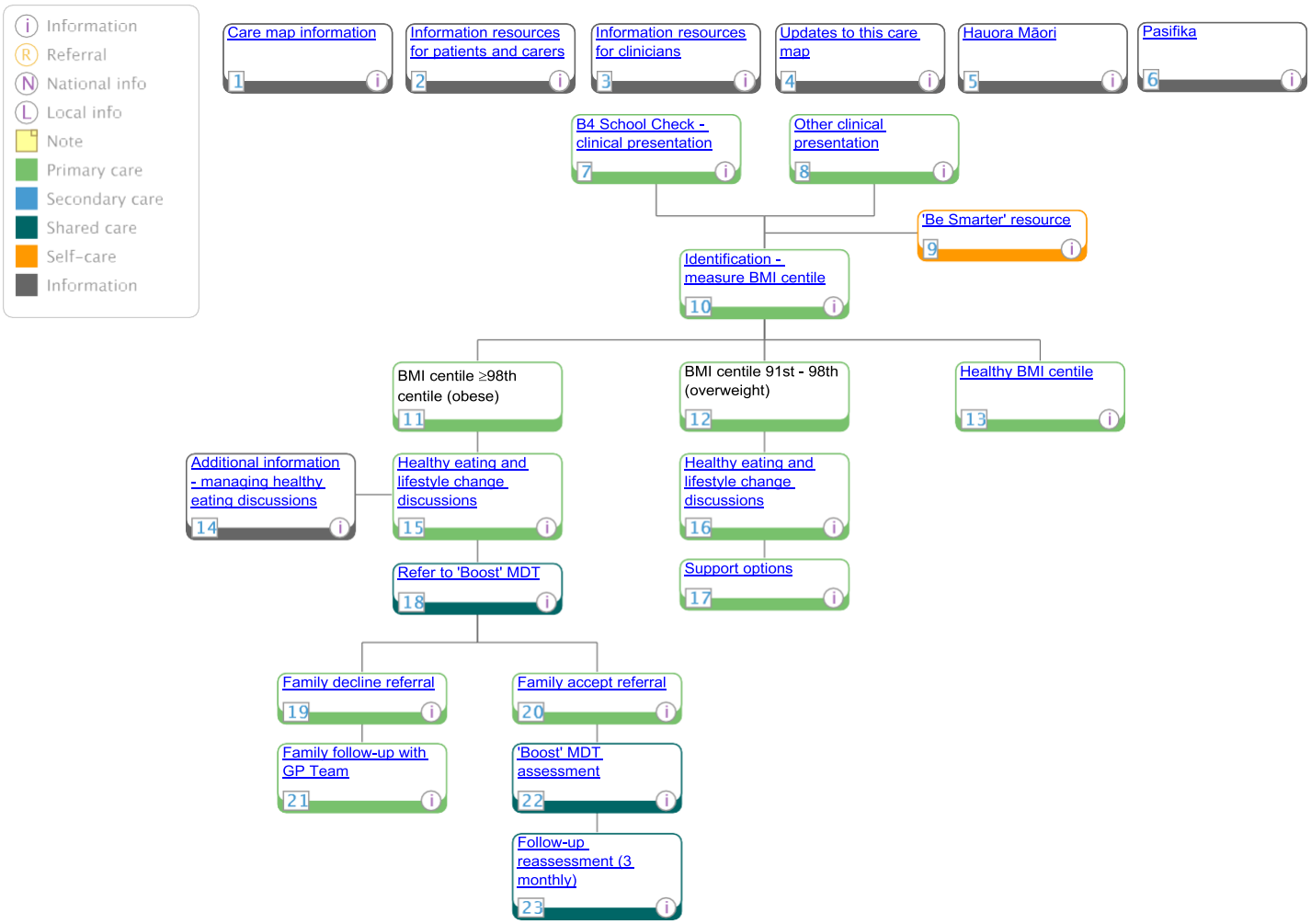
Obesity in Preschool Children

Paediatrics > More topics > Obesity in Preschool Children



1. Care map information

Obesity is a very complex problem requiring a whole of society approach addressing many variables. These variables have created a society where the healthy choice is often the difficult choice. A complex problem is not solved easily as changing one variable may be offset by resulting changes in other variables. As obesity increases and becomes the new normal, even recognising that someone is overweight or obese becomes more difficult.

