The evidence statements

This document lists the evidence statements that support the recommendations in NICE's guidance on Behaviour change: individual approaches. For details of which evidence statements are linked to each recommendation, see section 10 of the guidance. Only evidence statements linked to a recommendation are listed in this document.

The evidence statements are short summaries of evidence, in a review, report or paper (provided by an expert in the topic area). Each statement has a short code indicating which document the evidence has come from. The letters in the code refer to the type of document the statement is from, and the numbers refer to the document number, and the number of the evidence statement in the document.

Evidence statement number 1.1 indicates that the linked statement is numbered **1** in **review 1**. **Evidence statement number 2.1.3** indicates that the linked statement is numbered **1.3** in **review 2**. **Evidence statement number 3.3.4** indicates that the linked statement is numbered **3.4** in review **3**.

Please note that the wording of some evidence statements has been altered slightly from those in the evidence reviews to make them more consistent with each other and NICE's standard house style.

The evidence reviews are:

- Review 1: 'Individual-level behaviour change: review of current NICE guidance and recommendations' (see page 2 of this document for the evidence statements)
- Review 2: 'Individual-level behaviour change: review of evidence of effectiveness of interventions and behaviour change techniques in individual level interventions' (see page 20 of this document for the evidence statements)
- Review 3: 'Individual-level behaviour change: A qualitative review of studies describing the skills base needed to deliver behaviour change interventions or techniques' (see page 31 of this document for the evidence statements)

The reviews are available online.

Review 1: 'Individual-level behaviour change: review of current NICE guidance and recommendations'

Evidence statement 1.2

There is evidence from 1 systematic review (++)[1] and 1 meta-analysis (+)[2] that individual counselling has an effect in facilitating smoking cessation. Further evidence from a single study (−)[3] showed an inconclusive effect of motivational interviewing in smoking cessation. The elements of the individual counselling interventions were not deducible from the evidence tables associated with the guidance. However, most behavioural counselling elements would map to behaviour change technique (BCT): social support (unspecified). There may be additional applicable BCTs that were used but were not recorded in the evidence tables and so are not included here.

[1] Moher et al. 2005

[2] Fisher et al. 1990

[3] Dunn et al. 2001

Evidence statement 1.4

Two systematic reviews (1 [+][1] and 1 [++][2]) and 1 meta-analysis (+)[3] provide evidence that NRT can be effective at facilitating smoking cessation as part of a brief intervention or with low intensity support. The definition of low-intensity in 1 review[1] was intended to identify a level of support that could be offered as part of the provision of routine medical care. If the duration of time spent with the smoker (including assessment for the trial) exceeded 30 minutes at the initial consultation or the number of further assessment and reinforcement visits exceeded 2, the level of additional support was categorised as high.

Behaviour change techniques: pharmacological support with or without support (BCT: social support [unspecified]).

[1] Silagy et al. 2004

[2] Moher et al. 2005

[3] Fisher et al. 1990

Evidence statement 1.6

A single Cochrane review (+)[1] provides evidence that proactive telephone counselling has a positive effect on smoking quit rates compared with less intensive interventions (less intensive not defined in the evidence tables; odds ratio [OR] 1.56, 95% confidence interval [CI] 1.38–1.77). Adding telephone support to face-to-face interventions or NRT did not have a long-term effect on quit rates.

The Cochrane review concluded that proactive telephone counselling (rather than reactive telephone support) helps smokers interested in quitting. Also that telephone quitlines provide an important route of access to support for smokers and call-back counselling enhances their usefulness.

No coding of BCTs was possible from information in the evidence table. NICE public health guidance 5 describes telephone counselling and quitlines as providing proactive or reactive advice, encouragement and support over the telephone (BCT: social support [unspecified]) to anyone who smokes who wants to quit, or who has recently quit. It was noted in public health guidance 6 that review level evidence (1 [+][2] and 1 [−][3]) on social support interventions, including buddy systems or support from friends and family, showed 'less clear, poor quality or inconclusive evidence of effect'. Hence, the specific type of social support (professional or family) and method (face-to-face or telephone support) may be important and related to its effectiveness at bringing about behaviour change.

[1] Stead et al. 2003

[2] Park et al. 2004

[3] May and West 2000

Evidence statement 1.7

There is evidence from a systematic review (++)[1] that cognitive behaviour therapy (CBT), motivational interviewing and structured self-help and support from NHS stop smoking services can be effective at increasing quit rates in pregnant women.

There is additional evidence from 4 UK studies (all [+][2–5]) that NHS stop smoking services (including provision of NRT) are effective.

One randomised controlled trial (RCT) (++)[6] found no effect regarding the effectiveness of NRT for promoting smoking cessation in pregnancy.

CBT, a form of directive psychotherapy that emphasises the interrelated influence of thoughts, feelings and behaviour, is a more intensive form of counselling (with social support) provided by NHS stop smoking support services (BCT: social support [unspecified]). These services also encompass practical (BCT: social support [practical]) and emotional support (BCT: social support [emotional]) to aid smoking cessation and so represent all elements of BCT cluster 'social support'. NHS stop smoking services can also contain an element of pharmacological support in the form of nicotine replacement therapy and other medicines to help quit smoking (BCT: pharmacological support) although there was mixed evidence that NRT was effective in other contexts.

The content of motivational interviewing was often described in only limited detail in the guidance and evidence tables. Based on the detail provided it best matched Intervention Function 2 Persuasion (defined as 'Using communication to induce positive or negative feelings, or to stimulate action'). Self-help material interventions were not defined in enough detail to deduce their function (for example, to persuade or motivate) but are an example of BCT: adding objects to the environment to facilitate behaviour change.

[1] Lumley et al. 2009

[2] Bryce et al. 2007

[3] Lee et al. 2006

[4] Macaskill et al. 2008

[5] McGowan et al. 2008

[6] Oncken et al. 2008

Evidence statement 1.9

One systematic review (+)[1] of RCT and non-RCT studies found no conclusive evidence for the effectiveness of health education and counselling interventions to encourage pregnant women to eat healthily. There is also inconclusive evidence from 1 RCT (+)[2] as to whether dietary intervention alone helps women across the body mass index (BMI) spectrum start to lose weight after childbirth.

Three RCTs (1 [+][3] and 2 [−][4,5]) from the USA found that interventions focusing on diet and exercise resulted in decreased calorie intake[3,4,5] and decreased consumption of unhealthy foods in women postpartum[3].

