially when implementation requires input from a diverse range of groups.

Governance and leadership may be approached in different ways depending on the context of the portfolio and stakeholders[77]. (See Figure 8)

Figure 8. Different modes of governance and leadership.

Modes of Governance

Advisory: The group acts as a consultation and discussion forum and often forms the basis for consensus building. It draws its accountability and legitimacy from member organisations, but has no independent power to act.

Commissioning: The partnership has its own staff and authority, is able to implement decisions and commission projects, and therefore has to create its own forms of accountability and legitimacy.

Laboratory: The prime focus is on generating new ideas and new ways of designing local services, drawing on the combined thinking of key stakeholders.

Community empowerment: Attention is focused on creating strong networks within the community rather than on the key public agencies.

Approaches to Leadership

Holding the chair: Setting agendas, managing the business, working the group towards decisions, ensuring that all stakeholders can express their views.

Committing partners: Generating collective ownership of and commitment to the partnership from key leaders in partner organisations, establishing accountability to the partnership through influence.

Role modelling: Behaving as if joint working matters, respecting diversity, modelling collaboration.

Representation: Taking partnership business back into one's own organisation and ensuring that others provide back up and that the organisation fulfils the partnership's expectations of it.

Capacity building

Capacity building is defined as an approach to "the development of sustainable skills, structures, resources and commitment to health improvement in health and other sectors to prolong and multiply health gains many times over" [81].
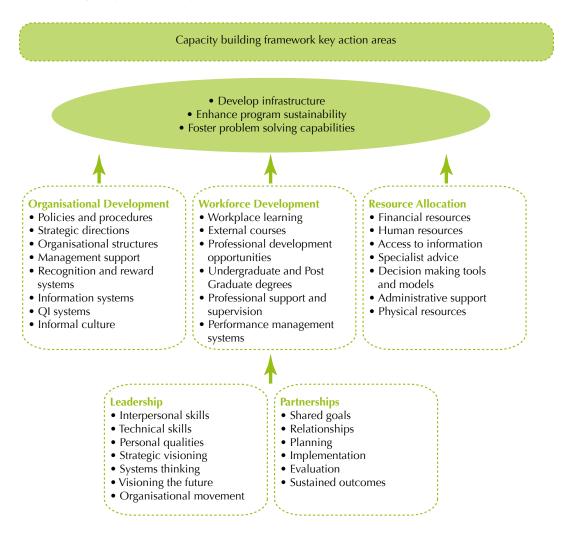
The five key components of capacity building are:

- Organisational development
- Workforce development
- Resource allocation
- Partnerships
- Leadership.

Working on these five components of capacity builds the individual, organisation and community's infrastructure and problem solving ability as well as supporting program sustainability (see Figure 9) [81].

Consideration of capacity to deliver is an important part of portfolio development. Whilst lack of capacity to deliver may limit selection of some interventions, interventions to increase capacity may also be included as part of the portfolio.

Figure 9. Capacity building key action areas.

Capacity building framework key action areas

• Develop infrastructure
• Enhance program sustainability
• Foster problem solving capabilities

Organisational Development
• Policies and procedures
• Strategic directions
• Organisational structures
• Management support
• Recognition and reward systems
• Information systems
• QI systems
• Informal culture

Workforce Development
• Workplace learning
• External courses
• Professional development opportunities
• Undergraduate and Post Graduate degrees
• Professional support and supervision
• Performance management systems

Resource Allocation
• Financial resources
• Human resources
• Access to information
• Specialist advice
• Decision making tools and models
• Administrative support
• Physical resources

Leadership
• Interpersonal skills
• Technical skills
• Personal qualities
• Strategic visioning
• Systems thinking
• Visioning the future
• Organisational movement

Partnerships
• Shared goals
• Relationships
• Planning
• Implementation
• Evaluation
• Sustained outcomes

Source: NSW Health. A framework for building capacity to improve health. 2001[81].

Portfolio evaluation and review

Need for evaluation

Evaluation is an effort to determine whether and how an intervention meets its intended goals and outcomes. Intervention portfolios need to be evaluated and reviewed periodically to ensure continuing relevance and investment of resources in the most effective manner.

Evaluation helps to identify promising practices and causal relationships between interventions and various outcomes. Evaluation can also enhance understanding of factors that can moderate or mediate the effect of an intervention in a given context.

Evaluation therefore guides improvements and innovations in policies and programs, reduces uncertainty about processes and effectiveness and supports accountability and responsibility.

Different purposes for different audiences

Whilst different evaluation audiences have different evaluation interests and needs (Table 7), sufficient funding and collective commitment to evaluation are an essential component of planning and implementation.

Table 7. Different purposes of evaluation for different audiences[82].

Audience	Purpose
Policy makers, funders, political decision-makers	Inform decision-making and provide accountability
Program developers, researchers and administrators	Understand: • How a program or policy worked in a given context • Relative contributions of each component • How to improve the intervention for replication, expansion or dissemination Advance scientific knowledge
Program managers and staff	Improve the program Enhance daily program operations Contribute to development of the organisation
Program participants, families and communities	Confirm effectiveness Promote social justice and equity

Need for an evaluation framework

Planning of evaluation of comprehensive multi-strategy portfolios is facilitated by development of an evaluation framework such as depicted in Figure 10[83]. Components for consideration include:

- The connections and quality of interactions within and between sectors involved

- The adequacy of support and resources for policies and programs

- The contextual appropriateness, relevance and potential power of planned policies, programs, actions

- The multiple outcomes such as structural, institutional, systemic, environmental, behavioural for individuals and populations, health outcomes

- The potential impact of interventions on adverse or unanticipated outcomes

- The indicators used to assess progress towards each outcome (selecting the best indicators will depend on the purpose and resources available to collect, analyse and interpret the data).

Environmental, cultural, normative, economic and political contexts may influence all of the above and should be considered in development of the framework, selection of measurement tools and interpretation of findings.

Figure 10. Evaluation framework for a comprehensive portfolio to increase engagement of PHCPs and families in promoting healthy child weight.

Domains	Inputs	Actions	Outcomes		
General practice Maternal & child health Community & public health Childcare & early childhood education	Political commitment Leadership Collaboration Strategic planning Strategic management Adequate funding Capacity growth Information systems	Programs Enablers -System -Service -Provider -Parent	System Service -Ethos -Policies -Coordination	Provider Parent -Attitude -Knowledge -Skills -Actions	Level of engagement
Formative/process			Impact/outcome		

Adapted from Institute of Medicine, 2006; p43[83]

Outcomes selected will depend on the nature of the intervention, the timeline of the implementation and resources available to collect, analyse and interpret data. Outcomes may be structural, institutional, systemic, environmental, population or individual level, cognitive or behavioural, but should be measurable.

The timeline will determine whether the evaluation can measure progress towards a short-term (eg. increased attendance), medium term (eg. change in policy) or long term outcome (eg. change in behaviour).

Level of evaluation

A critical source of information for reviewing the portfolio will be the performance and outcomes of the specified interventions it contains.

Large scale interventions are often built on multiple evaluations from the outset of the project so that at each step data are collected and analysed to assess the best use of resources and to make refinements if necessary.

Different types of evaluations eg formative, process, impact and outcome relevant to the stage of the intervention and the purpose of the evaluation are needed. The level of evaluation will depend on the evaluation questions asked (see Figure 11)[83].

Evaluations can range in scope and complexity from comparisons of pre- and post intervention counts of the number of individuals participating in a program to methodologically sophisticated evaluations with comparison groups and research designs. The approach will depend on the purpose, audience and resources available to implement.

Figure 11. Questions asked at each level of evaluation[83].

Formative
How will the action contribute to outcome?
What dose and quality is needed in this context?

Process
Was it done as planned?
Reach/intensity/duration/quality

Impact
What was the effect? Any unexpected effects?

Outcome
What is the sustained effect on engagement?

Capacity for evaluation

A substantial gap often exists between the implementation of obesity prevention interventions and the capacity to evaluate them (Figure 12).

Typically interventions have a local or regional focus and are conducted by agencies with limited expertise and resources for evaluation. Existing public sector agency surveillance systems and special surveys may be a critical component of ongoing monitoring and tracking of outcome indicators but research conducted by academic institutions is the principal source of in depth scientific evidence for specific intervention strategies.

An integrated approach to evaluation with different stakeholders providing input according to capacity has been suggested to address the opportunity-capacity evaluation gap.

Figure 12. Capacity of different agencies to conduct evaluation[83].

Need for evaluation		Potential involvement
	Local agencies	• Inputs & implemented as intended • Pre-post change • To scale of intervention
	Regional alliances	• As above • Reach
	State and federal agencies	• Monitoring & surveillance • Identify needs & fund intensive evaluation
	Academic and research institutions	• Guidance & technical assistance • Intensive evaluation
Evaluation capacity		

Adapted from Institute of Medicine. 2006; p40[83]

Part 3:
Information
for Planning

Part 3: Information for Planning

About this section

Part 3 provides information to assist planners to understand barriers to engagement of parents and primary care providers and to identify promising interventions to meet local needs.

Domain portfolios

The information is presented from the perspective of parents as well as PHCPs and in the context of specific domains of service provision, namely general practice, maternal and child health services, population and community health services and childcare and early childhood education.

A portfolio of promising interventions for each domain has been developed based on the CHPRC literature review, Delphi survey and focus group discussions. These have contributed to the comprehensive portfolio presented in Part 1, Table 4.

Ecological framework context

Whilst the domain approach may appear to perpetuate siloed approaches to service provision, the intention is to encourage providers first to consider the area of their own expertise and practice and then how this relates to the context of the broader ecological framework described in Part 1, Figure 1. Identified barriers to collaboration across the service system and promising approaches to addressing them are presented.

Information provided is based on recent reviews, and although the types of interventions are unlikely to change substantially this is an active area of research and planners should be alert for new evidence of effectiveness.

Contexts in the ecological framework

Parent and family contexts and barriers

Opportunities for engagement

Parents play a critical role in influencing pre-school children's food habits and physical activity. They are the main providers of food, supervisors of activities and role models for children to follow[7,26]. Whilst their behaviours and parenting norms are to a large extent influenced by their own life experiences and broader social, structural and cultural norms, parents are usually most receptive to healthy lifestyle and parenting information when their children are young.

Expressed Barriers

Although parents acknowledge that healthy eating habits and being active are important for pre-school children, they appear to have little concern about development of obesity in this age-group[54,65]. In fact they have more concern about underweight and may offer less healthy foods just to coax their children to eat. As well, most parents in focus groups reported high levels of physical activity in their pre-school children and some were grateful for the respite offered by sedentary activities such as television viewing.

Both GPs and parents reported in focus groups that despite regular visits, parents of pre-school children rarely ask their GP for advice about prevention or management of overweight in their child, nor would they ask even if their child was overweight. The main reasons given by parents for not engaging with the GP include:

- Perceived role of GPs is treatment and referral oriented rather than prevention
- Perceived lack of training of most GPs in nutrition and inability to give practical advice
- Limited time available in appointments
- Difficulty getting a GP appointment
- Cost of GP service
- Long waiting time and exposure of children to infection in the waiting room

In contrast to approaching GPs, mothers would readily approach a maternal and child health nurse for obesity prevention information for the following reasons:

- Monitoring growth and development and provision of related advice is perceived as a nurses role
- Nurses provide 'practical' advice
- Nurses are supportive and build good rapport with the parents
- Nurses are easier to contact by telephone and there is no fee for service
- Nurses centres/clinics are more child friendly

Barriers to consulting with nurses reported by parents included:

- Limited access (number of nurses, hours of operation (9-4pm weekdays) for working parents, limited individual consultations after age 3 years

- Unsatisfactory relationship or experience with the nurse (out-of-date, impractical information, judgemental)

- Attended for the first child but don't perceive a need for further information for subsequent children

Underlying issues

Apparent lack of parental concern about overweight in pre-school children may be related partly to lack of recognition of excess weight in this age group. Mothers participating in the focus groups reported little experience of overweight children in this age group, although when asked were not confident they could identify a pre-school child marginally overweight[38].

Some mothers are sceptical about health professionals' classification of their children as overweight based on height and weight charts and BMI[65,84], and informing parents of their child's BMI and the risks of overweight alone are rarely sufficient to bring about behavioural change.

Some mothers expressed concern that their parenting skills would be judged if their child was found to be under or overweight. Indeed, inadequate behavioural parenting skills were identified in focus groups by GPs, nurses and dietitians as well as in the literature[38] as a factor in poor eating habits and sedentary lifestyles of some families. Differences in parenting skills of parents of overweight and normal weight children have been reported[85].

Food is an emotional issue for mothers because they value providing adequate food as part of their role as a mother, but experience conflict about providing food treats and feel pressured by the judgement by others[38,65]. Marketing of unhealthy foods, carers and other family members sometimes undermine their efforts to encourage healthy lifestyles and time poor mothers expressed frustration with finding healthy, inexpensive and quick food options.

Physical activity is less of an emotional issue for mothers who agreed that pre-school children should be active and developing good habits. Mothers recognised the importance of parental involvement and role modelling although time constraints and safety issues were a barrier. Mothers expressed a desire for more organised activity for under 6's and better maintained playground equipment.

Other parental barriers to engagement about children's weight and healthy family lifestyles, as perceived by health professionals in the Delphi survey (Appendix 1), were:

- Low priority compared to other life pressures

- Lack of money for GP visit

- Time poor parents due to work and lifestyle commitments

- Poor parental role models with regards diet and physical activity

- Parental sensitivity to comments about weight and family lifestyle

- Low parental awareness of consequences of childhood overweight

- Low parental attendance at services

Figure 13. Summary of barriers for parents engaging with primary health care providers about children's weight and healthy family lifestyles.

Barriers related to the family
- More concern at underweight than overweight
- Overweight not recognised
- No immediate negative consequence of overweight
- Lack of knowledge of health consequence
- Parent sensitivity to weight issues
- Link between food and nurturing
- Challenge to parenting role
- Concern at being judged
- Parent resistance to lifestyle recommendations
- Poor family role model
- Poor behavioural parenting

Barriers related to providers
- Perceived role of GPs is treatment and referral oriented rather than prevention
- Perceived lack of training of most GPs in nutrition and inability to give practical advice
- Limited time available in appointments
- Difficulty getting a GP appointment
- Cost of GP service
- Long waiting time and exposure of children to infection in the waiting room
- Limited access for working parents
- Unsatisfactory relationship or experience with practitioners (out-of-date, impractical information, judgemental)
- Attended for first child but don't perceive need for more information for subsequent children

Barriers related to the context
- Time poor parents and low priority compared to other life pressures
- Low income parents and lack of money for GP visits
- Cultural barriers
- Low parental attendance at services

Health care provider and service contexts and barriers

Opportunities for engagement

Evidence from the literature review and focus groups (Appendix 1) suggests that primary health care professionals working with families generally consider intervention for the prevention of childhood obesity as an important issue.

Parents also value information and advice related to child health and wellbeing, and particularly that provided by primary health care providers. However, they have expectations of the quality and type of advice from different providers and the quality of the parent-provider relationship is an important determinant of engagement.

Expressed barriers

Despite statistics showing increased rates of obesity in pre-school children in Australia[1,2,15,21], experience and perception of the problem in pre-school children was low for most of the providers engaged in focus groups in this project.

GPs were rarely consulted by parents in relation to overweight pre-school children and child health nurses conceded that overweight pre-schoolers may be missed because attendance dropped after one year of age, children's weights were no longer being charted or monitored, or nurses may be 'acclimatised' to overweight children.

However, all PHCPs consulted reported unhealthy lifestyle and parenting behaviours in families that were likely to lead to unhealthy weight gain. Those families at most at risk were those with low educational achievement, some immigrant groups and Indigenous Australians and South Sea Islanders.

There are many common but some variable barriers for different health professionals working with parents to address the issue. The main variations arose from the role of the provider in the prevention of overweight and obesity as perceived by both providers and parents, as well as the systems that exist to support this role.

For example, GPs and parents did not see prevention of overweight and obesity in pre-school children as a core part of the GPs job and GP services were not set up with recall systems, standard protocols, assessment tools, parent resources, support staff or referral pathways to fulfil this role. Short consultation times and parent concerns with the presenting problem (usually acute infections) are not conducive to detailed assessment and counselling on this issue. Both parents and providers also expressed concern at lack of expertise and skills to provide practical advice about changing family lifestyle patterns, which was reflected in a sense of powerlessness by GPs to make a difference in what they considered was a social problem. GPs also required evidence of effectiveness to justify intervention, although this was more relevant to treatment than prevention.

In contrast, maternal and child health nurses have a recognised role in monitoring child growth and development as well as provision of support and practical advice to parents. Time and lack of support staff are barriers but experienced nurses feel competent to advise families about lifestyle and this advice is generally valued by parents. However, some parents are sensitive to discussion of overweight and family lifestyle issues and both GPs and child health nurses expressed major concern at jeopardising the provider-parent relationship this way.

Community dietitian/nutritionists and health promotion staff did not perceive a role in direct contact with families but with community advocacy related to the issue and provision of expert advice and training to other PHCPs and community organisations.

