1 2 **NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE**

3 # Guideline scope

4 5 # Behaviour change: technology-based interventions

6 7 In the original remit of a related NICE guideline, behaviour change: general approaches (PH6), the Department of Health in England asked NICE to
8 develop guidance on 'generic and specific interventions to support attitude
9 and behaviour change at population and community levels'. Subsequently
10 NICE was asked to update the PH6 guideline with a focus on individual-level
11 behaviour change techniques for different population groups (NICE guideline
12 on behaviour change: individual approaches PH49).

13 This guideline will complement the NICE guideline on behaviour change:
14 individual approaches.

15 NICE worked with Public Health England to develop this scope.

16 The guideline will be developed using the methods and processes outlined in
17 developing NICE guidelines: the manual.

18 ## 1 Why the guideline is needed

19 Routine surveillance of NICE guidelines PH6 and PH49 identified new
20 evidence on the use of technology-based interventions for behaviour change.
21 This highlighted the need for a guideline in this area.

22 This guideline will cover technology-based interventions for the individual. It
23 will address established lifestyle behaviours such as smoking, harmful
24 drinking, poor diet, lack of physical activity and unsafe sexual practices.
25 Addressing such behaviours can help to reduce the risk of developing chronic
26 conditions, for example diabetes and cardiovascular diseases. It can also help
27 people to self-manage, self-monitor or improve them. The guideline will also

1 consider how technology-based interventions could be used to improve

2 mental wellbeing or help manage conditions such as stress and anxiety.

3 **Current practice**

4 Digital interventions, such as those delivered through websites or mobiles,

5 may help people achieve health goals such as being more physically active,

6 managing their weight, quitting smoking or reducing alcohol intake.

7 Using technologies to help self-monitoring and to support behaviour change

8 may give people the techniques and tools to help them reduce their risk of

9 developing chronic conditions or to manage chronic conditions they already

10 have. Mobile health technologies, such as health-related apps or wearable

11 devices, have been identified as potential avenues for this.

12 Various policies have identified digital technologies as a means to achieving

13 change. For example, the Department of Health and Social Care's 2017

14 tobacco control plan recognises that digital developments can be an

15 innovative way to engage with the public.

16 NHS England has commissioned the assessment of digitally enabled

17 therapies for depression and anxiety in adults as part of the Increasing Access

18 to Psychological Therapies (IAPT) programme. The NHS Apps Library

19 includes a range of apps to help people manage and improve their health. As

20 part of the Health Developer Network assessment process, developers are

21 asked whether the product includes behaviour change components for which

22 there is justification for, or evidence of effectiveness in, changing the targeted

23 behaviour.

24 **Policy**

25 NHS England's Next steps on the NHS Five Year Forward View 2017 strategy

26 highlights that better use of information and technology, particularly increasing

27 the use of apps to help people manage and improve their own health, can

28 help to meet the health needs of the growing and ageing population and

29 reduce pressure on services.

1   The use of digital technology for behaviour change is identified as an

2   opportunity in Public Health England's 5-year strategy (From evidence into

3   action: opportunities to protect and improve the nation's health).

4   The Department for Digital, Culture, Media and Sport's 2017 UK digital

5   strategy outlines plans to devote £4.2 billion to health and care over a 5-year

6   period to embed digital technologies in public service delivery.

7   The digital strategy and a report by the Government Office for Science both

8   note the growth of emerging technologies such as artificial intelligence. This

9   can be used in mobiles and wearable devices to help manage chronic

10   conditions (Artificial intelligence: opportunities and implications for the future

11   of decision making).

12   This guideline may help to address Domain 2 of the NHS Outcomes

13   Framework for 2016-17 Enhancing quality of life for people with long-term

14   conditions.

15   **2   Who the guideline is for**

16   This guideline is for:

17   • local policy makers and commissioners

18   • individuals, groups or organisations wishing to work with health and social

19   care service providers

20   • designers and providers of technology-based behaviour change

21   interventions and programmes

22   • trained behaviour change practitioners

23   • trained staff working in health and social care services who have contact

24   with the general public.