Behaviour change components

Two RCTs[4,5] indicated that the characteristics of programmes that are effective in enabling some women to lose weight in the postpartum period are those that: combine diet and physical activity; include strategies for behaviour change; tailor the intervention to individual or group needs; include some group sessions and written materials; provide on-going support (BCT: social support [unspecified]) and contact with programme staff; and are of a sufficient duration to make sustained lifestyle changes (see NICE public health guidance 11, evidence statement 3.5). The behaviour change components identified by the authors above are not detailed enough to code individual BCTs. Information from the evidence tables suggests that 1 RCT[4] tended to focus on BCT clusters ‘Feedback and monitoring’, ‘Social support’ and ‘Goals and planning’ as well as including discussion of behaviour change (no code) and problem-solving strategies (BCT: problem solving). The intervention in the RCT[3] also discussed behaviour change strategies and problem solving with participants alongside implementing aspects of BCT clusters ‘Goals and planning’ and ‘Feedback and monitoring’. The main intervention components in the RCT[5] were also related to BCT clusters ‘Goals and planning’ and ‘Feedback and monitoring’.

[1] Van Teijlingen et al. 1998

[2] McCrory et al. 1999

[3] Lovelady et al. 2006

[4] Leermakers et al. 1998

[5] O'Toole et al. 2003

Evidence statement 1.10

There is a small body of evidence from 5 RCTs (2 [++][1,2], 2 [+][3,4] and 1 [−][5]) and 1 controlled non-RCT (−)[6] showing brief interventions in primary care can be effective in producing moderate increases in physical activity in middle aged and older populations in the short term (6–12 weeks), longer term (more than 12 weeks) or very long term (more than 1 year). For the effect to be sustained at 1 year, the evidence suggested that several follow-up sessions over a period of 3–6 months are needed after the initial consultation episode.

The same 6 studies provide inconclusive evidence for the benefit of including a 'written prescription' outlining physical activity goals and or step testing during the intervention consultation.

Qualitative evidence from 2 interview studies (both [++][7,8]) and 1 focus group study (++)[9] suggests health information and support could facilitate healthy lifestyle changes.

Behaviour change components

The 6 effective studies cited above all contained brief advice, either verbal or written (intervention function: education), alone or in combination with 1 of the following: motivational interviewing (intervention function: persuasion), calls from an exercise specialist (BCT cluster 'social support'), and in 1 case[5] a physical activity plan for the next 3 months (BCT: action planning). The qualitative evidence cited above indicated that well-received approaches included: motivational interviewing, check-up visits, formal measurements, and repeat tests to monitor and help sustain behaviour change.

[1] Elley et al. 2003

[2] Petrella et al. 2003

[3] Harland et al. 1999

[4] Swinburn et al. 1998

[5] Halbert et al. 2000

[6] Bull and Jamrozik 1998

[7] Penn et al. 2008

[8] Jallinoja et al. 2007

[9] Troughton et al. 2008

Evidence statement 1.11

There is a body of evidence (3 studies, all [++][1–3]) that shows that lifestyle interventions based on physical activity alone appear effective at increasing physical activity levels and reducing the incidence of type 2 diabetes in adults with existing impaired glucose tolerance.

There is evidence that lifestyle interventions combining physical activity and diet are more effective at reducing diabetes risk than those of diet or physical activity alone based on a meta-analysis of 12 RCTs[4].

Behaviour change components

Behavioural components associated with physical activity behaviour change interventions to reduce the risk of type 2 diabetes were analysed by 3 relatively recent reviews (all [++][1,5,6]). These authors suggested that the following techniques were associated with effective interventions for reducing the risk of type 2 diabetes: a prescriptive approach that gradually increased the frequency and volume of activity over time (BCT: graded tasks) as well as providing observational and vicarious learning opportunities (BCT: vicarious consequences) and encouraging self-monitoring (BCT: self-monitoring of outcomes). Encouragement through direct supervision of physical activity was also highlighted. No BCT was coded for ‘direct supervision’ because it was unclear how the supervision was used to change behaviour, for example to provide external monitoring or feedback, instruction or a demonstration of the correct behaviour for modelling purposes.

[1] Baker et al. 2011

[2] Paulweber et al. 2010

[3] Pan et al. 1997

[4] ScHARR 2011

[5] Norris et al. 2007

[6] Yuen et al. 2010

Evidence statement 1.12

There is broadly conclusive, moderate or high quality evidence in support of effectiveness for brief interventions for adults in primary care consisting of information and advice. Six studies (2 RCTs [++][1,2], 2 RCTs [+][3,4], 1 RCT [−][5] and 1 non-RCT [−][6]), showed short-term (6–12 weeks) effectiveness but had a limited effect in the medium (more than 12 weeks) and long term (more than 1 year).

There is broadly conclusive, moderate or high quality evidence in support of effectiveness of home-based, group-based, and educational physical activity interventions on increasing physical activity among older people. Two systematic reviews (1 [++][7] and 1 [−][8]) showed a small but short-lived (not accurately defined from summary evidence) effect.

There is mixed quality evidence (1 RCT [++][9] and 3 RCTs [−][5,10,11]) that exercise referral may be effective at increasing physical activity in the in short term (6 to 12 weeks), but ineffective in the long term (more than 12 weeks) or very long term (more than 1 year).

There is mixed quality equivocal evidence from 6 studies (2 RCTs [++][1,2], 2 RCTs [+][3,4], 1 RCT [−][5] and 1 non-RCT [−][6]) on the additional benefit of brief interventions containing a 'written prescription' outlining physical activity goals and/or step testing during the consultation.

There is mixed quality equivocal evidence from 4 RCTs (all [−][12–15]) on pedometer based interventions.

There is mixed quality equivocal evidence on referral to community walking schemes from 2 individual RCTs (1 [++][9] and 1 [−][16]), 1 cluster RCT [++][17], and 1 delayed intervention study [−][18.]

There is mixed quality equivocal evidence on using biomarker feedback, brief motivational interventions and counselling interventions from 2 systematic reviews (1 [−][19] and 1 [+][20]).

Behaviour change components

A systematic review of RCTs (++)[21] looked at behaviour change characteristics associated with effective interventions for preventing diabetes. For physical behaviour change it concluded that trials that demonstrated effectiveness reported a prescriptive approach that gradually increased the frequency and volume of activity over time (BCT: graded tasks) as well as providing observational and vicarious leaning opportunities (BCT: vicarious consequences) and encouraging self-monitoring (BCT: self-monitoring of outcomes). Three of the successful trials also included direct supervision of physical activity (see NICE public health guidance 38 Preventing type 2 diabetes: risk identification and interventions for individuals at high risk, evidence statement 3.8). No BCT was coded for 'direct supervision' because it was unclear how the supervision was used to change behaviour, for example, to provide external monitoring or feedback, instruction or a demonstration of the correct behaviour for modelling purposes.

[1] Elley et al. 2003

[2] Petrella et al. 2003

[3] Harland et al. 1999

[4] Swinburn et al. 1998

[5] Halbert et al. 2000

[6] Bull and Jamrozik 1998

[7] van-der-Bij et al 2002

[8] Conn et al 2003

[9] Lamb et al. 2002

[10] Taylor et al. 1998

[11] Harrison et al. 2005

[12] DuVall et al. 2004

[13] Moreau et al. 2001

[14] Tudor-Locke et al. 2004

[15] Talbot et al. 2003

[16] Hamdorf and Penhall 1999

[17] Fisher and Li 2004

[18] Macrae et al. 1996

[19] McClure 2002

[20] Eden et al. 2002

[21] Baker et al. 2011

Evidence statement 1.13

A meta-analysis of 9 studies[1] showed that diet or physical activity interventions can reduce the progress to diabetes for people with impaired glucose tolerance (pooled hazard ratio [HR] 0.51, 95% CI 0.43 to 0.62). Combined interventions were more effective than diet or physical activity interventions alone.