In Scope:

- the identification, assessment, and management of overweight and obese preschool children as part of the B4 School Check (B4SC)
- general management advice, including dietary and lifestyle recommendations

Out of scope:

- school aged children and adults
- the diagnosis and management of obesity-associated co-morbidities
- pharmacological and non-pharmacological interventions
- surgical intervention

Definitions [1]:

The NZ Ministry of Health (MoH) has used the World Health Organisation (WHO) definition for obesity. Obesity is defined as excess weight for height to the extent that health may be affected. The excess weight is usually due to an excessively high amount of body fat (adipose tissue) in relation to lean body mass. As outlined in the MoH Weight Management in 2-5 Year Olds for Primary Health Care, the New Zealand WHO age and sex specific growth charts are used.

- BMI centile ≥98th centile (obese)
- BMI centile 91st - 98th (overweight)

Prevalence [MoH 2015]**:**

New Zealand has the third highest adult obesity rate in the OECD, and our rates are rising. The Annual Update of Key Results 2014/15: New Zealand Health Survey found that:

- 1 in 9 children (aged 2-14 years) were obese (11%)
- a further 22% of children were overweight but not obese
- 15% of Māori children were obese
- 30% of Pacific children were obese
- children living in deprived areas were 5 times as likely to be obese as children living in the least deprived areas (adjusted for differences in age, sex and ethnicity)
- the child obesity rate increased from 8% 2006/07 to 11% in 2014/15

Within MidCentral DHB, the prevalence of obese children is 11%.

The New Zealand Whānau Pakari (2016) study found that obese children are showing signs they are at risk of developing serious weight-related problems such as Type 2 Diabetes, heart, and liver disease from a young age. Children as young as 5 had risk factors for Type 2 Diabetes and signs suggestive of obstructive sleep apnoea. [2]

Risk factors:

- family history of overweight, obesity, and comorbidities [3]
- physical disability, learning disability, or enduring mental health difficulties [3]
- high levels of sedentary behaviour and low levels of physical activity [4]
- a large intake of foods or drinks high in fat or sugar [4]
- high birth weight [4]

- lower socio-economic status [3]
- medications associated with weight gain

Background:

Obesity in children is a MoH priority area. A Childhood Obesity Plan has been put in place which includes 22 initiatives to prevent and manage obesity in children and young people.

In October 2015, the MoH released a package of initiatives to prevent and manage obesity in children and young people up to 18 years of age. The package has 3 focus areas, made up of 22 initiatives which are either new or an expansion of existing initiatives:

1. targeted interventions for those who are obese
2. increased support for those at risk of becoming obese
3. broad approaches to make healthier choices easier for all New Zealanders

The Raising Healthy Kids Health Target is just one part of a wider plan to tackle childhood obesity. The B4SC programme has good coverage, seeing around 90% of all 4 year olds. It provides an opportunity to screen for obesity and will help ensure that children who are identified as obese are linked into primary care for regular monitoring of the child's growth.

Every parent wants the best for their child but sometimes making healthy lifestyle choices is difficult. Motivational advice from a health care professional can trigger behaviour change.

As a focus on healthy nutrition, activity and lifestyle, and the routine monitoring of children's height and weight becomes standard, parents will come to expect it and this will make those difficult conversations easier.

Fact Sheet - 'Raising Healthy Kids Target' (MidCentral)

2. Information resources for patients and carers

Websites for affordable meal and activity ideas:

- My Family Food (easy, fast and affordable food ideas)
- Tips for healthy living (Health Navigator NZ)
- Affordable meal and activity ideas
- Lunchbox ideas (Heart Foundation)
- My Food Bag
- My Bargain Box

Local services:

- Awapuni vege hub
- Family Feeds (easy, affordable, healthy family meals for those living in the Palmerston North area)

Free shopping mobile phone apps (supplying evidence-based, appropriate healthy lifestyle information for parents and carers) [5]:

- FoodSwitch (healthy food swaps, barcode reader)
- FoodEye (view and compare food nutrition info, barcode reader)
- Lose it! (calorie and exercise tracker)
- My Fitness Pal (calorie and exercise tracker)
- LifeSum (calorie and exercise tracker)
- Easy Diet Diary (calorie and exercise tracker)
- Noom Coach (calorie and exercise tracker)

3. Information resources for clinicians

Background information:

- Weight Management in 2-5 Year Olds - A MoH practical resource to assist with the monitoring, assessment and management of overweight and obese children (2-5 year olds)
- Fact Sheet - 'Raising Healthy Kids Target' (MidCentral)
- 'Be Smarter' resource - Overview (an easy to use tool for health professionals to start a conversation with families about basic health and goal setting)
- Childhood obesity plan (MoH)
- Healthy eating app reviews (produced for MidCentral DHB healthy lifestyles project)
- Dr Pat Tuohy (MoH) - Presentation to Gisborne
- Professor Hayden McRobbie - Presentation to Primary Care Symposium 23 August 2016

Referral forms/information:

- 'Boost' Multi-Disciplinary Team:
  - referral form
  - information brochure for carers/Whānau
- CPHO Dietitian
- Triple P Parenting - Local Providers:
  - ACROSS Te Kotahitanga o te Wairua
    - 0800 ACROSS (0800 227 677)
    - phone: 06-356-7486
    - fax: 06-357-4988
    - Triple P Co-coordinator: Carolyne Jeanes (CJeanes@across.org.nz)
  - Parent Line Manawatu:
    - phone: 06 355 1655
    - fax: 06 355 1722
    - 24 Hour HELP Line: 0800 432 6459

4. Updates to this care map

Date of publication: October 2016.

Please see the care map's Provenance for information on references, accreditations from national clinical bodies, contributors, publication schedule, and the editorial methodology.

Pathway reviewed in June 2017.

Changes included are as follows:

- addition of 'Active Families' referral form
- review and updated resources for patients and clinicians

Date of republication, September 2017.

5. Hauora Māori

Māori are a diverse people and whilst there is no single Māori identity, it is vital practitioners offer culturally appropriate care when working with Māori Whānau. It is important for practitioners to have a baseline understanding of the issues surrounding Māori health.

This knowledge can be actualised by (not in any order of priority):

- acknowledging Te Whare Tapa Wha (Māori model of health) when working with Māori Whānau
- asking Māori clients if they would like their Whānau or significant others to be involved in assessment and treatment
- asking Māori clients about any particular cultural beliefs they or their Whānau have that might impact on assessment and treatment of the particular health issue (Cultural issues)
- consider the importance of Whānaungatanga (making meaningful connections) with their Māori client / Whānau
- knowledge of Whānau Ora, Te Ara Whānau Ora and referring to Whānau Ora Navigators where appropriate
- having a historical overview of legislation that has impacted on Māori well-being

For further information:

- Hauora Māori

6. Pasifika

Our Pasifika community:

- is a diverse and dynamic population:
  - more than 22 nations represented in New Zealand\
  - each with their own unique culture, language, history, and health status
  - share many similarities which we have shared with you here in order to help you work with Pasifika patients more effectively

The main Pacific nations in New Zealand are:

- Samoa, Cook Islands, Fiji, Tonga, Niue, Tokelau and Tuvalu

Acknowledging The FonoFale Model (pasifika model of health) when working with Pasifika peoples and families.Acknowledging general pacific guidelines when working with Pasifika peoples and families:

- Cultural protocols and greetings
- Building relationships with your pasifika patients
- Involving family support, involving religion, during assessments and in the hospital
- Home visits
- Contact information

Pasifika Health Service - Better Health for Pasifika Communities:

- the Pasifika Health Service is a service provided free of charge for:
  - all Pasifika people living in Manawatu, Horowhenua, Tararua and Otaki who have long term conditions
  - all Pasifika mothers and children aged 0-5 years
- an appointment can be made by the patient, doctor or nurse
- the Pasifika Health Service contact details are:
  - Palmerston North Office - 06 354 9107
  - Horowhenua Office - 06 367 6433
- Better Health for Pasifika Communities brochure

Additional resources:

- Ala Mo'ui - Pathways to Pacific Health and Wellbeing 2010-2014
- Primary care for pacific people: a pacific health systems approach
- Tupu Ola Moui: The Pacific Health Chart Book 2004
- Pacific Health resources
- List of local Maori/Pacific Health Providers
- Central PHO Pacific Health website

7. B4 School Check – clinical presentation

The newly introduced national health target aims to achieve the following: “By December 2017, 95% of obese children identified in the B4 School Check (B4SC) programme will be referred to a health professional for clinical assessment and family based nutrition, activity and lifestyle intervention.”