Underlying issues

Previous studies have indicated that a minority of PHCPs working with children feel competent in the use of parental guidance techniques, behaviour management strategies, and methods for addressing family conflicts in dealing with paediatric obesity, and few reported any confidence in their ability to change patient behaviour[86,87].

Primary health care providers, and general practitioners in particular, typically have a limited time with their patients and this is intensified by financial pressures to maximise productivity.

Added to this problem is practitioners' concern about client costs and compensation, with more than two thirds of registered dietitians and nearly half of paediatric nurse practitioners citing this as a major deterrent to engagement[87]. Parents in focus groups also cited the cost of GP consultations as a deterrent to attendance, particularly for well health checks. Unless medical insurance and managed care policies change, GPs will have little incentive to provide childhood obesity prevention services.

Lack of resources is also cited as a limitation, with opportunities for preventative counselling in the clinical setting limited by lack of support staff such as practice nurses, lack of systems for follow up, lack of availability of appropriate patient educational materials, and the limited number of specialists to whom referrals can be made.

Figure 14. Summary of barriers affecting engagement between Australian primary health care providers and parents, identified by providers.

Parent barriers perceived by providers
- Poor concept of what is 'overweight' in young children
- Sensitivity about weight and family lifestyle
- Poor parental role models for healthy diet , physical activity, weight
- Low participation in programs and services by time poor parents

Provider barriers
- Time pressures on care providers
- Prevention of overweight and obesity is not seen as a core part of their job
- Sense of powerlessness against external 'obesogenic' environment
- Concern about jeopardising provider-parent relationship
- Lack of knowledge of how to engage parents in efforts to promote change
- Lack of skills to provide parental guidance in behaviour management techniques to change family lifestyle
- Lack of engagement in advocacy for social and environmental change to support healthy lifestyles

Service level barriers
- Emphasis on screening and treatment of overweight rather than prevention
- No support staff or follow-up systems
- Lack of referral options for high risk families or lack of information about them
- Lack of financial commitment to prevention by high level decision makers
- Limited rigorously evaluated studies on the effectiveness and costs of interventions

Care system contexts and barriers

Delivery of primary health care services to young children involves general medical practice as well as a variety of allied health care providers from both the government and non-government sectors. These groups come under the jurisdiction of different government departments, with different funding at national, state or local level, making co-ordination of strategies difficult to implement.

The siloed service provision and funding without a coordinating mechanism is a major structural barrier to a coordinated approach to engaging families and care providers in prevention of childhood obesity.

This is compounded at organisational level by different agency priorities, commitment, and planning mechanisms related to obesity prevention, as well as different power relationships between agencies and between service providers. At provider level, differences in professional values and priorities also need to be recognised and assimilated.

A common barrier to working collaboratively is the time taken in meetings, consultation and planning. Participation is particularly difficult for small and independent practitioners or services. Without adequate resources and time to implement multi-dimensional programs, efforts are likely to be short-lived[53].

Figure 15. Summary of care system barriers affecting engagement between Australian primary health care providers and parents, identified by providers.

- Siloed service provision by different agencies without a coordinating mechanism
- Different agency priorities, commitment, and planning mechanisms
- Different power relationships between agencies and between service providers
- Differences in professional values and priorities
- Inadequate resources and time to implement multi-dimensional programs
- Incompatibility between initiatives funded and coordinated at federal, state or local levels
- Limited mechanisms for reaching and influencing independent practitioners or services

Community level contexts and barriers

Opportunities for engagement

The factors contributing to increases in obesity in young children and their families go beyond the lifestyles of individuals and families and the care services which they use. 'Obesogenic' social and physical environments in which we live are a barrier to developing and maintaining a healthier lifestyle[7,42,56].

As well as improving the skills of individuals and families to make healthier choices, solutions to the obesity epidemic must include action at community and societal level[5,88,89]. Early childhood service programs that focus on building communities and strengthening families provide opportunities for overcoming community level barriers to addressing issues related to early childhood development, including obesity prevention.

Primary health care and early education service providers participating in this research recognised the environmental challenges for parents in achieving healthy family lifestyles. Because of their expert knowledge and standing in the community, providers and their professional organisations have a potential role in advocacy to change community attitudes and public and organisational policies that make achievement and maintenance of healthy family lifestyles difficult[29,32,34].

Expressed barriers

Parents and providers alike identified community and societal level factors such as access to and aggressive marketing of unhealthy foods and sedentary lifestyles as immediate potential causes of overweight in families. These factors have variable influence in different families depending on the social and cultural norms of the family, education and time pressures. Although not immediate barriers to parent and family engagement related to prevention of overweight, they are contributing factors and need to be considered in a comprehensive approach to overcome barriers[5,14,30].

Underlying issues

The community view of normality related to child growth and the acceptance of chubby pre-school children as healthy children may be a factor in preventing families from seeking support from health care providers to address the problem. Also, the media's portrayal of extreme stereotypes may have distorted lay perception of overweight[54].

Likewise, because of prevailing community behaviour, some parents do not perceive a problem with unhealthy food choice, snacking habits and sedentary behaviour that can lead to unhealthy child weight gain. Parents who are concerned do not perceive that health professionals such as GPs can help with management of child food and activity issues so they do not seek their advice[38]. Health care providers say they do not raise the issue because they see it as a social issue beyond their influence[37].

With increased financial needs for mothers to work, mothers have less time to prepare nutritional meals for their children and are less likely to maintain standard visits with the community nurse. Similarly, they have less time to supervise active play and due to safety concerns encourage passive pursuits such as television watching.

Figure 16. Summary of community barriers affecting engagement between Australian primary health care providers and parents, identified by providers.

- Social and cultural norms related to food, activity, chubbiness, parenting
- Time pressures on families reduce effort in encouraging activity/ increase use of unhealthy convenience food
- Cost of healthy food and organised sport
- Availability and marketing of unhealthy foods
- Sedentary family lifestyles
- Access issues in rural areas
- Cultural background
- Parent education
- Income
- Fears about safety

General practive service domain

Context for engagement

Opportunities

Parent contact with GPs in relation to their children is common in the pre-school age group, mainly for acute infections. Well over half of the parents in our focus groups reported visiting a GP with their pre-school child at least once in the last 12 months. Parents may also engage with GPs or practice nurses for routine childhood immunisations, for which 60 per cent are provided by GPs. Full immunisation rates are over 90% at 2 years and over 85% at school entry at 6 years[52,90].

Barriers

Barriers to engagement of GPs with parents of pre-school in relation to healthy family lifestyles and promotion of healthy weight include parent, provider, service and system level issues. These are collated from the literature review[10,11], Delphi survey (Table 4, Appendix 1), and focus groups with GPs and parents (Table 12, Appendix 1) and summarised in Table 8.

Intervention options

Promising interventions

The literature review found that most interventions in this setting focused on secondary prevention and treatment[10]. However, many of the strategies could feasibly be used in a primary prevention mode. Promising approaches included:

- Practice protocols for routine health checks
- Screening checklists and information for lifestyle prescriptions

Promising options in general practice

NHMRC clinical guidelines for routine weight checks[47]
A guide to clinical management of weight in children and adolescents was developed by the NHMRC in 2003. It provides an eight step guide for clinical practice in a question-and-answer format and a weight management plan. The starting point is an assessment of the child's BMI. Measurement once every six months as part of routine primary care is recommended for all children and adolescents, with assessment of trend more important than a single measurement. Subsequent steps in the guide focus on the treatment of the overweight child identified by BMI. Step 4 comprises a risk factor assessment related to food intake and activity levels (see below), with some key questions included in the weight management plan. Whilst intended for use with children who are assessed as overweight, this tool would also be useful in primary prevention as a screening tool for lifestyle risk factors. The checklist could be completed in the waiting room prior to consultation with the GP or with assistance from a practice nurse. The clinical guidelines provide some general advice to GPs and references for more information to guide families in response to answers to the checklist questions, including patient handouts accessible through practice software such as Medical Director.

Questions to ask of children and families to assess risk related to food intake and activity levels[47]:
• More than 2 hours of TV and other small-screen entertainment per day?
• Eating in front of TV?
• Is food used as a reward?
• Is food used as a comfort?
• Always hungry?
• Any organised weekly physical activity?
• Able to participate in activity?
• More than 3 snacks between meals?
• Eating breakfast?
• Organised meal times?
• High intake of soft drinks or fruit juice?
• Active after school?
• Eating as much as parents?

***Lifescripts*[48] aimed primarily at adults**
Lifescripts is a framework for GPs, practice nurses and Aboriginal health workers to discuss risk factors with patients, assist the formulation of patient goals, provide written lifestyle prescriptions, organise reviews of lifestyle risk factors and refer patients to other appropriate services. The resource comprises waiting room materials, assessment guides, medical record summary stickers, a practice manual, and a CD-ROM on motivational interviewing. While these represent valuable resources, they have not been widely used. There is little incentive for GPs to use them. If similar resources were developed for children, GPs would need to know about them and have incentives to use them.

Implications for engagement

Routine application of clinical guidelines to weigh and measure children and assess risk factors at primary care visits may help to 'normalise' weight and lifestyle assessment as part of primary care visits. Regular checks of growth that identify the emerging problem may also help to alleviate the sensitivity of the issue. To save GP time, practice nurses could be involved in the measurements, checklists and education, with GPs taking a 'brief intervention' *Lifescript* approach. However, to adopt monitoring and brief intervention protocols, GPs would need to know about them, have incentives to use them and feel confident that parents would be receptive to their use. Currently less than 25% of Australian GPs routinely weigh and measure children[86] and none of the GPs in our focus groups were aware of the NHMRC clinical practice guidelines.

GP opinions

GP participants in focus groups rated the following interventions short listed from the literature review and Delphi survey as 'highly useful and highly feasible'.

- Increased opportunities for referral of high risk children
- Resource kits for doctors
- Data management systems for routine monitoring of child growth
- Medicare rebate item for lifestyle counselling
- Practice nurses to support to parents with high needs

A range of other system, service and provider enablers suggested by GPs are included in Appendix 1, Table 14.

Current GP roles and provider and parent ratings

- Other than providing tailored family advice, GPs reported low current performance of key roles identified to engage parents in prevention of overweight and obesity (Table 9, Appendix 1).
- However, they perceived regularly checking growth and provision of healthy nutrition, active play and parenting advice to parents as highly appropriate roles but of only moderate feasibility and low current performance by GPs.
- Group education and advocacy for healthy lifestyles were not common current roles and considered not feasible.
- In contrast parents perceived GP advocacy as highly acceptable and useful.
- Parents also highly valued GP checking of child growth and provision of child nutrition and active play advice but were less receptive to more intrusive checking of family lifestyle and providing parenting advice.

Table 8. Portfolio of enabling programs and supports to overcome barriers to engagement of parents and general practice providers.

Barriers	Programs	Enablers
System Treatment ethos No financial incentive for prevention Siloed services Limited advocacy to address social determinants Limited evidence to guide practice	Medicare funded universal well child health check at 2–4 years with a focus on detection of behavioural risk factors, not just weight screening • possibly linked to immunisation • with GP practice protocols and tools • with education material for parents • with marketing of the role to providers and families	**System** Marketing of prevention program to providers and parents Medicare item for child health check Remuneration for practice nurse National/state service agreements Pre-service training prevention focus
Service Treatment ethos Lack of practice protocols & tools for prevention Limited support staff No recall systems Limited referral options Lack of parent education materials Family unfriendly environment	• in family friendly service environment • with contribution to surveillance systems	**Service** Marketing of prevention service Prevention practice protocols/tools Tools integrated into practice software Engagement of practice nurses Immunisation linked recall systems Local referral options for parenting, lifestyle behavioural support Service agreements with local prevention support services Parent education materials
Provider Time pressure Core job focus on treatment Provider-parent relationship concerns Low behavioural counselling skills Lack of knowledge of referral options Sense of powerlessness		**Provider** In-service on prevention practice protocols and tools Knowledge of referral options
Parent Poor concept of child 'overweight' No perceived role of GP in prevention Non-teachable during acute consult Sensitivity about weight and lifestyle Poor parental role models		**Parent** Focus on antenatal to start healthy family lifestyle habits Education about normal child growth Attend GP for routine child health check

Portfolio for general practice

- The research results described above have informed development of a portfolio of promising program and enabling activities for overcoming barriers to engagement of parents and providers in general practice (Table 8).

- The main program focus of the portfolio is a Medicare funded universal well child health check at 2-4 years with a focus on detection of behavioural risk factors, not just weight screening. This would have the greatest engagement with parents if it was linked to early childhood immunisation, conducted in a family friendly environment and well promoted to parents. A range of enabling activities would also be required as listed in Table 8.

Maternal and child health service domain

Context for engagement

Opportunities

As part of universal maternal and child health services, Australian mothers have the opportunity to attend antenatal education classes and most have contact with a maternal and child health nurse at least once after the birth of their child[36,66,91,92]. Many continue with the standard schedule of visits for developmental monitoring in the first year, however attendance declines significantly by 3 years of age[92].

Barriers

Barriers to engagement of maternal and child health nurses with parents of pre-school children in relation to healthy family lifestyles and promotion of healthy weight are summarised in Table 9. These include parent, provider, service and system level issues and are collated from the literature review[10,11], Delphi survey (Table 4, Appendix 1), and focus groups with providers and parents (Table 13, Appendix 1).

Intervention options

Promising interventions

Our literature review found three interventions delivered by maternal and child health services that scored highly according to our appraisal criteria. These were the *Fit WIC* program[60], the *STRIP* intervention[61,93,94], and the *Nutrition Education Aimed at Toddlers (NEAT)* intervention[95,96]. Evaluation of a fourth promising program, *Lifestyle Triple P*[85], with a focus on parenting to encourage healthy lifestyles, was published since the literature review.

Fit WIC[60]
Initiated in 1999 in 5 states of America, the *Fit WIC* program was funded under the Food and Nutrition Service of the US Department of Agriculture, with the goal of developing initiatives through which the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) could be re-oriented to respond to the growing childhood obesity epidemic in America. Local formative evaluation was conducted to assess needs of primary health care providers, parents and their communities and tailored intervention strategies were developed to ensure information for parents was relevant, necessary and presented in such a way that would encourage a change in behaviour, rather than simply increasing knowledge for their local community. The key strategies used across the five participating states included:

• Development of participant centred assessment and education procedures
• Shift in focus of participant education from weight to healthy lifestyle
• Use of practical group education sessions for parents and children using effective mechanisms for presenting information and engaging parents in groups discussions
• Integration of physical activity into discussions about nutrition and lifestyle
• Development of resources to encourage parents to implement active play strategies to meet physical activity requirements of young children
• Expansion of training for WIC staff to improve understanding of issues and to strengthen capacity to work with, engage and counsel parents, including addressing sensitive issues;
• Promotion of activities to encourage WIC staff members to improve their own health, and thereby to act as role models for healthy behaviours
• Establishment of partnerships with child care centres, schools and community agencies to develop comprehensive community wide interventions
• Allocation of additional funding to increase staff levels so that more time can be devoted to individual and group counselling
• Funding of rigorous research into the impact and cost effectiveness of WIC programs to ensure that resources are allocated to areas of greatest need and potential impact.

Key evaluation findings from the five *Fit WIC* project teams were:
• Training, specialised educational materials, and increased time with participants allowed staff to effectively address the complex issue of childhood overweight with WIC parents
• WIC staff felt that training, appropriate educational materials, and more time with participants allowed them to build the rapport essential for addressing sensitive issues
• Education sessions that focused on healthy behaviors were more effective than those which focused on weight issues
• Parents were eager to receive information on activities that involved the entire family in healthy lifestyle choices
• Physical activity promotion is an important adjunct to the promotion of healthy eating
• When provided with wellness opportunities in the work place, staff felt they could more easily provide positive modeling of healthy behaviors for WIC participants and better understand the obstacles faced by overweight participants.
• Community stakeholders recognised the role of WIC as a leader and partner in obesity prevention efforts.

The *Special Turku Coronary Risk Factor Intervention Project for Children*[61,93,94]
The Finnish *Special Turku Coronary Risk Factor Intervention Project (STRIP)* was part of a six year longitudinal, randomised control trial involving child-targeted nutrition counselling to affect the knowledge attitude and dietary habits of parents of young children. Parents of five month old children were recruited into the study during their regular 'well baby' visit to a child health nurse. Consenting parents were randomised to the intervention or control group. The intervention was conducted during routine visits to the child health nurse. Whilst control participants received usual care, intervention parents met with a nurse, paediatrician and nutritionist who aimed to implement stepwise changes to the child's diet to reduce saturated fat and cholesterol intakes, assessed at each visit using a food recall diary. Visits were conducted at eight, 13 and 18 months of age followed by six monthly visits until children were 7 years of age.

Overall nutrition knowledge scores were higher and parental dietary intakes of saturated fat and salt were closer to recommended in the intervention than the control group by the end of the six and a half year intervention. However, nutritional knowledge and dietary intake scores were poorly correlated suggesting factors other than an increased knowledge influenced parental dietary changes.

