East Midlands
Academic Health
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Igniting Innovation

East Midlands Academic Health Science Network – Obesity Programme

Synthesis of UK Evidence Based Recommendations for Adult Obesity Prevention and Treatment *for service improvement and implementation*

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Purpose

This is a synthesis of UK evidence-based recommendations for adult obesity prevention and treatment services, produced by the *Why Weight* East Midlands AHSN team. It is intended as a **'user-friendly' summary** of existing multiple sets of, often overlapping, guidance from the National Institute for Health and Care Excellence (NICE), Public Health England (PHE) and other sources.

This work has been produced in response to consultation with Local Authority, CCG and other public health stakeholders in the East Midlands in 2014-15, many of whom are newly tasked with commissioning, delivering and evaluating public health services in their localities.

The aim of this synthesis is to help inform and facilitate service improvement, and the implementation of interventions based on best available evidence or practice.

Links to sources and original references are provided in *Appendix 1* for users to access further detail.

A ***Why Weight*** **Checklist** has also been developed as part of this synthesis (*Appendix 2*). This is intended to enable users to easily assess 'where they are at' or may need to be supporting health improvement in their locale.

Key recommendations 'at a glance'

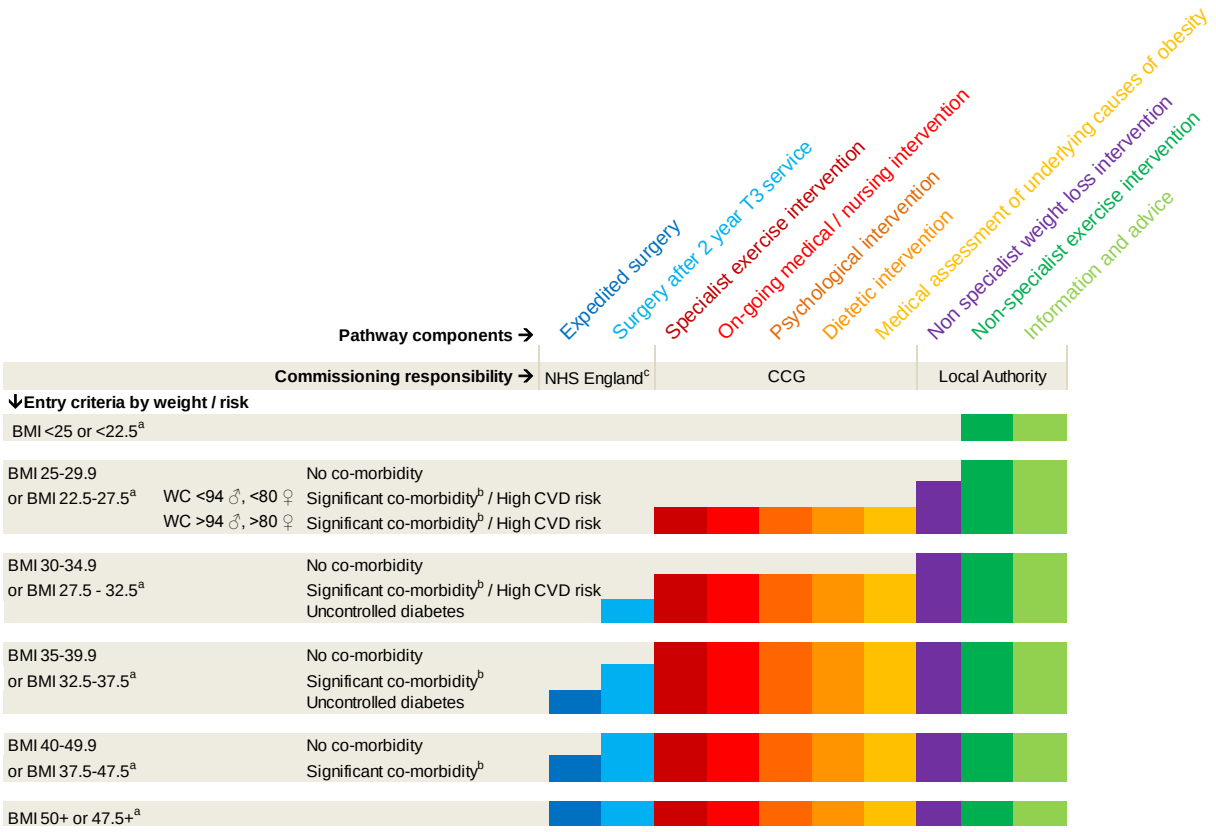
General strategic

- Make leadership visible and dedicate resource.
- Plan prevention and treatment activity in response to local need and with communities.
- Use a multi-agency approach with good systems for sharing of information.
- Ensure 'public health' intervention includes planning, transport and leisure services.
- Commission interventions known to be effective, and monitor and evaluate them.
- Prioritise staff training.
- Increase awareness of services among public and providers.
- Use sustained promotion to publicise public health services - not 'one-offs'.