The B4SC focuses on intervening in the early stages to ensure positive sustained effects on health. Children receive a comprehensive check before they start school and are referred to the services they need to support healthy eating and activity. [6]

8. Other clinical presentation

When children present in primary care (or other clinical settings), concerns regarding overweight or obesity may also be apparent. This is an opportunistic time to check height and weight measurements.

9. ‘Be Smarter’ resource

Discuss 'Be Smarter' resource with every family.

What is the 'Be Smarter' resource?

- it is a tool to help initiate a conversation about the basics for healthy kids
- it is an opportunity to talk about the important things to help kids and families be as healthy as they can be
- it enables positive engagement around weight management and general health
- it is a quick and easy assessment tool
- it is parent, child and clinician friendly

To order the 'Be Smarter' resource (NB: fee applies), contact the Bodywise Team (Waikato DHB):

- bodywise@waikatodhb.health.nz
- (07) 839 8899 ext 96957

Overview - 'Be Smarter' resource

10. Identification – measure BMI centile

The Ministry of Health has adopted the World Health Organisation (WHO) Growth Standards for the Wellchild Tamariki Ora schedule. These standards are derived from measurements of healthy, non-deprived, breastfed children of mothers who did not smoke. The charts depict a healthy pattern of growth that is desirable for all children, whether breastfed or formula fed, and of any ethnic origin. B4 School Check (B4SC) referrals are based on BMI centile.

Regular monitoring of child's BMI centile using the NZ WHO growth charts for 2-5 year olds (MoH guidance for monitoring, assessing and managing weight management).

1. Measure and plot height and weight on growth chart

Measurement protocols for measuring height and weight of children over two years of age [99]:

- light clothing:
  - ask the child to remove shoes and any heavy outer clothing
- headwear:
  - ask the child to remove any headwear and any hair ornaments that could affect the accuracy of the height measurement, as culturally appropriate

- correct equipment e.g. electronic scales
- height measurement:
  - use stadiometer
  - child's head should be in the 'Frankfort Plane':
    - this is achieved when the lower edge of the child's eye socket (the orbit) is horizontally aligned with the middle of the child's ear canal (the tragus)
    - the vertex is the highest point on the child's head
- average measurements:
  - ideally take two readings of each measurement:
    - height and weight then height and weight again
    - if the two readings do not vary by more than 0.5 cm for height or 0.5 kg for weight, the child's final height and weight readings are the average of the two readings
    - record the final reading to the nearest 0.1 cm or 0.1 kg
  - if the two readings vary by more than 0.5 cm for height or 0.5 kg for weight, take a third reading. If three readings are taken, the final reading is the average of the two closest measurements
- height and weight growth charts:
  - boys weight (1-5 years)
  - boys height (2-5 years)
  - girls weight (1-5 years)
  - girls height (2-5 years)
- health professional resources:
  - Fact sheet 1: What are growth charts and why do we need them?
  - Fact sheet 2: About the NZ-WHO Growth Charts
  - Fact sheet 3: Measuring and plotting

2. Plot height and weight centiles on BMI centile conversion chart

- Fact sheet 6: Plotting and assessing infants and toddlers up to age five years

3. Determine height, weight and BMI centile

Background information

The Body Mass Index (BMI):

- for children aged between 2 to 17, BMI is interpreted differently
- the BMI for children alters in six monthly increments - refer to MOH

Ensure your scales are calibrated yearly.

13. Healthy BMI centile

Reinforce the goals set using the 'Be Smarter' resource.

14. Additional information – managing healthy eating discussions

Management should [3]:

- be in a supportive environment to allow lifestyle changes
- involve the child and their family in decisions
- be tailored to the needs and preferences of the child and their family
- encourage parents or carers to take main responsibility for lifestyle changes

Initial discussions:

- explore the following with the parents or carers [3,8]:
  - their view of their child's weight, the diagnosis, and possible reasons for weight gain
  - any beliefs about eating, physical activity, and weight gain that are unhelpful in losing weight
  - what has already been tried and whether there was any success
  - their readiness and confidence in making changes
  - family history of weight issues and comorbidities
- be aware that families from certain ethnic and socioeconomic backgrounds may [3]:
  - be at greater risk of obesity
  - have different beliefs about what is a healthy weight
  - have different attitudes towards weight management
- discuss the long-term health risks associated with childhood obesity, eg [4,8]:
  - cardiovascular disease
  - type 2 diabetes mellitus
  - some cancers
  - neurological, gastrointestinal, musculoskeletal, reproductive, and mental health problems
- willingness to change may be affected by surprise, anger, denial, or disbelief in their health situation – explain that obesity is [3]:
  - a clinical term
  - not a description of the way their child looks
- offer patients who are not yet ready to change [3]:
  - further consultations when they are ready to discuss their weight again and willing to make lifestyle changes
  - advice on the benefits of losing weight, healthy eating, and physical activity
- encourage parents/carers to get involved [8]:
  - they can substantially alter environments, particularly for children of primary school age [8]
  - parental perceptions of their children's weight play an important role in obesity prevention and treatment [9] - a recent study found that:
  - half of parents underestimated their child's overweight/obese status
  - a significant minority underestimated children's normal weight

15. Healthy eating and lifestyle change discussions

Refer to 'Be Smarter' resource.

Introduce the 'Boost' Multi-Disciplinary Team (MDT) to the family:

- 'Boost' (MDT) is a team of people with different expertise who meet up regularly to support lifestyle changes to improve your child's eating and activity
- the team will provide clinical oversight and recommendations in conjunction with the family

Discuss measurements/findings with caregiver.

16. Healthy eating and lifestyle change discussions

Reinforce the goals set using the 'Be Smarter' resource.

Management should [3]:

- be in a supportive environment to allow lifestyle changes
- involve the child and their family in decisions

- be tailored to the needs and preferences of the child and their family
- address lifestyle within the family and social settings
- encourage parents or carers to take main responsibility for lifestyle changes
- consider the age and maturity of the child

For further guidance on initiating and managing healthy eating discussions, go to the box 'Additional information - managing healthy eating discussions'.

17. Support options

Offer the following support options:

- Active Families (Sport Manawatu):
  - is a free programme that targets 4-12 year olds and their families (13-17 year olds can be referred to the 'Active Teens' programme)
  - the programme is designed to provide support, guidance and opportunities to create healthy lifestyles through regular physical activity and healthy eating
  - referral criteria:
    - child is aged between 4 and 17 years of age
    - would benefit from being more active
    - has poor eating habits
    - is overweight
    - has the support of Whānau/family
    - may have a stable medical condition
  - referral information:
    - referral form
    - can be referred by GP, practice nurse, paediatrician or self-refer
    - Sport Manawatu: 06 357 5349 or 027 467 7127
- General Practice Team
- CPHO Dietitian:
  - referral form
  - contact details:
    - Health on Main, 575 Main Street, Palmerston North
    - phone: 06 354 9107
- Triple P Parenting (targeting 3-8 years) - Triple P gives parents simple and practical strategies to help them confidently manage their children's behaviour, prevent problems developing and build strong, healthy relationships. Local Providers:
  - ACROSS Te Kotahitanga o te Wairua
    - 0800 ACROSS (0800 227 677)
    - phone: 06-356-7486
    - fax: 06-357-4988
    - Triple P Co-coordinator: Carolyne Jeanes (CJeanes@across.org.nz)
  - Parent Line Manawatu:
    - phone: 06 355 1655
    - fax: 06 355 1722
    - 24 Hour HELP Line: 0800 432 6459

18. Refer to 'Boost' MDT

The 'Boost' Multi-Disciplinary Team (MDT) will provide a multi-disciplinary approach to the clinical oversight of referrals. They

will make recommendations for managing preschool children identified as obese. The 'Boost' MDT does not see the child, but recommends the appropriate interventions for the child and the family.

The 'Boost' MDT consists of:

- Active Families representatives (Sport Manawatu)
- CPHO Dietitian
- Paediatrician (to begin with)
- Psychologist (to begin with)
- B4 School Check Coordinator

Expert advisory members include:

- Māori/Pasifika team members
- Whānau Ora navigators

Referral options from 'Boost' MDT may include one or more of the following:

- Active Families (Sport Manawatu)
- CPHO Dietitian
- Paediatrician
- Triple P Parenting
- CAFS
- other community agencies

The 'Boost' MDT is centrally located and covers the entire MidCentral district. It will utilise existing local service providers from each community.

Referral form for 'Boost' MDT
Contact details for 'Boost' MDT:

- fax: (06) 358 1178
- phone: (06) 357 5349
- email: boostadministrator@sportmanawatu.org.nz

19. Family decline referral

Families can/will decline referral.

