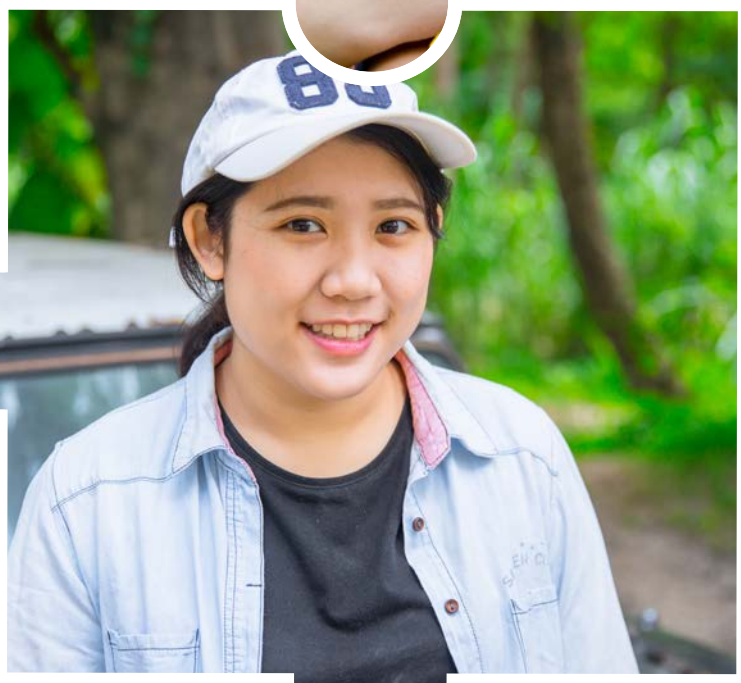

Queensland Child and Youth Clinical Network

An integrated approach for tackling childhood overweight and obesity in Queensland

Model of Care

Clinical Excellence Division
Creating solutions for better healthcare

Queensland Government

An integrated approach for tackling childhood overweight and obesity in Queensland **Model of Care**

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Disclaimer:

Contents

Definitions

AAP	American Academy of Pediatrics
ABC	A Better Choice
AMA	Australian Medical Association
ANZOS	Australian and new Zealand Obesity Society
BMI	Body Mass Index
CCHR	Centre for Children's Health Research
CDC	Centers for Disease Control and Prevention
CHQ	Children's Health Queensland
CSCF	Clinical Services Capability Framework
ECHO	Extension for Community Healthcare Outcomes
HDHFBPG	Healthier Drinks at Healthcare Facilities Best Practice Guide
HHS	Hospital and Health Service
IOTF	International Obesity Task Force
LCCH	Lady Cilento Children's Hospital
MDT	Muitdiscipinary Team
MEND	Mind, Exercise, Nutrition, DO IT!
MOC	Model of Care
NGO	Non-Government Organisation
NHMRC	National Health and Medical Research Council
PCP	Primary Care Provider
PEACH	Parenting, Eating and Activity for Child Health
PHB	Preventive Health Branch
PHN	Primary Health Networks
POWG	Paediatric Obesity Working Group
QCYCN	Queensland Child and Youth Clinical Network
QUT	Queensland University of Technology
UQ	University of Queensland
WHO	World Health Organisation

Childhood in this documents refer to children aged 0 to 18 years old.

Executive summary

The Model of Care outlines a systems-wide, integrated approach for tackling childhood overweight and obesity across healthcare in Queensland.

Approximately 1 in 4 children are overweight or obese and to combat this issue a system-wide approach is crucial.

It aims to:

- Provide a collaborative approach to childhood overweight and obesity prevention and management across the health care continuum.
- Guide clinicians to develop local supporting initiatives and deliver the best care to children and their families.

It is a *How to Guide* which incorporates prevention, early intervention, primary healthcare, secondary healthcare, tertiary heathcare and quaternary level services. It details ***who*** is expected to provide the intervention, ***how*** the intervention will be provided and the ***Toolkit*** - information and resources for clinicians to use in their intervention.

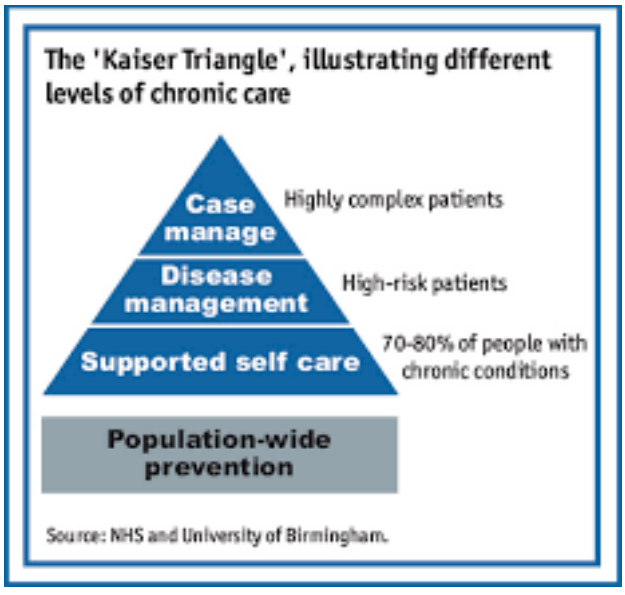
The Model of Care (MOC) document should be read in conjunction with the supporting documents *An Integrated Approach for Tackling Childhood Obesity in Queensland – Overview* document and the Toolkit.