Whilst obesity prevention was not the a measured outcome, the *STRIP* project demonstrates excellent potential for use of existing 'well baby' visits to a child health nurse to engage with other PHCPs to deliver and reinforce public health messages relevant to young children. The intervention also demonstrates the need for other community and environmental support programs to help parents translate knowledge into practice.

Nutrition Education Aimed at Toddlers[95,96]
The *Nutrition Education Aimed at Toddlers (NEAT)* intervention, based in Michigan, USA, has as its objective to improve the feeding practices of low income rural parents and carers of 11 to 36 month old children involved in the early Head Start Program. The intervention was tested in two stages, a pilot test with 19 intervention and 19 control families participating in 3 session nutrition education and practice sessions[95] and a second study involving 43 intervention parents and 53 control parents in 4 education sessions plus home visit follow up over 6 months[96]. Transport to the site and childcare were provided for the education sessions. The studies used a convenience sample in a quasi-experimental approach with 6 month follow up to assess the effectiveness of the interventions.

The group sessions were developed based on focus group discussions with the target group and provided by trained nutrition instructors. Sessions involved discussions, video tapes, and hands-on learning activities related to adult modelling of positive eating behaviours for toddlers, processes for introducing new foods to toddlers, and portion size. After the group sessions, toddlers joined the caregivers in food tasting, simple food preparation, and family eating time. In the second study, the group sessions were followed up by 18 tailored, home visits to parents over a six month period to discuss and reinforce issues raised during the group sessions. Whilst these visits were intended as a weekly event, the home visits could not always be scheduled as frequently due to participants' work and other schedules. When a session was missed, the activities were included in the next session.

Attendance at the pilot nutrition sessions was 100% with feedback indicating high enjoyment of the content and social aspects. Improvements suggested were to offer more time for cooking, information and sharing. In the second study, 91% completed all reinforcement activities. Participation rates may have been high because participants were self selected and a small cash incentive was provided at the completion of each stage of data collection.

Results of the studies indicate that the *NEAT* intervention had a significant impact in changing parental knowledge of feeding behaviours and patterns of toddlers. Improvement was continuous, consistent with an initial group intervention effect as well as additional improvements from the reinforcement activities. Participant feedback showed that caregivers valued the intervention and new knowledge gained, especially related to portion sizes. However, reinforcement activity sessions were considered too long, causing loss of interest. Consequently, these have been changed to support more choice by participants of the sessions they complete.

A strength of this intervention is the ability to recruit and retain very low income families and to provide tailored child feeding advice. Key lessons for engagement include:
- Access was through a well-established community program acceptable to participants
- Instruction was provided by trained nutrition instructors from a separate agency
- Intervention content was developed based on consultation with potential recipients
- Barriers to participation such as transport and childcare were addressed
- Social interaction and knowledge gained were highly valued by participants
- Financial incentives were provided for participation in evaluation activities
- Regular contact over an extended period provided opportunities for clarification and reinforcement of learning

Lifestyle Triple P is an extension of the internationally recognised *Triple P-Positive Parenting* program developed at the University of Queensland[97] and implemented as a population based program in Australia[98,99]. It aims to increase parenting skills and confidence in managing children's eating, exercise and general behaviour and to prevent chronic weight problems by improving children's nutritional intake and activity levels.

The 12-week program consists of 9 x 90-minute parent training sessions (groups of 8-10 parents) and three 15- to 30-minute individual telephone consultations. Activities include weekly goal setting for parents to make realistic, long term changes in the household as well as role-play activities to practise parenting skills. A parent workbook is also provided with information discussed in the sessions and additional home-based activities.

The efficacy of the program in increasing parents' skills and confidence in managing children's lifestyle behaviour was evaluated in a randomised controlled trial. The outcomes of the intervention included increased parenting self efficacy, reduced ineffective parenting, and decreased child BMI and body fat, measured at 6 and 12 months post intervention.

Whilst *Lifestyle Triple P* has been tested as a program facilitated by *Triple P* trained psychologists with parents of children aged 5 to 10 years who are overweight or obese, it has the potential to be used by a range of PHCPs as a primary prevention intervention with parents of younger children. It has been developed as a professional resource for use by a range of helping professionals including family doctors, paediatricians, community nurses, dietitians, psychologists and teachers in a range of settings including community healthcare facilities, hospitals and schools.

Implications for engagement

A key strength of each of these programs in engaging parents is that they were implemented through an existing agency that already had regular contact with parents of young children. The *Fit WIC* program provided additional training, support and resources to existing primary health care providers to increase their capacity and self efficacy to communicate nutrition, physical activity and healthy lifestyle messages in their existing programs and services. In the *NEAT* program, the Head Start agency partnered with an NGO to implement programs with agency clients. STRIP enhanced routine well-baby checks by nurses with specialist contacts. The *Triple P* parenting program has been delivered as a population initiative through maternal and child health services in Australia[98,99].

Additional benefits of each of the programs were active and deliberate engagement of both primary health care providers and parents in all phases of program planning, design, implementation, and evaluation to ensure that messages and procedures for delivering these were salient as well as on going contact with program participants to allow clarification and reinforcement of learning.

In the Australian context, the closest organisational model would be the mother and baby clinics provided universally to young families by State or Territory governments. High risk families may also be reached through existing state and locally based welfare programs. With modest investment, training packages could be developed and implemented with these staff to better equip them to counsel families to adopt healthy lifestyles.

Another strength of *Fit WIC*, not evident in *NEAT* and *STRIP* was the development of strong local networks and partnerships with various community agencies to develop broader environmental and organisational change to support prevention of obesity. In the Australian context, this approach is well developed in local government community development portfolios and in the health promotion and population health units of State and Territory Health Departments. However, due to the traditional focus on individual counselling and the constraints of time, this is still an emerging role for many maternal and child health care providers. Adoption of this approach may require some reorientation of service delivery models and would require consultation at national, state and local level.

Maternal and child health nurse opinions

Nurses participating in focus groups strongly supported development of resource kits for community nurses with DVDs and handouts for parents as well as periodic update of nurse training and information related to family nutrition, physical activity, family functioning and parenting. Development and maintenance of resources and training by an expert centre was strongly supported to maintain standards and consistent messages.

Other interventions short listed form the literature review and Delphi survey and considered by nurses as 'highly useful but of medium or low feasibility' in the current context included:

- Enough community/child health nurses to support parents with high needs and to follow up families after one year of age. Home visits were considered desirable to engage parents who do not attend service clinics and activities.

- Increased opportunities for referral of difficult cases and children already overweight to other PHCPs, particularly dietitians

- Data management systems for routine growth monitoring

- Mechanisms to link child health professionals with each other and families such as co-location of childcare, early education and child health services

- Communication systems for geographically remote parents and providers including maternal telephone information and support services and nurse internet networks to share what works

- Integration of clinically based programs with community health promotion

- Increasing profile of child health nurse through media activity and advocacy (may need training)

Current nurse roles and provider and parent ratings

Child health nurses in focus groups reported high current frequency of checking family lifestyle and providing healthy nutrition, active play and parenting advice to parents (Table 9, Appendix 1). Whilst nurses considered giving tailored family advice, targeting vulnerable families and advocacy as highly appropriate roles, feasibility was considered low.

Parents in focus groups highly valued the following roles for child health nurses

- Routinely checking children's growth
- Routinely checking family diet and lifestyle
- Providing information to parents about healthy eating/active play for the family
- Providing advice about parenting
- Engaging the most vulnerable families
- Providing tailored family support
- Advocating to support healthy lifestyles

Portfolio for maternal and child health services

The research results described above have informed development of a portfolio of promising program and enabling activities for overcoming barriers to engagement of parents and providers in maternal and child health services (Table 9).

The main program focus of the portfolio is routine well health checks and an integrated package of family lifestyle and parenting education commencing in the ante-natal period and extending through to school entry.

The well health checks could be conducted in community settings (eg child care, play groups, pre-schools) as well as clinical settings and would focus on detection of behavioural risk factors, not just weight screening. The checks would enhance existing schedules for developmental screening with at least two visits between 2 and 6 years of age to monitor change. Integration with the proposed child well health check by GPs would be essential. Education material for parents (DVDs, handouts, website) and data management systems to contribute to public health surveillance would be essential components of the program.

The integrated package of family lifestyle and parenting education programs would build on but reduce the fragmentation of existing programs and provide consistent messages for parents across early childhood from the antenatal period to school entry. The education programs would also provide a referral point for children identified as high risk in the monitoring program. Components would include:

- Lifestyle review in parenthood preparation
- Infant feeding, solids, growth and development
- Lifestyle parenting of pre-school children
- Family lifestyle education for parents

Programs could be provided by government or non-government agencies and delivered in various settings but integration would be an essential requirement. A range of enabling activities would also be required as listed in Table 9.

Table 9. Portfolio of enabling programs and supports to overcome barriers to engagement of parents and maternal and child health providers.

Barriers	Programs	Enablers
System Siloed services across health and with other sectors	Universal access to an integrated package of family lifestyle and parenting education commencing in the ante-natal period and extending through to school entry. Components would include: • Lifestyle review in parenthood preparation • Infant feeding, solids, growth and development • Lifestyle parenting of pre-school children • Family lifestyle education for parents	**System** Information systems to track children and monitor growth Marketing of integrated 0-6 service to parents and providers Practice guidelines that promote consistent recommendations from all PHCPs Parent friendly resource with consistent lifestyle guide for antenatal to 6 years Service agreements between national/state and health and other early childhood service sectors
Service Screening not prevention ethos Limited recall systems for 2+ years Little focus on diet and growth in service protocols after 2 years Insufficient child health nurses Inconvenient service hours for working parents	Routine well health checks conducted in community settings (eg child care, play groups, pre-schools) with a focus on detection of behavioural risk factors, not just weight screening	**Service** Simple lifestyle screening tools Collaborative planning and service agreements between local health, education and community services Referral pathways for high risk families Co-located early childhood services More child health nurses Revised service protocols re diet and activity education
Provider Time pressures Isolated practitioners Lack of support staff Provider-parent relationship concerns	• possibly linked to immunisation and GP check at 4 years • with age specific practice protocols and tools • with education material for parents (DVDs and handouts) • with data management systems to contribute to public health surveillance	**Provider** Support networks for isolated practitioners Training in motivational interviewing and other behaviour change techniques Parent education toolkit for nurses Referral pathways for lifestyle education, especially diet Regular in-service on healthy lifestyle issues and health promotion
Parent Non-recognition or concern regarding overweight Low priority in face of life issues Parent sensitivity to weight issues Perceived challenge to parenting role Poor behavioural parenting/role model Cultural and social norms Low attendance after 2 years No added value in attendance after first child		**Parent** Marketing of lifestyle screening as a routine part of early childhood services

Community and populations health service domain

Context for engagement

Opportunities

Community and population health services are provided by NGOs, community agencies and public health services. These agencies provide a range of services relevant to promotion of healthy weight including group education for parents, population level social marketing as well as capacity building of other services such as pre-schools, child care centres, mothers groups, local government, recreational groups and food outlets through training and advocacy for policy change.

Public health nutritionists, community dietitians and health promotion officers often assume a leadership role in obesity prevention efforts and have been the focus of this research. However, other health care providers may also be engaged including Aboriginal and cultural health workers, community development officers, psychologists, physiotherapists and occupational therapists.

Barriers

Barriers to engagement of community and population health service providers with parents of pre-school children in relation to healthy family lifestyles and promotion of healthy weight are summarised in Table 10. These include system, service, provider and parent issues identified through the literature review[10,11], Delphi survey and focus groups.

Intervention options

Promising interventions

The literature review found several highly rated interventions in this domain that aimed to engage and empower local parents to become peer educators and advocates for healthy eating and physical activity within their own communities; the *Family Food Patch* program[100], the *Growth Assessment and Action* program[101], and the *Be Active, Eat Well* program[102]. These interventions also provided insights into working with indigenous groups, and rural and remote communities.

The Family FoodPATCH Program[100]

This program was implemented in 10 communities of Tasmania, Australia, to empower local parents to become peer educators and advocates for healthy eating and active lifestyles within their local community. The program aimed to increase:

- Nutrition and physical activity skills, knowledge and confidence of peer educators;
- The reach of communication about nutrition and physical activity;
- Parent knowledge, skills and confidence related to their child(s) physical activity and nutrition; and
- Community advocacy and promotion of nutrition and physical activity.

Volunteer parents underwent 20 hours of professional development to become peer educators, then worked to improve the knowledge and skills of parents. They were supported by a resource kit containing up-to-date nutrition information and ideas for engaging local parents in practical activities. Different tailored strategies were used depending on the needs of their local communities, such as: cooking demonstrations, recipes, newsletters, displays at community events, individual discussions with parents; and general advocacy for healthy eating within the local community. System wide supports also included child nutrition resources distributed through the State library system to enable easy access by family food educators; the 'Eating Matters' newsletter to provide current information; research updates on encouraging and supporting parents in disadvantaged communities; and a supporting network of health workers.

Process evaluation showed that 98 trained family food educators reached 1,732 parents individually, and a further 3,773 parents through group meetings. Whilst the impact on parental knowledge, attitudes and skills has not been evaluated, the underlying philosophy is that by using parents as educators, program messages are likely to be more salient to participating parents. Furthermore, the use of peer educators has encouraged the development of local solutions to local problems. Potential shortcomings of the program include the difficulties of managing a large network of volunteers, risk of program messages being diluted or even misrepresented, and need to continually recruit, train, and motivate volunteers.

Growth Assessment Action Program[101]

This program aimed to standardise growth monitoring of Aboriginal and Torres Strait Islander children under five years of age living in rural and remote communities in Central Australia, so as to detect and deal with early signs of overweight or underweight. Set up in 1996, by a group of health care professionals, the primary focus of the program has been on training and supporting Aboriginal Health Workers, with over 700 local people receiving training since the program's commencement.

Using standardised monitoring practices, Aboriginal Health Workers are provided with action plans and other strategies to work with parents to support those children who are either over or underweight. Pictorial information is reported back to each Aboriginal Community twice a year to enable communities to implement and evaluate tailored programs to improve the health of their young people. Key strengths are the training, resourcing and support of existing Aboriginal Health Workers to use community development and capacity building approaches and to implement wellness and nutrition initiatives formulated within their local communities rather than delivering a pre-determined intervention. While not evaluated, the program shows promise for engaging indigenous populations in a culturally sensitive and appropriate manner.

Be Active-Eat Well Program[103]

The *Be Active-Eat Well* program is a comprehensive, community based program in the disadvantage rural community of Colac, Victoria, Australia. Led by the Area Health Service in collaboration with local government and neighbourhood renewal agencies and a university, the overall program goal was to increase physical activity and improve nutrition among children 4-12 years old. Along with specific behavioural goals, the key objectives of the program were to:

- Achieve a high awareness of program messages through social marketing;
- Establish links and committees with school/preschool parents;
- Facilitate parent focus groups discussions related to the promotion of healthy lifestyles;
- Build community capacity to promote change, by establishing a steering committee so as to define roles, responsibilities, and set up a work plan and budget for the support of environmental changes to promote health eating and physical activity;
- Conduct a process, impact and outcome evaluation of the project involving communities in the collection and analysis of data;
- Pilot a healthy lifestyle program for parents and carers of young children.

The focus of the three year intervention was to build the community's capacity to create its own solutions, with a strong emphasis on organisational policy change, staff training and community events to promote healthy eating and physical activity. An action plan was developed by key stakeholders and engagement of families was through social marketing, promotional materials and community events focusing on schools, pre-schools, sporting and leisure clubs. A quasi-experimental evaluation with the remainder of the region as the control area showed less increase in BMI of 4-12 year old children in the intervention town compared with those in the control group with no difference in attempts to lose weight or underweight. A socioeconomic gradient in weight gain was seen in the control but not the intervention area, suggesting that building community capacity to promote healthy eating and physical activity was a safe, equitable and effective way to reduce unhealthy weight gain.

Implications for engagement

A key component of each of the promising interventions above was the involvement of community and public health care providers in training parents, teachers, sports coaches, and Aboriginal health workers as community peer leaders to promote healthy eating and active family lifestyles. Motivated peer leaders can increase the salience of messages and mobilise sustainable community action to create healthier environments, particularly in hard to reach groups.

Advocacy by community and public health care providers was also an important part of promising community-based programs, with use of a range of media channels to engage parents and community leaders including newsletters, local newspapers, radio and television. Community based advocacy and capacity building are essential in a comprehensive mix of interventions to prevent childhood obesity[29,63,64]. Without creation of a supportive community environment for healthy eating and physical activity, efforts in the clinical and childcare settings will have minimal impact on development of healthy family lifestyles[13,71,80,89].

Provider opinions

Public health nutritionists and health promotion officers participating in focus groups considered maternal and child health nurses and child care centres as the main interface with parents and viewed themselves as providing expert training, programs and resources to nurses and other primary health care providers, rather than direct contact with parents. Most perceived infrastructure change and role modelling as more effective than group or individual counselling, therefore appropriate roles were advocating for healthy lifestyle supports and teaching advocacy skills to others.

Current provider roles and provider and parent ratings

Community dietitians/public health nutritionists

- Despite considering most of the roles short listed from the literature review and Delphi survey as highly appropriate, none were currently performed at a high level (Table 10, Appendix 1).

