



Behaviour Change Theory

Choosing Wisely project
September 2018



Objectives

| | |
|-----------------|--|
| Context | Peninsula Health are part of Safer Care Victoria's Choosing Wisely project, and will be aiming to reduce the ordering of CT lumbar-spines (non-trauma), among other low-value interventions. |
| Trigger | An early steering committee meeting recognised that behaviour change is at the heart of this project, and that a good understanding of behaviour change theory will be key. |
| Question | How can we incorporate behaviour change theory into the design of our interventions to increase the likelihood of our target behaviours being adopted? |

The purpose of this document is to:



- 1** Introduce an **evidence-based framework** to design **behaviour change interventions**
- 2** Propose an approach to **diagnose the current ordering behaviours**
- 3** Propose an approach to **select and design appropriate behaviour change techniques**

This document is for discussion and should guide planning for the our Choosing Wisely initiatives.

Contents

1. Current best practice

2. Understanding behaviour
3. Designing interventions
4. Proposed next steps

Behaviour change theory has already been used to address ordering of imaging for low back pain by GPs in Victoria

French et al. *Implementation Science*, 2012

French et al. *Implementation Science* 2012, 7:38
<http://www.implementationscience.com/content/7/1/38>



METHODOLOGY

Open Access

Developing theory-informed behaviour change interventions to implement evidence into practice: a systematic approach using the Theoretical Domains Framework

Simon D French^{1,2*}, Sally E Green¹, Denise A O'Connor¹, Joanne E McKenzie¹, Jill J Francis³, Susan Michie⁴, Rachelle Buchbinder^{1,5,6}, Peter Schatner⁶, Neil Spilke⁶ and Jeremy M Grimshaw⁷

Abstract

Background: There is little systematic operational guidance about how best to develop complex interventions to reduce the gap between practice and evidence. This article is one in a Series of articles documenting the development and use of the Theoretical Domains Framework (TDF) to advance the science of implementation research.

Methods: The intervention was developed considering three main components: theory, evidence, and practical issues. We used a four-step approach, consisting of guiding questions, to direct the choice of the most appropriate components of an implementation intervention. Who needs to do what, differently? Using a theoretical framework, which barriers and enablers need to be addressed? Which intervention components (behaviour change techniques and modes) could overcome the modifiable barriers and enhance the enablers? And how can behaviour change be measured and understood?

Results: A complex implementation intervention was designed that aimed to improve acute low back pain management in primary care. We used the TDF to identify the barriers and enablers to the uptake of evidence into practice and to guide the choice of intervention components. These components were then combined into a cohesive intervention. The intervention was delivered via two facilitated interactive small group workshops. We also produced a DVD to distribute to all participants in the intervention group. We chose outcome measures in order to assess the mediating mechanisms of behaviour change.

Conclusions: We have illustrated a four-step systematic method for developing an intervention designed to change clinical practice based on a theoretical framework. The method of development provides a systematic framework that could be used by others developing complex implementation interventions. While this framework should be iteratively adjusted and refined to suit other contexts and settings, we believe that the four-step process should be maintained as the primary framework to guide researchers through a comprehensive intervention development process.

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A complex implementation intervention was designed that aimed to improve acute **low back pain management in primary care**.

Barriers to, and enablers of, the [...] target behaviours were identified in a qualitative study consisting of **focus group interviews with 42 GPs in Victoria**

We used the [behaviour change framework] to **identify the barriers and enablers** to the uptake of evidence into practice and to **guide the choice of intervention** components. These components were then combined into a cohesive intervention.