Childhood Overweight and Obesity Model of Care

The MOC has been developed by the Paediatric Obesity Working Group (POWG). It aims to outline a systems-wide, integrated approach for tackling childhood overweight and obesity in Queensland and is to be used by all key stakeholders including preventive health services, primary health providers (including GPs, Primary Health Networks, NGOs), Hospital and Health Services and private health/hospitals.

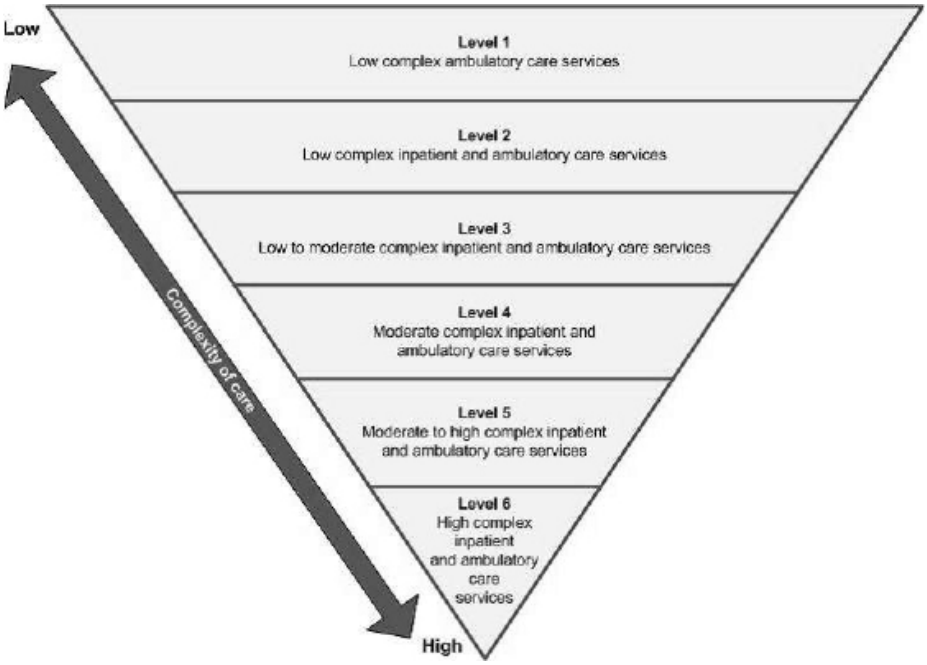
This MOC is based on the Queensland Clinical Services Capability Framework (CSCF) and the Kaiser Triangle of chronic disease care which are both structured around a tiered approach to ensure services and supports are engaged at the appropriate level[1-3].

Figure 1: The Kaiser Permanente triangle: (LTC) long-term conditions[1,2]



CSCF outlines the clinical services health facilities may provide. Within the CSCF, clinical services are categorised into six capability levels, with Level 1 managing the least complex patients and Level 6 managing the highest level of patient complexity.[3]

Figure 2: CSCF levels



The Model of Care aim

The aim of the MOC is to provide a collaborative, integrated approach to childhood overweight and obesity management across the health continuum, to guide clinicians to develop local supporting initiatives and deliver the best care to children and their families. This is a *How to Guide* which incorporates five overarching areas of focus:

- **Prevention and early intervention**
- **Primary healthcare**
- **Secondary healthcare**
- **Tertiary heathcare**
- **Quaternary level services**

The MOC is an overarching, comprehensive approach to managing and supporting children aged 0 to 18 years who are at risk of or are classified as overweight or obese and is based on the most recent Queensland, nationally and internationally available evidence.

The principles guiding the MOC focus on:

- A child and family-centred approach
- Service development and engagement across the continuum of care
- Four main programs of focus and engagement:
  - » Prevention and early intervention
  - » Treatment
  - » Education and training
  - » Research, monitoring and evaluation
- Statewide communication and consultation through the POWG
- Services should be integrated and collaborative throughout the healthcare sector and beyond – involving wider sectors invested in health such as education, housing and local councils. Services must be accessible and widely available in a variety of integrated modalities