- Providing a referral point for counselling and developing and identifying resources for other providers such as child care and early education were considered the most feasible roles.

Health promotion officers

- Identifying or developing resources and programs for others, advocacy and developing advocacy skills of others were high frequency current roles (Table 10, Appendix 1).

- Facilitating a collaborative approach was considered highly appropriate but of low feasibility and low current action.

Portfolio for community and public health

The research results described above have informed development of a portfolio of promising program and enabling activities for overcoming barriers to engagement of parents and providers in community and population health services (Table 10).

The main program focus of the portfolio is capacity building through training of community leaders as peer educators and advocates for organisational policy change. Social marketing is also essential to provide consistent messages and to change community attitudes and expectations related to healthy lifestyle behaviours of families and lifestyle parenting of young children. Marketing of services as a routine part of parenting will also be needed.

Table 10. Portfolio of enabling programs and supports to overcome barriers to engagement of parents and community and population health professionals (especially dietitian/nutritionists, health promotion specialists).

Barriers	Programs	Enablers
System Treatment focus Lack of financial commitment to prevention Siloed service provision Limited evidence to guide practice	Social marketing and advocacy program to change community attitudes and expectations related to healthy lifestyle behaviours of families and lifestyle parenting of young children. Components would include: • Promotion of consistent messages for development of healthy lifestyles in families	**System** Collaborative planning and service agreements between health, education and community services Information & organisational systems to support rapid translation of research into practice
Service Different agency priorities, commitment, planning mechanisms Different power relationships between agencies and service providers Differences in professional values and priorities Inadequate resources to implement multi-dimensional programs Incompatibility federal, state and local level initiatives Less information/resources in rural	• Promotion of family healthy lifestyle and parenting courses as routine services • Promotion of well health checks for pre-school children • Promotion of the roles of PHCPs in provision of support • Capacity building of PHCPs as advocates Community capacity building activities including: • Training and support of parents as peer leaders and advocates to conduct healthy lifestyle programs and community development activities	**Service** Collaborative planning and service agreements between local health, education and community services Community development approach to support healthy family lifestyles
Provider Perceived role as provider of expertise to other PHCPs not direct to families Poor role definition in provision of individual and group counselling Varied skills in advocacy for social and environmental change	• Training and support of key staff in early childhood services such as pre-schools, child care centres, local government, recreational groups and food outlets to increase knowledge, skills and confidence related to physical activity and nutrition; and to promote healthy organisational policy and practices	**Provider** Agreed role definition Training and mentoring to provide leadership Training and mentoring to undertake community advocacy Information systems to ensure up-to-date knowledge and translation to practice
Parent Obesogenic social norms Poor parental role models Low priority compared to other life issues Low participation in programs	• Community events to raise awareness of issues and to demonstrate achievable approaches for parents to promote family healthier lifestyles	**Parent** Access to healthy lifestyle and parenting courses Consistent healthy lifestyle and parenting messages Supportive cultural , social, and policy environments

Child care and early years education service domain

Context for engagement

Opportunities

Australian families have a diverse range of options for pre-school education and child care, with access to non-profit or for-profit services through schools, local government, charities, employers, community-based organisations and private owners. Formal services include long day care, family day care, pre-school and out-of-school hours care, with some variations between States and Territories. Whilst use of childcare and early education for 2-3 year olds varies with the needs of parents, by 4-5 years of age, most children attend formal child care or pre-school education (96% in the Longitudinal Study of Australian Children)[103].

Increasingly, formal child care services not only care for children but have become educational and advisory centres for both the children and their parents[27]. Discussion of food intake and daily activity is part of routine communication between child care providers and parents and part of the curriculum of early childhood education. Licensing requirements for childcare and family day care centres specify minimal standards for food service although the specificity of these and monitoring are low in some jurisdictions. Many child care centres and early years education programs have policies related to the types of foods and drinks permitted and the amount of active and sedentary play each day[27,28]. Currently, the importance of good nutrition is recognised in many childcare programs, but there is a need to increase emphasis on active play and the development of fundamental movement skills in pre-school children[27].

Integration of childcare with primary health care services varies between and within states and territories[36,51,53,66]. Whilst state government funded child or community health nurses may routinely visit child long day care and preschool centres to conduct standard health checks and immunisations, involvement of other primary health care staff, such as dietitians and health promotion officers, is variable depending on program priorities and resource levels.

Whilst structurally child care and preschool education may fall under different government jurisdictions in different states, the services are discussed together in this document because of the increasing overlap between them.

Barriers

A range of barriers to engagement of child care and early childhood education service providers with parents were identified in the literature review[6,10] and through focus groups with providers and parents. The barriers are discussed briefly below and summarised in Table 11.

Barriers experienced in routine communication include:

- Time constraints on working parents

- Language barriers with immigrant families

- Cultural differences in food habits and beliefs and acceptance of heavily promoted unhealthy foods as the Australian 'norm'

- Parental emotions about control of children's food intake

- Failure of parents to adhere to policies related to food allowed at the facility

A focus on prevention or early intervention in relation to overweight introduces extra barriers:

- Carer uncertainty about definitions of overweight among young children

- Parental failure to recognise overweight, and in fact in some cultures to value 'chubbiness'

- Parent sensitivity about their children's weight

- Poor staff role models and sensitivity about their own weight

- Lack of staff interest in the issue

- Fear of harming the relationship between the parents and the staff

- Lack of staff training in raising and dealing with the issue.

Additional barriers for early childhood services include:

- Lack of resources to provide information about overweight and obesity, or healthy eating and physical activity,

- High turnover of childcare staff, challenging the establishment of trusting relationships with parents

Intervention options

Promising interventions

Of the 23 interventions focusing on preschools and child care services reviewed in this study, 13 were piloted in Australia, while a further 10 were international programs[10]. Only five rated medium or high according to our overall appraisal criteria, four of which were based in child care centres:

- *Caring for Children*[104]

- *Sharing a Picture of Children's Health*[105]

- *Good Food for Children*[106-108]

- *Start Right Eat Right*[62], and the fifth

- *Hip Hop to Health*[109,110] in a preschool setting.

Promising options in child care and early childhood education services

Caring for Children[104]

The *Caring for Children: Food, Nutrition and Fun Activities* was developed in NSW as a holistic program to deliver healthy food choices by improving menu's, as well as developing centre nutrition policies and strategies for communicating with parents. The program comprised three components supported by a manual:
- Training of staff in key aspects of child nutrition and eating behaviour, food safety, menu planning and hygiene.
- Development of centre policies and standards on nutrition, hygiene and physical activity
- Development of strategies to encourage parents to participate in the program.

While the focus of most strategies was on improvement of food standards and quality in child care centres, deliberate and active engagement of parents was also embedded throughout. Parent engagement strategies included newsletters and fact sheets to guide parents on issues relating to nutrition, recipes, lunchbox checklists, workshops, excursions and samples sent home of healthy foods prepared by children at the centre.

Whilst the intervention has not been evaluated, the manual is a promising stand alone resource which can be used to assist child care staff to review, implement and tailor activities within their centre.

Sharing a Picture of Children's Development[105]

This project was developed in Victoria to forge a partnership between child care staff and parents, and to encourage informed discussions on issues crucial to the healthy development of the children. The communication strategy implemented four core activities:
- An individual communication plan between each parent with staff at the centre;
- A child folder for providing individualised feedback on the development of the child's health so as to tailor discussion towards their specific needs;
- Individual and group parent-staff discussions; and
- Promotion of links with primary health care networks.

The program comprised a stand alone manual for program coordinators that included activities, case studies, sample communication plans, action plans, resources on how to strengthen networks with other primary health care services, as well as staff worksheets. The manual was supported by individual child folders, parent booklets and posters dealing with children of different age groups and how to strengthen communications with child care staff.

Over 85% of participating staff reported increased motivation and confidence to improve communication with parents about child development, to raise issues, and to conduct one-to-one interviews with parents. Parents said they received more information about their child and a greater appreciation of the role of childcare staff.

Good Food for Children[106-108]

The *Good Food for Children* intervention in NSW involved three projects, two aimed at providing good food within the long day child care and family day care centres[106,107], and the other aimed at improving the food provided in children's lunchboxes[108]. Key components of the projects included:

- Baseline assessment of the nutritional quality of food provided, followed by feedback on policies for raising standards;
- A Nutrition Information Kit and Food Safety Training Manual distributed to all child care centres including a *Good Food for Child Care* video;
- Three, two hour workshops for child care staff on food and menu planning and nutrition policy development;
- Dissemination of nutritional newsletters to parents;
- A series of activities and 'Fruit and Vegetable' competitions for centres to develop with parents;
- A reward system to recognise those centres with marked improvements;
- Local networks of child care cooks to encourage sharing ideas and experiences;
- Collaborative links with local training institutions and peak bodies in the area of nutrition, to provide regular professional development for cooks with the long day care centres; and
- Inclusion of core components into the quality improvement and accreditation system (QIAS) and licensing regulations for long day care centres.

Pre and post-test studies showed significant improvements in the menu and food serving practices of the intervention group of long day care centres (n=40), when compared with control sites (n=19). Similar results were also achieved in seven family day care centres.

The *Good Food for Children – Food from Home*[108] project assessed the food provided in children's lunchboxes as well as food handling practices and policies within the centre. Dietitians worked with centre staff to develop food policies and to improve food handling. Food policies and nutrition information were included in parent newsletters and the parent handbook. Review of lunchboxes in 20 centres before and after intervention showed significant improvements in the post-test, with children receiving increased levels of cereal based food, and water rather than sweetened drinks.

Start Right-Eat Right Award Scheme[62]

The *Start Right-Eat Right Award Scheme* implemented initially in Western Australia aimed to provide incentives to encourage child care centres to improve their food service in line with government policy and regulations in the child care industry. Organisational change theory provided a framework for identifying the processes and strategies for public health nutritionists to support the child care industry to adopt practices that align with government food and nutrition policy. The intervention included:

- Establishment of a working group with representatives from local government, child care industry (private and community) and training institutions;
- Needs assessment survey to review the capacity of child care centres;
- Development and piloting of award criteria consistent with government regulations and accreditation guidelines, training, and resources in 8 child care centres;
- Nutrition training for centre cooks, using existing resources including the *Caring for Children* manual and the *Good Food for Children* video (mentioned above);
- Workshops on nutrition, menu design and assessment, and nutritional policy piloted with centre coordinators and cooks, resulting in a 9-hour short course and a structured *Menu Assessment and Planning Guide*;
- Food safety certification by local government regulators;
- Media launch with presentation of the first seven awards to the pilot centres;
- An introductory brochure sent to all long day care centres across the state;
- Incorporation of the award scheme into government family and children's services policy and commitment of government funds for administration of the program.

Evaluation of the *Start Right-Eat Right Award Scheme* indicated that after two years of implementation, 40% of the 330 eligible centres had participated in the program, and 94% had changed menu and food policies in accordance with the program.

Hip Hop to Health Junior[109,110]

Hip Hop to Health Junior aimed to reduce the trajectory towards overweight and obesity among children aged 3-5 years, with a focus on engagement of parents and children of low income, African-American and Latino backgrounds. The 14 week intervention involved a developmentally, culturally, and linguistically sensitive approach to integrate improved diet and physical activity into the preschool curriculum. A series of 45 minute classes were administered three times a week, beginning with a group rhyme and followed by children's participation in a 20-minute interactive, hands on learning session related to healthy eating or exercise. The final 20 minutes of the class involved aerobic exercise and movement to music.

A parent component to encourage broader change at the family level consisted of a weekly newsletter (88% reported reading), homework assignments and physical activity classes. These were developed in two languages and tailored to the groups' specific cultural needs. Parents received a voucher from a grocery store for every homework assignment they completed (61% completed at least one). The intervention was grounded in behaviour change theory and a review of the specific dietary patterns of the cultural groups[109].

Evaluation in a randomised controlled trial with 12 intervention and 12 control Head Start Centres within and around Chicago demonstrated that the *Hip Hop to Health Junior* intervention had a significant impact in reducing the BMI of participating children for up to two years after the intervention, when compared with the control group[110].

Implications for engagement

Theoretical frameworks suggest that the fundamental components of a successful health promotion intervention in childcare and preschool centres would be appropriate policies; support and commitment of management; support and modelling by staff; training of staff and provision of resources to implement programs; engagement of parents to support and reinforce program messages and activities at home; and a supportive community environment and partnerships to facilitate implementation and sustainability[111].

The critical success factor however is the uptake and maintenance of the intervention by child care centres and parents. The childcare interventions described above demonstrated successful engagement of childcare management and staff by public health care providers and dietitians to improve food service. At a system level, the most efficient method to effect universal implementation was to introduce minimum standards in childcare licensing agreements and establishment of partnerships with licensing bodies was a key component of successful implementation. Additional motivation to improve services was provided by award schemes to reward high quality centre services.

Active engagement of parents is a challenge due to the context of families using childcare. The case studies presented mainly used diffusion of information through newsletters, centre-based promotions and information kits. Using this approach, the *Good Food for Children* lunchbox project clearly demonstrated improvements in the food provided by parents. The *Sharing a Picture of Children's Development* intervention used a more focused and interactive approach to engaging parents which was viewed favourably by staff and parents although behavioural outcomes were not evaluated.

Obesity prevention was not a primary objective in any of the promising child care interventions discussed above, which is consistent with the philosophy of promoting development of healthy eating behaviour and healthy growth in early childhood rather than emphasis on weight management. It probably also reflects food provision as a traditional core responsibility of childcare centres, in Australia at least, whereas lifestyle education programs including promotion of active play are a relatively new concept in this setting.

In contrast, the US based *Hip Hop for Health Junior* in preschool included, along with nutrition interventions, structured physical activity sessions as part of the curriculum and programs and incentives to increase parent participation and motivation to exercise. Although the key outcome measure was change in BMI, the intervention was not presented to participating children and parents as a weight management program. Efforts to engage mothers in creating a supporting home environment for healthy eating and active play, with exercise classes and food homework for mothers, was higher in this intervention than in any of the Australian case studies and contributed to measurable changes in weight trajectory.

Opinions of early childhood service providers

Early childhood service provider participants in focus groups rated the following interventions short listed from the literature review and Delphi survey of PHCPs as 'highly useful and highly feasible' (Table 11, Appendix 1):

- Parent communication and action plans for individual children

- Displays, demonstrations and take home information for parents

- Award schemes for high standards in healthy eating , active play

- Formal links with PHCPs for programs, resources and referral of parents

- Parent members on centre groups or steering committees

Other successful methods of engaging parents described by child care providers were:

- Centre policies and training of staff to be assertive about them. This helps to focus parent negativity about restrictions on the centre, not individual carers

- Providing resources and training carers to use them to communicate with parents

Other successful methods for engaging parents suggested by early childhood educators were:

- Educate the children, especially 4-6 year olds, to reach their parents

- Take home activities for children (4-5 year olds) that engage parents eg plastic food models (fruit), farm animals that integrate activity with nutrition education

Current roles and provider and parent ratings

Service providers in childcare and early years education reported already having a strong focus on communication with parents and provision of written and other information for parents, particularly about diet and nutrition. Largely as a result of licensing requirements, parents are represented on centre advisory committees and groups.

Parents thought it useful and acceptable for child care centres to provide parents with taste tests, preparation demonstrations and recipes for meals and snacks for children, as well as making easy, healthy children's meals available for parents to purchase at pick-up time. However, whilst taste testing was considered appropriate and feasible for some providers, take home meal provision was not.

Overall, busy working mothers said they rely on childcare to ensure that children eat well and are active[38]. They are reassured by the presence of regulations about the type of foods that can be provided in childcare and they acknowledged that peer interaction at childcare increases the range of foods that children eat.

Some parents in focus groups valued information obtained from the childcare setting such as displays and literature but most felt that a non-health professional was inappropriate to raise the issue of overweight related to an individual child.

Although some parents welcomed parenting advice from trusted child care centre staff, others either did not see this as a childcare responsibility or felt that staff were not trained or experienced enough.

Portfolio for child care and early childhood education

The research results described above have informed development of a portfolio of promising program and enabling activities for overcoming barriers to engagement of parents and providers in child care and early childhood education services (Table 11).

The focus of the portfolio is an award scheme for comprehensive healthy childcare and early childhood education service programs that model healthy lifestyles for children and parents. The award scheme would provide quality standards to build on existing minimal licensing standards.

Components of a high quality service to promote healthy lifestyles would be based on the Health Promoting Schools Framework and should include:

- Healthy food/nutrition and active play policies and practices

- An age appropriate curriculum for children

- Staff training in early childhood growth and development, healthy lifestyles for families, assertive communication skills

- Educational activities/resources for parents

- Parental engagement in program planning and management

- Parent-staff communication channels

- Linkages with expert advisors and community services

Table 11. Portfolio of enabling programs and supports to overcome barriers to engagement of parents and child care and early years education service providers.