Supportive interventions

- Make obesity prevention support and services highly visible.
- Make accessible in a variety of formats and languages tailored to local populations.
- Consult communities on how and where to deliver interventions.
- 'Tier 1 and 2' weight loss programmes should be multi-component to facilitate balanced healthy diet and regular physical activity (people should expect to lose no more than 0.5–1 kg a week).
- Behavioural interventions should be acceptable, practical, sustainable, and tailored to individuals' needs.
- 'Tier 3' interventions ideally require a multi-disciplinary team approach, including input from a psychologist with a specialist interest in obesity, and should be for 12-24 months.
- 'Tier 4' surgical interventions should only be used after individuals have engaged in tier 3 services for over 6 months; should involve appropriate multi-disciplinary pre and post-surgical care; and be prospectively audited.

Why Weight Service overview with entry criteria



[a] Use lower BMI classification for individuals of Asian, Chinese, Black African or African-Caribbean ethnicity
[b] Obesity related co-morbidity - specifically diabetes, but could also include hyperinsulinemia, high blood pressure, coronary-artery disease, hypertension and congestive heart failure
[c] Currently commissioned by NHS England, responsibility to be transferred to CCGs April 2016

BMI = Body Mass Index; WC = Waist circumference (cm); CVD = cardiovascular disease

Sources:
NICE CG189, NICE PH46
NHS Commissioning Board (2013) Clinical Commissioning Policy for Complex And Specialised Obesity Surgery
Royal College of Physicians (2013) Action on obesity: comprehensive care for all
Royal College of Surgeons (2014) Commissioning guide: Weight assessment and management
Department of Health (2015) Arrangements for the transfer of commissioning responsibilities for renal dialysis and morbid obesity services from NHS England to Clinical Commissioning Groups.

Notes on summary recommendations

Sources

Literature searching and analysis techniques were used to identify, examine and summarise evidence based recommendations relating to adult obesity treatment and prevention. In total 18 relevant sets of recommendations were included, the majority were produced by the National Institute for Health and Care Excellence (NICE) but other sources included the Royal College of Physicians, The Scottish Intercollegiate Guidelines Network (SIGN), in addition to information from Public Health England (PHE).

Recommendations

Most recommendations are presented by which 'tier' of a recommended integrated obesity prevention and care pathway they refer to. However some recommendations apply to all activity.

In some areas of the pathway, current practice at a local level may reflect existing guidance. However, some guideline recommendations may be, at best, aspirational - for many if not most localities at the time of writing. This appears particularly likely in relation to 'tier 3' services.

Many recommendations are quite detailed and may present what, rather than how, services should be delivered. There is arguably little focus on the practicalities, or how to negotiate the challenges of providing, integrating and implementing the multi-component services recommended.

Body mass index (BMI)

Classification of obesity is by body mass index (BMI), with a BMI (kg/m^2) of 18.5-24.9 indicative of a healthy weight, 25-29.9 of overweight, 30-34.9 of obesity I, 35-39.9 obesity II and 40 or more obesity III. This classification, in combination with waist circumference and presence of comorbidities is recommended as a guideline for appropriate intervention.

Service tiers

Services in England have been assigned to a tier, from 1 to 4, relating to the type of service and the classification of obesity targeted, within an obesity prevention and treatment pathway. Target groups, tiers and services are summarised below in **Table 1.**

- **Tier 1** involves both environmental, recreational, planning and transport infrastructure and interventions which enable primary prevention and reinforcement of healthy eating and physical activity messages. Services are aimed at helping individuals prevent and avoid becoming obese. Local authorities are primarily responsible for the provision of tier 1 services.

- **Tier 2 services** are non-specialist community based lifestyle weight management services (diet and exercise) aimed at those who are overweight or obese (with a BMI of <35) without comorbidities. Local authorities remain largely responsible for this provision.

- **Tier 3 services** are intended for people with severe complex obesity with or without the presence of co-morbidities. The focus shifts from non-specialised support to a multi-disciplinary team (MDT) approach, potentially including physician (including consultant or GP with a special interest), specialist nurse, specialist dietitian, psychologist, psychiatrist, and physiotherapist. In addition to healthy eating and increased physical activity intervention tier 3 services may also prescribe drug treatment. CCGs are the primary commissioners for tier 3 services but engagement with local authorities and the NHS is required.

- **Tier 4 services** involve surgical intervention and the additional information and support that those undergoing surgery require. Obesity surgery (bariatric surgery) includes gastric banding, gastric bypass, sleeve gastrectomy and duodenal switch, usually undertaken laparoscopically.

Currently NHS England intends to transfer all but the most complex adult bariatric surgery to local commissioning (CCGs) once the predicted increase in volume of tier 4 activity has been realised and locally commissioned tier 3 services are shown to be functioning well. Arrangements for the transfer of commissioning responsibilities for renal dialysis and morbid obesity surgery services from NHS England to Clinical Commissioning Groups: Government Response to Consultation – available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/404242/Government_Response.pdf.

