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Changing Behaviour: Techniques for Tier 2 Adult Weight Management Services

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Prepared by: Professor Falko Sniehotta, Dr Amanda Bunten, Vicki Coulton, Jamie Blackshaw and Dr Alison Tedstone.

For queries relating to this document, please contact: phe.enquiries@phe.gov.uk

Public Health England
Wellington House
133-155 Waterloo Road
London SE1 8UG
Tel: 020 7654 8000
www.gov.uk/phe
Twitter: [@PHE_uk](https://twitter.com/PHE_uk)
Facebook: www.facebook.com/PublicHealthEngland

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Published: June 2017

PHE publications
gateway number: 2017052

PHE supports the UN
Sustainable Development Goals



Overview

This is a supplementary document to the **PHE Guide to Delivering and Commissioning Tier 2 Adult Weight Management Services** providing relevant, evidence-based behaviour change techniques recommended for inclusion in weight management services for weight loss and weight loss maintenance.

The recommendations in this review are based on recommendations from NICE guidance PH49 (Behaviour change: individual approaches) and PH53 (Weight management: lifestyle services for overweight or obese adults) and evidence from large systematic reviews (Michie, Abraham, Wittington, et al, 2009; Dombrowski, Sniehotta, Avenell, et al, 2012; Dombrowski, Knittle, Avenell, 2014; Hartmann-Boyce, Jebb, Fletcher and Aveyard, 2015).

What are Behaviour Change Techniques?

Behaviour Change Techniques (BCTs) are defined as observable, replicable and irreducible components of an intervention designed to alter behaviour. They are regarded as the active ingredients of an intervention that can bring about behaviour change (Michie et al, 2013).

The reporting of behaviour change interventions has often been insufficient to identify the content of the interventions delivered and the key behaviour change techniques used (Michie, Abraham, Wittington et al, 2009). As a result, the Behaviour Change Technique Taxonomy (Version 1) was developed with the aim to provide an extensive, consensually agreed hierarchically structured taxonomy of techniques used in behaviour change interventions. The techniques were identified by collating behaviour change techniques used in reported interventions. These were subsequently reviewed by an expert panel to arrive at consensus as to which techniques should be included in the taxonomy and how. The result is a taxonomy that consists of 93 techniques, grouped into 19 clusters (Michie, Richardson, Johnston, et al, 2013).

Components of Effective Weight Management Programmes: Identifying key behaviour change techniques

Research has found that weight management interventions using behaviour change techniques associated with self-regulation or control theory (Carver & Scheier, 1998), appear to lead to more weight loss (Michie, Abraham, Wittington, et al, 2009; Dombrowski, Sniehotta, Avenell, et al, 2012). This includes techniques such as; prompt

intention formation, prompt specific goal setting, provide feedback on performance, prompt self-monitoring of behaviour, and prompt review of behavioural goals.

Table 1 below provides the recommended evidence-based behaviour change techniques for inclusion in effective weight management interventions. It provides a description of the technique, and a relevant example in practice specifically for tier 2 weight management services for adults. These are grouped by clusters of techniques as per the behaviour change technique taxonomy (Michie et al, 2013).

It may be useful to include the techniques in a service specification when commissioning a new weight management service; for consideration when reviewing responses to tenders; and evaluating existing services.

Table 1. Recommended Behaviour Change Techniques to be included in weight management programmes*

Behaviour Change Category	Behaviour Change Technique	Definition	Examples of Application
Antecedents	Changes to the social environment	Change, or advise to change the social environment in order to facilitate performance of the wanted behaviour or create barriers to the unwanted behaviour (other than prompts/cues, rewards and punishments)	<ul style="list-style-type: none"> • provide exclusive fitness classes for service users to allow them to learn how to exercise safely and get used to the environment, without experiencing anxiety or fear of embarrassment • provide cooking sessions with the opportunity for participants to prepare food together • provide sessions at family friendly times
Feedback and monitoring	Self-monitoring (behaviour and outcome)	Establish a method for the person to monitor and record their behaviour(s) as part of a behaviour change strategy	<ul style="list-style-type: none"> • encourage service users to monitor their own dietary intake such as calories in food, drink and alcohol by keeping a food diary to inform goal setting or to monitor if goals are achieved • encourage use of (and provide) physical activity tracking devices or an exercise diary so service users can monitor their physical activity levels • ask service users to self-weigh (and provide weighing scales if possible) • recommend/provide access to apps that allow self-monitoring of behaviours, such as Change4Life Food Smart, Change4Life Sugar Smart, OneYou Active 10 walking tracker, NHS Choices calorie checker
Goals and planning Goals and	Goal setting (behaviour)	Set or agree on a goal defined in terms of the behaviour to be achieved	<ul style="list-style-type: none"> • develop realistic activity plans, including active travel and reducing sedentary time, tailored