Barriers	Programs	Enablers
System Siloed early childhood service	Award schemes for comprehensive healthy childcare and early childhood education service programs that model healthy lifestyles for children and parents. Components should include: • Healthy food/nutrition and active play policies and practices • An age appropriate curriculum for children • Staff training in early childhood growth and development, healthy lifestyles for families, assertive communication skills • Educational activities/resources for parents • Parental engagement in program planning and management • Parent-staff communication channels • Linkages with expert advisors and community services	**System** Formal service agreements between early childhood services Co-location of early childhood services Policy and licensing standards
Service Inadequate resources and time for multi-dimensional programs Different professional values/priorities High staff turnover Fundraising using unhealthy food Less information/resources in rural		**Service** Healthy children's meals available for purchase at childcare pick-up Taste tests, demonstrations and recipes for healthy meals and snacks Formal system of daily parent communication and action plans Parent members on centre boards
Provider Overweight not perceived a pre-school problem No skills to detect overweight Concern for parent-staff relationship No training in raising life style or weight issues with parents		**Provider** Pre-service and inservice training in communication skills Networks of centre cooks/family daycare providers
Parent Non-recognition or concern regarding overweight Low priority in face of life issues Parent sensitivity to weight issues Perceived challenge to parenting role Poor behavioural parenting/role model Cultural and social norms Not accessed by all families		**Parent** Displays, demonstrations and take home explanatory information

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Appendices

Appendix 1:
CHPRC Research Methods and Results
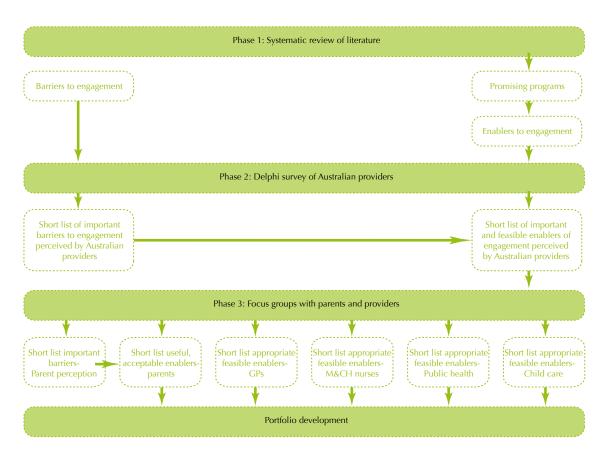
Overview

The portfolio of interventions to address barriers to engagement of primary health care providers with parents and other carers to promote healthy lifestyles and prevention of overweight in 2 to 6 year old children is based on research undertaken at the Child Health Promotion Research Centre in 2006-07. The research included:

- A systematic review of prevention of obesity amongst pre-school children
- A survey of Australian care providers using the Delphi Method
- Focus groups with parents and care providers in WA, Victoria and Tasmania.

The methods and results of each of these research phases are summarised in this appendix. An overview of the phases and the links between them is provided in Figure 1.

Figure 1. CHPRC research phases underlying portfolio development.

Research Phase 1: Literature Review

Introduction

A systematic literature review was undertaken as a first step to understanding the scope for strengthening the capacity of primary health care providers (PHCPs) to engage parents and child care staff in the promotion of healthy weight among young children aged 2-6 years of age[1].

Aims

The review aimed to identify key barriers presently hampering effective engagement of PHCPs in the promotion of healthy weight among children aged 2-6 years; and practical aspects of promising interventions that have overcome these barriers. Particular emphasis was placed on how PHCPs can engage with parents and support action by providers in other key settings, notably child care, early education, and community.

Methods

For the purposes of the review, PHCPs included general medical practitioners (GPs), practice nurses, community/child/maternal health nurses, allied health professionals such as dietitians, physiotherapists and exercise physiologists, multicultural and indigenous health workers, and health education/promotion specialists.

The review covered published and unpublished articles and reports from 1990 to February 2006. Intervention studies were included if they:

- Aimed to reduce risk factors for obesity in children aged 2-6 years

- Focused primarily on prevention and early intervention

- Were non-commercial and involved PHCPs as key facilitators of change

- Encouraged participation of family members

- Included evaluated of intervention outcomes, process, and/or acceptability.

All selected interventions were appraised and categorised as 'high', 'medium' or 'low' using a scoring system with pre-set criteria, based on Flynn et al. that assessed them according to their:

- Methodological rigour

- Program impact and transferability

- Capacity to engage PHCPs

- Capacity to enhance parental participation

- Adoption of a population based approach by PHCPs, incorporating the family, community and broader environment

- Shift of PHCPs roles from emphasis on treatment towards prevention through involvement in more upstream activities (education, environmental policy and advocacy)

- Encouragement of parents and PHCPs to deal with the complex, multi-dimensional risk factors associated with overweight and obesity in young children.

Barriers to engagement by PHCPs were identified through systematic and non-systematic reviews and analysis of primary studies of interventions.

Key characteristics of interventions were recorded in a standard template and analysis involved identification of patterns, exploration of relationships, mapping of intervention alternatives, and synthesis of findings in terms of best practice solutions for PHCPs working in different settings in Australia.

An advisory group of national and international experts in paediatric obesity, population health strategies, nutrition, physical activity, health economics, health policy and governance, and family and community development provided input to the research methods and to assessment and interpretation of the findings. Project staff also met with national and state policy makers to clarify the needs and interests of decision makers.

Results

A brief summary of key results is provided here. Detailed results are published elsewhere[1,2,3].

Barriers to engagement

A series of organisational, attitudinal, lifestyle, knowledge, skills and training barriers were identified as hampering action, effective communication and collaboration between different provider groups and with parents (Table 1).

Interventions

The review identified 982 interventions aimed at the primary prevention of overweight and obesity among children, but few addressed 2 to 6 year olds and only 45 interventions met the inclusion criteria, including 30 from Australia.

Based on the secondary appraisal, only 11 of these 45 interventions were ranked either medium or high in terms of engaging PHCPs and parents as well as for at least two of the other key criteria (Table 2).

For these 11 interventions, key components for overcoming organisational, attitudinal, knowledge, skills and training barriers were identified and their potential policy implications highlighted.

Roles of PHCPs in prevention

The review identified variable roles of PHCPs in prevention of early childhood obesity[1,3]. Whilst the roles of many GPs, nurses and dietitians in general practice fell within the category of individually oriented treatment of obesity those in community oriented services have a greater role in education of either families or other health or early childhood service providers.

In the highest scoring interventions, community dietitians and public health nutritionists appeared to be the most actively involved in training and development of resources for parents and other service providers to promote prevention. Along with a range of health promotion officers and multicultural and indigenous health workers they were also most involved in community development and population oriented strategies to change policies and environments to support healthier lifestyles. Successful multi-disciplinary team approaches engaging families were demonstrated in a range of highly rated programs in clinical, early childhood care/education and community settings.

Table 1. Summary of barriers to parent and primary health care provider participation in prevention of childhood obesity identified in the literature review.

Barriers to Primary Health Care Provider Involvement	Barriers to Parent Participation
System level barriers • Prevention of overweight not perceived as core business of PHCPs • Time pressures on PHCPs, and in particular on GPs • Lack of support staff and systems for follow-up • Lack of resources or opportunities for preventative counselling • Lack of referrals to specialists due to concern for patient compensation • Too much emphasis on treatment rather than prevention • Lack of time to participate in group training and counselling sessions • Lack of appropriate support materials **Attitudinal/Lifestyle Barriers** • Negative 'victim blaming' attitudes towards overweight people • Lack of response from parents who feel PHCPs are negative/dismissive • Fear of parents becoming sensitive to comments • Feel uncomfortable dealing with issues of overweight • Often PHCPs are poor role models which adds to their feeling of discomfort in dealing with issues of overweight **Knowledge, Skills and Training Barriers** • Lack of knowledge/understanding of lifestyle/environmental factors affecting weight • Low proficiency and lack of training in use of behaviour management strategies • Lack of knowledge in parental guidance techniques or how to address family conflicts • Lack of educational resources to supplement their own knowledge • Dislike of existing clinical guidelines and materials for use with parents **Research Barriers** • Lack of rigorously evaluated studies on the effectiveness of different interventions **Organisational/ Coordination Barriers** • Nature of general practice is disparate, and there are limited tools for reaching and influencing independent practices • Limited collaboration between outreach clinics with designated PHC specialists, and other allied health care providers and professionals working in child care and community settings	**System level barriers** • Norms of different socio-economic and cultural groups affect willingness and ability of parents to comply with healthy lifestyles • Families living in isolated or poorly serviced neighbourhoods, may not have easy access to healthy foods, or safe areas for children to play • Fruit, vegetables and other healthy foods are often more expensive than less healthy foods and snacks **Attitudinal/Lifestyle Barriers** • Parents are frequently poor role models with regards diet and physical activity • Parents often don't perceive their children as overweight and are sceptical about BMI and height/weight charts • Stereotypes in the media focus on extreme examples of obesity reducing the importance of dealing with early signs of overweight • Parents can misinterpret overweight children as 'healthy' eaters and by exerting strong control of quantities of food eaten, do not allow children to learn skills in self-regulation • Parents work and lifestyles limits time available to structure eating habits or prepare nutritious meals • Parents often feel powerless in light of commercial advertising, and challenges from grandparents, friends, etc. • Parents are more likely to take action if they perceive their children are suffering psychologically due to poor self-esteem or bullying **Knowledge, Skills and Training Barriers** • Parents often receive conflicting messages regarding what is healthy • Too much of the information provided emphasises 'what' to do rather than assisting parents/communities in 'how' to achieve it • Information is often too general and not targeted to specific needs of different population groups • Information and training often fails to take account of family conflicts in dealing with key issues around food, TV watching, etc.

Table 2. Promising interventions identified in the literature review, ranked medium or high for at least three of the other key criteria including engagement.

Intervention (Country)	PHCPs Engaged	Key Strengths
Clinical		
Fit WIC (US)[4]	Nutritionists, Nutrition Assistants	• Reorientation of PHCP services towards prevention/healthy lifestyles rather than weight • Participant centred, based on consultation with PHCPs, parents, local communities • PHCP training to encourage healthy lifestyle modelling & enhanced counselling skills • Community partnerships to broaden environmental, policy and organisational changes
Nutrition Aimed at Toddlers: An Intervention Study (NEAT) (US)[5]	Nutritionists, trained paraprofessional nutrition instructors	• Empowerment of parents to develop healthy eating behaviour of children • Initial parent training supported by regular group sessions and tailored home visits
Special Turku Coronary Risk Factor Intervention Project (Finland)[6]	Multidisciplinary health team (Dr, Dietitian, Registered Nurse)	• Family dietary counselling provided during routine well-baby checks regularly up to age 7 years
Child care and pre-school		
Start Right – Eat Right award scheme (Aus)[2]	Allied Health Professionals & Child Care staff	• Step-wise approach to change based on organisation change theory • Collaboration between child care industry, government regulators, PHCPs & training & research institutions with multi-strategy focus on regulation, food service provider training, reward scheme & community-based promotion
Good Food for Children (Aus)[8,10]	Allied Health Professionals, Child Care staff, Parents/Carers	• Collaboration between child care industry, government regulators, & PHCPs employing combined strategies of regulation, provider training, reward scheme and parent education. • Engagement of parents through competitions and lunchbox standards

Program	Personnel	Key features
Sharing a picture of children's development (Aus)[11]	Multi-professional	• Procedural strategies to enhance two way communication between parents and childcare providers and promotion of links with PHCPs • Staff training manual to support implementation of communication procedures
Caring for Children (Aus)[12]	Child care staff, allied health workers and parents	• Self-help manual for childcare staff to address food service nutrition and safety standards as well as menu planning and parent engagement strategies
Hip-Hop to Health Jr (US)[13,14]	Child Care staff & parents	• Intensive program with thrice weekly sessions over 14 weeks tailored to cultural needs • Separate parent and child components targeting both physical activity and healthy eating Focus on changing parent as well as child activity and eating behaviour • Food voucher incentives for completion of tasks

Home and community

Program	Personnel	Key features
Family Food Patch (Aus)[15]	Dietitians & parent volunteers	• Empowerment of parents to become peer educators & advocates in local communities • Ongoing education and coordination support of parent peer educators from PHCPs • Use of State library system to disseminate support materials
Be Active, Eat Well: Making it Easy (Aus)[16]	Multidisciplinary (Dietitians & GPs, parents/carers)	• Community steering committee formed to build community capacity to plan & implement environmental change to support healthy eating & physical activity • Engagement of community in social marketing campaigns & through settings such as schools/pre-schools
Growth Assessment and Action Program (Aus)[12]	Aboriginal Health Care workers	• System-wide implementation by health workers of standardised growth monitoring, action plans & other strategies with parents to promote healthy weight. • Centrally based resource development & staff training to support local community development & capacity building to address local issues

Research Phase 2:
Survey of Australian Primary Care Providers

Introduction

A survey using a modified Delphi method[17] was undertaken as the second stage of the research process to identify promising feasible, acceptable and useful approaches that could be used in Australia to overcome barriers between primary care providers and parents in promoting healthy eating and active lifestyles of children during pre-school years.

Aim

The aim of the survey was to explore the differences of expert group opinion and to develop a group consensus on the most serious barriers and enablers of engagement along with the importance and feasibility of potential options in different care services for primary health care providers and parents to engage in obesity prevention during children's pre-school years.

Methods

The initial items in the Delphi questionnaire were derived from barriers and interventions identified in the first phase systematic literature review. Three rounds of electronic questionnaires with feedback were used to develop consensus between experts who worked at a service or research coordination level in health, education or childcare for young children and their families.

Sample

Fifty-three participants accepted to take part in the Delphi, their main work areas included: education, health, childcare, community service, research and policy and planning.

Recruitment

A convenience sample selection method was used to identify experts in different focus areas across each state of Australia. During interstate consultations with experts in the field of obesity prevention, contact details were obtained and through email correspondence participants were given an information letter as an invitation to take part in the research. If they were unable to take part, they were asked to nominate other management-level contacts who provided services for young children. The characteristics of participants are summarised in Table 3 .

Table 3. Characteristics of survey participants.

Total participant numbers per round	Participant numbers per state
• R1 = 53 • R2 = 45 • R3 = 42	• 15 WA • 10 VIC • 8 NSW • 7 TAS • 3 SA • 4 QLD • 2 NT • 4 ACT
Type of organisation	**Number of Delphi participant in each field of work category**
• 4 Commonwealth Government • 27 State Government • 1 Local Government • 9 NGO • 3 Private • 5 Community • 8 Other (Independent Research Institute, 4 x University Sector, 2 x Division of General Practice)	• 10 Education • 37 Health • 2 Childcare • 5 Community Service • 9 Research • 4 Other (Community Health Policy 2 x Policy, Early Parenting, GP Support, Program Manager, General Practice Setting)
Practical experience per sector	**Other practical experience**
• 8 Childcare • 7 Pre-school/primary education • 5 Community nursing • 27 Population health • 29 Community or public health nutrition • 3 General medical practice • 11 Other early childhood primary prevention/care	• Promotion of healthy eating and physical activity in various settings • Communities for Children Initiative • Family support • Intervention trials for management of overweight • Food intake studies in children • Paediatrician/physio/dietitian based in a public hospital • State-wide child and youth health policy • Remote and urban indigenous communities

Results

Barriers

Barriers were scored on a scale from 1 to 5 according to their severity in the respondents jurisdiction (1 implying a very serious barrier which needs to be addressed, 5 not a barrier at all).

The following barriers were scored as a 1 (very serious and need addressing) by at least 20 of the 53 respondents (ranked in order of seriousness).

- Time pressures on primary health care providers
- Parents often feel powerless in light of environmental influences such as wide availability of unhealthy foods, advertising and easy access through grandparents and peers
- Parents' work and lifestyles limit time available to structure family eating habits, nutritious meals or family physical activity
- Parents are frequently poor role models with regards diet and physical activity
- Difficulties gaining parent participation in programs and services due to parental time pressures
- Lack of commitment to prevention by high level decision makers
- Parents are sensitive to comments about weight and family lifestyle
- Time lag between research findings and translation into programs and practice
- Lack of referral options for high risk children and families to learn and support healthy lifestyle change

Barriers that scored a median and mean of 2 or less, meaning that they were considered serious by at least half of the respondents are summarised in Table 4.

When asked to list the 3 most significant barriers in practitioner work domains to engaging parents of 2-6 year olds in promoting healthy eating and active lifestyles, the following were most frequently cited in this order:

- Time poor parents
- Funding barriers within the care system
- Parents not recognising overweight in children and lack of parental awareness of consequences
- Low parental attendance at services
- Lack of PHCP skills in communication and provision of support
- Time limitations in service provision
- Lack of support staff
- Lack of evidence to support programs and practice

When asked to list the **3 most significant enablers** in practitioner work domains to engaging parents of 2-6 year olds in promoting healthy eating and active lifestyles, the following were most frequently cited in this order:

- Higher level of education and well-informed parents
- Increasing parent self-efficacy by encouraging them to use what works for them
- Establishment of a relationship between carers and parents
- Good links with other services and providers
- Working through established community based programs
- Good policy support
- Media coverage for specific projects

Criteria for selecting interventions

Three criteria for selecting interventions were most frequently listed by health, early years education and community services managers in a scoping exercise conducted in Queensland, NSW, Victoria and Tasmania. These were:

- Evidence of effectiveness

- Importance to act to make a difference

- Feasibility of implementation under current conditions

Participants in the Delphi survey weighted the criteria by allocating 10 points across the three criteria. The final weights were:

Evidence of effectiveness	3.0
Importance to act	3.5
Feasibility of implementation	3.5

Intervention options

Intervention options were scored on a scale from 1 to 5 according to:

Importance: 1=very important to act upon to make a difference

5=of little importance to act upon to make a difference

Feasibility: 1=very feasible to implement under current conditions

5=very difficult to implement without major changes

 Individual responses for importance and feasibility were weighted using the criteria and summed. The average sum for all participants was calculated for each intervention. The results with interventions ranked by score within each category, are shown in Table 5, Table 7 and Table 8, for clinical; child care and early education; and home and community services respectively.