Table 1: Public/service user, tiers, responsible commissioning lead

Tiers	Public/service user	Description	Commissioning lead (primary responsibility agency)
1 Behavioural	All individuals. Overweight. Exit to either tier 2 or exit from pathway.	Universal interventions (prevention and reinforcement of healthy eating and physical activity messages). Includes public health and national campaigns. Brief advice.	Local Authorities responsible for the provision of community based interventions which encourage healthy eating and physical activity.
2 Weight management services	Overweight individuals who need personal directed intervention/s in the community. Either self-referred or referred, possibly from tier 1. Continuation with tier 2 services. Exit to tier 3.	Lifestyle weight management services. Normally time limited.	Local Authorities responsible for commissioning lifestyle weight management services. Local Authorities as lead agency engaging CCG's and NHS.
3 Clinician led multi-disciplinary team (MDT)	Obese individuals with complex needs/multi-morbidity who have not responded to previous tier interventions. Engagement in tier 3 does not automatically lead to surgery. Entry from either tier 2 or tier 4 or direct entry. Exit to either tier 2 or tier 4 or exit from pathway.	A multidisciplinary team approach, potentially including physician (including consultant or GP with a special interest), specialist nurse, specialist dietician, psychologist, psychiatrist, and physiotherapist.	CCGs as the future primary commissioners for tier 3 services, engaging with LA and NHS.
4 Surgical and non-surgical	Entry- people who must have engaged with tier 3. Exit to tier 3 (post op support).	Bariatric Surgery, supported by MDT pre and post op.	NHS England is responsible for the assessment and provision of surgery in the short term. In recognising the benefits of integrated commissioning, NHS England to conduct an early consideration of the elements of tier 4 that should transfer to CCG commissioning in the medium term.
Adapted from the Report of the working group into: Joined up clinical pathways for Obesity, available at http://www.england.nhs.uk/wp-content/uploads/2014/03/owg-join-clinc-path.pdf			

Approach

Using knowledge of expert informants, and literature searching, evidence based recommendations relating to adult obesity treatment and prevention were identified. In order to be included in the review, recommendations needed to:

- be produced by an organisation with recognised expertise.
- be evidence based.
- relate to the care of adults.
- be published in the last 10 years.
- relate to services in the UK, England, Scotland or Wales.

Relevant recommendations were then examined and areas of consensus and divergence noted. The recommendations were then summarised according to the tier to which they related or could be related. A considerable number of recommendations that could be applied across 'tiers' were also identified and these were categorised into themes.

This synthesis has also been used to create a **Why Weight AHSN checklist** intended to be used to facilitate consideration of whether a service (proposed or existing) meets the relevant evidence-based recommendations (For Checklist, see **Appendix 2**).

In total 63 documents were identified and 18 were determined to contain recommendations relating to the prevention or treatment of obesity in adults and included in this review. The majority were produced by NICE but other contributing organisations included the Royal College of Physicians and the Scottish Intercollegiate Guidelines Network (A full list of examined and included recommendation documents is provided in Appendix 1). The majority of the recommendations are presented broken down by which tier of the obesity pathway they refer to. However some recommendations apply to all activity regardless of which tier it is associated with or to the way in which obesity prevention and treatment services should be led, planned and delivered.

General strategic recommendations

The structure and organisation of services

Preventing and managing obesity is a priority for action and strong leadership is required in both the Local Authority and CCGs (NICE PH42).

Dedicated resources should be allocated for action (NICE CG43 & PH42).

There should be an assessment of need carried out at a local level in conjunction with local people and organisations. Services should be put in place which respond to the needs identified (NICE PH6, PH42, PH49 & PH53).

Services should not exist in isolation but be part of a strategic and integrated approach to obesity prevention and treatment, which supports a long-term (beyond 5 years) system-wide health and wellbeing strategy (NICE PH49, PH41, PH42 & CG43).

A diverse range of services are required including:

- both targeted and universal services (NICE PH42).
- very brief, brief, extended and high intensity behaviour change interventions (NICE PH49).
- both 'top-down' and 'bottom-up' approaches as appropriate (NICE PH42).
- services which are aligned with other disease-specific prevention and health improvement strategies (NICE PH42).
- services that meet the needs of different groups and address the wider determinants of health (NICE PH53).
- both group and individual programmes to meet the needs and preferences of different groups (NICE PH53 & SIGN115).

Monitoring and evaluating interventions

Commission high quality, effective behaviour change interventions that cause no harm (NICE PH42, PH49 & CG43).

All interventions should be monitored and evaluated (including an economic assessment) and clear processes should be put in place for learning and evaluation (NICE PH6, PH41, PH42, PH49 & CG43). Service users should be involved in the review process (NICE CG189).

Data collected for evaluation should include: programme details, evaluation details, demographics of individual participants, baseline data, follow-up data (impact evaluation) and process evaluation, changes in dietary habits, physical activity and sedentary behaviour (NICE PH53 & PH54).

Effective services should be extended and any that are identified as ineffective or not meeting the community's needs should be redesigned or decommissioned (NICE PH6 & PH42).

There should be flexibility in contracts to allow programmes or services to be adapted and improved, based on early or ongoing monitoring (NICE PH42).

Services must be willing to share intervention details and data (NICE PH49). Evaluation data should be available for analysis, monitoring and research to inform future practice (NICE PH54).

Staff training

All staff, including but not limited to, staff providing behavioural change interventions should receive training on the health risks of being overweight and obese, and the benefits of preventing and managing obesity (NICE PH42, NICE PH49, NICE CG43, RGP:AOR & SIGN115).

Training should

Promote understanding of, the wider determinants of obesity, the local system in relation to the obesity agenda, methods for working with local communities and why it can be difficult for some people to avoid weight gain or to achieve and maintain weight loss (NICE PH42).