Behaviour change components

Behavioural components associated with diet and physical activity behaviour change interventions to reduce the risk of type 2 diabetes were analysed by 3 reviews (all [++][2–4]). They describe the following components as being associated with effective interventions:

- Delivering written information as well as verbal advice intervention function: education).
- Encouraging self-monitoring; and logging of physical activity, diet and weight change (BCT: self-monitoring of behaviour and BCT: self-monitoring of outcomes).

- Gradually increasing volume and frequency of physical activity levels (BCT: graded tasks).
- Encouragement through direct supervision. No BCTs could be identified for 'direct supervision' because it was unclear exactly how the supervision was used to change behaviour, for example, to provide encouragement through external monitoring or feedback, instruction or a demonstration of the correct behaviour for modelling purposes.
- Regular reinforcement of set goals (BCT cluster: 'Goals and planning').
- Social support (BCT cluster: 'Social support').
- Self-regulatory behaviour change techniques, for example, goal-setting (BCT cluster: 'Goals and planning') and self-monitoring (BCT cluster: 'Feedback and monitoring').
- Motivational interviewing (intervention function: persuasion).
- Brief advice, usually alongside goal-setting (intervention function: education alongside BCT cluster 'Goals and planning'), time management techniques (for physical activity) and encouraging self-talk (BCT: self-talk) (for both dietary change and physical activity).
- Pedometer interventions, that is, self-monitoring of physical activity (BCT: self-monitoring of behaviour), usually alongside step-goals (BCT: goal-setting [behaviour]) or step diaries (BCT: self-monitoring of behaviour).

Importantly, earlier evidence on pedometer use in adults (evidence statement 12) concluded that the evidence was equivocal. NICE public health guidance on walking and cycling (NICE public health guidance 41) includes evidence on the use of pedometers for increasing physical activity.

[1] Jones et al. 2012

[2] Baker et al. 2011

[3] Norris et al. 2007

[4] Yuen et al. 2010

Evidence statement 1.14

There is evidence from 5 RCTs (all [−][1–5]) that diet and exercise programmes are effective in enabling some women to lose weight gained during pregnancy[2–4]. Combined diet and physical activity interventions are more effective than diet or physical activity alone and integrated programmes of activity that support participants to promote weight loss are more effective than information alone[1,5].

There is further evidence from 1 Australian-based case series[6] (not quality graded in the evidence review but described in the main text as 'weak' evidence) that obese women trying to become pregnant but experiencing infertility can make a statistically significant reduction in BMI through a programme that includes regular physical activity, advice about healthy eating and group support.

Behavioural-change components

Two RCTs[1,5] provide evidence that the following characteristics are associated with effective interventions that enable some women to lose weight in the postpartum period: intervention function: education, BCT clusters 'Social support' and 'Goals and planning', BCT: self-monitoring of behaviour, BCT: self-monitoring of outcomes, and BCT: action planning. Evidence from 1 case series[6] also identified BCT: behavioural practice/rehearsal and BCT: problem-solving.

[1] Leermakers et al. 1998

[2] Lovelady et al. 2000

[3] Lovelady et al. 2006

[4] McCrory et al. 1999

[5] O'Toole et al. 2003

[6] Galletly et al. 1996

Evidence statement 1.15

There was evidence from 2 systematic reviews (1 of RCTs [++] [1] and 1 of RCTs and non-RCTs [+][2]) quoted in NICE public health guidance 6 that showed evidence of a small positive effect of brief behavioural counselling interventions in reducing alcohol intake (mean reduction of approximately 4 drinks per week) in problem drinkers.

There was evidence from a systematic review (−)[3] of RCTs showing a small, positive effect of behavioural counselling interventions in reducing alcohol consumption.

Behavioural-change components

Interventions for problem drinkers in the evidence review for NICE public health guidance 6 were described as 'behavioural self-control interventions' and 'multi-contact behavioural counselling interventions' including 'behavioural self-control training'. This included 1 or more of the following elements: abstinence training (BCT cluster 'Repetition and substitutions'), education, information (both intervention function: education) coping skills (BCT: problem solving), counselling (BCT: social support [unspecified]) and self-monitoring (BCT: self-monitoring of behaviour).

[1] Bertholet et al. 2005

[2] Whitlock et al. 2004

[3] Walters Glenn 2000

Evidence statement 1.16

There is evidence from 27 systematic reviews that show brief counselling interventions are effective in reducing consumption in hazardous drinkers.

Six of the systematic reviews (all [++][1–6]) demonstrated that interventions delivered in primary care are effective in reducing alcohol-related negative outcomes. Evidence of effectiveness in other settings (emergency care, inpatient and outpatient settings and the workplace) was limited or inconclusive.

Behavioural-change components

Effective interventions described in the review for NICE public health guidance 24 had components of BCT clusters 'Social support' and 'Feedback and monitoring' and specific examples of BCT: information about health consequences and BCT: information about emotional consequences. Some also described 'self-control techniques' that link to the BCT clusters of 'Social support' and 'Feedback and monitoring'.

[1] Ashenden et al. 1997

[2] Ballesteros et al. 2004

[3] Bertholet et al. 2005

[4] Kaner et al. 2007

[5] Poikolainen 1999

[6] Whitlock et al. 2004

Evidence statement 1.17

There is evidence from 1 systematic review (+)[1] and 2 RCTs (1 [+][2] and 1 [−][3]) that 1 or more motivational interviews including reflection on the issues related to substance misuse (alcohol, tobacco or illicit drug use), in conjunction with goal setting to reduce or stop misusing substances, are effective at initiating behaviour change for (3 to 4 months) but are not effective in the medium or long term (at 12 months).

Behaviour change components

Goal setting was not described in detail and so only the cluster level categorisation was possible, BCT cluster 'goals and planning'. Motivational interviews were also not described in detail in the evidence tables but were coded as Intervention Function 2 Persuasion[3] reported using pamphlets (BCT: adding objects to the environment), motivational interviewing (intervention function: persuasion) and verbal reinforcement from a physician (BCT: persuasive source).

[1] Tait and Hulse 2003

[2] McCambridge and Strang 2004

[3] Oliansky et al. 1997

Evidence statement 1.18

The most effective interventions for reducing alcohol consumption in adults and vulnerable young people appear to be brief counselling interventions and extended brief interventions. For people classed as problem drinkers there is evidence from multiple systematic reviews supporting the effectiveness of brief interventions delivered in primary care with a range of underlying behavioural change components (see evidence statements 1.16 and 1.17 for references and further details).