We have illustrated a four-step systematic method for developing an **intervention designed to change clinical practice** based on a theoretical framework

The Behaviour Change Wheel is considered the current best practice in designing behaviour change interventions

Michie et al. *Implementation Science*, 2011

Michie et al. *Implementation Science* 2011, 6:42
<http://www.implementationscience.com/content/6/1/42>

RESEARCH Open Access


The behaviour change wheel: A new method for characterising and designing behaviour change interventions

Susan Michie^{1*}, Maartje M van Stralen² and Robert West³

Abstract
Background: Improving the design and implementation of evidence-based practice depends on the design of behaviour change interventions. This requires an appropriate method for characterising interventions, but it is not clear how well they serve this purpose. This paper evaluates existing methods and develops and evaluates a new framework aimed at overcoming their limitations.
Methods: A systematic search of electronic databases and consultation with behaviour change experts were used to identify frameworks of behaviour change interventions. These were evaluated according to comprehensiveness, coherence, and a clear link to an overarching model of behaviour change. A new framework was developed to meet these criteria. The reliability with which it could be applied was evaluated using a sample of behaviour change interventions.
Results: Nineteen frameworks were identified covering nine intervention functions aimed at addressing the conditions that could enable those interventions. None of the frameworks reviewed covered the functions or policies, and only a minority met the criteria of coherence or linkage to a central concept. A new framework is proposed, the 'behaviour system' involving three essential components: capability, opportunity, and motivation (what we term the 'COM-B system'). This forms the hub of the Behaviour Change Wheel (BCW) around which are positioned the nine intervention functions aimed at addressing these conditions; around this are placed seven categories of policy that could enable the implementation of interventions. The BCW was used reliably to characterise interventions within the English Department of Health's control strategy and the National Institute of Health and Clinical Excellence's guidance on behaviour change.
Conclusions: Interventions and policies to change behaviour can be usefully characterised using the BCW, comprising a 'behaviour system' at the hub, enabled by intervention functions and then by policies. Research is needed to establish how far the BCW can lead to more efficient design of effective interventions.

Background
 Improving the implementation of evidence-based practice and public health depends on behaviour change. Thus, behaviour change interventions are fundamental to the effective practice of clinical medicine and public health, as indeed they are to many pressing issues facing society. 'Behaviour change interventions' can be defined as coordinated sets of activities designed to change specific behaviour patterns. In general, these patterns are measured in terms of the prevalence of particular behaviours in specified populations (e.g., delivery of smoking cessation advice by general practitioners). Interventions are used to promote uptake and optimal use of effective clinical services, and to promote healthy lifestyles. Evidence of intervention effectiveness serves to guide health providers to implement what is considered to be best practice (for example, Cochrane reviews, NICE guidance). While there are many examples of successful interventions, there are also countless examples of ones that it was hoped would