Table 4. Serious barriers affecting engagement between Australian primary health care providers and parents, identified by 53 providers in a Delphi survey.

Barriers for parents	Barriers for providers	Health care structural and coordination barriers
Parent context • Time limitations due to work and lifestyle commitments **Parent attitude/knowledge/skills barriers** • Sense of powerlessness against external 'obesogenic' environment • Poor concept of what is 'overweight' in young children • Sensitivity about weight and family lifestyle **Parent behavioural barriers** • Poor parental role models for healthy diet , physical activity, weight • Low participation in programs and services by time poor parents	**Provider context** • Time pressures on care providers • Provider attitude/knowledge/skills barriers • Prevention of overweight and obesity is not seen as a core part of their job • Lack of knowledge of how to engage parents in efforts to promote change • Lack of skills to provide parental guidance in behaviour management techniques to change family lifestyle **Provider behavioural barriers** • Emphasis on 'what' to do rather than assistance with 'how' to achieve it • Failure to consider family conflicts in dealing with key issues around food, TV etc. • Lack of engagement in advocacy for social and environmental change to support healthy lifestyles **Service level barriers** • Emphasis on treatment of overweight rather than prevention • No support staff or follow-up systems • Lack of referral options for high risk families or lack of information about them • Lack of support of parents in use of behaviour management techniques to change family lifestyle • Existing healthy lifestyle programs do not address social determinants of health	**Organisational/ Coordination Barriers** • Siloed service provision by different agencies without a coordinating mechanism • Limited collaboration between health care providers working in clinical, childcare, early education and community settings • Inadequate resources to implement multi-dimensional programs • Limited mechanisms for reaching and influencing independent practitioners or services **System level barriers** • Lack of financial commitment to prevention by high level decision makers • Incompatibility between initiatives funded and coordinated at federal, state or local levels **Research barriers** • Limited rigorously evaluated studies on the effectiveness of interventions • Limited information on cost effectiveness of interventions • Limited dissemination of information about effective of interventions • Time lag between research findings and translation into programs and practice

Table 5. Clinical service intervention options short listed in the Delphi survey of 52 Australian primary care providers ranked by score within each domain.

Options in clinical services	Score
System level	
Provide client support materials and approaches that support putting behaviours into practice rather than simply providing information	10.852
Dissemination and in-service training of primary health care providers in use of clinical guidelines aimed at preventing overweight in younger children (2-6 years)	10.962
Prevention of overweight and obesity to be recognised as core business of all primary health care providers	11.952
Raise the profile and valuing of allied health professionals (child health nurses, dietitians, physiotherapists) in promotion of healthy eating, physical activity and healthy growth of children	12.534
Bulk billing or other financial reimbursement for GP/practice nurse/allied health professional counselling of families at high risk of obesity	12.710
Organisation/ Coordination	
Establishment of committees or other mechanisms at national, state and local area level to ensure that parents receive consistent messages from different health care and child care providers	11.170
Strengthening of networks and referrals between GPs and other health professionals to encourage greater early detection/ prevention of overweight among young children and follow-up of high risk children	11.223
Development and dissemination of protocols and tools for use in early childhood health and education settings for identification and management of risk of developing obesity	11.404
Development of structures to link dietitians and other relevant allied health care providers to child care centres and to encourage them to play an active role in assisting directors and child care cooks to develop menus and physical activity policies, etc	12.313
Service level	
Education messages should pay more attention to active play time and motor development as well as reduced sedentary behaviour and passive screen recreation time, not just vague reference to 'healthy lifestyles'	9.467
Shift of the focus of parent education from weight to healthy lifestyle	9.844

Strategy	Mean Combined Score*
Routine provision of information on the promotion of healthy lifestyles for the whole family to all pregnant women and women with young children during regular check-ups	10.035
Discussions between parents, GPs and/or nurses to focus on parent-child feeding practices, mealtime environment and encouraging healthier lifestyles	10.796
Roles and responsibilities of practice nurses, paediatric/child health nurses, and/or community nurses to include routine provision of parental guidance concerning healthy diet and active living for children and families	11.008
Provider level	
In-service training of practice nurses, paediatric/child health nurses, and/or community nurses in screening children and families and counselling for healthy lifestyles and healthy weight	10.332
Emphasis in health professional undergraduate training on behaviour change techniques such as stages of change counselling, motivational interviewing, negotiation, behavioural self management and conflict management	10.436
Increase health care provider awareness of the broader environmental and lifestyle factors affecting overweight and obesity, particularly amongst lower socio-economic groups	10.808
Access to short professional development courses on how non-threatening family counselling and healthy lifestyle promotion can be integrated into routine care	10.901
Dissemination to parents and heath care providers of materials emphasising the influence of parent-child feeding practices and meal-time atmosphere and environment on children's eating habits	11.282
Research	
Increased focus on "doing" based on what evidence we have already with action research to fine tune interventions rather than waiting for more trials and research	10.172
Provision of easy access (via web-site and newsletters) to latest research findings into primary prevention of childhood overweight and obesity prevention programs	10.309
Greater collaboration between primary health care providers and universities to conduct joint research into different intervention options for primary prevention of overweight and obesity in young children	11.257

*Mean Combined Score
Combined score =[Importance score x importance weight] + [Feasibility score x feasibility weight]

Table 6. Child care and pre-school service intervention options short listed in the Delphi survey of 52 Australian primary care providers ranked by score within each domain.

Options in child care and pre-school services	Score*
System level	
Incorporation of minimum standards and monitoring for promotion of healthy food and active play in licensing standards for childcare settings	9.868
Development of nationally consistent policies and standards for healthy food service and physical activity within preschool and child care centres	10.695
Development of nationally consistent minimum standards for training and qualifications of centre cooks	11.995
Identification of key messages about healthy eating and active lifestyles to provide a focus for childcare and parental effort	10.496
Health care provider involvement in the compilation, development and dissemination of materials and activities to promote healthy lifestyles among young children and their families	12.980
Service level	
Support and encouragement of centre cooks to provide healthy eating activities with the children and parents	12.983
Support of childcare healthy lifestyle activities with take home explanatory information or workshops for parents to encourage continuation at home	13.444
Integration of information on the causes and consequences of childhood obesity and on policies for overcoming it, into the university/TAFE training of child care providers	10.127
Distribution of support materials for preschools on lunchbox and snack policies, fun activities for encouraging children to engage in food tasting, nutritional knowledge, and physical activities, as well as on strategies for engaging parent participation	10.365
Implementation of healthy food preparation and menu planning in-service training programs for child care centre cooks	10.376
Research	
Provision of support not only for the development and implementation of interventions in childcare settings but also for their evaluation, including process, impact and outcomes	12.302
Review/evaluation of different programs for different population groups (low SES, Indigenous, rural and remote) to strengthen interventions targeting high risk groups	12.680

*Mean Combined Score
Combined score =[Importance score x importance weight] + [Feasibility score x feasibility weight]

Table 7. Population health service intervention options short listed in the Delphi survey of 52 Australian primary care providers ranked by score within each domain.

Options in population/community health services	Score*
System level	
Introduction of regulations related to the advertising of energy dense foods to children	10.897
Community advocacy programs for supporting good nutrition and physical activity opportunities for families	12.411
Development of a process for coordinating information exchange and collaboration between different federal, state, and local level operations at private and government level	13.512
Organisation/Coordination	
Establishment of a national consortium of community, government and business leaders that acknowledges childhood obesity as a national public health social and economic issue and champions development of sustained and comprehensive initiatives that address	13.040
Collaboration and joint efforts between community agencies, NGOs and universities to reduce competition between agencies for funding	13.342
Service level	
Establishment of local networks that advocate to local councils for facilities and programs that support healthy lifestyles for families	12.897
Primary health care providers work with the media to provide more positive, specific information and assistance to parents about development of healthy eating and activity habits of young children and families	13.170
Comprehensive, multifaceted community wide healthy weight initiatives	13.192
Provider level	
Include children's nutrition and physical activity in existing parenting programs for new and young parents and provide appropriate for people involved in delivering parenting programs	10.872
Parent skills training programs to educate parents on issues such as negotiating dietary change, and setting limits on TV and computer use	12.266
Training programs for staff of local government services to increase awareness of healthy lifestyle issues and opportunities to create supportive environments	13.034
Research	
Research and compilation of data to support government policy to regulate food composition and marketing in light of strong opposition from private industry	11.746
Compilation of data on the longer term economic burden to the health care system and community of not engaging in primary prevention of overweight and obesity in young children	12.059

*Mean Combined Score
Combined score =[Importance score x importance weight] + [Feasibility score x feasibility weight]

Research Phase 3:
Focus groups with parents and primary care providers

Introduction

Focus groups were undertaken as the third stage of a process to identify promising, feasible, acceptable and useful approaches that could be used in Australia to overcome barriers between primary care providers and parents in promoting healthy eating and active lifestyles of children during pre-school years.

Aim

The aim of conducting the focus groups was to probe in more detail, provider and parent attitudes to and acceptance of a short list of promising options identified through the international literature review and Delhi survey provider feedback on importance and feasibility in Australia.

Objectives

The specific objectives were to determine:
1. Parent and provider expectations of different primary care providers in relation to providing advice and support to parents about pre-school child growth and development, particularly about diet, activity and being a healthy weight
2. Current services provided by different primary care providers and the facilitators and barriers to providing these services or meeting their own expectations.
3. Parent experience and satisfaction with current advice and support from these providers.
4. The most feasible, acceptable, appropriate and useful interventions and providers for providing support to parents in promoting healthy eating and active lifestyles of children aged 2-6 years.
5. Potential barriers and facilitators for parents to access the proposed interventions in different service contexts.

Methods

The nominal group process (NGP)[21,22] was used in focus groups to explore feelings and attitudes towards service provision, to evaluate reactions to and acceptability of interventions prioritised in the Delphi survey, and to assess perceived barriers to their implementation. This process enabled both interaction between group members and ranking of the ideas to generate one clear outcome.

Recruitment

Parents were recruited from playgroups through Playgroup Australia and contacts with health and community coordinators. GPs were recruited through a large national medical group with 20 sites in WA. Other providers were recruited through contacts with government health and community services in each state.

Participant characteristics

Focus groups were conducted in WA, Victoria and Tasmania. Overall, 18 parent groups, 7 nurse groups, 3 GP groups, 5 child care and early education groups and 3 public health nutritionist/ health promotion groups were conducted. Participant characteristics are summarised in Table 8.

Table 8. Parent and PHCP focus group participant and group characteristics.

Parent Characteristics	
18 parent groups: • 13 metropolitan and 5 rural • 3 low SES, 2 high SES • 5 to 7 groups per state • 1 father's group, 1 Muslim group	107 parents: • 90% Caucasian, 4% Asian, 4% Middle Eastern • 10% <30 years old, 72% aged 30-39 years • 56% university educated, 24% trade qualified • Average 13 hours per week employment • Average 2 children (range 1-4) • Average age range of children 2-6 years
Parent health care service use in the last 12 months for a child 2-6 yrs • 58% visited a GP at least once. Mean visits, 2.5 per child (range 0-12) • 39% visited a child health nurse at least once. Mean visits, 1.2 per child (range 0-20) • 36% visited a dentist. Mean visits, 0.6 per child (range 0-5) • 7% visited an 'Other' health care provider. Mean visits, 0.3 per child (range 0-2)	*Parent child care use in the last 12 months for a child 2-6 yrs* • 25% used long day care. Mean 1.1 days per week (range 0-2) • 25% used a nanny, friend or relative for childcare. Mean 0.7 days per week (range 0.3-1.0) • Only three families used family day care, and only for 1 day per week

Primary Health Care Provider Characteristics	
GPs 3 groups: • 3 low SES areas • Perth outer suburbs 14 GPs	*Child health nurses* 7 groups • 4 in WA, 2 in Victoria, 1 in Tasmania 32 nurses • Mean 13.7 (range 2-29) years experience • Location of service 19 metropolitan, 8 rural, 5 remote • Client base mixed SES and ethnic backgrounds
Nutritionists/health promotion/ public health 3 groups • 1 per state 23 practitioners • Mean 8 years experience • 19 state government employees, 2 local government/community, 2 other • Location of service 14 metropolitan, 9 rural/remote • Client base mixed SES and ethnic backgrounds	*Child care and early childhood education providers* 5 groups • 1 Tasmania, 4 Victoria 40 child care and early childhood education managers and workers • Mean 22 (range 2.5-53) years experience • 22 government employees, 6 local government/community, 4 private • Location of service 26 metropolitan, 5 rural/remote • Client base mixed SES and ethnic backgrounds

Results

Current roles performed and provider and parent ratings

GPs

- Other than providing tailored family advice, GPs reported low current performance of key roles identified to engage parents in prevention of overweight and obesity (Table 10).

- However, they perceived regularly checking growth and provision of healthy nutrition, active play and parenting advice to parents as highly appropriate roles but of only moderate feasibility and low current performance by GPs.

- Group education and advocacy for healthy lifestyles were not common current roles and considered not feasible.

- In contrast parents perceived GP advocacy as highly acceptable and useful.

- Parents also highly valued GP checking of child growth and provision of child nutrition and active play advice but were less receptive to more intrusive checking of family lifestyle and providing parenting advice.

Child health nurses

- Child health nurses reported high or medium performance of key roles to check family lifestyle, providing healthy nutrition, active play and parenting advice to parents (Table 9).

- Whilst nurses considered tailored family advice, targeting vulnerable families and advocacy as highly appropriate roles, feasibility was considered low.

- Parents valued highly all roles suggested for child health nurses

Dietitian/nutritionists

- Despite considering most suggested roles as highly appropriate, none were currently performed at a high level (Table 10).

- Providing a referral point for counselling and developing and identifying resources for other providers such as child care and early education were considered the most feasible roles.

Health promotion officers

- Identifying or developing resources and programs for others, advocacy and developing advocacy skills of others were high frequency current roles (Table 10).

- Facilitating a collaborative approach was considered highly appropriate but of low feasibility and low current action.

- Parents were not asked about health promotion officer roles.

Childcare/early years education

- Current roles largely reflected perspectives on appropriateness and feasibility of roles (Table 11).

- The least prominent current roles and those considered appropriate and feasible by providers were related to provision of food and taste tests for parents.

- In contrast, parents most strongly supported these roles.

- However, most of the parents involved in focus groups had low use of childcare.

Table 9. Current performance of roles to engage parents in promotion of healthy weight by GPs and child health nurses, as well as provider and parent attitudes towards appropriateness, feasibility, usefulness and acceptability of these roles.

Roles	Provider			Parent	
	Current	Appropriate	Feasible	Useful	Acceptable
GPs					
Routinely checking children's growth	L	H	M	H	H
Routinely checking family diet and lifestyle	L	M	M	M	M
Providing information to parents about healthy eating/active play for the family	L	H	M	H	H
Providing advice about parenting	L	H	M	M	M
Providing tailored family support	M	M	M	-	-
Group education sessions related to healthy lifestyles	L	M	L	-	-
Advocating to support healthy lifestyles	L	M	L	H	H
Maternal and child health nurses					
Routinely checking children's growth	L	H	M	H	H
Routinely checking family diet and lifestyle	M	H	M	H	H
Providing information to parents about healthy eating/active play for the family	H	H	H	H	H
Providing advice about parenting	M	H	M	H	H
Engaging the most vulnerable families	L	H	L	-	-
Providing tailored family support	L	H	L	-	-
Advocating to support healthy lifestyles	L	H	L	H	H

H=High, M=Medium, L=Low

Table 10. Current performance of roles to engage parents in promotion of healthy weight by nutritionist/dietitians and health promotion officers, as well as provider attitudes towards appropriateness and feasibility roles.

Roles	Provider		
	Current	Appropriate	Feasible
Public health nutritionists/community dietitians			
Providing resources and training in growth monitoring	L	M	L
Identifying checklists and referral pathways	L	M	L
Identifying/developing resources and programs for others	M	H	M
Identifying/developing resources and programs for childcare/early education	M	H	H
Group sessions on parenting/nutrition	M	H	M
Providing a point of referral for counselling	M	H	H
Facilitating a collaborative approach	L	H	M
Advocating for healthy lifestyle supports	L	H	M
Developing others advocacy skills	L	H	M
Health promotion officers			
Providing resources and training in growth monitoring	L	L	L
Identifying checklists and referral pathways	L	M	M
Identifying/developing resources and programs for others	H	H	H
Identifying/developing resources and programs for childcare/early education	L	M	M
Group sessions on parenting/nutrition	M	M	M
Providing a point of referral for counselling	L	L	L
Facilitating a collaborative approach	L	H	M
Advocating for healthy lifestyle supports	H	M	M
Developing others advocacy skills	H	M	M

H=High, M=Medium, L=Low

Table 11. Current performance of roles to engage parents in promotion of healthy weight by child care/ early childhood educators, as well as provider and parent attitudes towards appropriateness, feasibility, usefulness and acceptability of these roles.