Behavioural change components

Brief and extended behavioural counselling interventions for vulnerable young people were heterogeneous in their content but contained 1 or more of the following components: verbal and or written advice and information (intervention function: education), feedback on alcohol consumption (BCT: feedback on behaviour), strategies to reduce consumption (not specific enough to code BCT), motivational interviewing (intervention function: persuasion) with some specifying use of 'cognitive behavioural techniques'.

Evidence statement 1.19

STIs

There is evidence from 2 RCTs (1 [++][1] and 1 [+][2]) that 1-to-1 individual counselling can reduce STIs in the long and very long term in people who are heterosexual but the effect may reduce after 6 months.

Condom use

The evidence review in NICE public health guidance 3 Prevention of sexually transmitted infections and under 18 conceptions identified 25 studies of mixed quality (++ to −) reporting condom use. Overall the results showed a marginally positive effect of 1-to-1 STI/HIV prevention interventions on increasing short- and long-term condom use. The effect may reduce over time. Six studies in men who have sex with men evaluated condom use or unprotected sex and 3 found a significant beneficial effect (2 [++][3,4] and [−][5]).

HIV in men who have sex with men

There is evidence from a large US RCT[4] that 1-to-1 counselling can lead to a non-significant reduction in HIV infection in men who have sex with men.

STIs in adolescents

There is evidence from a subgroup analysis of a single RCT (++)[6] that 1-to-1 counselling sessions are effective in reducing STIs in adolescents (aged 12–18). There was insufficient evidence to determine the effect of 1-to-1 interventions on condom use in adolescents. There was little evidence that 1-to-1 interventions reduce the number of sexual partners of adolescents or promote abstinence.

Behaviour change components

Generally 1-to-1 discussions were not well described in the review evidence tables and so could not be coded. However, interventions in project RESPECT[1] were described in good detail as containing behaviour goal setting (BCT: goal setting [behaviour]), a risk reduction plan (BCT: action planning), and barriers to risk reduction (BCT: problem solving). Interventions[2] also contained elements of behavioural practice or rehearsal (BCT: behavioural practice/rehearsal); instructions on how to perform a behaviour (BCT: instructions on how to perform a behaviour) and information about health consequences (BCT: information about health consequences).

[1] Kamb et al. 1998

[2] Kalichman et al. 1996

[3] Dilley et al. 2002

[4] EXPLORE 2004

[5] Gold and Rosenthal 1995

[6] Bolu 2004

Evidence statement 1.20

There is evidence from 4 large RCTs (2 [+][1,2] and 2 [−][3,4]) that patient-delivered partner therapy plus additional information for partners reduces persistent or recurrent infections in women and men diagnosed with gonorrhoea or *C. trachomatis* by approximately 5% compared with patient referral.

There is also evidence from 2 randomised controlled trials (both [−][5,6]) that giving patients diagnosed with *C. trachomatis* sampling kits for their partners can increase the number of partners who get tested when compared with getting the partners to visit their doctor for testing.

Behaviour change components

One RCT[1] used ‘treatment packages’ that were delivered to partners by index patients and contained antibiotics (BCT: pharmacological support); drug information (intervention function: education); condoms (BCT: adding objects to the

environment); study personal contact information (no coding possible); a brochure about sexually transmitted diseases (STDs) and information that care for STDs is free (intervention function: education). The package as a whole also represented BCT: adding objects to the external environment. Similar packages were used in another RCT[3] with the addition of a phone number of a nurse for questions (BCT cluster 'Social support') and another RCT[2] also used a treatment package (BCT: adding objects to the environment) coupled with index patients (patients diagnosed with an STI) giving advice to their partners (intervention function: education).

[1] Golden et al. 2005

[2] Schillinger et al. 2003

[3] Kissinger et al. 1998

[4] Kissinger et al. 2005

[5] Andersen et al. 1998

[6] Ostergaard et al. 2003

Evidence statement 1.21

Evidence from 1 RCT (−)[1] and 1 non-randomised controlled study (+)[2] evaluated contraception advice and support in a clinic-based setting for younger people. The non-RCT[2] found a significant reduction in pregnancies and the RCT[1] showed a trend towards a reduction in the intervention group compared with control but this was not significant. The evidence review for NICE public health guidance 3 identified 4 studies that showed a statistically significant reduction in pregnancy (2 RCTs [+][3,4] and 1 RCT [−][5]; 1 non-RCT[2]) and the other studies showed a general trend towards a reduction. Therefore, it concluded that 'there appears to be evidence that 1-to-1 interventions with adolescents can reduce pregnancies'. Multi-session nurse home-visiting appears particularly effective, especially with low-income disadvantaged women. However, more research is needed in this area with a focus on the under-18s and studies powered to detect a change in pregnancies.

Evidence from 7 studies reported the outcome of contraception use including oral contraception, emergency contraception and condom use (3 RCTs [++][6–8], 1 RCT

[+][9] and 2 RCTs [−][10,11]; 1 non-RCT: [+][2]). Two RCTs[8,9] found 1-to-1 interventions with teenagers can improve contraception use in the long term. Of the 2 studies of advanced provision of emergency contraception (EC), 1 found an increase in the use of EC[7] and 1 an increase in condom use[6]. In the other studies the general trend was towards an increase in contraception use although 1 non-RCT found the effect on contraception use was no longer significant at 12 months[2]. Therefore, there is some evidence that 1-to-1 interventions with under-18s can increase contraception use. However, further research in this area is needed.

Behaviour change components

The guidance described: how 1-to-1 sexual health advice should include how to prevent and/or get tested for STIs and how to prevent unwanted pregnancies; all methods of reversible contraception, including long-acting reversible contraception (LARC) (in line with NICE clinical guideline 30); how to get and use emergency contraception; and other reproductive issues and concerns.

Studies providing evidence for increasing condom use[2,6–9] primarily described giving education and advice (intervention function: education) either alone or alongside providing contraception (BCT: adding objects to the environment).

Studies reporting effectiveness for reducing unwanted pregnancies also described the provision of advice (intervention function: education) and individual counselling (BCT: social support [unspecified]) about contraceptive methods coupled with provision of contraception (BCT: adding objects to the environment and BCT: pharmacological support)[1,2].

[1] Shlay 2003

[2] Winter 1991

[3] Olds 2002

[4] Olds 2004

[5] O'Sullivan 1992

[6] Gold 2004

[7] Harper 2005

[8] Quinlivan 2003

[9] Danielson 1990

[10] Boekeloo 1999

[11] Shlay 2003

Review 2: 'Individual-level behaviour change: review of evidence of effectiveness of interventions and behaviour change techniques in individual level interventions'

Evidence Statement 2.1.8

Inconsistent evidence was identified from five trials (4 [+][1–4] and 1 [++][5]) suggesting that interventions delivered face to face are no more effective than comparators at altering sexual health behaviours among individuals with HIV or other STIs. Remotely delivered interventions may be effective at changing sexual behaviour in this population.