- Raise awareness of the appropriate language to use, strategies people can use to address their weight concerns, of local services that are likely to be effective in helping people maintain a healthy weight, local lifestyle weight management services (NICE PH42).
- Address barriers to health professionals providing support and advice, particularly concerns about the effectiveness of interventions, people's receptiveness and ability to change and the impact of advice on relationships with patients (NICE CG43).
- Cover, how physical activity promotion fits within their remit and how it can help prevent and manage a range of health conditions, the definition of physical activity and UK physical activity guidelines, groups more likely to be inactive and misconceptions about who needs to increase their physical activity, how to undertake physical activity assessments, local opportunities for physical activity, the needs of specific groups, such as people with disabilities, and delivery of brief advice (NICE PH44).

Professionals delivering weight management interventions should have specific training and be equipped with the necessary competencies and skills to support behaviour change (NICE PH6, PH42 & CG189).

Training should be delivered by qualified professionals such as registered practitioner psychologists, registered dietitians and qualified physical activity specialists (NICE PH42 & NICE CG189).

Training should address staff attitudes to, and any concerns about, their own weight (NICE PH53).

Training and support for those involved in changing people's health-related behaviour should include (PH6):

- identifying and assessing evidence on behaviour change.
- understanding the evidence on the psychological, social, economic and cultural determinants of behaviour.
- interpreting relevant data on local or national needs and characteristics.

- designing, implementing and evaluating interventions and programmes.
- working in partnership with members of the target population(s) and those with local knowledge.

Raising awareness

Raise awareness of lifestyle weight management services among health and social care professionals and the local population (NICE CG43 & NICE PH42).

In particular GPs should be encouraged to:

- make all their patients aware of the importance of a healthy diet and physical activity in helping to prevent obesity (NICE PH42).
- signpost people to relevant community programmes (NICE PH42).

Prevention

Infrastructure changes (Tier 1)

Local authorities should work with local partners, (industry and voluntary organisations) to create and manage more safe spaces for incidental and planned physical activity, addressing as a priority any concerns about safety, crime and inclusion (NICE PH35 & CG43).
Local authorities and transport authorities should provide tailored advice such as personalised travel plans to increase active travel among people who are motivated to change (NICE PH35 & CG43).

Local authorities, through local strategic partnerships, should encourage all local shops, supermarkets and caterers to promote healthy food and drink (NICE PH35 & CG43).

Publicity and health promotion materials (Tier 1)

Obesity prevention programmes should be highly visible and easily recognisable. Promoting all relevant activities (including those run by partner organisations) under the obesity programme 'brand' and using this branding consistently over the long term will promote clearer identification of services to the community (NICE PH42).
Careful consideration must be given to the type of language and media used to communicate about obesity, tailoring language to the situation or intended audience (NICE PH42 & CG189).

Tier 1 interventions

Overweight or obese individuals should be given information on the health risks associated with being overweight, realistic targets for weight loss, the distinction between losing weight and maintaining weight loss, realistic targets for outcomes other than weight loss, such as increased physical activity and healthier eating, diagnosis and treatment options, healthy eating in general, medication and side effects, surgical treatments, self-care and voluntary organisations and support groups and how to contact them (NICE CG189).

Advice should address potential barriers to weight loss, this is particularly important for people from black and minority ethnic groups, people in vulnerable groups and people at life stages with increased risk for weight gain (NICE CG43).

Funding should be provided to help establish and sustain local community engagement activities (NICE PH9), for example, funding the expenses of the leaders of community walking groups, or providing small grants to hire meeting spaces (NICE PH42).

Community-based interventions should include awareness-raising promotional activities, but these should be part of a longer-term, multicomponent intervention rather than one-off activities (NICE CG43).

People who are sedentary or inactive and have existing health conditions or other factors that put them at increased risk of ill health should be referred to an exercise scheme (NICE PH2 & PH54).

Programmes should be based on an accepted theoretical framework for behaviour change (NICE PH6 & PH41).

Interventions to increase physical activity should:

- focus on activities that fit easily into people's everyday life, including walking and cycling (NICE PH41).
- be tailored to people's individual preferences and circumstances (NICE PH2).
- aim to improve people's belief in their ability to change (NICE CG43).
- provide ongoing support in person or by phone, mail or internet (NICE CG43).
- address safety, cultural and disability issues (NICE PH41).
- be led by an appropriately qualified physical activity instructor (NICE PH53).
- take into account any medical conditions people may have (NICE PH53).

Setting an example and encouraging innovation (Tier 1)

Local authorities should set an example in developing policies to prevent obesity in their role as employers (NICE PH35). Workplaces should provide opportunities for staff to eat a healthy diet and be more physically active (NICE CG43 & RGP:AOR).

- On-site catering should provide and promote healthy food and drink choices (NICE PH35 & CG43).
- Physical activity should be promoted, (For example travel plans, secure cycle parking and using signposting and improved décor to encourage stair use) (NICE PH13, CG43 & RGP:AOR).

Commissioners should allocate some of their budget to innovative approaches to obesity prevention that are based on sound principles, have the support of the local community and are likely to be effective, but for which there is limited evidence (NICE PH42).

Pregnant women (Tiers 1 and 2)

Interventions for individuals entering key life stages when they are open to change, such as pregnancy, should be prioritised (NICE PH6).