planning			<p>to each service user's lifestyle and occupation (make them SMART goals, Specific, Measurable, Attainable, Relevant, Timely)</p> <ul style="list-style-type: none"> • use graded/incremental goal setting so that the service users can improve their activity levels in small steps without the experience of failure (eg challenge based approaches) • support service users with model portion size advice so that service users are aware of how much they should be eating • develop realistic dietary goals relevant to each service users lifestyle for example reducing the number of bags of crisps eaten each week
	Goal setting (outcome)	Set or agree on a goal defined in terms of a positive outcome of wanted behaviour	<ul style="list-style-type: none"> • agree a target weight for each service user, for the duration of the programme, based on NICE guidance and individual service user needs. Agree weekly weight loss targets to achieve this in smaller increments • ask participant to set a personal relevant longer term goal, eg to lose 5–10% of their weight and maintain in 1 year • service users should keep a written record of their overall goals and specific plans. These could be indirectly related to weight loss: 'Getting back into those jeans I love', 'Dropping a dress size for my daughter's wedding day', 'Not feeling breathless walking up the stairs'
	Review	Review behaviour goal(s)	<ul style="list-style-type: none"> • develop healthy eating and

	behaviour goal(s)	jointly with the person and consider modifying goal(s) or behaviour change strategy in light of achievement. This may lead to re-setting the same goal, a small change in that goal or setting a new goal instead of (or in addition to) the first, or no change	<p>physical activity plans and review regularly with service users to ensure they remain suitable</p> <ul style="list-style-type: none"> • establish weekly weigh-ins and alter behavioural goals accordingly if weight loss goals are not reached • review participants' concerns over physical activity and healthy eating goals in the previous week, and review goal adjustment in accordance
Goals and planning	Problem solving	Analyse or prompt the person to analyse, factors influencing the behaviour and generate or select strategies that include overcoming barriers and/or increasing facilitators (includes 'Relapse Prevention' and 'Coping Planning')	<ul style="list-style-type: none"> • discuss perceived barriers to healthy eating and make plans how to deal with these barriers • encourage service users to think about their own time management, stress management and/or sleep pattern, and provide support/guidance/referral where appropriate • consider providing training for staff in alcohol and smoking brief interventions, or facilitate referrals to brief intervention services when/where appropriate • ensure staff can signpost/refer service users to relevant mental wellbeing services where necessary • provide/ sign-post to recipe ideas for healthier meals/ideas, ie C4L smart recipe app • provide a range of physical activities for service users who don't like or can't participate in certain classes, eg using the stairs or cycling • prompt participant to identify and

			<p>find ways to overcome barriers to making changes to their eating and exercise habits (eg improve management of food cravings)</p> <ul style="list-style-type: none"> • provide online support for relapse prevention • identify individual, work-place and community barriers and solutions to overcome these
Shaping knowledge	Behavioural instruction	Advise or agree on how to perform the behaviour	<ul style="list-style-type: none"> • provide practical and educational food classes which focus not only on nutrition and healthy eating, but on cooking with healthier ingredients. Use resources such as the Eatwell Guide to facilitate education, and encourage users to think about portion sizes so that they can challenge perceptions on the amounts they are eating and what they should be eating • provide entry level fitness classes or taster sessions for individuals who want to exercise but don't know how to do so safely, and provide instruction in use of gym equipment beyond the initial induction
Social support	Social support (general)	Advise on, arrange or provide social support (eg from friends, relatives, colleagues or staff) or praise or reward for performance of the behaviour. It includes encouragement and counselling, but only when it is directed at the behaviour	<ul style="list-style-type: none"> • encourage groups to engage in peer support and reinforce the positive changes members make • facilitate the setting up of support groups for service users using social media platforms, eg Helping Overcome Obesity Problems (HOOP) • provide one to one support for individuals, either face to face or via telephone, where required. • give information about activities

			available in the community (signposting)
Social support	Social support (practical)	Advise on, arrange, or provide practical help (eg from friends, relatives, colleagues or staff) for performance of the behaviour	<ul style="list-style-type: none"> • create a peer buddy system • advise on seeking family, friends and peers to in physical activities, help them to plan changes, make or accept changes to the family's diet or free up the participant's time so they can take part in preventive activities • encourage service users to share positive ideas with regards to nutrition and/or increasing physical activity • facilitate group activities outside of the programme (eg assisting service users in arranging a walking group, arranging supermarket tours, etc) • where incentives are used to encourage physical activity outside of the group (eg gym vouchers, reduced annual gym fees), engage with fitness instructors with regards how best to support service users using their facilities • encourage sessions to have crèches for children so parents can attend
	Social support (emotional)	Advise on, arrange, or provide emotional social support (eg from friends, relatives, colleagues or staff) for performance of the behaviour	<ul style="list-style-type: none"> • ensure service providers are aware of issues surrounding mental wellbeing, and can signpost or refer service users to relevant services where necessary • facilitate the setting up of support groups for service users using social media platforms • encourage service users to engage in peer support during