The non-significant effect in interventions delivered face to face was seen across intervention types, genders, ethnicities, and comparators including: brief intervention compared to no intervention among women with genital warts (SMD −0.08, 95% CI −0.43 to 0.27)[1]; an extended intervention compared with usual care among African–American men newly diagnosed with a sexually transmitted infection other than HIV (SMD 0.29, 95% CI −0.005 to 0.59)[2]; a multi-session intervention compared with an attention control among HIV-positive men (SMD 0.08, 95% CI −0.14 to 0.30)[3], or compared with usual care among HIV-positive men who have sex with men (SMD 0.14, 95% CI −0.06 to 0.34)[4].

Evidence from 1 trial[5] suggests that a multi-session remotely delivered intervention may be effective at reducing unprotected sexual behaviour among HIV positive men and women reporting substance use or risky sexual behaviour (SMD 0.39, 95% CI 0.11 to 0.68).

The intervention that resulted in significant changes to sexual health behaviour reported use of BCT: Feedback on outcomes of behaviour; this BCT was not reported in any other intervention in this population, and was consistently used in sexual health interventions resulting in positive, significant effects.

[1] Cortes-Bordoy 2010

[2] Crosby 2009

[3] Golin 2012

[4] Wolitski 2005

[5] Gilbert 2008

Evidence statement 2.3.7

Strong evidence from 13 interventions in 11 studies suggests that multi-session smoking interventions delivered remotely (++)[1] or face to face with remote follow-up (7 [+][2,3,5,6,9–11] and 3 [++][4,7,8]) are no more effective than usual care at encouraging smokers with cardiovascular conditions or chronic obstructive pulmonary disease to quit.

The remotely delivered intervention[1] was found to be no more effective than usual care in terms of improving abstinence among patients hospitalised for cardiovascular disease.

Eleven of the face to face interventions with remote follow up resulted in no significant difference in smoking behaviour between the intervention and usual care arms at follow up[3-11], SMD range: −0.63 to 0.46; all non-significant.

Only 1 trial[2] resulted in a significant intervention effect. All of the BCTs reported in the study were also reported in other trials in this subgroup that found non-significant intervention effects.

The intervention resulting in significant effects on the smoking behaviour did not report any BCTs that didn't also appear in at least 3 of the interventions reporting non-significant effects, and also did not report use of any BCTs consistently found in smoking interventions with positive effects.

[1] Vale 2003

[2] Harting 2006

[3] Joseph 2008

[4] Hyman 2007

[5] Bock 2008

[6] Hilberink 2011

[7] Kotz 2009

[8] Chouinard 2005

[9] Koelewijn-van Loon 2010

[10] Groenveld 2011

[11] Sivarajan Froelicher 2004

Evidence statement 2.3.11

Strong evidence from 7 interventions in 5 studies suggests that multi-session remotely delivered interventions (+)[5] and face-to-face interventions with remote follow-up (1 [++][1] and 3 [+][2–4]) are no more effective than usual care at getting women to quit smoking during their pregnancy.

The 6 face-to-face trials with a remote component resulted in small to medium, non-significant effects[1–4]. The multi-session remotely delivered intervention[5] resulted in a small, non-significant effect on postpartum smoking.

The majority of these trials reported use of BCT: Social support (unspecified), which was also reported in the comparator arm of 2 of the interventions. BCT: Problem solving was reported in 3 of the 7 interventions.

[1] McBride 2004

[2] Stotts 2009

[3] Dornelas 2006

[4] Lawrence 2003

[5] Rigotti 2006

Evidence statement 2.3.13

Strong evidence from 7 trials (3 [+][4,6,7] and 4[++][1,2,3–5]) suggests that multi-session smoking interventions can be effective at aiding cessation attempts among smokers who are motivated to quit or report intending to quit within 6 months. One trial[1] of a workplace based intervention, delivered face-to-face and one-on-one, resulted in a

medium effect sustained abstinence among smokers motivated to quit. Although a multi-session intervention with face-to-face and remote components was no more effective than usual care among African–American men who wanted to quit smoking[2].

Five interventions used a remote delivery; all resulted in significant effects. Medium effect sizes were seen in both an internet based intervention[6] and a multiple text message programme[5]. Telephone counselling resulted in small to medium effect sizes across 3 trials[3,4,7].

The majority of these interventions reported use of BCT 4 Pharmacological support; this technique was also reported in both the intervention and control arms of the single non-significant intervention[2].

[1] Rodriguez-Aralejo 2003

[2] Nollen 2007

[3] Joseph 2011

[4] Rabius 2004

[5] Free 2011

[6] Swartz 2006

[7] An 2006

Evidence statement 2.3.17

Six interventions in 5 studies (2 [++][1,2] and 3 [+][3–5]) assessed the effectiveness of multi-session, remotely delivered interventions. No significant difference was seen in terms of relapse prevention among recent ex-smokers (SMD 0.02, 95% CI −0.19 to 0.23) [1], long term abstinence among women with an elevated cervical cancer risk (SMD 0.04, 95% CI −0.40 to 0.47) [2], or among rural smokers (SMD −0.02, 95% CI −0.25 to 0.20) [3].

Multiple telephone counselling sessions had large, significant effects on abstinence among HIV-positive smokers (SMD 0.80, 95% CI 0.42 to 1.17) [4] and smokers not

motivated to quit (SMD 0.83, 95% CI 0.31 to 1.35 and SMD 1.01, 95% CI 0.50 to 1.53 in the 2 interventions) [5]. These 3 interventions all reported use of BCT: Social support (unspecified) and BCT: Pharmacological support, although both were also reported in the comparator arm of 1 study[4]l.

[1] Segan 2011

[2] McClure 2005

[3] Schumann 2008

[4] Vidrine 2012

[5] Carpenter SR+NRT 2004

Evidence statement 2.4.4

Moderate evidence from 3 interventions (1 [++][1] and 2 [+][2,3]) suggests that multi-session dietary interventions that also address physical activity have a small, significant impact on eating habits among people with cardiovascular conditions. This effect was seen across several face-to-face delivery methods (individual:[2] SMD 0.22, 95% CI 0.15–0.29; group:[3] SMD 0.46, 95% CI 0.05–0.88; combined:[1] SMD 0.44, 95% CI 0.29–0.60). All of the interventions reported use of BCTs social support (unspecified), goal-setting (behaviour), and action planning. Two of the interventions[1,3] also reported use of BCT: problem-solving.

[1] Wood 2008

[2] Giannuzzi 2008

[3] White 2012

Evidence statement 2.4.5

Inconsistent evidence was identified from 7 RCTs regarding the effectiveness of extended (1 [+][1]) and multi-session (6 [+][2–7]) dietary interventions among people with type 2 diabetes.

An extended face-to-face intervention with print feedback[1] was no more effective than usual care at improving compliance with diet recommendations among patients with type 2 diabetes (SMD 0.41, 95% CI −0.005 to 0.83).