Women should be advised that a healthy diet and being physically active will benefit both them and their unborn child during pregnancy (NICE PH27).

Community based intervention is required for women who have a BMI ≥ 30 and are trying to conceive, are pregnant or who are post-natal (NICE PH27).

Pregnant women with a BMI ≥ 30 at the booking appointment should be offered a referral to a dietitian or appropriately trained health professional for assessment and personalised advice on healthy eating and how to be physically active (NICE PH27).

Local authority leisure and community services should offer women with babies and children the opportunity to take part in a range of physical or recreational activities (NICE PH27).

Weight Management

Tier 2 services

Prior to attending a behavioural change intervention individuals should have had an assessment of their health, any previous attempts at weight loss and their current readiness and confidence to adopt changes (NICE CG189 & PH49).

Programmes should be based on an accepted theoretical framework for behaviour change (NICE PH6). A range of key theories of behavioural change are available including , resilience, coping, self-efficacy, planned behaviour, structure and agency, 'habitus' and social capital.

Lifestyle weight management programmes should be developed by a multidisciplinary team with input from a registered dietitian, registered practitioner psychologist and a qualified physical activity instructor (NICE PH53).

Weight loss programmes should be multicomponent based on a balanced healthy diet, encourage regular physical activity and expect people to lose no more than 0.5–1 kg (1–2 lb) a week. Commission programmes that include the core components for effective weight loss (NICE CG43, NICE CG189, NICE PH53 & SIGN115).

Behavioural interventions should contain the following evidence based strategies, as appropriate:

- self-monitoring of behaviour and progress (NICE CG189).
- situational control (SIGN115).
- stimulus control (NICE CG189 & SIGN115).
- goal setting (NICE CG43, NICE CG189 & SIGN115).
- slowing rate of eating (NICE CG189 & SIGN115).
- self-monitoring of calorie intake and eating behaviours (SIGN115).
- ensuring social support (NICE CG189).
- problem solving (NICE CG189).
- assertiveness (NICE CG189).
- social assertion (SIGN115).
- cognitive restructuring (NICE CG189 & SIGN115).
- reinforcement of changes techniques (NICE CG189 & SIGN115).
- relapse prevention and strategies for dealing with weight regain (NICE CG189 & NICE PH53).
- encouragement of spousal support (NICE CG43, NICE CG189, NICE PH53 & SIGN115).

Acceptable, practical and sustainable behaviour change interventions are needed. These should contain components that take into account and can be tailored to the needs of individual's. These should include:

- age and stage of life.
- gender.
- ethnicity.
- initial fitness.
- health status.
- lifestyle.
- social and economic circumstances.
- communication needs.
- cultural and religious needs and sensitivities.

(NICE PH42).

Interventions should provide ongoing regular support in person, or by phone, mail or internet by a trained professional as appropriate (NICE CG43 & CG189).

The following outcome data should be collected (NICE PH53):

- weight – to calculate total and percent weight change. Do not rely on self-reported measures of height or weight.
- percentage of participants losing more than 3% of their baseline weight.
- percentage of participants losing more than 5% of their baseline weight.
- percentage adherence to the programme.
- age, gender, ethnicity and socioeconomic status.
- weight change at 12 months after completion.

Information on attendees' progress should be provided to the referrer where appropriate (NICE CG189 & NICE PH53).

Other possible outcomes include (PH53):

- changes in other measures of body fatness, such as waist circumference.
- changes in dietary habits, physical activity and sedentary behaviour.
- changes in self-esteem, depression or anxiety.
- changes in health outcomes, such as blood pressure.
- the views and experience of participants who completed the programme.
- the views and experience of participants who did not complete the programme.
- any changes in their weight.
- the views of staff delivering the programme and of those referring participants to it.

There should be improved weight management resources for healthcare workers who have an obesity problem (RCP:AOR).

Programmes should be commissioned (NICE PH53) that:

- at least 60% of participants are likely to complete.
- are likely to lead to an average weight loss of at least 3%, with at least 30% of participants losing at least 5% of their initial weight.

Multidisciplinary Tier 3 Services

Terminology

Commissioning of multidisciplinary services should use the term ‘severe and complex obesity’ not morbid obesity or bariatric surgery because management of these patients requires MDT input and medical supervision pre-, peri- and post-operatively (RCP:AOR).

Eligibility

Criteria for referral to tier 3 services (NICE CG189) include:

- the underlying causes of being overweight or obese need to be assessed.
- the person has complex disease states or needs that cannot be managed adequately in tier 2.
- conventional treatment has been unsuccessful.
- drug treatment is being considered for a person with a BMI > 50 kg/m2.
- specialist interventions (such as a very-low-calorie diet) may be needed.
- surgery is being considered.

Multi-disciplinary team approach

The specialist obesity weight loss programme and multi-disciplinary team should be decided locally (NICE CG189).

The team should include the following (CCP:CSOS), all of whom must have a specialist interest in obesity:

- physician.
- specialist dietician.
- nurse.
- psychologist.
- physical exercise therapist.

The royal college of Physicians recommends that the team includes a consultant surgeon and a psychiatrist (RCP:AOR).

Close collaboration with primary care and mental health services is required to assess for eating disorders or other psychopathology, to make sure the diet is appropriate for them and to assist patients with significant psychological trauma or psychiatric illness (RCP:AOR & NICE CG189).