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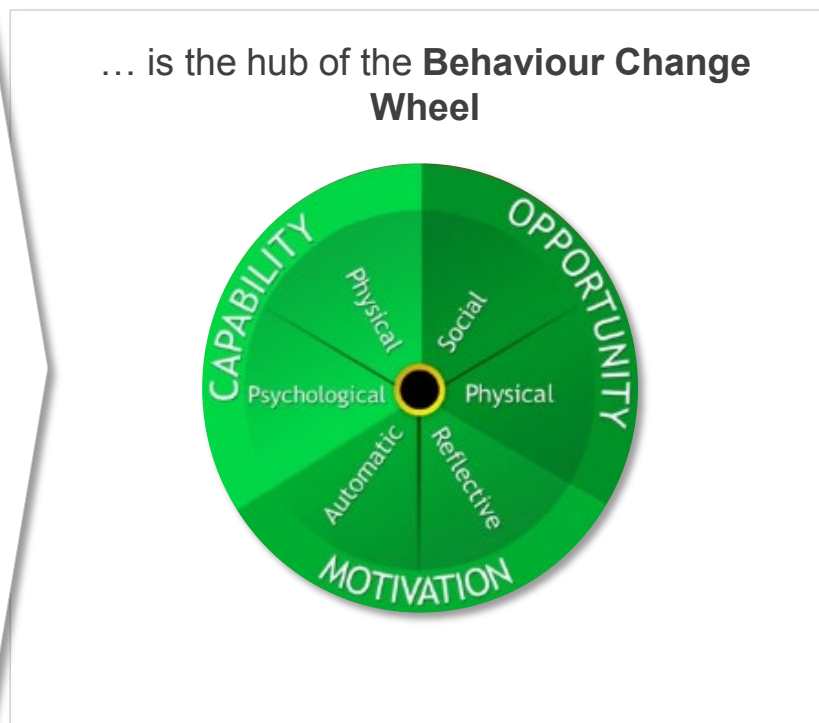
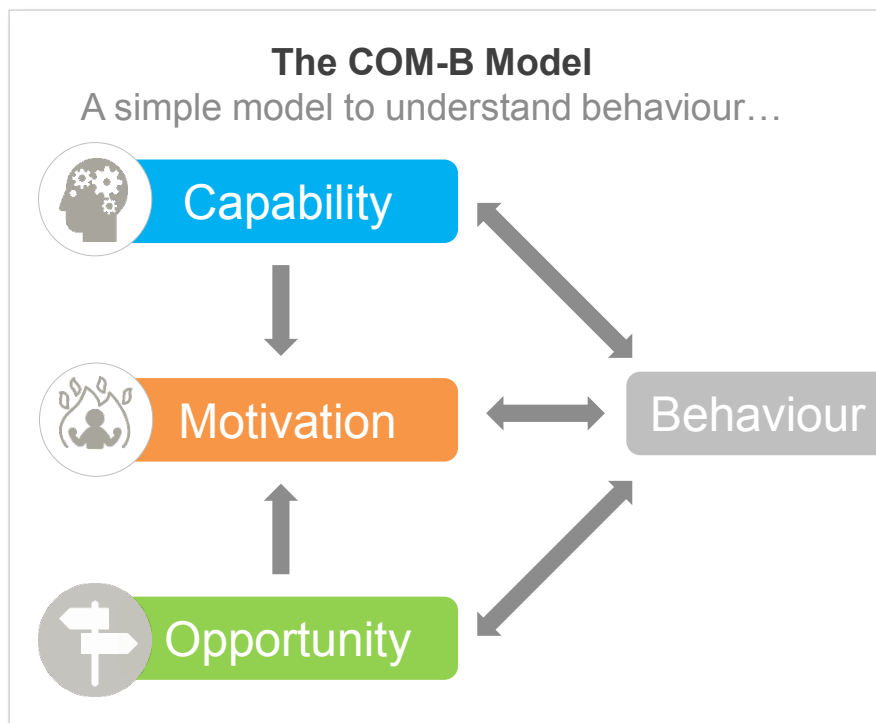


Based on a 2011 Systematic review – the BCW incorporates elements of **19 behaviour change frameworks** into a single **comprehensive and coherent tool**, linked to an **overarching model of behaviour**¹

It links identified **sources of behaviour** to appropriate **intervention functions**, in order to guide the selection of **behaviour change techniques (BCTs)** and the design of effective interventions