Two trials[6,7] utilised multi-session interventions delivered primarily to a group, and were no more effective than usual care at changing dietary habits (SMD 0.19, 95% CI −0.10 to 0.49[6]; SMD 0.15, 95% CI −0.09 to 0.39[7]).

Three trials[2,3,5] employed multi-session dietary interventions delivered face-to-face and remotely among diabetes patients. One trial[5] resulted in a very small, non-significant effect (SMD 0.07, 95% CI −0.29 to 0.42), and the remaining 2 trials had small to medium significant effects (SMD 0.55, 95% CI 0.15–0.95[2]; SMD 0.37, 95% CI 0.14–0.60[3]).

Results from 1 trial[4] suggest that an intervention of multiple counselling phone calls can have a small, significant effect on vegetable consumption among socioeconomically disadvantaged people with diabetes (SMD 0.20, 95% CI 0.01–0.39).

The 3 interventions resulting in significant effects[2–4] all reported use of BCT: feedback on behaviour; this BCT was not reported in any of the non-significant interventions.

[1] Osborn 2010

[2] Clark 2004

[3] Glasgow 2006

[4] Eakin 2010

[5] Keogh 2011

[6] Thoolen 2009

[7] Toobert 2010

Evidence statement 2.4.8

Inconsistent evidence was identified regarding the effectiveness of multi-session interventions delivered face-to-face (+)[1] or remotely (2 [+][2,4] and 1 [++][3]) at altering fruit and vegetable consumption among overweight or obese individuals.

Delivery methods, comparators and participant characteristics varied across the trials with non-significant results. Non-significant effects on dietary behaviours were detected in 3 trials: a face-to-face group intervention[1] was no more effective that general health information at improving vegetable intake among obese African–American women (SMD 0.19, 95% CI −0.12 to 0.48). One trial assessed 2 remotely delivered interventions; both the internet based (I^2) and telephone based (T^2) interventions were no more effective than usual care at changing fruit consumption among overweight and obese employed individuals (I^2 SMD -0.06, 95% CI -0.35 to 0.23; T^2 [+] SMD 0.05, 95% CI −0.23 to 0.34).

Two remotely delivered interventions[3,4] resulted in small, significant effects among older (age above 65 years) overweight and obese long term cancer survivors (SMD 0.49, 95% CI 0.34 to 0.65)[3] and overweight or obese men aged 25 to 55 years (SMD 0.31, 95% CI 0.08 to 0.53) [4]. Both trials assessed fruit and vegetable intake (combined) compared with a waitlist control, and reported use of BCT: Feedback on behaviour; this BCT was not used in any of the trials with non-significant effects.

[1] Stolley 2009

[2] van Wier 2009

[3] Morey 2009

[4] Patrick 2011

Evidence statement 2.5.5

Strong evidence from 4 interventions (2 [++][1,2] and 2 [+][3,4]) suggests that physical activity interventions (with an additional dietary component) delivered over multiple sessions at either 1-to-1 or combined 1-to-1 and group level are effective at improving physical activity among people with cardiovascular conditions compared with usual care (SMD 0.14, 95% CI 0.01–0.27[4]; SMD 0.18, 95% CI 0.11–0.25[3]; SMD 0.48, 95% CI 0.16–0.80[1]; SMD 0.86, 95% CI 0.75–0.98[2]).

All 4 interventions included use of BCT social support (unspecified). Three of the 4[2–4] reported use of BCT: adding objects to the environment. The 2 interventions delivered 1-to-1 to people with cardiac conditions reported use of BCTs commitment

and persuasive source. The 2 combined delivery interventions[1,2] reported use of BCT: problem-solving.

[1] Vestfold Heartcare Study Group 2003

[2] Wood 2008

[3] Giannuzzi 2008

[4] Muniz 2010

Evidence statement 2.5.6

Strong evidence from 4 interventions (all [+][1–4]) suggests that multi-session group interventions are no more effective than comparators at improving physical activity among patients with cardiovascular conditions. All 4 interventions resulted in very small to small, non-significant effects (SMD 0.10, 95% CI −0.12 to 0.33[2]; SMD 0.00, 95% CI −0.30 to 0.30[3]; SMD 0.22, 95 % CI −0.20 to 0.64[4]; SMD 0.07, 95% CI −0.18 to 0.32[1]). All 4 interventions reported use of BCTs social support (unspecified) and goal-setting (behaviour).

[1] Moore 2006

[2] Smeulders 2009

[3] Tingstrom 2006

[4] White 2012

Evidence statement 2.5.7

Inconsistent evidence from 3 interventions (3 [++][1–3]) was identified concerning the effectiveness of multi-session physical activity interventions delivered over the phone to patients hospitalised with cardiac conditions. One study[1] addressed diet and smoking in addition to physical activity, and resulted in a significant intervention effect (SMD 0.59, 95% CI 0.34 to 0.85). One study[2] addressed physical activity only, and was no more effective than usual care at changing the walking behaviour (SMD 0.15, 95% CI −0.18 to 0.48). One study[3] resulted in no significant difference in terms of meeting physical activity guidelines between an internet based exercise

maintenance counselling programme and the comparator (SMD 0.44, 95% CI −0.06 to 0.95).

The two trials[2,3] with non-significant effects each addressed physical activity only (as opposed to a combined diet and physical activity approach), and reported use of BCTs: Social support (unspecified), Feedback on behaviour, and Self-monitoring of behaviour.

[1] Vale 2003

[2] Reid 2012

[3] Pinto 2011

Evidence statement 2.5.9

Inconsistent evidence was identified from 8 interventions regarding the effectiveness of multi-session face to face interventions with remotely delivered components (5 [+][1–5]) and multi-session remotely delivered interventions (1 [+][6] and 2 [++][7,8]) among people with type 2 diabetes (T2DM).

Three of these interventions[1–3] resulted in very small to small, non-significant effects (1 study[1] SMD 0.26, 95% CI −0.29 to 0.82; 1 study[2] SMD 0.09, 95% CI −0.13 to 0.31; 1 study[3] SMD 0.33, 95% CI −0.06 to 0.73). Medium to large, significant intervention effects were seen among a diet and physical activity intervention delivered to T2DM patients and a family member (SMD 0.62, 95% CI 0.26 to 0.99) [4], and among T2DM patients alone (SMD 1.10, 95% CI 0.87 to 1.33) [5].

Evidence from 3 interventions[6–8] described in 2 trials suggests that multi-session, remotely delivered physical activity interventions are no more effective than usual care at improving weekly physical activity among T2DM patients (1 study[6] SMD 0.42, 95% CI −0.13 to 0.97; 1 study [7]SMD 0.04, 95% CI −0.20 to 0.29; 1 study[8] SMD −0.001, 95% CI −0.25 to 0.25).

No BCTs were reported in the 2 significant interventions that were also reported in an intervention with non-significant effects. Similarly, no BCTs were reported across non-significant interventions that didn’t also appear in at least 1 of the significant trials.