25   It may also be relevant for:

26   • people who want to change their behaviour (for example, to stop smoking)

27   or who are interested in self-managing a chronic condition, and their

28   families or carers, and other members of the general public.

1 NICE guidelines cover health and care in England. Decisions on how they

2 apply in other UK countries are made by ministers in the [Welsh Government](#),

3 [Scottish Government](#), and [Northern Ireland Executive](#).

4 ***Equality considerations***

5 NICE has carried out [an equality impact assessment](#) during scoping. The

6 assessment:

7 • lists equality issues identified, and how they have been addressed

8 • explains why any groups are excluded from the scope.

9 The guideline will look at inequalities relating to the protected characteristics

10 defined by the Equality Act 2010. Other issues to consider, if evidence is

11 available, include socioeconomic status, geographical location and health

12 literacy.

13 # 3   What the guideline will cover

14 ## *3.1   Who is the focus?*

15 **Groups that will be covered**

16 Everyone, including children and young people under 16 (and their families or

17 carers), who would benefit from changing the established lifestyle behaviours

18 listed in section 3.3.

19 Specific consideration will be given to people with the following chronic

20 physical or long-term mental health conditions, who may benefit from

21 managing an established lifestyle behaviour because it affects their health or

22 mental wellbeing:

23 • Hypertension and cardiovascular disease (including, stroke and coronary

24   heart disease)

25 • Respiratory diseases (asthma, chronic obstructive pulmonary disease)

26 • diabetes

27 • musculoskeletal conditions

28 • mental health conditions (including anxiety, depression and dementia)

1 • cancers for which managing established lifestyle behaviours may improve

2 health outcomes (for example, lung cancer and stopping smoking).

3 Specific consideration will also be given to people with learning disabilities

4 and people with neurodevelopmental disorders such as autism.

5 ## *3.2   Settings*

6 Any setting where people may be referred to, self-refer to, or access

7 technology-based behaviour change interventions, including online or other

8 digital access platforms.

9 ## *3.3   Activities, services or aspects of care*

10 **Key areas that will be covered**

11 We will look at evidence in the areas below when developing the guideline,

12 but it may not be possible to make recommendations in all the areas.

13 1   Technology-based behaviour change interventions. That is interventions

14   that – after any initial referral or orientation with the technology – are

15   delivered without direct or ongoing interaction with, or intervention by, a

16   practitioner or health care professional[1]. This includes those delivered

17   by: text message, apps, wearable devices or the internet. These

18   interventions will focus on changing any of the following established

19   lifestyle behaviours to improve physical health:

20   – smoking

21   – harmful drinking

22   – poor eating patterns

23   – a lack of physical activity

24   – unsafe sexual behaviour

25   – poor weight management

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[1] A healthcare professional or practitioner may refer people to a technology-based intervention, or they may provide some form of induction or orientation in its use. However, the intervention itself, and in particular any active feedback, must be delivered by the technology-based intervention, as opposed to a healthcare professional or practitioner.

The interventions will also focus on strategies to improve mental wellbeing (for example, building resilience, improving sleep hygiene and reducing social isolation).

This may include interventions to change multiple behaviours.

Areas that will not be covered

1   National policy, fiscal and legislative measures.

2   Clinical or pharmacological methods of achieving behaviour change with no public health or health promotion element. For example, appointment reminders, medication reviews or self-care solely to improve medicine adherence.

3   Psychiatric interventions delivered as part of the therapeutic process for people with a mental health problem.

4   Interventions delivered solely by a healthcare professional or practitioner (for example, telephone counselling), or in their presence, or with their input (beyond the initial stage of induction or orientation).

5   Changes to the public realm to support behaviour change (such as designing and managing public spaces in a way that encourages and helps people to be physically active).

6   Technology-based interventions to change the behaviour of healthcare professionals or other professionals who support people to change their lifestyle behaviours.

7   Technology-based interventions that aim to prevent the uptake of behaviours such as smoking, harmful drinking, or unsafe sexual behaviour and/or to help maintain healthy behaviours.