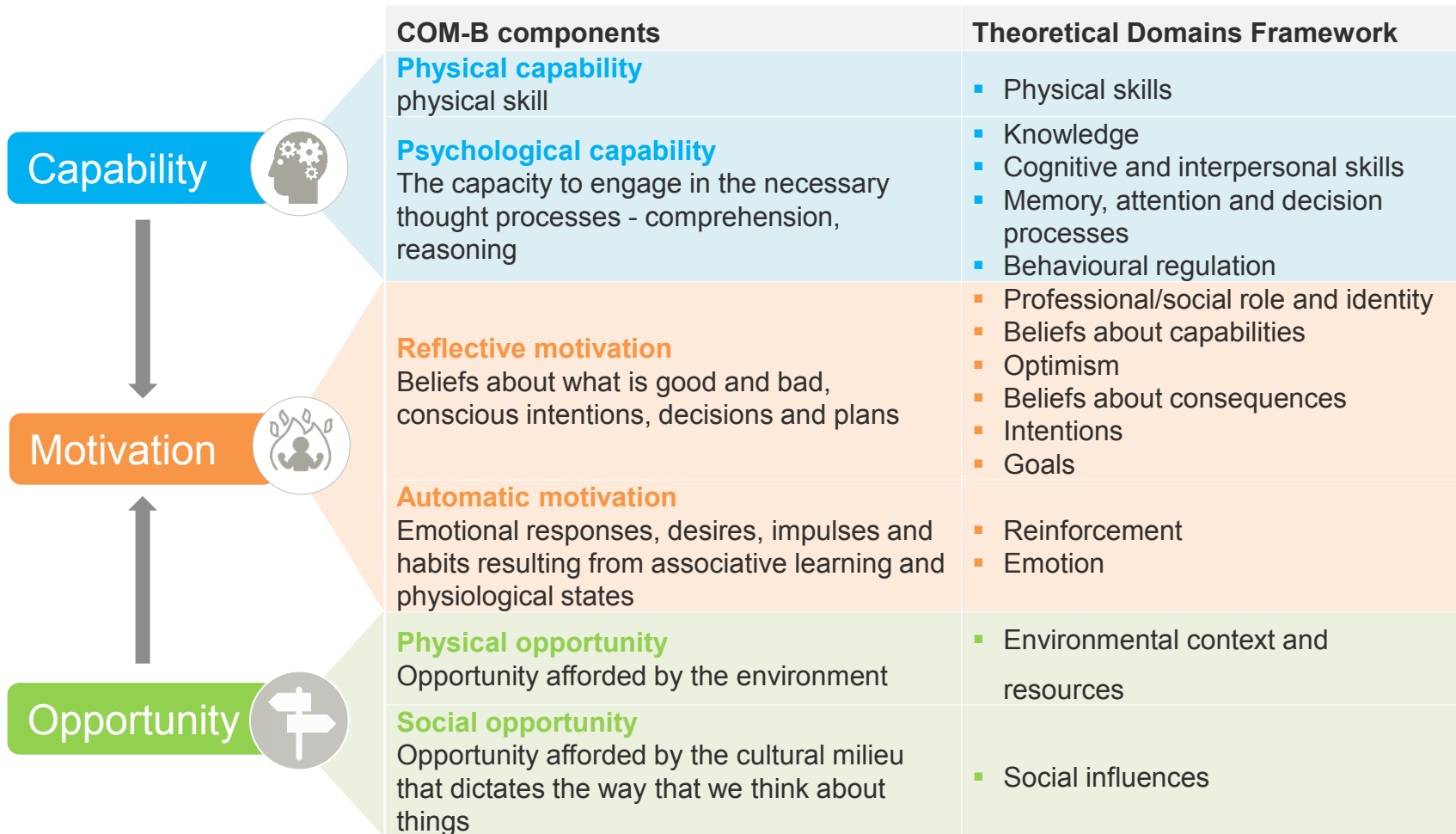
It has been used to design a variety of behaviour change interventions, such as the **adoption of the Sepsis Six bundle**², and the **reduction of x-ray referring for non-specific low back pain by GPs**³

At its core, the BCW model identifies capability, opportunity and motivation as the main drivers of behaviour




The COM-B framework can be used in surveys, interviews, focus group discussions to “diagnose” behaviour

The COM-B model can be expanded to explore drivers in further detail



A table of intervention functions then guides the selection of interventions for each driver of behaviour

Intervention functions

 Effective intervention functions

| Drivers of behaviour | | Education | Persuasion | Incentivisation | Coercion | Training | Restriction | Environmental restructuring | Modelling | Enablement |
|----------------------|---------------|-----------|------------|-----------------|----------|----------|-------------|-----------------------------|-----------|------------|
| | | | | | | | | | | |
| Capability | Physical | | | | | ✓ | | | | ✓ |
| | Psychological | ✓ | | | | ✓ | | | | ✓ |
| Opportunity | Physical | | | | | | ✓ | ✓ | | ✓ |
| | Social | | | | | | ✓ | ✓ | | ✓ |
| Motivation | Automatic | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| | Reflective | ✓ | ✓ | ✓ | ✓ | | | | | |

Once the causes of the current behaviour are understood, this table helps ensure **the most effective intervention functions are selected**

A taxonomy of 93 behaviour change techniques (BCT) provides details and examples for each intervention function