[1] Kirk 2009

[2] Debussche 2012

[3] Clark 2004

[4] Keogh 2011

[5] Di Loreto 2003

[6] Kirk PA-W 2009

[7] Lorig 2010

[8] Lorig 2010

Evidence statement 2.5.11

Strong evidence from 6 interventions in 5 studies suggests that multi-session interventions targeting more than one behaviour and delivered either face-to-face with a remote component (2 [+][1,2] and 2 [++][3,4]) or remotely (+)[5] are no more effective than usual care at altering the physical activity behaviour of individuals with elevated cardiovascular risk.

Among the face-to-face interventions with either remote follow-up or a remotely delivered component, several different population groups were involved, including individuals deemed eligible for cardiovascular risk management (SMD 0.03, 95% CI −0.22 to 0.28)[1], male construction workers (SMD 0.03, 95% CI −0.16 to 0.22)[2], black men with hypertension (multi-arm study: simultaneous intervention arm SMD 0.02, 95% CI −0.33 to 0.37; sequential intervention arm SMD 0.03, 95% CI −0.32 to 0.39)[3], inactive individuals with hypertension, high cholesterol, T2DM or a combination of the three (SMD −0.01, 95% CI −0.26 to 0.25)[4].

A remotely delivered intervention addressing both physical activity and diet was no more effective than usual care at improving the amount of moderate intensity physical activity undertaken by individuals with hypertension or T2DM (SMD -0.06, 95% CI -0.25 to 0.13)[5].

The only technique reported in all 5 interventions was BCT: Social support (unspecified).

[1] Koelewijn-van Loon 2003

[2] Groeneveld 2011

[3] Hyman 2007

[4] van Sluijs 2005

[5] Eakin 2010

Evidence statement 2.5.15

Inconsistent evidence from 7 interventions in 4 studies (5 [+][1–4]) was identified regarding the effectiveness of remotely delivered interventions targeting physical activity among inactive or underactive individuals.

Five interventions in 3 studies[1–3] resulted in non-significant effects ranging in size from very small (1 study [implementation intentions only arm][1] SMD 0.07, 95% CI −0.65 to 0.79; 1 study[2] SMD 0.05, 95% CI −0.28 to 0.38; 1 study[3] SMD 0.15, 95% −0.23 to 0.54) to small (text message only arm SMD 0.16, 95% CI −0.55 to 0.87)[1] to medium (implementation intentions plus text message arm SMD 0.44, 95% CI −0.29 to 1.17)[1].

Two interventions[3,4] resulted in significant effects of similar sizes (1 study[3] SMD 0.52, 95% CI 0.13 to 0.91; 1 study[4] SMD 0.46, 95% CI 0.15 to 0.77).

The 2 interventions with significant effects[3,4] reported use of BCT: Pros and cons; this BCT was not reported in any of the non-significant interventions.

[1] Prestwich 2009

[2] Nies 2003

[3] Marcus 2007

[4] Kolt 2007

Review 3: 'Individual-level behaviour change: A qualitative review of studies describing the skills base needed to deliver behaviour change interventions or techniques'

Evidence statement 3.1.1

In this statement, 'being supportive' is defined as the supportive interaction of a professional with a patient. For example, in assessment, providing advice or assistance for behaviour change.

Evidence from 3 qualitative studies (all [++][1–3]) and 1 systematic review (++)[4] suggests that 'being supportive' is a characteristic needed in delivering behaviour change interventions. The following attributes are commonly mentioned positively:

One of the qualitative studies[1] mentioned support for autonomy, by enhancing motivation, as an important contributor to feelings of competence.

One of the qualitative studies[2] reported that longer-term support after the end of the programme was appreciated by participants. This may reflect a misunderstanding of the need to promote a transition to self-directed activities.

One of the qualitative studies[2] reported that support and supervision for self-directed activities was positively mentioned in focus groups running alongside a trial of dietary and physical activity counselling.

One of the qualitative studies[3] reported that smoking cessation counselling itself did not significantly boost perceived social support.

The systematic review[4] gave weak evidence that additional telephone support increased smoking cessation in a Cochrane review of 31 nursing interventions for smoking cessation.

The lack of consistent effect in a systematic review may reflect the lack of consistent definition or coding of the BCTs that include social support. However, most interventions promote a supportive approach and this provider characteristic is appreciated by patients and recognised as important by providers.

[1] Coghill 2009

[2] Casey 2009

[3] McCarthy 2010

[4] Rice 2008

Evidence statement 3.1.2
Evidence from 2 qualitative studies (1 [+][1] and 1 [++][2]) supports the concept of being motivating as a provider characteristic.

One study[1] reported that support for autonomy enhanced the motivation in a physical activity intervention and encouragement (verbal persuasion) offered by the counsellor was universally valued. The other study[2] found that clinician adherence to a motivating spirit rather than the specific techniques of motivational interviewing was felt to be an important competency to emphasise in training.

[1] O'Sullivan 2010

[2] Moyers 2005

Evidence statement 3.1.3
Evidence from 1 qualitative study (++)[1] supports the concept of being empathetic as a provider characteristic. Empathy was one of 6 global clinical characteristics of the therapist coded along with acceptance, egalitarianism, warmth, genuineness and overall motivational interviewing 'spirit'.

[1] Moyers 2005

Evidence statement 3.2.1
Evidence from 1 qualitative study (++)[1], 1 systematic review (+)[2] and 1 review (+)[3] suggest that professional knowledge is a competence recognised as a facilitator of behaviour change. Professional knowledge, in this instance, is defined as knowledge and awareness of risks and outcomes of conditions, behaviour change interventions, or familiarity with theory and local policy and context.

In the qualitative study[1], diabetes educators in Canada said their own lack of knowledge was a barrier to personal efficacy in counselling.

The evidence statements. Behaviour change: individual approaches

In the systematic review[2], professional knowledge and familiarity with theory in an overview of systematic reviews for improving healthy lifestyle (physical activity, healthy eating and smoking cessation) in Holland was associated with effectiveness.

In the review[3], professionalism (for example, knowledge of health and well-being and its different aspects) is listed as a competence needed to deliver behavioural support for smoking cessation.

[1] Dillman 2010

[2] Van Achterberg 2010

[3] Michie 2011

Evidence statement 3.2.2
Evidence from 4 qualitative studies (all [++][1-4]), 1 review (+)[5] and 2 systematic reviews (1 [++][6] and 1 [+][7]) suggests that the ability to communicate information is a skill recognised as a facilitator for effective behaviour change interventions.

One qualitative study[1] points out communicating information about a healthy lifestyle and providing insight into behaviours[1] as being important. Another[2] found that personal knowledge influenced the ability of people with type 1 diabetes to self-manage, and brought a sense of being in control of their disease. Another[3] showed that telephone delivery of information by community nurses and COPD health-mentors was acceptable, teachable and increased knowledge about the effects of chronic obstructive pulmonary disease. The fourth[4] reported that imparting knowledge at encounters referred to as teachable moments, when reception to information is heightened by disease or other health intervention, may provide a target for intervention design.