Table 1: The five overarching areas of focus and their objectives

Prevention and early intervention	Empower and support families in preparing, planning and implementing healthy lifestyle choices.
	Ensure health practitioners feel adequately skilled, supported and confident to use a statewide consistent approach to deliver prevention and early intervention in the management of childhood overweight and obesity to children and families/carers.
	Identify and promote a suite of resources and tools to enable health practitioners to use with children and their families/carers in identifying and working with those at high risk of overweight and obesity.
Primary healthcare	Ensure families are kept informed of their child's growth and are aware of risk of childhood overweight and obesity early on in life.
	Empower families to easily access information and weight management plans/ programs for their children within the primary care setting.
	Enable primary healthcare providers to identify overweight and obese children in the community setting.
	Upskill and empower primary healthcare providers to manage childhood overweight and obesity within the primary health setting utilising platforms such as Project ECHO™.
Secondary healthcare	Ensure families are aware of childhood weight management services and programs within their communities.
	Ensure families have access to evidence based healthy lifestyle and weight management resources.
	Identify and link with partners in secondary healthcare sites to empower them to provide services to children in their own community and intervene before tertiary care is necessary.
	Project ECHO™ can be utilised to provide education, professional development, upskilling and empower providers in secondary healthcare sites in managing childhood overweight and obesity within their local community.
	Identify and promote a suite of resources and tools to support and enhance face to face visits with health professionals.
Tertiary heathcare	Provide family centred care and ensure families are involved in the design and evaluation of services.
	Provide specialist care for complex patients: special weight management services/ obesity clinics, specialist multidisplinary teams and case management.
	Establish referral pathway and referral criteria to tertiary services including weight category classification likelihood or evidence of obesity related comorbidity and/or psychosocial complexities.
Quaternary level services	Offer intensive medical treatment in cases when lifestyle changes are not successful and/or when rapid weight loss is required. Intensive medical treatment may include: very low-caloric/energy diets, pharmacotherapy (anti-obesity agents) and bariatric surgery.

The MOC includes information on:

- **Who** is expected to provide the intervention
- **How** the intervention will be provided
- **Toolkit** - information and resources for clinicians to use in their intervention. The Toolkit information and resources is available on the QCYCN website (www.childrens.health.qld.gov.au/chq/health-professionals/qcyc-network/)

Using the CSCF and the Kaiser Triangle of chronic disease care frameworks and incorporating the five overarching areas of focus the MOC will address the following four programs:

1. Prevention and early intervention
2. Treatment and management
3. Education and training
4. Research, monitoring and evaluation

The MOC also incorporate the 5As approach to weight management as recommended by the NHMRC (refer to Table 2 for examples)[4]:

- **ASK AND ASSESS** - current lifestyle behaviours and body mass index, comorbidities and other factors related to health risk
- **ADVISE** - promote and provide advice and information on the benefits of a healthy lifestyle and weight management, through motivational interviewing, negotiation of goals and targets
- **ASSIST** - develop a weight management program that includes lifestyle interventions tailored to the individual (e.g. based on severity of obesity, risk factors, comorbidities) and plan for review and monitoring
- **ARRANGE** - regular follow-up visits, referral as required (e.g. to a dietitian, exercise physiologist or psychologist) and support for long-term weight management

Table 2: Examples of health professionals involved in a team approach to the 5As[4]

Ask and assess	Current lifestyle behaviours	GP, practice nurse, Aboriginal and Torres Strait Islander health worker, multicultural health worker
	BMI and waist circumference	GP, practice nurse, Aboriginal and Torres Strait Islander health worker, multicultural health worker
	Comorbidities	GP
Advise	Promote healthy lifestyle	GP, practice nurse, Aboriginal and Torres Strait Islander health worker, multicultural health worker
Assist	Develop weight management program	GP, practice nurse
	Support behavioural change	GP, psychologist, social worker
	Provide specific dietary advice	Nutritionist, dietitian, community-based program
	Support physical activity	Exercise physiologist, physiotherapist, community-based program
	Manage comorbidities	GP, diabetes educator, psychologist, mental health worker
Arrange	Regular review of weight management	GP, practice nurse
	Regular review of comorbidities	GP

1 Prevention and early intervention

Obesity prevention and early intervention require collaboration across all sectors of society including all levels of government, non-government organisation, food industry, education sector, private sector and families/caregivers[5,6].

The most significant impact of childhood overweight and obesity is the persistence of obesity into adulthood. The tendency for obesity to persist is increased markedly by parental obesity[7]. The home environment is recognised to have the greatest influence on child lifestyle habits and behaviours. Parents are the primary influence on the development of child eating and physical activity behaviours, with parenting styles playing a role in developing healthy lifestyles[8]. Equally, schools are important as models of healthy environments and provide a unique opportunity to expose children to healthy behaviour[5].

Conversely, it has been suggested that prevention and intervention needs to be available across 'critical time periods in the life course: preconception and pregnancy; infancy and early childhood; and older childhood and adolescence'[5].

It is important, therefore, to recognise that a "one size fits all" approach to prevention will not work. Multiple pathways and strategies that reflect the geographical and cultural diversities of Queensland using messaging that is simple, concise and consistent are essential.