Ensure continuity of care in the multidisciplinary team through good record keeping (NICE CG189).

Activities

Tier 3 services should provide:

- education (CCP:CSOS).
- dietary advice/support (which may be delivered through specialist obesity dieticians, or slimming clubs – Weight Watchers, Slimming World etc) (CCP:CSOS).
- access to appropriate level of physical activity where not limited due to obesity related problems such as osteoarthritis, cardio respiratory disease (CCP:CSOS).
- assessment and exclusion of underlying contributory disease e.g. hypothyroidism, Cushing's (CCP:CSOS).
- evaluation of co-morbidities (diabetes, sleep disorder breathing, etc) and instigation of appropriate management plans (CCP:CSOS).
- evaluation of patient's engagement with non-surgical measures (CCP:CSOS).
- evaluation of psychological factors relevant to obesity, eating behaviour, physical activity and patient engagement (CCP:CSOS).
- access to counselling if required (NICE CG189).

Intervention should be tailored to the person's preferences, initial fitness, health status and lifestyle (including culture, language etc) (NICE CG189 & NICE PH42).

Pharmacological intervention

Pharmacological treatment should be available only after dietary, exercise and behavioural approaches have been started and evaluated (NICE CG189).

Orlistat should be considered only as part of an overall plan for managing obesity which provides information, support and counselling on additional diet, physical activity and behavioural strategies (NICE CG189).

Orlistat should only be considered in adults who meet one of the following criteria: (NICE CG189).

- BMI ≥ 28 kg/m2 with associated risk factors (NICE CG189).
- BMI ≥ 30 kg/m2 (NICE CG189).

Monitor the effect of drug treatment and reinforce lifestyle advice and adherence through regular review (NICE CG189).

Only continue orlistat therapy beyond 3 months if at least 5% of initial body weight has been lost since starting drug treatment, unless the person has type 2 diabetes when lower weight loss goals may be appropriate (NICE CG189).

Duration

The service should be 12-24 months in duration (For patients with BMI ≥ 50 attending a specialist bariatric service, this period may include the stabilisation and assessment period prior to bariatric surgery. The minimum acceptable period is six months (CCP:CSOS).

Regular, non-discriminatory long-term follow-up by a trained professional should be available (NICE CG189).

Location

The service may be community or hospital-based (CCP:CSOS).

The settings must be appropriately equipped with specialist furniture / scales etc (NICE CG189).

Surgical Intervention - Tier 4 services

Eligibility

Individuals who meet the following criteria should be considered for bariatric surgery:

- BMI ≥ 40kg/m2 (NICE CG189 & CCP:CSOS).
- BMI 35 - 40 kg/m2 in the presence of other significant disease (NICE CG189, CCP:CSOS & SIGN115).
- morbid/severe obesity has been present for at least five years (CCP:CSOS).
- all appropriate non-surgical measures have been tried but the person has not achieved or maintained adequate, clinically beneficial weight loss (NICE CG189 & SIGN115).
- the person has been receiving or will receive intensive management in a tier 3 service (NICE CG189).
- the individual has recently received and complied with a local specialist obesity service weight loss programme (tier 3), for between 12 and 24 months. For patients with BMI ≥ 50 attending a specialist bariatric service, this period may include the stabilisation and assessment period prior to bariatric surgery. The minimum acceptable period is 6months (CCP:CSOS).
- the person is generally fit for anaesthesia and surgery (NICE CG189).
- the person commits to the need for long-term follow-up (NICE CG189).

In addition

- Bariatric surgery is the option of choice (instead of lifestyle interventions or drug treatment) for adults with a BMI ≥ 50 kg/m2 when other interventions have not been effective (NICE CG189).
- Consider an expedited assessment for bariatric surgery to people with BMI ≥ 35 who have recent-onset type 2 diabetes as long as they are also receiving or will receive assessment in a tier 3 service (NICE CG189).
- Consider an assessment for bariatric surgery for people of Asian family origin who have recent-onset type 2 diabetes at a lower BMI than other populations as long as they are also receiving or will receive assessment in a tier 3 service (NICE CG189).

Type of surgical intervention (all recommendations from NICE CG189)

The choice of surgical intervention should be made jointly with the person, taking into account:

- the degree of obesity.
- comorbidities.
- the best available evidence on effectiveness and long-term effects.
- the facilities and equipment available.
- the experience of the surgeon who would perform the operation.

Revisional surgery (if the original operation has failed) should be undertaken only in specialist centres by surgeons with extensive experience because of the high rate of complications and increased mortality.

Additional care requirements (all recommendations from NICE CG189)

Surgery for obesity should be undertaken only by a multidisciplinary team that can provide the following pre surgical support:

- preoperative assessment, including a risk-benefit analysis that includes preventing complications of obesity, and specialist assessment for eating disorder(s).
- information on the different procedures, including potential weight loss and associated risks.
- management of comorbidities.
- psychological support.
- information on, plastic surgery (such as apronectomy) when appropriate.
- access to suitable equipment, including scales, theatre tables, Zimmer frames, commodes, hoists, bed frames, pressure-relieving mattresses and seating suitable for people undergoing bariatric surgery, and staff trained to use them.