One of the systematic reviews[7] reported that in a Dutch overview of systematic reviews for improving healthy lifestyle communication of risk was found in 52% of effective interventions.

There are some cautions in the qualitative literature. One systematic review[6] found that information provided by lifestyle advisors had little impact on health knowledge, behaviours and outcomes despite high levels of acceptability, although this may be

specific to the type of training received by lifestyle advisors and may not apply to other health professionals. The review[5] stated that the ability to elicit and answer questions was considered an important general aspect of an intervention by a consensus group but was not listed as a specific technique.

[1] Jansink 2010

[2] Murphy 2011

[3] Walters 2012

[4] Thomsen 2009

[5] Michie 2011

[6] Carr 2011

[7] Van Achterberg

Evidence statement 3.3.1

Evidence from 1 qualitative study (++)[1] suggests that the assessment of individuals and use of screening tools is a competence recognised as a facilitator of behaviour change. The study identified inadequate alcohol assessment protocols and poor integration with the electronic medical record as a barrier to a nurse-delivered alcohol screening, brief intervention and referral to treatment programme.

The facilitators identified to improve the uptake of assessment and screening for alcohol disorders included the enhanced electronic medical record.

[1] Broyles 2012

Evidence statement 3.3.2

Evidence from 3 qualitative studies (all [++][1–3]) and 2 systematic reviews (both [++][4,5]) suggests that referral for treatment needs skill. Diabetes educators identified a lack of skills in making appropriate exercise related referrals and requested training in this[1]. Suggesting or signposting support by others was a key facilitator to lifestyle behaviour change in individuals at high risk of cardiovascular events[2,3] and in encouraging physical activity and dietary interventions in people at risk of diabetes[4,5.]

The evidence statements. Behaviour change: individual approaches

Evidence from 1 systematic review (+)[6] suggests that the precise nature of the support offered is important because the BCT 'plan social support/social change' was a technique associated with lower self-efficacy and lower physical activity effect.

[1] Dillman 2010

[2] Murray 2012

[3] Robinson 2010

[4] Greaves 2011

[5] van Achterberg 2010

[6] Williams 2011

Evidence statement 3.3.3

Evidence from 3 qualitative studies (all [++][1–3]) suggests that skill in developing participant motivation is a necessary competence. 'Skills in developing motivation and enabling action' are defined as taught skills in reflective listening, empathy, building self-efficacy and providing feedback. The capacity to implement behaviour change in a manner consistent with its underlying philosophy and the ability to structure consultations are encompassed by this evidence statement.

The aspects perceived as important for this skill are: monitoring for an exercise programme[1]; training for practice nurses in how to overcome a perceived lack of motivation in their patients[2]; and a shift towards collaboration and support as determinants of self-management (self-efficacy)[3].

There is evidence from 1 intervention study (+)[4] that 'enabling action' as a separate skill (encompassing goal setting, action planning and coping planning) often follows developing motivation but is associated with more effect if the 2 are administered alongside each other.

[1] Casey 2009

[2] Jansink 2010

[3] Murphy 2011

The evidence statements. Behaviour change: individual approaches

[4] French 2012

Evidence statement 3.3.4
Evidence from 1 systematic review (++)[1] supports providing feedback on performance and prompting review of behavioural goals in healthy eating and physical activity interventions. These techniques, derived from control theory, were significantly more effective at inducing behaviour change than those not derived from this theory.

[1] Michie 2009

Evidence statement 3.3.5
Evidence from 1 focus group study (++)[1] for brief alcohol interventions delivered by nurses suggests that there are barriers and facilitators to competence in delivering brief interventions: Barriers were:

- lack of alcohol-related knowledge and skills
- limited interdisciplinary collaboration and communication around alcohol-related care
- inadequate alcohol assessment protocols and poor integration with the electronic medical record
- concerns about negative patient reaction and limited patient motivation to address alcohol use
- questionable compatibility of screening, brief intervention and referral to treatment with the acute care paradigm and nursing role
- logistical issues (for example, lack of time or privacy).

The facilitators of nurse-delivered screening, brief intervention and referral to treatment focused on provider- and system-level factors related to:

- improved provider knowledge, skills, communication, and collaboration
- expanded processes of care and nursing roles
- enhanced electronic medical record features.

[1] Broyles 2012

Evidence statement 3.3.6

Evidence from 1 qualitative study (+)[1], 2 systematic reviews (1 [+][2] and 1 [++][3]) and 2 reviews (both [+][4,5]) suggests that action planning, goal setting and problem solving are skills appreciated by providers. Although the exact training component was often not specified, training was thought to be needed in: goal setting; action planning and problem solving; self-management support theory and practice. These helped participants 'develop and personalise behaviour change strategies'[1].

Action planning enhanced self-efficacy scores for patients[2].

Goal setting and prompting review of behavioural goals, but not action planning itself was associated with effectiveness[3].

Collaborative priority and goal setting along with collaborative problem solving is listed in a qualitative review of reviews and meta-analyses derived from a thematic content analysis[4].

Problem solving was also listed in the consensus building study that identified the competencies needed to deliver behavioural support for smoking cessation as, 'maximising self-regulatory capacity and skills (such as the ability to facilitate barrier identification and problem solving)'[5].

[1] Walters 2012

[2] Williams 2011

[3] Michie 2009

[4] Battersby 2010

[5] Michie 2011

Evidence statement 3.3.7

Evidence from 2 qualitative studies (both [++][1,2]) suggest encouraging self-management as a competency.

Interviews with 40 people with type 1 diabetes in Ireland[1] found that the capacity to successfully self-manage their condition needed a collaborative supportive

relationship between providers and people with diabetes. These were identified as important determinants of self-management.

Self-management support was successfully taught as a skill in a telephone health-mentoring intervention to nurses[2].

[1] Murphy 2011

[2] Walters 2012

Evidence statement 3.3.8
Evidence from 1 review (++)[1] suggests 3 competencies are needed to deliver group counselling behavioural support for smoking cessation, the ability to:

- encourage group discussions
- encourage group tasks that promote interaction and/or bonding
- encourage mutual support.

These were cited in 2 or more source documents and at least two RCTs:

[1] Michie 2009

Evidence statement 3.3.9
Evidence from 2 systematic reviews of randomised controlled trials (1 of complex behaviour interventions for obese adults with obesity related comorbidities [++][1] and 1 of behaviour change techniques in healthy eating and physical activity interventions [++][2]) suggests that increasing the numbers of identified BCTs is not necessarily associated with better outcomes. Advanced skills in maintaining change (such as, skills in relapse prevention and prompting practice or follow up prompts) could be linked to more successful interventions.

The competence to use prompts and to focus on relapse prevention by managing obstacles could be important to obesity as a behaviour change target because it needs a prolonged change in habits.

The experience of patients or providers in providing prompts and cues was not commonly described in the qualitative research identified.

[1] Dombrowski 2010

[2] Michie 2009