The following will outline:

- Current practice recommendations for childhood overweight and obesity prevention and early intervention:

a. **Prevention:**

i. *Health and Wellbeing Strategic Framework 2017 to 2026*

ii. Promoting healthy lifestyle choices in families and children

iii. Growth monitoring

b. **Early intervention:**

i. Family, Health Behaviours and Environment

a. Prevention

i. Health and Wellbeing Strategic Framework 2017 to 2026

Effective prevention and health promotion is vital to improving the population's health and wellbeing. The *Health and Wellbeing Strategic Framework 2017 to 2026* provides a prevention-focused pathway for the improved health of all Queenslanders and focuses on key modifiable behaviours of unhealthy eating, physical inactivity, tobacco smoking and unsafe sun exposure[9].

Specific childhood targets have been set for 2020 and 2026 in the strategic framework, focusing on reducing overweight and obesity, improved physical activity, increased fruit and vegetable consumption and improved sun safety[9].

Who:
Queensland Government departments and agencies, local government, NGOs, HHSs, PHNs, academia

How:
Partnerships and engagement across a range of agencies and sectors, with Preventive Health Branch (PHB), Prevention Division, as the lead agency to manage the implementation of the Strategic Framework and related Overweight and Obesity Prevention Strategy.

Toolkit:
Health and Wellbeing Strategic Framework 2017 to 2026

Overweight and Obesity Prevention Strategy 2017 to 2020

Resources from 2016 CHO Report for health professionals

ii. Promoting healthy lifestyle choices in families and children

This includes promoting intake of healthy food and drinks and physical activity throughout the life course.

Promote healthy diet
The Australian Dietary Guidelines (which includes the Australian Guide to Healthy Eating) provides clear guidelines to promote the benefits of healthy eating for all ages. However, family abilities to make healthy food choices can be affected by promotion and advertising of less healthy food or drink options, increased availability of high energy food and drinks and conflicting popular media messages[5].

Who:
Queensland Health, including PHB, HHSs, primary care providers (including GPs, nurses, health workers), PHNs, NGOs

How:
Empower and encourage families to make healthier lifestyle choices by providing nutrition literacy education, create supportive environments (where people live, work, learn and play), promote healthy food and drink choices. A multi-strategic approach can significantly contribute to successes in achieving sustained health improvements. Refer to local services and programs, as appropriate. Refer to Growing Good Habits website (under development).

Toolkit:
Nutrition resources

Promote physical activity
Australia's Physical Activity and Sedentary Behaviour Guidelines provides information about the health benefits of leading an active lifestyle by offering suggestions on how to incorporate physical activity and minimise sedentary behaviour in everyday life. Increased physical activity is associated with a reduction in the prevalence of overweight and obesity, a decrease in the risk for related comorbidities such as type 2 diabetes mellitus (T2DM) and an improvement in mental health and overall wellbeing[5]. There are specific guidelines for children, young people, adults and older Australians.

Who:
Queensland Health, including PHB, HHSs, primary care providers (including GPs, nurses, health workers), PHNs, NGOs

How:
Empower and encourage families and children to increase physical activity levels and decrease sedentary behaviour. Any activity that gets the body moving, in different ways and at any time of day is recommended.

Refer to local services and programs, as appropriate.

Toolkit:
Physical activity resources

Promote healthy habits during pre-conception and antenatal stages
"The care that women receive before, during and after pregnancy has profound implications for the later health and development of their children"[5]. Maternal overweight or obesity, excessive weight gain during pregnancy and gestational diabetes mellitus (GDM) increase the risk for childhood obesity and related comorbidities[5].

Who:
Queensland Health, including PHB, HHSs, primary care providers (including GPs, nurses, health workers), PHNs, NGOs

How:
Monitor gestational weight gain, screen for hyperglycaemia before and during pregnancy, provide advice in regards to recommended weight gain, healthy eating and physical activity before, during and after pregnancy. Refer to local services and programs, as appropriate.

Toolkit:
Pregnancy resources

Promote breastfeeding and introduction of complementary foods
"Breastfeeding is core to optimising infant development, growth and nutrition and may also be beneficial for postnatal weight management in women"[5].

Who:
Queensland Health, including PHB, HHSs, primary care providers (including GPs, nurses, health workers, midwives), PHNs, NGOs

How:
Provide advice, promote and support breastfeeding throughout the antenatal stage, with practical and relevant information. Continue supporting new mothers of newborns in the continuation of breastfeeding, as per recommendations.

Toolkit:
Breastfeeding resources

Infant feeding resources

Supporting a healthy workplace environment and staff wellness
Promoting health and wellbeing in a workplace will benefit staff and create a supportive environment for consumers and visitors through the promotion and availability of healthier food and drink options which in turn will promote healthy life style habits for the whole family.

Who:
HHSs, retail outlets, vending companies, facilities/operational services, food services, Workplace People and Culture team, allied health (e.g. dietitian, physiotherapist)

How:
Embed a supportive environment within workplaces (including HHSs), under the domains of healthy eating, physical activity, social and emotional wellness, and to enable visitors and staff to select the healthier options. Collaborate with key stakeholders.