			<p>sessions</p> <ul style="list-style-type: none"> • encourage service users to invite a supporter along to sessions if they wish
Feedback	Feedback on behaviour	Monitor and provide informative or evaluative feedback on performance of the behaviour (eg form, frequency, duration, intensity)	<ul style="list-style-type: none"> • feedback should apply to both healthy eating and physical activity elements; where nutrition staff run sessions, fitness instructors should provide them with feedback on service users' progress in gym/fitness classes • use self-report measures of physical activity at set time points within the weight management programme (eg enrolment, 12 week, 6 months, and 12 months) • take records of attendance at fitness classes, or use a gym log to record service users' engagement with facilities • encourage use of activity trackers, monitoring apps, and other devices that provide immediate feedback on behaviour • check-ins on exercise and healthy eating in group sessions and discussion of progress
	Feedback on outcome	Monitor and provide feedback on the outcome of performance of the behaviour	<ul style="list-style-type: none"> • monitor weight throughout the programme, either weekly or per session • measure waist circumference at set points throughout the programme (eg enrolment, 12 week, 6 months, and 12 months) • monitor other factors such as mental wellbeing to identify additional positive outcomes of the behaviour change

*Behaviour Change techniques drawn from NICE PH49 (2014) Behaviour change: individual approaches and NICE PH53 (2014a) Weight Management: lifestyle services for overweight or obese adults

Making weight loss sustainable: Addressing weight loss maintenance after the completion of active programmes

A recent systematic review (Dombrowski, Knittle, Avenell, Araujo-Soares, & Sniehotta, 2014) reported that comprehensive behavioural interventions targeting dietary and physical activity behaviours are moderately effective in slowing regain of weight in obese adults after initial weight loss for follow up periods of up to 24 months (with a reduction of weight regain of 1.56kg).

Given the limited evidence on the effectiveness of weight management programmes of sustained weight loss at 12 months, a number of evidence statements for supporting weight loss maintenance are presented below. These are followed by some additional behaviour change techniques for consideration where there is emerging evidence to suggest these may be effective.

Evidence statements for Weight Loss Maintenance (WLM) from existing guidance

- 1. Self-monitoring, promoting independence and self-management** are all recommended (PH53; QS111; NG7; PH49). (The target outcome (weight) or the behaviour (diet, physical activity) is not yet specified).
- 2. Setting a target weight that is sustainable in the long term** (QS111). (Currently there is no evidence or guidance provided on how to set an appropriate or sustainable target weight).
- 3. Identify sources of ongoing [social] support once the programme has ended** (QS111; PH53)
- 4. Set goals to maintain new dietary behaviours and increased physical activity levels** (QS111; PH53; PH49). (There is currently no evidence or guidance on what are appropriate goals ie whether these should be higher/ lower/ or the same as the current behavioural goal).
- 5. Discuss and develop strategies to overcome any difficulties encountered such as barriers, relapse, weight regain** (QS111; PH53; PH49).

- 6. Identify dietary behaviours that will support weight maintenance and are sustainable in the long term eg, national advice on healthy eating/ use of NHS choices (QS111; PH53; NG7)**
- 7. Promote ways of being more physically active and less sedentary which are sustainable in the long term (QS111; PH53).**

Evidence suggests that weight loss that is only maintained for a relatively brief time following behavioural weight management programmes may have long term health benefits.

Additional behaviour change techniques to consider for WLM

There is some evidence for the following behaviour change techniques in successful weight loss maintenance. As such, commissioners are encouraged to test and evaluate their effectiveness.

1. Encourage regular self-weighing to support WLM

Daily/ regular weighing (self-monitoring of outcome) may be associated with more successful WLM (Zheng et al, 2014: systematic review)

Daily/ regular weighing is not associated with adverse outcomes (Zheng et al, 2014: systematic review)

2. Manage expectations around regain, and how to minimise it

Regain tends to occur at an approximate rate of 0.047/month faster than a control group (NICE Evidence review 1c; Hartmann-Boyce, Aveyard et al, 2014) ie approx. 0.5kg per year beyond a no-intervention comparator.

