

# A toolkit of behaviour change techniques to support medication adherence in chronic disease

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## 1 BACKGROUND AND OBJECTIVES

Suboptimal medication adherence in chronic disease remains challenging and is associated with increased morbidity and mortality. Employing behaviour change techniques (BCTs) to target behavioural barriers could help to optimise medication adherence.

This study aims to map standardised BCTs to adherence barriers in persons living with chronic disease and provide examples of their operationalisation.

## 2 METHODS

Identified adherence barriers to chronic medication based on a literature search<sup>1</sup>

Selected non-adherence determinants both addressable by BCTs from our core list<sup>2</sup> and amenable to change by health professionals

A list of 21 core BCTs from an established taxonomy (BCTTv1)<sup>3</sup> were previously derived from a literature review coupled with an expert panel, as part of the Train4Health project<sup>2</sup>

Determinants were categorised according to the capability – opportunity – motivation behaviour model (COM-B)<sup>4</sup>

We mapped BCTs to selected determinants through discussion within the multidisciplinary team (nursing, pharmacy, behavioural psychology)

Examples of BCTs operationalisation were derived.

## 3 RESULTS

### COM-B component

#### Psychological capability

Knowledge or psychological skills, strength or stamina to engage in the necessary mental processes

#### Reflective motivation

Reflective processes involving plans (self-conscious intentions) and evaluations (beliefs about what is good and bad)

#### Medication adherence barriers

Forgetfulness

Beliefs about lack of necessity

Concerns about medication

#### Examples of BCTs operationalisation

##### 1.4 Action planning

Planning to take the medication at a particular time of the day (e.g., at bedtime)

##### 3.2 Social support (practical)

Ask the person's spouse or carer to put the tablet on the breakfast table

##### 8.3 Habit formation

Prompt the person to take the medication before teeth brushing every evening

##### 12.1 Restructuring the physical environment

Advise the person to place the medication on the kitchen counter instead of keeping the medication in the bedside table drawer

##### 12.5 Adding objects to the environment

Include objects that facilitate medication taking, such as a pill box

##### 7.1 Prompts/cues

Advise the person to use a daily mobile phone alarm as a reminder of medication taking

##### 5.1 Information about health consequences

Highlight the negative consequences of not taking the medication

##### 9.2 Pros and cons

Advise the person to list and compare the reasons for taking and not taking the medication

##### 2.6 Biofeedback

Assess and inform the person about physiological and/or biochemical states related to medication taken such as glycated hemoglobin, blood pressure or cholesterol

##### 5.1 Information about health consequences

Highlight the positive consequences of taking the medication

##### 5.3 Information about social and environmental consequences

Highlight the consequences of not taking medication to the family environment (e.g., not being able to do family routine activities)

##### 9.2 Pros and cons

Advise the person to list and compare the reasons for taking and not taking the medication

#### Examples of BCTs bundles

##### 2.3 Self-monitoring of behaviour

Keep a record of the medication taken, such as a diary or a mobile application

##### 2.2 Feedback on outcome(s) of the behaviour

Inform the person about the outcomes of medication taken such as pain, relating it to the medication taken recorded (BCT 2.3) or reported by the person

##### 2.3 Self-monitoring of behaviour

Keep a record of the medication taken, such as a diary or a mobile application

##### 2.4 Self-monitoring of outcome(s) of the behaviour

Keep a record of suspected side effects related to medication taken.

##### 2.7 Feedback on outcome(s) of the behaviour

Discuss the presence or absence of suspected side effects based on self-report of the medication taken

## 4 Conclusion

Our toolkit comprises standardised BCTs linked to non-adherence determinants in persons living with chronic disease, plus examples of operationalisation. The toolkit can facilitate adoption of BCTs in practice, which, in turn may enable better intervention tailoring whilst enhancing interventions' comprehensiveness and ensuring consistency of reporting. Additional work to manage medication adherence employs BCTs targeting health professionals, as part of multilevel interventions.

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