BCT Taxonomy (v1): 93 hierarchically-clustered techniques

| Page | Grouping and BCTs | Page | Grouping and BCTs | Page | Grouping and BCTs |
|------|--|------|--|------|--|
| 1 | 1. Goals and planning 1.1. Goal setting (behavior) 1.2. Problem solving 1.3. Goal setting (outcome) 1.4. Action planning 1.5. Review behavior goal(s) 1.6. Discrepancy between current behavior and goal 1.7. Review outcome goal(s) 1.8. Behavioral contract 1.9. Commitment | 8 | 6. Comparison of behaviour 6.1. Demonstration of the behavior 6.2. Social comparison 6.3. Information about others' approval | 16 | 12. Antecedents 12.1. Restructuring the physical environment 12.2. Restructuring the social environment 12.3. Avoidance/reducing exposure to cues for the behavior 12.4. Distraction 12.5. Adding objects to the environment 12.6. Body change |
| 3 | 2. Feedback and monitoring 2.1. Monitoring of behavior by others without feedback 2.2. Feedback on behavior 2.3. Self-monitoring of behavior 2.4. Self-monitoring of outcome(s) of behaviour 2.5. Monitoring of outcome(s) of behavior without feedback 2.6. Biofeedback 2.7. Feedback on outcome(s) of behavior | 9 | 7. Associations 7.1. Prompts/cues 7.2. Cue signalling reward 7.3. Reduce prompts/cues 7.4. Remove access to the reward 7.5. Remove aversive stimulus 7.6. Satiation 7.7. Exposure 7.8. Associative learning | 17 | 13. Identify 13.1. Identification of self as role model 13.2. Framing/reframing 13.3. Incompatible beliefs 13.4. Valued self-identity 13.5. Identity associated with changed behavior |
| 5 | 3. Social support 3.1. Social support (unspecified) 3.2. Social support (practical) 3.3. Social support (emotional) | 10 | 8. Repetition and substitution 8.1. Behavioral practice/rehearsal 8.2. Behavior substitution 8.3. Habit formation 8.4. Habit reversal 8.5. Overcorrection 8.6. Generalization of target behavior 8.7. Graded tasks | 18 | 14. Scheduled consequences 14.1. Behavior cost 14.2. Punishment 14.3. Remove reward 14.4. Reward approximation 14.5. Rewarding completion 14.6. Situation-specific reward 14.7. Reward incompatible behavior 14.8. Reward alternative behavior 14.9. Reduce reward frequency 14.10. Remove punishment |
| 6 | 4. Shaping knowledge 4.1. Instruction on how to perform the behavior 4.2. Information about antecedents 4.3. Attribution 4.4. Behavioral experiments | 11 | 9. Comparison of outcomes 9.1. Credible source 9.2. Pros and cons 9.3. Comparative imagining of future outcomes | 19 | 15. Self belief 15.1. Verbal persuasion about capability 15.2. Mental rehearsal of successful performance 15.3. Focus on past success 15.4. Self-talk |
| 7 | 5. Natural consequences 5.1. Information about health consequences 5.2. Salience of consequences 5.3. Information about social and environmental consequences 5.4. Monitoring of emotional consequences 5.5. Anticipated regret 5.6. Information about emotional consequences | 12 | 10. Reward and threat 10.1. Intrinsic incentive (behavior) 10.2. Material reward (behavior) 10.3. Non-specific reward 10.4. Social incentive 10.5. Social incentive 10.6. Non-specific incentive 10.7. Self-incentive 10.8. Incentive (outcome) 10.9. Self-reward 10.10. Reward (outcome) 10.11. Future punishment | 19 | 16. Covert learning 16.1. Imaginary punishment 16.2. Imaginary reward 16.3. Vicarious consequences |
| | | 15 | 11. Regulation 11.1. Pharmacological support 11.2. Reduce negative emotions 11.3. Conserving mental resources 11.4. Paradoxical instructions | | |

BCT Taxonomy (v1): 93 hierarchically-clustered techniques

Note for Users

The definitions of Behavior Change Techniques (BCTs):