3. Make explicit plans for how to achieve reversal of weight regain, if it occurs

Since regain is expected, advice on how to deal with regain, in order to return to a healthier weight, has the potential to support WLM. Resumption of evidence-based weight loss activities (eg re-engagement with programme used for WL) should be explicitly advised for weight gain above a threshold agreed with the service user.

4. If WL was achieved by diet alone, initiate an increase in physical activity to support WLM

Interventions including diet and physical activity, rather than just diet, are associated with successful WLM (Dombrowski et al, 2014: systematic review and meta-analysis).

5. Encourage continuous investment in weight management

To date, there is no compelling evidence that certain behaviour change techniques lead to better weight loss maintenance than others. What is known is that extended care increases weight loss maintenance (Middleton et al., 2012 – systematic review with meta-analyses).

Given the limited evidence base of what works in delivering longer term weight management outcomes, commissioners and providers are encouraged to ensure robust evaluation in line with “Capturing Data: A tool to collect and record adult weight management service data” is undertaken in all weight loss services.

Relevant resources

Evidence statements on the effectiveness of behavioural weight management programmes for PH53; focus on 12 month outcomes and beyond (Hartman-Boyce et al, 2014)

<https://www.nice.org.uk/guidance/ph53/evidence/evidence-statements-431709229>

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ANNEX 1

Existing guidelines/quality standards relating to weight loss maintenance

NICE definition of weight regain

“Weight regain means regaining some or all of the weight that was lost during a lifestyle weight management programme. The prevention of weight regain refers to keeping to a lower weight than the person would have been if they had not lost weight in the first place. This is also referred to as being on a lower weight trajectory.”

Table 1: Sources and details of existing guidelines /quality standards

Source	Detail
PH53 Recommendation 10 Commission programmes that include the core components to prevent weight regain	<p>Commissioners should:</p> <p>Commission or recommend lifestyle weight management programmes that address the prevention of weight regain by: fostering independence and self-management (including self-monitoring).</p> <p>Discuss opportunities for ongoing support once the programme or referral period has ended. Sources of ongoing support may include the programme itself, online resources or support groups, other local services or activities, and family or friends. Stressing the importance of maintaining new dietary habits and increased physical activity levels in the long term to prevent weight re-gain and discussing strategies to overcome any difficulties in maintaining the new behaviours.</p> <p>Encourage dietary habits and physical activity habits that will support weight maintenance and are sustainable in the long term. For example, programmes should emphasise how following national advice on healthy eating can support weight management. (For example, see NHS Choices.)</p> <p>Promote ways of being more physically active and less sedentary that are sustainable in the long term (for example, walking). The wider benefits of physical activity should also be emphasised.</p>
QS111 Quality statement 8: Adults about to complete a lifestyle weight management programme agree a plan to prevent	<p>Service providers (providers of lifestyle weight management programmes should ensure that adults about to complete a lifestyle weight management programme agree a plan to prevent weight regain.</p> <p>Healthcare professionals (such as GPs, dietitians and practice</p>

<p>weight regain.</p>	<p>nurses) ensure that they make referrals to and promote lifestyle weight management programmes that include agreeing a plan to prevent weight regain on completion.</p> <p>Commissioners (such as NHS England, clinical commissioning groups and local authorities) should ensure that a plan to prevent weight regain is agreed with adults who are about to complete a lifestyle weight management programme. This could be provided by the lifestyle weight management programme provider or commissioned separately.</p> <p>Plan to prevent weight regain</p> <p>A plan to prevent weight regain should:</p> <ul style="list-style-type: none"> • encourage independence and self-management (including self-monitoring) • identify a suitable weight target that is sustainable in the long term • identify sources of ongoing support once the programme has ended, such as online resources, support groups, other local services or activities, and family and friends • include goals to maintain new dietary habits and increased physical activity levels and strategies to overcome any difficulties encountered • identify dietary habits that will support weight maintenance and are sustainable in the long term • promote ways of being more physically active and less sedentary which are sustainable in the long term.
<p>QS111 Quality statement 5: Publishing performance data on local lifestyle weight management programmes</p>	<p>Commissioners and Service Providers should ensure collection of details on how each participant's weight has changed 12 months after the programme is completed.</p>

N.B. 12 Month Data Collection: this is important for commissioners of whom there is an expectation of delivering services which show sustainable reductions in weight amongst those participating in the service. If you wish to set any 12 month outcome measures, consider whether the commissioner or the service provider should be responsible for this. If it is the responsibility of the service provider, it is likely to increase the cost per participant. The greater cost of longer term outcomes as a routine part of a provider

specification will need to be weighed up against the risk of asking other providers, such as primary care, to provide follow up data through routine care or the added value in collecting this information in routine practice.