If this occurs, the B4 School Check Team will notify the GP Team. It is expected that the GP Team will follow-up with the family at their next presentation.

Willingness to change may be affected by surprise, anger, denial, or disbelief in their child's health situation – explain that obesity is [3]:

- a clinical term
- not a description of the way their child looks

Offer patients who are not yet ready to change [3]:

- further consultations when they are ready to discuss their weight again and willing to make lifestyle changes
- advice on the benefits of losing weight, healthy eating, and physical activity

Encourage parents/carers to get involved [8]:

- they can substantially alter environments, particularly for children of primary school age [8]
- parental perceptions of their children's weight play an important role in obesity prevention and treatment - a recent study found that [9]:
  - half of parents underestimated their child's overweight/obese status
  - a significant minority underestimated children's normal weight

20. Family accept referral

'Boost' Multi-Disciplinary Team (MDT):

- referral form
- information brochure for carers/Whānau

Encourage parents/carers to get involved [8]:

- they can substantially alter environments, particularly for children of primary school age [8]
- parental perceptions of their children's weight play an important role in obesity prevention and treatment - a recent study found that [9]:
  - half of parents underestimated their child's overweight/obese status
  - a significant minority underestimated children's normal weight

21. Family follow-up with GP Team

Refer to 'Be Smarter' resource.

GP Team will:

- acknowledge referral
- assess for any underlying cause of obesity and health problems associated with obesity
- provide options/opportunities
- schedule a 3 monthly follow-up

Referral options/opportunities:

- 'Boost' Multi-DisciplinaryTeam (MDT):
  - is a team of people with different expertise who meet up regularly to support lifestyle changes to improve your child's eating and activity
  - the team will provide clinical oversight and recommendations for the family going forward
    - referral form
    - information brochure for carers/Whānau
- Active Families (Sport Manawatu):
  - is a free programme that targets 4-12 year olds and their families (13-17 year olds can be referred to the 'Active Teens' programme)
  - the programme is designed to provide support, guidance and opportunities to create healthy lifestyles through regular physical activity and healthy eating
  - referral criteria:
    - child is aged between 4 and 17 years of age
    - would benefit from being more active
    - has poor eating habits
    - is overweight
    - has the support of Whānau/family
    - may have a stable medical condition

- referral information:
  - can be referred by GP, practice nurse, paediatrician or self-refer
  - Sport Manawatu: 06 357 5349 or 027 467 7127
- CPHO Dietitian:
  - referral form
  - contact details:
    - Health on Main, 575 Main Street, Palmerston North
    - phone: 06 354 9107
- Triple P Parenting (targeting 3-8 years) - Triple P gives parents simple and practical strategies to help them confidently manage their children's behaviour, prevent problems developing and build strong, healthy relationships. Local Providers:
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    - 0800 ACROSS (0800 227 677)
    - phone: 06-356-7486
    - fax: 06-357-4988
    - Triple P Co-ordinator: Carolyne Jeanes (CJeanes@across.org.nz)
  - Parent Line Manawatu:
    - phone: 06 355 1655
    - fax: 06 355 1722
    - 24 Hour HELP Line: 0800 432 6459

22. 'Boost' MDT assessment

Core interventions:

- Active Families (Sport Manawatu)
- CPHO Dietitian
- Paediatrician or GP
- Psychologist

Other support options/services:

- Whānau Ora Navigator
- Pasifika representative
- Social Worker
- Triple P Parenting (targeting 3-8 years) - Triple P gives parents simple and practical strategies to help them confidently manage their children's behaviour, prevent problems developing and build strong, healthy relationships. Local Providers:
  - ACROSS Te Kotahitanga o te Wairua
    - 0800 ACROSS (0800 227 677)
    - Telephone: 06-356-7486
    - Fax: 06-357-4988
    - Triple P Co-ordinator: Carolyne Jeanes (CJeanes@across.org.nz)
  - Parent Line Manawatu:
    - ph: 06 355 1655
    - fax: 06 355 1722
    - 24 Hour HELP Line: 0800 432 6459
- Child, Adolescent and Family Mental Health & Coexisting Disorder Service (CAFS):
  - criteria for referral:
    - significant caregiver/parent concern about child's behaviour
    - behaviour concerns from other agencies involved with child
  - child/family seen to assess risk and appropriateness for CAFS Service. If child/family do not meet criteria, other services will

be recommended:

- CAFS referral form
- CAFS website
- Palmerston North: Konini House - Community Village, PN Hospital, Ruahine Street, Palmerston North, 4414, tel: (06) 350 8373, fax: (06) 350 8374Horowhenua: Horowhenua Health Centre, 62 Liverpool Street, Levin, 5510, tel: (06) 366 0031, fax: (06) 366 006

- Kaupapa Māori service:
  - if family would prefer a kaupapa Māori service, consider Oranga Hinengaro Māori Mental Health (MDHB) Service
  - this service provides assessment, treatment and care to Māori consumers / tangatawhaiora of all ages and their Whānau
    - tel: (06) 350 9155
    - fax: (06) 350 8024
    - email: oranga.hinengaro@midcentraldhb.govt.nz
- other agencies e.g. MSD

23. Follow-up reassessment (3 monthly)

Three monthly monitoring of BMI and effect of the intervention.

To monitor growth and the effect of the intervention on body composition of the child or adolescent [4]:

- measure the following every 3 months or more frequently, if appropriate [4,8,10]:
  - length or height
  - weight
  - BMI
  - BMI centile
- plot growth on the age- and sex-specific centile chart [4]
- once initial goals are achieved, less intensive monitoring may be appropriate [4]

If required, consider [4]:

- modifying the intervention approach
- referral for specialised assessment and treatment

Also assess for [4]:

- dramatic change in growth:
  - both rapid increases and rapid decreases in BMI can indicate a problem and may relate to a negative health outcome
- obesity-related comorbidities:
  - monitor existing comorbidities
  - if new comorbidities are identified, consider:
    - modifying interventional approaches
    - referral to a specialist

Obesity in Preschool Children

Provenance Certificate

Overview | Editorial methodology | References | Contributors | Disclaimers

Overview

This document describes the provenance of MidCentral District Health Board's **Obesity in Preschool Children** pathway.

This localised pathway was last updated in **October 2016.**

One feature of the "Better, Sooner, More Convenient" (BSMC) Business Case, accepted by the Ministry of Health in 2010, was the development of 33 collaborative clinical pathways (CCP).

The purpose of implementing the CCP Programme in our DHB is to:

- Help meet the Better Sooner More Convenient Business Case aspirational targets, particularly the following:
    - Reduce presentations to the Emergency Department (ED) by 30%
    - Reduce avoidable hospital admissions to Medical Wards and Assessment Treatment and Rehabilitation for over-65-year-olds by 20%
    - Reduce poly-pharmacy in the over-65-year-olds by 10%
- Implement a tool to assist in planning and development of health services across the district, using evidence-based clinical pathways.
- Provide front line clinicians and other key stakeholders with a rapidly accessible check of best practice;
- Enhance partnership processes between primary and secondary health care services across the DHB.

To cite this pathway, use the following format:

Map of Medicine. Medicine. MidCentral District View. Palmerston North: Map of Medicine; 2014 (Issue 1).

Editorial methodology

This care map was based on high-quality information and known Best Practice guidelines from New Zealand and around the world including Map of medicine editorial methodology. It has been checked by individuals with front-line clinical experience (see Contributors section of this document).

Map of Medicine pathways are constantly updated in response to new evidence. Continuous evidence searching means that pathways can be updated rapidly in response to any change in the information landscape. Indexed and grey literature is monitored for new evidence, and feedback is collected from users year-round. The information is triaged so that important changes to the information landscape are incorporated into the pathways through the quarterly publication cycle.

References

This care map has been developed according to the Map of Medicine editorial methodology. The content of this care map is based on high-quality guidelines and practice-based knowledge provided by contributors with front-line clinical experience. This localised version of the evidence-based, practice-informed care map has been peer-reviewed by stakeholder groups and the CCP Programme Clinical Lead.

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Contributors

MidCentral DHB's Collaborative Clinical Pathway editors and facilitators worked with clinical stakeholders such as front-line clinicians and pharmacists to gather practice-based knowledge for its care maps.

The following individuals have contributed to this care map:

- Dr Bruce Stewart, GP (Primary Care Clinical Lead)
- Dr Jeff Brown, Paediatrician, Child Health, MidCentral DHB (Secondary Care Clinical Lead)
- Brad Cassidy, Active Communities Manager, Sport Manawatu
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