Toolkit:
Strategies to support implementing a supportive environment within the workplace

Queensland Health, Health and Wellbeing Strategic Framework 2017 to 2026

iii. Growth Monitoring

ASK AND ASSESS

The monitoring of growth (and weight in particular) should be an expectation (a vital sign) of healthcare delivery within the community[10]. It is recommended weight, length/height and Body Mass Index (BMI) are measured, assessed and reviewed at least yearly[11] in addition to the personal health records ('redbook') key milestone growth reviews during the first two years of life[12].

Primary healthcare providers, especially general practitioners, have an important role in identifying and treating overweight and obesity in the community. Barriers to recognising childhood overweight and obesity may include a lack of time, not feeling confident, limited training or resources or finding childhood overweight and obesity a difficult conversation to raise.

"Ask and Assess – use percentile charts to monitor growth"[4]

Growth status in children and adolescents (age 0-18 years old) needs to be assessed using age- and sex-specific reference values, as the appropriate ratio of weight to height varies during development.

Reference values for assessing and monitoring weight, length/height and BMI have been developed by the World Health Organisation (WHO) and Centres for Disease Control and Prevention (CDC) in the form of the childhood growth charts. The choice of chart depends on the age and gender of the child. For children aged less than two years the WHO growth charts should be used. For children between 2 and 18 year either the WHO or the CDC growth charts can be used, however it is important to ensure that the same chart is used over time[4]. Within Queensland Health WHO growth charts are used for 0-2 years of age and CDC growth charts are used for 2-18 years of age[12].

Detect and identify - accurately measuring growth

Who:
Primary health providers including GPs, practice nurse, child health nurse, health workers

How:
Assess height, weight, calculate BMI and plot the measurements on the gender appropriate height/length-for-age, weight-for-age and BMI-for-age growth charts. Identify major shifts in growth patterns by examining previous centile ranks, when an increase in weight for age and BMI-for-age has occurred and potential causative factors during that time. Any rapid weight gain or rapid changes in growth percentiles should be addressed with the family.

Toolkit:
Classification of Overweight and Obesity in Children and Adolescents

Anthropometric measurement - tips on measuring growth

Weight4KIDS - online learning program

American Academy of Pediatrics (AAP) Institute for Healthy Childhood Weight – Childhood Obesity in Primary Care: Education Modules

Talking with parents about children's weight (WA)

Personal Health Record ("Red Book") Online

Healthcare for healthy weight portal – paediatric version Growing Good Habits website (under development)

Assess height, weight, calculate BMI and plot the measurements on the gender and age appropriate height/length-for-age, weight-for-age and BMI-for-age growth charts.

For children aged less than two years use the WHO growth charts.

For children between 2 and 18 year either the WHO or the CDC growth charts can be used - ensure that the same chart is used over time.

Identify major shifts in growth patterns by examining previous centile ranks, when an increase in weight for age and BMI-for-age has occurred and potential causative factors during that time.

b. Early intervention

iv. Family, health behaviours and environment

Before recommending any lifestyle changes it is essential to assess the family readiness and ability to make and sustain behavioural changes. Encourage a family approach to improving nutrition and empower parents to be the agents of change. Asking such questions, and acknowledging the strengths and challenges within the family not only elicit valuable information, it can help parents to feel heard and thus encourage engagement with the practitioner.

This may include assessment of the following[4]:

- Development history – for example:
  - » birth history (including maternal gestational diabetes)
  - » growth and development
  - » early feeding practices
- Physical – for example:
  - » weight history
  - » previous lifestyle interventions
  - » developmental disability
  - » sleeping routine
  - » medication
  - » family history (e.g. T2DM, hypertension, polyaystic ovary syndrome, dyslipidaemia)
- Psychosocial and behavioural – for example:
  - » bullying, school problems
  - » depression
  - » mental health history (e.g. child and parents, including parenting stress and mood)
- Health behaviours – for example:
  - » diet history
  - » diet behaviours
  - » physical activity
  - » family ability to implement changes (e.g. parenting style and behaviour)

Who:
Primary health providers including GPs, child health nurse, practice nurse, health workers

How:
Review the stage of change the family is currently at. The family need to be ready to work with you to make some healthy lifestyle modifications. Ask if the family had previous lifestyle interventions. It is important to involve the whole family and emphasise that lifestyle changes (e.g. diet, physical activity) are beneficial for the family unit. This is especially important in the context of separated families where a child may live in more than one household.

Toolkit:
Family, health behaviours and environment, physical activity, nutrition, parenting advice resources

Assess the family readiness and ability to make and sustain behavioural changes.

Involve the whole family and emphasise that lifestyle changes (e.g. nutrition, physical activity) are beneficial for the family unit.

Image credit: Fon Hodes / Shutterstock.com

2. Treatment and Management

Management and treatment should take place when a child's weight has been identified as being in the overweight or obese weight category. Goals of treatment include "reduction in the level of overweight, improvement in obesity-related comorbidities and improvement in risk factors for excess weight gain"[5].

Clinical assessment aims to identify possible causes for childhood overweight and obesity, and indicators of co-morbidities.