People, who have had bariatric surgery, should be offered a follow-up care package providing regular postoperative assessment, including specialist dietetic and surgical follow up for a minimum of 2 years within the bariatric service. This should include:

- monitoring nutritional intake (including protein and vitamins) and mineral deficiencies.
- monitoring for comorbidities.

- medication review dietary and nutritional assessment, advice and support.
- physical activity advice and support.
- psychological support tailored to the individual.
- information about professionally-led or peer-support groups.
- information on, or access to, plastic surgery (such as apronectomy) when appropriate.

After discharge from bariatric surgery service follow-up, ensure that all people are offered at least annual monitoring of nutritional status and appropriate supplementation according to need following bariatric surgery, as part of a shared care model of chronic disease management.

Monitoring (all recommendations from NICE CG189)

Prospective audits should be used in the long and short term to ensure monitoring can be achieved for the following areas:

- the outcomes and complications of different procedures.
- the impact on quality of life and nutritional status.
- the effect on comorbidities can be monitored.

Conclusion

The recommendations relating to the prevention and treatment of adult obesity are undeniably long and complex. However, when considered simultaneously a comprehensive and consistent service ideal can be identified. These may help commissioners, providers, health and social care staff and service users to identify essential elements of care across four tiers of an obesity prevention and care pathway.

In some areas local practice appears to reflect the guidelines with a fair degree of accuracy. Whilst in other regards, particularly, in relation to tier 3 services, the guidelines would seem to be aspirational at best for most. It is also important to note that whilst the recommendations are very detailed, they largely present a view on what, rather than how, services should be delivered. Arguably there remains insufficient focus on the 'real life' practicalities of negotiating the challenges and delivering a locality responsive blend of varied but interrelated services. Much remains to be learned from service development and implementation in practice.

Appendix 1: References

Recommendations cited in the summary

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Additional resources

The following documents also have relevance, directly or indirectly, to obesity prevention or treatment in adults. These evidence and recommendations in these documents are congruent with our summary; however these documents are not specifically cited in our main summary of recommendations.

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NICE (2012) Preventing type 2 diabetes: risk identification and interventions for individuals at high risk. NICE public health 38. Available at http://www.nice.org.uk/guidance/ph38

NICE (2013) Assessing body mass index and waist circumference thresholds for intervening to prevent ill health and premature death among adults from black, Asian and other minority ethnic groups in the UK. NICE public health 46. Available at http://www.nice.org.uk/guidance/ph46

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NICE (2013) Preventing obesity and helping people to manage their weight. NICE local government briefing 9. Available at http://www.nice.org.uk/advice/lgb9

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NICE (2014) Encouraging people to have NHS health checks and supporting them to reduce risk factors. NICE local government briefing 15. Available at http://www.nice.org.uk/advice/lgb15

NICE (2014) Community Engagement to improve health. NICE local government briefing 16. Available at http://www.nice.org.uk/advice/lgb16

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Public Health England (2013) Obesity and disability - Adults. Public Health England. Available at http://www.noo.org.uk/uploads/doc/vid_18474_obesity_dis.pdf

Public Health England (2013) Obesity and fitness - The relation between obesity, cardiorespiratory fitness and mortality. Public Health England. Available at http://www.noo.org.uk/securefiles/150625_1240//Obesity_and_fitness__131014_CT3.pdf

Public Health England (2013) Social and economic inequalities in diet and physical exercise. Public Health England. Available at http://www.noo.org.uk/uploads/doc/vid_19253_Social_and_economic_inequalities_in_diet_and_physical_activity_04.11.13.pdf

Cochrane Reviews

Amorim Adegboye Amanda, R. and M. Linne Yvonne (2013) Diet or exercise, or both, for weight reduction in women after childbirth. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD005627.pub3

Baker Philip, R. A., et al. (2015) Community wide interventions for increasing physical activity. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD008366.pub3

Brennan, L., et al. (2014) Psychological interventions for overweight or obesity. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD003818.pub3

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Wieland, L. S., et al. (2012) Interactive computer-based interventions for weight loss or weight maintenance in overweight or obese people. Cochrane Database of Systematic Reviews DOI: 10.1002/14651858.CD007675.pub2

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Harris, J., et al. (2011). "Adaptive e-learning to improve dietary behaviour: a systematic review and cost-effectiveness analysis." Health Technology Assessment 15(37): 1-160.

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British Heart Foundation National Centre for Physical Activity and Health (2010) Exercise referral toolkit - a guide to commissioning exercise referral schemes. Available at http://www.bhfactive.org.uk/sites/Exercise-Referral-Toolkit/downloads/s7-guide-for-commissioning-er-schemes.pdf

Appendix 2:

Why Weight East Midlands AHSN

Obesity Prevention and Treatment Services Checklist

Organisation and Leadership Principles	Yes/No/NA	Details
Are visible leaders identifiable, who take responsibility for overall strategic obesity services planning and delivery?		
Are there protected resources for obesity services?		
Have local obesity needs been assessed?		
Have local communities been consulted as part of any local needs assessment that was carried out?		
Are systems in place for sharing service plans within your organisation?		
Are systems in place for sharing service plans with other relevant organisations contributing to the obesity and treatment pathway?		
Do individual services exist within an overall pathway approach to care, which encompasses prevention and treatment?		