Related NICE guidance

Published

- Smoking cessation interventions and services (2018) NICE guideline NG92
- Physical activity and the environment (2018) NICE guideline NG90
- Sexually transmitted infections: condom distribution schemes (2017) NICE guideline NG68

- [Type 2 diabetes: prevention in people at high risk](#) (2017) NICE guideline PH38
- [Cancer of the upper aero-digestive tract: assessment and management in people aged 16 and over](#) (2016) NICE guideline NG36
- [Type 2 diabetes in adults: management](#) (2015) NICE guideline NG28
- [Weight management: lifestyle services for overweight or obese adults](#) (2014) NICE guideline PH53
- [Contraceptive services for under 25s](#) (2014) NICE guideline PH51
- [Behaviour change: individual approaches](#) (2014) NICE guideline PH49
- [Weight management: lifestyle services for overweight or obese children and young people](#) (2013) NICE guideline PH47
- [Lung cancer: diagnosis and management](#) (2011) NICE guideline CG121 (currently being updated, publication expected March 2019)
- [Chronic obstructive pulmonary disease in over 16s: diagnosis and management](#) (2010) NICE guidance CG101 (currently being updated, publication expected November 2018).
- [Behaviour change: general approaches](#) (2007) NICE guideline PH6

In development

- [Tobacco update](#). NICE guideline. Publication date 2020.

NICE guidance about the experience of people using NHS services

NICE has produced the following guidance on the experience of people using the NHS. This guideline will not include additional recommendations on these topics unless there are specific issues related to technology-based interventions:

- [Medicines optimisation](#) (2015) NICE guideline NG5
- [Patient experience in adult NHS services](#) (2012) NICE guideline CG138
- [Service user experience in adult mental health](#) (2011) NICE guideline CG136
- [Medicines adherence](#) (2009) NICE guideline CG76

1 ### *3.4   Economic aspects*

2 We will take economic aspects into account when making recommendations.

3 We will develop an economic plan that states for each review question (or key

4 area in the scope) whether economic considerations are relevant, and if so

5 whether this is an area that should be prioritised for economic modelling and

6 analysis. We will review the economic evidence and carry out economic

7 analyses, using an appropriate perspective.

8 ### *3.5   Key issues and draft questions*

9 While writing this scope, we have identified the following key issues and draft

10 questions related to them:

11 1   What behaviour change components or techniques used in technology-

12 based interventions (delivered by text message, apps or the internet)

13 effectively change established lifestyle behaviours:

14 1.1 to improve health or mental-wellbeing?

15 1.2 to improve the management of a chronic physical or long-term

16 mental health condition?

17 2   What behaviour change components or techniques used in technology-

18 based interventions effectively improve adherence to, or sustain,

19 changes in behaviour?

20 3   What sociodemographic factors of the target audience (such as age,

21 gender, socioeconomic group and ethnicity) moderate the effectiveness

22 of technology-based behaviour change interventions?

23 4   What factors related to the medium through which an intervention is

24 delivered (for example, web sites compared with apps) moderate the

25 effectiveness of technology-based behaviour change interventions?

26 5   What factors relating to the way in which an intervention is selected,

27 delivered and designed moderate the effectiveness of technology-based

28 behaviour change interventions?

29 6   What is the association between the extent of engagement with a

30 technology-based intervention and its effectiveness as a means of

31 behaviour change?

The key issues and draft questions will be used to develop more detailed review questions, which guide the systematic review of the literature.

3.6 Main outcomes

The main outcomes that may be considered when searching for and assessing the evidence are:

- changes in behaviour
- sustained changes in behaviour
- health and psychosocial outcomes
- health-related quality of life
- extent of engagement
- resources use and costs
- safety or adverse effects, including unintended consequences.

4 NICE Pathways

4.1 NICE Pathways

When this guideline is published, the recommendations will be added to NICE Pathways. NICE Pathways bring together all related NICE guidance and associated products on a topic in an interactive flowchart. The existing behaviour change flowchart will be reviewed and amended to integrate the new recommendations.

5 Further information

This is the draft scope for consultation with registered stakeholders. The consultation dates are 26 June to 24 July 2018.

The guideline is expected to be published in August 2020.

You can follow progress of the guideline.

Our website has information about how NICE guidelines are developed.