The components of successful clinical treatment and management include[5]:

- Clinical/medical assessment
- Behavioural change strategies
- Active parental involvement
- Lifestyle interventions (e.g. diet and physical activity)

The following will outline elements of childhood overweight and obesity treatment and management:

a. Clinical assessment including referral pathway
b. Interventions across all levels of care:
   - » Primary care – CSCF Levels 1-3
   - » Secondary and tertiary care – CSCF Level 4
   - » Tertiary care – CSCF Levels 4 and 5
   - » Quaternary care - Intensive Medical Treatment – CSCF Level 6

a. Clinical assessment

Relevant history in the context of weight assessment includes developmental history, physical and mental health, and current health behaviours. All of these factors will provide background and information which can be used to form an achievable nutrition plan[4].

Who:
GP, medical practitioners, paediatrician

How:
When clinicians are assessing the history of children and adolescents it is also important to complete a clinical assessment in order to identify any concerns or potential causes for overweight and obesity and comorbidities[4,13].

Toolkit:
Clinical assessment

Indicators of comorbidities

Medical assessment

Further Investigations for an underlying causes of overweight or obesity and /or evidence of nutrient deficiency

Referral pathway (under development)

The complexity of the clinical assessment highlights the importance of the team approach to the management of childhood overweight and obesity. If assessment identifies other underlying causes for overweight and obesity (e.g. secondary or genetic causes for obesity) or that the child's problems are multi-factorial, always get other clinicians and health professionals involved to work as a team. In such cases referral to secondary and tertiary healthcare may be indicated[13].

b. Interventions

ADVISE

Treatment options for overweight and obesity include:

- promoting a healthy lifestyle
- multicomponent lifestyle interventions which include diet modification and physical activity
- behavioural strategies and active parental involvement (primary care or CSCF level 1-3 services
- secondary level care or CSCF level 4 services), pharmacotherapy (tertiary and quaternary level care or CSCF level 5-6 services)
- bariatric surgery (quaternary level care or CSCF level 6 services)[14].

i. Primary care – CSCF Levels 1-3

Primary care programs focus on lifestyle interventions such as healthy eating habits, reducing energy intake and increasing energy expenditure[4, 13].

Who:
GP, child health nurse, practice nurse, health worker

How:
Interventions include monitoring of growth by regularly measuring height, weight and BMI using age and sex appropriate percentile charts. If rapid weight gain and/or growth trend toward or within overweight category provide healthy lifestyle advice for the child and the whole family.

Toolkit:
Chronic Disease Management-Medicare Item Numbers

Healthy lifestyle advice

Nutrition and Physical Activity

ASSIST

ii. Secondary and tertiary care - CSCF Level 4

Weight management intervention

When applying interventions for overweight children and adolescents, weight maintenance rather than weight loss can sometimes be the goal[4]. However, this is dependent on the situation and the child's individual factors. Children and adolescents who are obese often have to aim for weight loss. Most obese children will require a prescriptive diet in order to promote a decrease in energy intake.

Multi-component lifestyle interventions are associated with successful outcomes[4, 5, 15-18].

Recommendations for childhood obesity treatment to ensure effective delivery of high-quality care and to achieve clinically meaningful weight loss include[15]:

- family-based, multicomponent behavioural therapy
- integrated care model
- well-trained multidisciplinary care team including medical oversight
- the use of evidence-based protocols
- provide >25 hours of contact with child and/or family over a period of six months

It is acknowledged that this level of contact (frequency and length) may not be achievable in all health services, and hence the goal should be to provide as best a service as you can (even if that means less contact hours).

Who:
Medical, nursing, allied health (e.g. dietitian, psychologist) and/or multidisciplinary team (MDT)

How:
Interventions need to be family focused and lifestyle driven. They need to involve frequent contact with a healthcare professional and this is determined by the level of support required by the family.

Toolkit:
Dietitian role - CHQ Childhood Obesity Management Toolkit (draft)

Psychologist role

Current evidence-based recommendations for effective weight management interventions

Low Energy Diet

Telehealth
Telehealth services such as videoconferencing - when used appropriately - are emerging as efficient service delivery options for providing weight management support to children and their families who live in rural and remote parts of Queensland. They can:

- deliver weight management services into remote communities, reducing the need for travel
- provide timely access to services and specialists, improving the ability to identify developing conditions
- improved family attendance and increase satisfaction level
- reduce travel cost (to the family and the health service)

Recent evaluation of a telehealth pilot at the Lady Cilento Children's Hospital (LCCH) support the above[19].

Additionally, telehealth services can help educate, train and support remote healthcare workers on location, and provide additional support to secondary and tertiary services (for example case consultation, consultation liaison tool, supporting sole clinicians).

Further research is required to demonstrate that telehealth services provide equivalent clinical outcomes to that of traditional face to face services.

ARRANGE

iii. Tertiary care – CSCF Level 4 and 5

Referral to tertiary services is warranted for children with[4, 13]:

- severe BMI classification and/or
- comorbidity and/or
- suspicion of genetic or secondary obesity

Who:
Paediatrician, allied health team, MDT (e.g. paediatrician, dietitian, psychologist)

How:
Multi-component lifestyle interventions.