Prevention (Tier 1): Overview	Yes/No/NA	Details
Are activities promoting healthy eating commissioned?		
Are activities promoting physical activity commissioned?		
Are awareness raising promotional activities being sustained and part of a longer term multicomponent strategy?		
Are health care professionals made aware of the services available to facilitate signposting of individuals to them?		
Are social care staff made aware of the services available?		
Are external organisations involved in the *planning* of obesity prevention services?		
Are external organisations involved in the *delivery* of obesity prevention services?		
Are other departments or teams within your organisation involved in the *planning* of obesity services? The town or county planning department? The transport department? The leisure services department? Any other departments?		
Are other departments within your organisation involved in the *delivery* of obesity services? The town or county planning department? The transport department? The leisure services department? Any other departments?		
Is obesity prevention training available for health and social care staff?		

Prevention (Tier 1): Specific programmes	Yes/No/NA	Details
Does the programme have a proven evidence base? (See EMAHSN Synthesis of UK Evidence Based Recommendations for Adult Obesity Prevention and Treatment for further information)		
Is the programme highly visible to the general public?		
Is the programme easily recognisable to the general public?		
Does the programme have information available in formats and languages tailored to local populations?		
Is the programme monitored?		
Is the programme evaluated?		

Lifestyle intervention (Tier 2): Overview	Yes/No/Na	Details
Is there an intervention targeted at men?		
Is there an intervention targeted at pregnant or post-natal women?		
Is there an intervention targeted at BME groups?		
Is there an intervention targeted at deprived communities?		
Is there an intervention targeted at those with learning difficulties?		
Is there an intervention targeted at those with physical disability?		
Is there an intervention targeted at health care workers?		
Are any innovative services that utilise proven behaviour change techniques in a novel approach commissioned?		
Are health care professionals made aware of the services available to signpost or refer individuals to them?		
Are social care and other staff made aware of the services available?		
Are obesity services promoted directly to members of the public?		
Are systems in place for the sharing of user/patient specific information within your organisation?		
Are systems in place for the sharing of user/patient specific information with other relevant organisations?		

Lifestyle Intervention (Tier 2): Intervention specific	Yes/No/NA	Details
Is the intervention based on a proven theoretical framework and methods for behavioural change? (See the EMAHSN Synthesis of UK Evidence Based Recommendations for Adult Obesity Prevention and Treatment for further information)		
Is the intervention tailored to the needs of the individual?		
Does the intervention encourage weight loss through both healthy eating and physical activity?		
Does the intervention have information available in formats and languages tailored to the local population?		
Is the intervention delivered in locations that are accessible to the communities it serves?		
Does the intervention provide ongoing regular support?		
Do 30% of participants lose 5% of their body weight by the end of the intervention?		
Do 60% of participants complete the intervention?		
Is the weight of participants assessed at 12 months?		
Is on-going training provided by qualified professionals (eg psychologists/dietitians), for the staff who deliver the intervention?		
Is service user data collected?		
Is service user data available?		

Multidisciplinary Intervention (Tier 3)	Yes/No/NA	Details
Is a specialist obesity weight loss programme commissioned?		
Does the programme use a multidisciplinary approach?		
Does the MDT include a physician?		
Does the MDT include a specialist dietician?		
Does the MDT include a nurse?		
Does the MDT include a psychologist?		
Does the MDT include a physical exercise therapist?		
Does the programme provide patient education?		
Does the programme provide dietary advice and support?		
Does the programme provide access to appropriate physical activity?		
Does the programme provide assessment and exclusion of underlying contributory disease?		
Does the programme provide evaluation of co-morbidities?		
Does the programme provide evaluation of the patient's engagement?		
Does the programme provide evaluation of relevant psychological factors?		

Does the programme provide access to counselling if required?		
Does the programme allow for tailoring to the person's preferences?		
Does the programme allow for tailoring to the person's initial fitness?		
Does the programme allow for tailoring to the person's health status?		
Does the programme allow for tailoring to the person's lifestyle?		
Does the programme allow for tailoring to the person's culture?		
Does the programme allow for tailoring to the person's communication needs?		
Is pharmacological intervention available?		
Is pharmacological intervention available exclusively as part of a MDT service?		
Is weight loss at 3 months assessed for those receiving Orlistat treatment?		
Is Orlistat discontinued if weight loss at 3 months is less than 5%		
Is the programme between 12 and 24 months in duration?		
Is long term follow up available?		
Does the setting have appropriate equipment, furniture & scales?		

Surgical Intervention (Tier 4)	Yes/No/NA	Details
Is surgery available to individuals with a BMI of > 40kg/m2 or > 35 kg/m2 in the presence of other significant disease?		
Have individuals recently received and complied with a local specialist obesity service weight loss programme, for between 12 and 24 months?		
Are individuals expected to commit to long-term follow-up?		
Is the choice of surgical intervention made jointly with the person, taking into account, their degree of obesity & comorbidities, the best available evidence on effectiveness and long-term effects, the facilities and equipment available & the experience of the surgeon who will perform the operation?		
Is a multidisciplinary team in place to provide post-surgical support for a minimum of two years?		
Are prospective audits used to ensure monitoring can be achieved for, the outcomes and complications of different procedures, the impact on quality of life/nutritional status and the effect on comorbidities?		

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