Roles	Provider			Parent	
	Current	Appropriate	Feasible	Useful	Acceptable
Child care /early childhood education					
Parent communication and action plans for individual children	H	H	H	-	-
Displays, demonstrations and take home information for parents	H	H	H	M	M
Award schemes for high standards in healthy eating, active play	M	H	H	-	-
Formal links with PHCPs for programs, resources and referral of parents	H	H	H	M	M
Parent members on centre boards or steering committees	H	H	H	-	-
Provide parents with taste tests, preparation demonstrations and recipes	L	M	M	H	H
Easy, healthy children's meals available for parents to purchase at pick-up time	L	L	L	H	H

Notes: H=High, M=Medium, L=Low
Most of the parents involved in focus groups had low use of childcare.

Table 12. Focus groups with parents: Barriers to and enablers of parents engaging with GPs to promote healthy growth in young children.

Level	Factors identified	
	Barriers for parents with GPs	Enablers for parents with GPs
Families	- No family doctor - Not accessible - View GPs as treatment or referral service - Don't wish to stay at the GPs – view GP setting as a place of sickness - Difficult to find a Dr they are content with - Most people already know this information but just can't put it into practice - Child Health Nurse and community services are more appropriate - Advice from other mothers is much better - Wouldn't think to ask the GP - They have got enough to deal with - Unable to contact GPs quickly for short/small issues - Staff in the practice are often rude	- If a parent felt a concern, they would discuss it with a GP - Expectation of receiving information and support from a GP - Would accept it from a GP
Care-setting (GP clinic)	- Not trained in lifestyle issues and how to support behaviour change - Do not have the capacity to include preventive care - Unable to provide support to parents - Not competent - Victim blaming - Long waiting lists - Rushed and strict time limits on appointments - No time for preventive care	- A GP with training in nutrition and takes a holistic approach to health - Able to identify if there are genuine concerns - Can reassure parents - Trust then - Easy to talk to - Understanding - Good rapport
Care system	- Treatment rather than prevention focus - Referral focus - Cost of appointment	

Table 13. Focus groups with parents: Barriers to and enablers of parents engaging with Child Health Nurses to promote healthy growth in young children

Level	Factors identified	
	Barriers for parents with Nurses	Enablers for parents with Nurses
Families	• Not easily accessible in regional areas • Attend only for first child* • Previously experienced incompetent care	• Unaware/uneducated parents need this information and advice from CHN • Attend the nurse regularly • Wouldn't feel offended with a check up on nutrition and physical activity **Communication Enablers** • Previously experienced supportive care • Comforting to be able to ring them regarding concerns* • Useful contact for support and advice on guidelines for children's diet, eg. Fussy eating*
Care-setting (GP clinic)	• Not helpful • Domineering • Outdated, wrong, unsuitable information provided • No follow ups provided, even via the phone • Lack of care • Limited hours of availability* • Unable to drop in for quick advice,* e.g. need to make appointments • Reduction of services provided	• Nurse will do 110% to solve any of your problems • Have individual background and therefore understanding of patient • Knowledgeable in the area • Existing rapport established* • Helpful and useful* • Service already provided (e.g. mailouts, information sessions)* • Parents attend regularly for immunisations • Always available for home visits • Supplement information could be provided, e.g. ideas for healthy food for young children, hands on cooking classes that involved kids • Mothers' groups organised by nurses could formally incorporate nutrition and activity issues
Care system	• Understaffed* • Service only provided for <3 years • Lack of funding to support clinics*	• Parent friendly • Topics already incorporated into care*

*Multiple mention

Table 14. GP focus groups: Enablers of GP engagement with families about family and child lifestyles and weight.

Highly useful, highly feasible

- Increased opportunities for referral of high risk children
- Resource kits for doctors
- Data management systems for routine monitoring of child growth
- Medicare rebate item for lifestyle counselling
- Practice nurses to support to parents with high needs

Highly useful, medium feasibility

- Integration of clinically based programs with whole of community promotion

Medium usefulness, medium feasibility

- Periodic update of family nutrition and physical activity training, with skills credentialing
- Development of GPs advocacy skills

Other enablers suggested by GPs

System

- Coordination by Divisions of General Practice of actions to support GPs
- A well trained champion for prevention on staff in GP practice (Practice nurses currently no time)
- Evidence for effectiveness of obesity prevention and management
- Support from the Australian government to raise parent awareness and expectation that GPs will provide the service
- An easy referral system to low cost dietitians and psychologists
- Coordinated action across all sectors in the community
- Public health campaigns to raise awareness about what foods are unhealthy
- Need parenting classes like antenatal classes with simple quick referral
- Start with the pregnancy when people have good intentions
- Need info at 6 months before start bad habits, refresher at 18months
- Normalising healthy eating and physical activity through social marketing
- Better education of children of low SES so can get better jobs
- Increased funding for practice nurses

Service

- Routine inclusion of obesity prevention in well health checks for children
- Height weight check and screening questions as part of routine check would provide an opportunity to raise issues
- Resources like growth charts, checklists and hand outs need to be integrated in practice software
- Information sheets to support and reinforce GP lifestyle recommendations
- Electronic and paper based growth charts to show parents where their child sits
- Brief lunchtime forums on how to incorporate guidelines into practice

Provider

- Build capacity of PHCPs to educate new immigrants on healthy food buying and preparation
- Use different language re weight-risk not overweight
- Need a team with nutrition, physio or exercise physiologist or psychologist-Dr need not even be involved
- Give parents a little text book to refer back to
- Getting parents to change for the sake of their kids is motivational
- Group organisation with like-people, maybe mother's groups

Table 15. Nurse focus groups: Enablers of maternal and child health nurse engagement with families about family and child lifestyles and weight.

Highly useful, highly feasible

- Resource kits for community nurses

Highly useful, medium feasibility

- Enough community/child health nurses to support to parents with high needs
- An expert centre to maintain resources, training, standards and consistent messages
- Increased opportunities for referral for healthy lifestyle services
- Periodic update of family nutrition and physical activity training, with skills credentialing
- Data management systems for routine growth monitoring
- Mechanisms to link child health professionals with each other and families

Highly useful, low feasibility

- Develop advocacy skills
- Integration of clinically based programs with community health promotion

Other enablers suggested by maternal and child health nurses

System

- Service restructure that encourages coordinated service delivery with school, early childhood settings
- Restructure child health record to include systematic provision of healthy eating information at 6months when starting solids and physical activity at 12 months when becoming more active
- Increased referral points, particularly more dietitians
- Co-location of childcare, early education and child health services
- More incentives for allied health to work in the country
- Funding to follow up children after 12 months
- More staff support for CHN

Service

- Resource kits for child health nurses with DVDs, and handouts for parents
- Maternal telephone information and support service
- Nurse internet network to share what works
- Engagement in whole of community activities in small communities
- Change in focus from very much baby and child focus, to family focus
- Extended hours for service and education sessions to cater for working parents
- Advertising and promotion of maternal and child health services

- Full time nurses in country areas
- More Dietitians, Aboriginal health workers and HP Officers
- Link with other agencies working with the same target group
- Home visits–going to them not them to us
- Parent groups and social activities with kids to increase social support
- Group shopping and cooking sessions, especially with new immigrants
- Home visits by indigenous or cultural health workers
- Engagement in whole of ethnic community activities and through their interests eg music

Provider

- More health promotion skills and capacity to provide it
- Training to develop advocacy skills
- Increasing profile of child health nurse through media activity
- Training to engage with parents
- Some strategies for positive parenting
- Training to understand family dynamics

Table 16. Examples given at focus groups of successful methods of PHCPs engaging with parents about healthy lifestyle and healthy weight.

GPs

- Weight is a touchy subject, so just focus on nutrition and physical activity and ignore the weight
- Systematic measuring to plot BMI, if overweight, early intervention with an information handout, recommend follow up

Child Health Nurses

- SMS contact with teenage parents
- Use oral health as a motivation to reduce sugary drinks and foods
- Develop comfort and trust, discuss the issue and provide reassurance
- Provide general information at the pre-school health check
- Provide specific information if the parents ask
- Routinely discuss with mums about family diet so it becomes an expectation of the visit
- Facilitate parent groups to develop social support
- Use immunisation visit as an opportunity to engage with low attenders around child development and health promotion issues
- Relate discussion of family diet and meal, snack patterns to when baby starts solids
- Home visits for high risk families (mainly up to 2 years)
- Links, support and common messages from dietitians, nutritionists, school teachers, dental therapists, pharmacists- speakers at groups for variety
- Take new immigrants/teenage mums/low SES shopping & prepare food with them–not just information but support of behaviour change
- Regular drop in sessions
- Involve children in gardening, food preparation or role modelling shopping, cooking to show parents the level of enjoyment in handling food
- Increasing the profile and status of child health nurses–talking on local radio, newspaper articles

Public health nutritionists/health promotion officers

- Food budgeting, shopping and cooking sessions

Childcare providers

- Train carers to communicate with parents (being assertive with centre policies eg drinks)
- Newsletters to parents
- Referral for more specific help
- Displays in the foyer eg healthy lunchbox contents, portion size, sugar content
- Policy helps to takes the onus off childcare, especially if it is endorsed by a nutritionist

Early childhood educators

- Educate the children to reach their parents, especially 4-6 year olds
- Take home activities for children that engage parents eg plastic food models (fruit), farm animals that integrate activity with nutrition education (5 year olds very receptive and interested

Parents

- Weekly drop-in sessions to address immediate concerns

Table 17. Training issues raised by providers.

GPs

- GPs best trained to have generic skills that can be applied in different circumstances
- No time for credentialing in everything

Child Health Nurses

- Need training to engage with parents
- Need strategies for positive parenting
- More understanding family dynamics
- Limited support to educate nurses on how to use the weight and measurement check (computer-based percentile charts)
- Lack of information updates on the issue for nurses
- Run collaborative training days with other sectors

Childcare providers

- Lack of time and support for up-skilling carers, means carers do training in their own time
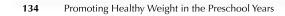
Table 18. Type of engagement with other providers and barriers to interdisciplinary collaboration.

	Type of engagement
GPs	• GP Division weight control groups involve allied health • Referral to a dietitian
Child health nurses	• Nurses' internet/email network to disseminate updates for nutrition and physical activity, "sharing what everybody's doing" • Referral to a dietitian
Childcare	• Multi-function centres created around child care or pre-school • Nurses visit childcare centres for regular checks. Works well for Aboriginal childcare. • Co-location of childcare and child health nurse • Advise and training to staff on child health topics
Nutritionists/health promotion	• Provide information on to other providers on community referral points
Inter-professional	• Member of early years network with collaborative partnerships to address childhood obesity • links and support from dietitians, nutritionists, school teachers, dental therapists, pharmacists • Collaborative training days with other sectors • Primary heath Care Child Development Team approach with community, child, school health nurse with allied health eg speech, OT, physio, podiatry, dietitian, social worker, Aboriginal health officer • Group parenting programs involving various allied health • Collaboration with sport and recreation centres

	Barriers to engagement
GPs	• No information about other services and referral points
Child health nurses	• No promotion of the role of child health/maternal nurses
Childcare	• High staff turnover in childcare • Child care staff resistant to advice and information from health professional • Child care budget limits access to professional advice and changes to menu
Nutritionists/health promotion	• Project specific only
Inter-disciplinary	• No formal mechanisms for communication • Informal interdisciplinary collaboration can be onerous to organise

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Appendix 2:
Portfolio planning stages and steps

Stage 1. Definition of the context and engagement of stakeholders

Stage 2. Identification of barriers and potential intervention points

Stage 3. Identification and assessment of intervention options

Stage 4. Short-listing and selection of a portfolio of interventions

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Overview

This section provides a brief rationale, process suggestions and tools for implementation of each of the stages and steps of portfolio planning.

The overall process and outputs are outlined in Part 2 Figure 5. Samples of completed tools for recording outputs are provided in this section. Blank tools are available for copying at the end of this Appendix .

Stage 1: Definition of the decision context and engagement of stakeholders

Step 1: Define the problem and context

Specific definition of the problem and the context in which it will be addressed is central to portfolio development. This also provides a rationale and boundaries for engagement of stakeholders.

Whilst the problem of poor engagement of primary care providers with parents in promotion of healthy eating and active play is broadly outlined in Part 1 of this resource, the extent of the problem in the local context should be defined.

Definition of the context in which the portfolio is being developed and implemented will help to guide the decision process.

The convenor of the portfolio planning process may provide some preliminary definition of the problem and the context, or this may be defined in the first meeting of the stakeholders.

In either case, the decision-making group should have a clear understanding of the problem and an agreed goal, or set of outcomes to be achieved within an agreed timeframe, resources and any other contextual constraints

Process

1. Brainstorm (or discuss if draft already provided) problem definition and context.

Questions to ask include:

- What domains and jurisdictions of the primary care system will be included?
- Who are potential care providers in this context?
- What is the current level of engagement of providers with parents on this issue?
- Is poor engagement a greater risk for some providers and/or some parents?
- Who will fund and who will implement the portfolio?
- What is the goal, or what do we want to achieve?
- What is the time frame for achievement of goals?
- What budget and/or other resources are available for implementation of the portfolio?

Tools

Use Tool 1 as a checklist.

Step 2: Identify and engage stakeholders

Active stakeholder involvement is critical in all stages of portfolio planning.

- Stakeholders bring to the table important information, knowledge, expertise and insights both in understanding the barriers to engagement and in developing solutions

- Decisions made in collaboration with stakeholders are more likely to be durable and effective, with greater stakeholder acceptance and implementation

- Encouraging collaboration between stakeholders provides the opportunity to bridge gaps in language, values and understanding of the issues

- Engagement of stakeholders from different levels and sectors of the primary care system will help to achieve a comprehensive approach

- Whilst there are costs in stakeholder engagement, there are also greater costs when stakeholder engagement is not undertaken or where it is undertaken badly

Stakeholders may:

- Inform the decision process but not participate in it

- Be active participants in decision making

The nature and complexity of stakeholder involvement should be consistent with the extent to which participants can have a genuine influence. For example, a broad range of stakeholders may contribute to discussion of the problem and potential solutions. However, the decision group may be confined to those funding and leading implementation of the interventions.

Process

1. Brainstorm potential stakeholders.

Questions that might help identify potential stakeholders include:

- Which primary health care providers engage or could potentially engage with parents or families of children 2-6 years old.

- Who has information and knowledge that might be useful?

- Who has authority to make policies and commit resources?

- Who will be involved in implementing any intervention?

- Who has expressed interest in being involved?

- Who might be reasonably annoyed if not involved?

2. Decide which approach to take to implement portfolio planning (see Part 2 Conducting portfolio planning).

Tools

Use Tool 2 as a checklist.

Step 3: Convene a decision-making group

This step can occur at any time leading to Stage 4. The decision-making group must define or agree to the criteria for decision-making, apply the criteria to the proposed interventions and reach consensus on the final portfolio.

Depending on the criteria, members must make judgements over factors such as evidence of effectiveness, feasibility in the defined context and resource allocation. Ideally the group should have a mix of expertise and influence in these areas.

Decisions will rarely be free of value judgements therefore the decision making group should be selected to provide good representation of the range of stakeholders. Stakeholder groups that must bear the opportunity costs or budgetary responsibility of the decisions should be well represented.

Participation in decision-making processes is one way of encouraging ownership in the resulting priorities.

The decision-process described in Stage 4 works best with a minimum of 12 well informed people. A larger number is desirable if there is diversity across providers and services.

Process

Choose 12 to 30 people from the stakeholder group as decision-makers.

Questions to ask to guide this selection include:

- Who has authority to make policies and commit resources?
- Who will be involved in implementing any intervention?
- Who has expertise and influence in these areas?

Stage 2: Identification of barriers and potential intervention points

Step 1: Identify and describe barriers to engagement

A detailed understanding of barriers to engagement between parents and providers is essential for planning effective preventive action. Barriers may be related to the:

- Parent or family
- Provider
- Service setting
- Service system
- Social, cultural and environmental contexts

Barriers may also:

- Be readily identifiable as a direct barrier by parents and /or providers
- Be less obvious underlying or contributory factors that lead to or increase the effect of immediate barriers eg
- Interact with each other

An exhaustive attempt has been made in CHPRC research to identify barriers to engagement of parents with various PHCPs. Common barriers identified through literature searches, expert surveys, and brainstorming with stakeholders are documented in Parts 1 and 3 and are summarised for specific providers in Tool 3.

Stakeholders in the portfolio planning process may use this information as a prompt to identify barriers in the local context.