Tool Kit:
Referral Pathway including referral criteria

Paediatrician Role, MDT role

iv. Quaternary care - intensive medical treatment – CSCF Level 6

When lifestyle changes are not successful and/or when rapid weight loss is required, additional intervention may be necessary.

Who:
MDT (e.g. paediatrician, endocrinologist, bariatric surgeon, dietitian, psychologist, physiotherapist/exercise physiologist, nurse)

How:
Multi-component lifestyle interventions in combination with medical treatment.

Tool Kit:
Very low-caloric/energy diets (VLCDs or VLEDs)

Pharmacotherapy (anti-obesity agents)

Bariatric surgery

3 Education and Training

Enhanced professional development for all health professionals working with children and young people on the prevention and management of overweight and obesity is essential. This can be provided via targeted online and face-to-face education modules which incorporate healthy eating, physical activity and behavioural modification for health professionals involved in childhood health. All clinicians need to have the skills to measure, record and interpret growth in children, the ability to counsel families about the impact of excessive weight, and provide appropriate referrals.

Who:
Health professionals providing childhood healthcare (e.g. health workers, medical, nursing and allied health)

How:
Support capability and access by increasing healthcare providers' skills and knowledge in managing childhood overweight and obesity. Ensuring clinicians continue to remain skilled and competent as part of ongoing professional specific responsibilities and requirements for clinical professional development.

Tool Kit:
Queensland Health training programs

Royal Children's Hospital, Melbourne – Child growth learning resources

Healthcare for Healthy Weight, Queensland Health – training and presentations

Healthy kids for professionals, NSW Health – resources for health professionals

Weight4Kids, e-Learning Portal, NSW Health – education modules for health professionals

Talking with parents about children's weight, WA Health

Project ECHO™

Project Extension for Community Healthcare Outcomes (ECHO™) uses the knowledge and experience of specialist care providers (medical and health professionals) to provide training for non-specialist primary care providers (PCPs) in community and rural locations[20]. This is achieved by running "teleECHO™" clinics, where an ECHO™ panel facilitated by the ECHO™ chair delivers a videoconference training session on a complex medical condition in conjunction with a multidisciplinary team of specialists.

The goal of Project ECHO™ is to support capability and access by increasing clinicians' capacity. It achieves this by delivering training to non-specialist PCPs in community sites to acquire new skills and increase confidence in the delivery of care in areas they've had no previous experience or knowledge in. They may have previously rejected referrals for these cases, or referred onto other services instead.

The Project ECHO™ model has been successfully implemented overseas within the United States and other countries as a medium for training community PCPs in the management of various complex conditions. Specific to paediatric obesity, currently the University of Chicago, Georgia AAP chapter and the University of New Mexico have successfully implemented a paediatric growth, overweight/obesity and/or obesity comorbidities ECHO™ model.

Who:
Project ECHO™ panel videoconference training session to non-specialist primary care providers

How:
Support capability and access by increasing health care providers' capacity and knowledge in managing childhood overweight and obesity.

Toolkit:
Project ECHO™ information

Build health professional capability in the prevention and management of childhood obesity, with an emphasis on education, training, and the provision of up to date and evidence - based resources and tools.

All clinicians need to have the skills to measure, record and interpret growth in children, have the ability to counsel families about the impact of excessive weight, and provide appropriate referrals if required.

4 Research, Monitoring and Evaluation

Critical components that should be embedded within service planning, preparation and delivery are consideration of research frameworks, monitoring and evaluation. These activities are an integral part of assessing and improving the quality, effectiveness and suitability of current services, and contribute greatly to the planning of sustainable future services.

a. Service evaluation

Service evaluation seeks to assess how well a service is achieving its intended aims. It is undertaken to improve the quality of a healthcare service to maximise the benefit of the service users. Evaluation results are used mainly to inform local decision-making[21]. Services need to consider the following questions to help direct their evaluations:

- How will we effectively measure the success and impact of our service?
- What data do we need to collect?
- How will we collect this data?
- Has this been done before in another service and what can we learn from them?

Although the actual outcome measures will differ depending on the location, target population, key health professionals involved and capacity of the service being delivered, below are some suggestions to consider:

- Service level outcomes – capacity and reach of service (child's appointments booked per week/month, attrition rates, referral sources, treatment/management timeframes per child/family, number of families who withdrew or self-discharged from the service, geographical spread of children/families who attended), service costs, accessibility of service, child/family satisfaction with service, health professionals opinions and perspectives of service.
- Individual outcomes – changes in BMI, dietary intake or dietary habits, physical activity practices, health related quality of life, and other individual outcomes as deemed appropriate.

The collection of the above data needs to be incorporated into the regular responsibilities of the health professionals who are providing the service. Consideration needs to be given to the instruments or methods that will be used to collect the above data. Services may already employ various methods to assess these factors, or need to source new methods and make a collective decision regarding these. For example, questionnaire-based methods for assessing individual outcomes, such as the Paediatric Quality of Life Inventory (PedsQLTM)[23] or the Physical Activity Questionnaire for Older Children (PAQ-C) and Adolescents (PAQ-A)[24], are validated, reliable methods that are simple to use, time efficient, and can be completed by the child, adolescent or parent within a clinical appointment.

Queensland Health collects data on height and weight of children by telephone survey annually. The Australian Bureau of Statistics collects anthropometric data on children across Australia every three years to report population trends.

b. Research

"The creation of knowledge through research activities underpins improvements in Australia's health service delivery and intervention"[22]. Research activities attempt to create this knowledge through the systematic investigation of a particular subject, guided by research questions.

This new knowledge then needs to be effectively translated into changes in clinical practice and policy to benefit the population of interest, in this case, children and adolescents who are overweight and obese and their families.

Research activities can be pre-clinical and clinical in nature, essentially spanning from lab work/basic research to translational research, which is focused on implementation and dissemination research for system-wide change. Research activities should be advocated for as an integral part of services in order to advance knowledge and improve health care delivery in childhood obesity. Researchers and clinicians need to partner and work side by side, answering shared research questions. Collaborating with universities or other research organisations will build capacity, encourage valuable research activities, and contribute to the effective translation of new knowledge.

c. Monitoring and surveillance

The inclusion of monitoring and surveillance strategies in overall service delivery ensures that trends in overweight and obesity among children and adolescents in Queensland can be tracked over time. The large-scale and collective gathering of anthropometric or other types of data across the state in the course of service delivery can be used to monitor obesity among the subset of children. Such data may inform service delivery, policy development, guide research activities, and determine other actions that are required to reverse or change the trends pertaining to childhood obesity. Whilst health care services may already have their own systems in place, a statewide, collaborative approach is required to further advance the collection and use of valuable datasets.

Who:
Service providers

How:
As part of day to day childhood overweight and obesity service delivery.

Toolkit:
Research related references and resources

Health information management

Coding[25]

An episode of care describes the healthcare services a patient receives. Healthcare services provided to a patient are called activities. Clinical coding refers to the process of recording the type of activities or services (diagnoses and procedures) a patient receives during an episode of care during a hospital admission.

Patient diagnosis and procedure information is used to code patient activities and recover funding for the healthcare provider. Codes are applied based on information recorded by clinical staff in patient medical records. It is vital that medical records contain clear, accurate and comprehensive data to ensure that activities are accurately coded.

Coding ensures clinically similar services are grouped together and that activity is correctly reported. This information outlines the activity profile of a hospital. Incorrect coding can negatively impact the funding Hospital and Health Services receive and/or lead to an incorrect perception that a Hospital and Health Service is inefficient.

Clinical coders rely on the information provided by data capture staff to code the patient episode and recover funding for the healthcare provider.

Clinicians are responsible for recording all medical diagnoses and interventions.

Coding standards

The coding standards are:

- International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM)
- Australian Classification of Health Interventions (ACHI)

Who:
Hospital and Health Service health professionals

How:
Measure and record weight, height and BMI as part of each hospital admission (day patients and inpatients admissions), clearly document in medical records and refer to dietitian when a child has been identified as overweight or obese.

Toolkit:
Childhood overweight and obesity ICD-10AM coding criteria

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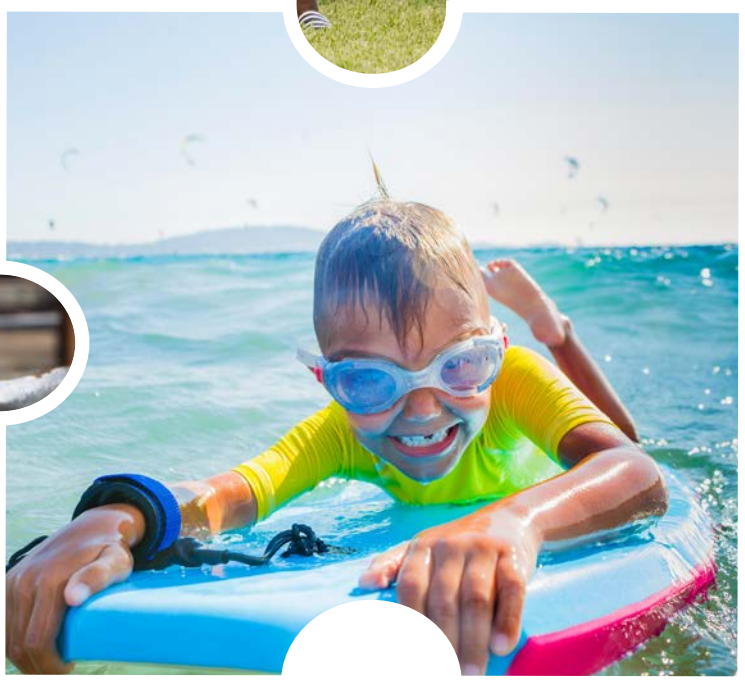

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