Process

1. Distribute the list of barriers identified in this research (Tool 3) to the stakeholder group.

2. Discuss the barriers in the context of the local situation, using the questions below. Depending on the number of participants, **it may be useful to work in domain groups**.

Key questions to ask include:

In our context, what are the direct and indirect barriers to engagement for:

- Parents or families?
- Primary care providers?
- Service settings?
- Service systems?

In our context, what social, cultural and environmental factors act as barriers to engagement?

Is there a causal pathway or link between barriers?

3. Brainstorm a short-list of 6-8 barriers relevant to each domain in the local context.

Tools

Use Tool 3 as a checklist of barriers in different provider domains.

Step 2 Analysis of barriers to identify potential intervention points and objectives

Assessment of the importance and amenability to change of each barrier is important to help decide which barriers should be addressed.

The decision whether to act depends on the:

- Strength of evidence that the barrier exists in the local context
- Impact of the barrier on engagement
- Importance given to the barrier by those affected
- Amenability to change

It is possible that attention to upstream barriers may help to remove downstream barriers. Also, targeting a collection of barriers that are amenable to change but make a smaller individual contribution may result in a higher overall return than targeting the largest single barrier that may be more difficult to change.

Process

1. Re-visit the list of barriers selected in step 1.

2. Consider and discuss in terms of:

   - Impact of the barrier on engagement
   - Amenability to change

3. Each member of the group should score the short list separately for importance and amenability to change (Sticky dots will do. Give each 5 person dots for importance, 5 dots for changeability. Count the total dots against each barrier).

4. Rank the barriers based on total dots.

5. Proceed with the top 3 to 5 barriers in each domain.

Tools

Use Tool 4 to score and rank barriers

Step 3 Statement of objectives

A clear statement of objective related to each short-listed barrier is helpful to guide the next step of deciding options for addressing the barrier.

Objectives should follow a SMART format.

S: Specific
M: Measureable
A: Achievable
R: Realistic
T: Time Limited

The time bound component of the SMART objective may be pre-defined by the context of the portfolio (eg a five year plan) or categorisation into short (S), medium (M) and long term (L) time frames, with definition of these (eg next 12 months, 2-3 years, 4-6 years).

The key question to ask is:

What do we want to achieve in relation to this barrier?

Process

1. Compile a table of barriers and SMART objectives

Here are some examples:

Barrier	SMART objective	Time frame
Time pressure on care providers	Increase time available for care-providers to engage with parents about healthy family lifestyles	L
Lack of clinical protocols for prevention approach	Develop a clinical protocol for engagement of parents about prevention of unhealthy weight gain	M
Lack of parent education material	Scope what is needed in education material and identify what relevant materials exist	S

Stage 3: Identifying and assessing intervention options

Step 1: Identification of possible interventions

This step requires identification of a list of possible interventions that might address the objectives defined to address barriers. The aim is to brainstorm the objectives to come up with a wide a range of interventions.

Even though some may be rejected later, this step ensures that the portfolio is not based on too narrow a range of interventions that is biased by past practice or vested interest.

A comprehensive approach to intervention planning should cover policy and program interventions and the infrastructure required to support them (see below).

Policy and program intervention	Supporting infrastructure
• Public policy development • Legislation and regulation • Resource allocation • Incentives (financial and non-financial) • Service development and delivery • Education (including skills development) • Communication (including social marketing) • Collaboration/partnership building • Community and organisational development	• Identification and surveillance of barriers • Information systems • Engineering and technical interventions • Workforce • Research and development capacity • Equipment and key commodities • Management infrastructure • Leadership

Questions to ask include:
- What local initiatives are happening now to address this barrier?
- What initiatives are happening elsewhere?
- What are some possible untried approaches?

Sources of information could include:
- Review of current service provision
- Literature searches
- Focus groups with target groups and practitioners
- Brainstorming with stakeholders

Process
1. Brainstorm strategies to address each of the barriers and related objectives.
2. List potential strategies under Policy, Program and Infrastructure categories.
3. Use the list in Tool 5 to check for completeness of options.
4. If separate groups are addressing different domains, give each group the opportunity to build on the list identified by others.

Step 2 Decide and weight the criteria for choosing interventions

One of the strengths of the PFPHP approach is the definition of decision-making criteria that assist systematic, transparent selection from the list of possible interventions.

The decision group defines and weights decision criteria that will help them to select the most appropriate mix of interventions to achieve the portfolio goal. These criteria vary between groups but are usually a mix of criteria related to effectiveness and practicality.

Deciding criteria

Criteria should be selected to define the 'ideal' intervention and should be carefully defined so they have the same meaning to all decision-makers. Ideally they should also be independent of one another though in practice this is difficult to achieve.

Most decision-groups identify criteria related to effectiveness and practicality. Some examples include:

Effectiveness

- Evidence or promise of significant impact on the portfolio objective or goal
- Sustainable
- Promote equity

Practicalities

- Feasible in context
- Benefit justifies the cost
- Acceptable politically
- Acceptable to community

Process:

1. Brainstorm criteria to identify a list. The main question to ask is:
   What are the criteria that define an 'ideal' intervention?

2. Review the list for independence and clear definition.

3. Individuals score the list by assigning 10 points (coloured dots) across all criteria to indicate priority.

4. Identify the top 3 to 5 criteria. Depending on the diversity of values in the group, a natural division usually occurs after the top 3 or 4.

Weighting criteria

Some criteria will be more important than others, although the value may vary between decision-makers. To ensure best use of resources the group might wish to give greater recognition to some criteria relative to others.

Process:

1. Give 10 points (coloured sticky dots) to each decision-maker.

2. Individuals allocate the points (or dots) among the criteria to reflect his or her view of their relative importance. The main question to ask is:
   What is the relative importance of each of the criteria in choosing interventions?

3. Tabulate and review the results.

4. Discuss any large differences to clarify both the nature of the criteria (are they adequately specified and clearly defined?) and the values of individuals. Adjust weights accordingly.

5. Average the results for each criterion across decision makers to assign weights (see example below).

Example of calculation of weights for criteria

Criteria	Decision maker 1	Decision maker 2	Decision maker 3	Initial average	Weight
Promise	4	6	3	4.3	4 (0.4)
Equity	4	3	3	3.4	3 (0.3)
Feasibility	2	1	4	2.3	2 (0.2)
TOTAL	10	10	10	-	-

In this simple example there are three decision-makers and three criteria. Each decision-maker has assigned their ten points across the criteria. Decision maker 1 thinks equity and promise are equally important and both are more important than feasibility. Overall, the decision-makers are in close agreement on the value of equity but there is disagreement on the value of feasibility.

The averages (consensus) and final weights are shown in the final columns of the table. Rounding of weights reduces the definition between interventions and may not be desirable when scoring is close.

Ultimately consensus is sought around the weightings such that they reflect the values of the decision-making group as a whole. Extreme views should not be coerced to conform but should be reflected in the final mean weight.

Stage 4: Deciding the best mix of interventions

In this step of the process, the interventions are evaluated not only in terms of the available evidence, but the values (as determined by the scoring criteria) of the decision-making group and the context in which the interventions are to be implemented.

From the long list of possibilities, a short list of candidate interventions now needs to be specified for more intensive scrutiny.

Step 1 Review the list for consistency

The description of interventions may range from very global to very specific. It is desirable to specify the interventions at the same level so that they can be scored comparatively.

For example, a comprehensive, multi-component general practice based program to engage families more in prevention might include strategies related to practice protocols, practice tools, staff training and support, parental education materials, practice-based policies and environmental change.

In this case,

A high level specification of the intervention would be:

- A comprehensive, multi-component general practice based program to engage families in adoption of healthy lifestyles.

A component level specification of interventions would include:

- Practice protocols and tools for engagement, assessment, management or referral.

- Training and support of staff to apply practice protocols and tools

- Targeted parental education materials

- Relevant information in practice newsletters and display materials

- Development of practice policies that support a culture of prevention

The level at which the interventions are scored will depend on the level at which the portfolio is being defined, information related to the criteria is available and decisions are being made.

If, for example, decisions are being made between investing in child-care based interventions verses general practice interventions, then high level definition (with an under lying description of the components or understanding of best practice) would be appropriate.

If however, decisions are being made about the individual components within a setting, specific definition will be needed.

If this distinction cannot be made before the scoring process, all interventions can be scored and grouping undertaken afterwards and priority ranking of individual components retained within the group.

Conversely, there may be very specific high ranking interventions that will require supporting policy, program and/or infra-structure interventions that are not specified or are ranked low in the portfolio list. Again redefinition and regrouping is appropriate.

Step 2 Compile information related to the criteria

Once the list of interventions has been identified, it is useful to compile information to answer the following questions:

- What is the evidence of effectiveness?
- Is the intervention already occurring or is it transferable to the local context?
- What resources are required to implement in the local context?

Process

Depending on the process adopted for decision making this information may be provided as pre-reading or as presentations at a meeting or workshop.

Step 3 Evaluate the performance of the listed interventions against the criteria

Using whatever evidence and information is available plus professional judgement if necessary, the decision making group must next assess the performance of each short-listed intervention against each of the criteria.

Process

1. Provide a scoresheet with the interventions listed and columns to score against each of the criteria.

2. Individuals score each of the interventions (say out of 10) reflecting the particular intervention's performance against each criterion.

3. Use a spreadsheet to add and weight the scores for each intervention against each criterion and sort the scores from highest to lowest (overall or within settings as desired).

Example of calculation of weighted scores for interventions

The example takes the criteria and weights from the example in Stage 3 and assumes there are four interventions being assessed (a to d).

Intervention	Effect (wt=0.5)	Equite (wt=0.3)	Feasibility (wt=0.2)	Weighted score
(a)	8	2	6	5.8
(b)	4	8	4	5.2
(c)	2	2	9	3.4
(d)	6	4	15	5.2

The scores in the table represent the consensus scores assigned by the decision-making group as a whole after discussion of the scores assigned by each individual member. The weighted score is the sum along the rows of the score times the weight. For intervention (a) for example this is (8*0.5)+(2*0.3)+(6*0.2)=5.8.

Step 4 Consider the resulting list of priorities

The final step is for the decision making group to reflect on the results of the exercise.

Questions to ask include:

- Is the resulting priority list of interventions consistent with the criteria for selection defined in Stage 3?

- Will important barriers identified in Stage 2 be addressed by the selected interventions?

- If not, is there a justification based on the selection process?

- Is there sufficient variety in the priority list to minimise the risks associated with implementation failures?

The weighted score and final ranking of interventions may prompt re-consideration of the values upon which both are based. Has enough emphasis been given to engagement of hard to reach groups, for example?

Care needs to be taken not to bring prejudice back into the exercise in the process of reflection. Although there may be points of difference between decision makers, it is important to remember that a comprehensive portfolio contains a range of interventions at different levels.

Tool 1

Portfolio Stage 1 Step 1: Define the problem and context

Service delivery context?	Which care providers?	Current engagement	Which families?	Current engagement	Resources and time frame?
		H M L*		H M L*	
Jurisdiction ■ National ■ State ■ Regional ■ Domain **Domain** ■ General practice ■ Maternal & child health ■ Community services ■ Population health ■ Child care ■ Early childhood education ■ Other………………	■ GP ■ Practice nurse ■ Maternal/child nurse ■ School/community nurse ■ Dietitian ■ Physiotherapist ■ Exercise physiologist ■ Psychologist ■ Community pharmacist ■ Dentist/ therapist ■ Aboriginal health worker ■ Ethnic health worker ■ Community facilitator ■ Health promotion officer ■ Child care provider ■ Early childhood educator ■ Other………………		■ All ■ Metropolitan ■ Rural ■ Aboriginal ■ Immigrant……………… ■ Low income ■ Other………………		**Resources** ■ Realign existing ■ Project staff ■ Project funds ■ Other………………. **Time frame** ■ ……………….yrs ■ Ongoing

Summary of decision context

*H=High, M=Medium, L=Low

Tool 2

Stage 1 Step 2 Identify and engage stakeholders

Which PHCPs?	Who has authority for policy/ resources?	Who will implement?	Who else?
■ GP ■ Practice nurse ■ Maternal/child nurse ■ School/community nurse ■ Dietitian ■ Physiotherapist ■ Exercise physiologist ■ Psychologist ■ Community pharmacist ■ Dentist/ therapist ■ Aboriginal health worker ■ Ethnic health worker ■ Community facilitator ■ Health promotion officer ■ Child care provider ■ Early childhood educator ■ Other………………	■ National/state govt health ■ National/state govt education ■ National/state govt community services ■ Relevant professional organisations ■ Other………………	■ Divisions of GP ■ State/ territory govt health ■ State/ territory govt education ■ State/ territory govt community services ■ Regional/area health services ■ Childcare and family day care services ■ Early education services ■ Relevant NGOs ■ Other………………	**Has useful information/knowledge?** ■ Parent groups ■ Academics ■ Behavioural scientists ■ Communication specialists ■ Health economists ■ Health promotion experts ■ Epidemiologists ■ Evaluation experts ■ Data management specialists ■ Other……………… **Is interested/may be annoyed?** ■ Health consumer council ■ Professional peak bodies ■ Private enterprise groups eg childcare ■ Other………………

Tool 3

Stage 2 Step 1: Identify and describe barriers to engagement

Barriers to Engagement of Parents and Child Care and Early Years Education Service Providers

Level	General Practice	Maternal & Child Health	Community & Public Health	Childcare & Early Years Education
System	■ Treatment ethos ■ No financial incentive for prevention ■ Siloed services ■ Limited advocacy to address social determinants ■ Limited evidence to guide practice ■ Other……………	■ Siloed services across health and with other sectors ■ Other…………	■ Lack of financial commitment to prevention ■ Siloed service provision ■ Limited evidence to guide practice ■ Other………………	■ Siloed early childhood service ■ Other………………
Service	■ Treatment ethos ■ Lack of practice protocols & tools for prevention ■ Limited support staff ■ No recall systems ■ Limited referral options ■ Lack of parent education materials ■ Family unfriendly environment ■ Other………………	■ Screening not prevention ethos ■ Limited recall systems for 2+ years ■ Little focus on diet and growth in service protocols after 2 years ■ Insufficient child health nurses ■ Inconvenient service hours for working parents ■ Other………………	■ Different agency priorities, commitment, planning mechanisms ■ Different power relationships between agencies and service providers ■ Differences in professional values and priorities ■ Inadequate resources to implement multi-dimensional programs ■ Incompatibility federal, state and local level initiatives ■ Less information/resources in rural ■ Other………………	■ Inadequate resources and time for multi-dimensional programs ■ Different professional values/priorities ■ High staff turnover ■ Fundraising using unhealthy food ■ Less information/resources in rural ■ Other………………

Provider	■ Time pressures ■ Core job focus on treatment ■ Provider-parent relationship concerns ■ Low behavioural counselling skills ■ Lack of knowledge of referral options ■ Sense of powerlessness ■ Other..................	■ Time pressures ■ Isolated practitioners ■ Lack of support staff ■ Provider-parent relationship concerns ■ Other..................	■ Perceived role as provider of expertise to other PHCPs not direct to families ■ Poor role definition in provision of individual and group counselling ■ Varied skills in advocacy for social and environmental change ■ Other..................	■ Overweight not perceived a pre-school problem ■ No skills to detect overweight ■ Concern for parent-staff relationship ■ No training in raising life style or weight issues with parents ■ Other..................
Parent	■ Poor concept of child 'overweight' ■ No perceived role of GP in prevention ■ Non-teachable during acute consult ■ Sensitivity about weight and lifestyle ■ Poor parental role models ■ Other..................	■ Non-recognition or concern re overweight ■ Low priority in face of life issues ■ Parent sensitivity to weight issues ■ Perceived challenge to parenting role ■ Poor behavioural parenting/role model ■ Cultural and social norms ■ Low attendance after 2 years ■ No added value in attendance after first child ■ Other..................	■ Obesogenic social norms ■ Poor parental role models ■ Low participation in programs ■ Other..................	■ Non-recognition or concern re overweight ■ Low priority in face of life issues ■ Parent sensitivity to weight issues ■ Perceived challenge to parenting role ■ Poor behavioural parenting/role model ■ Cultural and social norms ■ Not accessed by all families ■ Other..................

Tool 4

Stage 2 Step 2 Analysis of barriers to identify potential intervention points and objectives

Mock up of table for scoring barriers in each service domain. Reproduce on a white board or display sheet

Barriers	Importance	Changeability	Total
Parent or family			
1.			
2.			
3.			
etc			
Provider			
1.			
2.			
3.			
etc			
Service setting			
1.			
2.			
3.			
etc			
Service system			
1.			
2.			
3.			
etc			
Social, cultural/environmental			
1.			
2.			
3.			
etc			

Tool 5

Stage 3 Step 1: Identification of possible interventions

Types of possible interventions to consider

Policy	Program	Infrastructure
■ Public policy ■ Organisational policy ■ Legislation & regulation ■ Resource allocation ■ Incentives	■ Education ■ Communication & social marketing ■ Service delivery ■ Community development	■ Leadership ■ Management infrastructure ■ Collaboration ■ Workforce capacity ■ Design/technical ■ Information systems ■ Surveillance systems ■ Research