- contain verbs (e.g., provide, advise, arrange, prompt) that refer to the action(s) taken by the person(s) delivering the technique. BCTs can be delivered by an 'interventionist' or self-delivered
- contain the term "behavior" referring to a single action or sequence of actions that includes the performance of wanted behavior(s) and/or inhibition (non-performance) of unwanted behavior(s)
- note alternative or additional coding where relevant
- note the technical terms associated with particular theoretical frameworks where relevant (e.g. 'including implementation intentions')

| No. | Label | Definition | Examples |
|-----|--------------------------------|---|--|
| 1.1 | Goal setting (behavior) | Set or agree on a goal defined in terms of the behavior to be achieved. Note: only code goalsetting if there is sufficient evidence that goal set as part of intervention; if goal unspecified or a behavioral outcome, code 1.3, Goal setting (outcome); if the goal defines a specific context, frequency, duration or intensity for the behavior, also code 1.4, Action planning | Agree on a daily walking goal (e.g. 3 miles) with the person and reach agreement about the goal Set the goal of eating 5 pieces of fruit per day as specified in public health guidelines |
| 1.2 | Problem solving | Analyse, or prompt the person to analyse, factors influencing the behavior and generate or select strategies that include overcoming barriers and/or increasing facilitators (includes Release Prevention and Coping Planning) Note: barrier identification without solutions is not sufficient. If the BCT does not include analyzing the behavioral problem, consider 12.3, Avoidance/changing exposure to cues for the behavior, 12.1, Restructuring the physical environment, 12.2, Restructuring the social environment, 12.2, Reduce negative emotions | Identify specific triggers (e.g. being in a pub, feeling anxious) that generate the urge/want/need to drink and develop strategies for avoiding environmental triggers or for managing negative emotions, such as anxiety, that motivate drinking Prompt the patient to identify barriers presenting them from starting a new exercise regime e.g. lack of motivation, and discuss ways in which they could help overcome them e.g. going to the gym with a buddy |

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| | | | |
|-----|--|---|---|
| 1.3 | Goal setting (outcome) | Set or agree on a goal defined in terms of a positive outcome of wanted behavior Note: only code guidelines if set as goal in an intervention context; if goal is a behavior, code 1.1, Goal setting (behavior); if goal unspecified code 1.3, Goal setting (outcome) | Set a weight loss goal (e.g. 0.5 kilogram over one week) as an outcome of changed eating patterns |
| 1.4 | Action planning | Prompt detailed planning of performance of the behavior (must include at least one of context, frequency, duration and intensity). Context may be environmental (physical or social) or internal (physical, emotional or cognitive) (includes Implementation Intention) Note: evidence of action planning does not necessarily imply goal setting, only code latter if sufficient evidence | Encourage a plan to carry condoms when going out socially at weekends Prompt planning the performance of a particular physical activity (e.g. running) at a particular time (e.g. before work) on certain days of the week |
| 1.5 | Review behavior goal(s) | Review behavior goal(s) jointly with the person and consider modifying goal(s) or behavior 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 Note: if goal specified in terms of behavior, code 1.5, Review behavior goal(s); if goal unspecified, code 1.7, Review outcome goal(s); if discrepancy created consider also 1.6, Discrepancy between current behavior and goal | Examine how well a person's performance corresponds to agreed goals e.g. whether they consumed less than one unit of alcohol per day, and consider modifying future behavioral goals accordingly e.g. by increasing or decreasing alcohol target or changing type of alcohol consumed |
| 1.6 | Discrepancy between current behavior and goal | Draw attention to discrepancies between a person's current behavior (in terms of the form, frequency, duration, or intensity of that behavior) and the person's previously set outcome goals, behavioral goals or action plans (goes beyond self-monitoring of behavior) Note: if discomfort is created only code 13.3, Incompatible beliefs and 13.6, Discrepancy between current behavior and goal; if goals are modified, also code 1.5, Review behavior goal(s) and/or 1.7, Review outcome goal(s); if feedback is provided, also code 2.2, Feedback on behavior | Point out that the recorded exercise fell short of the goal set |

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Characterising behaviour

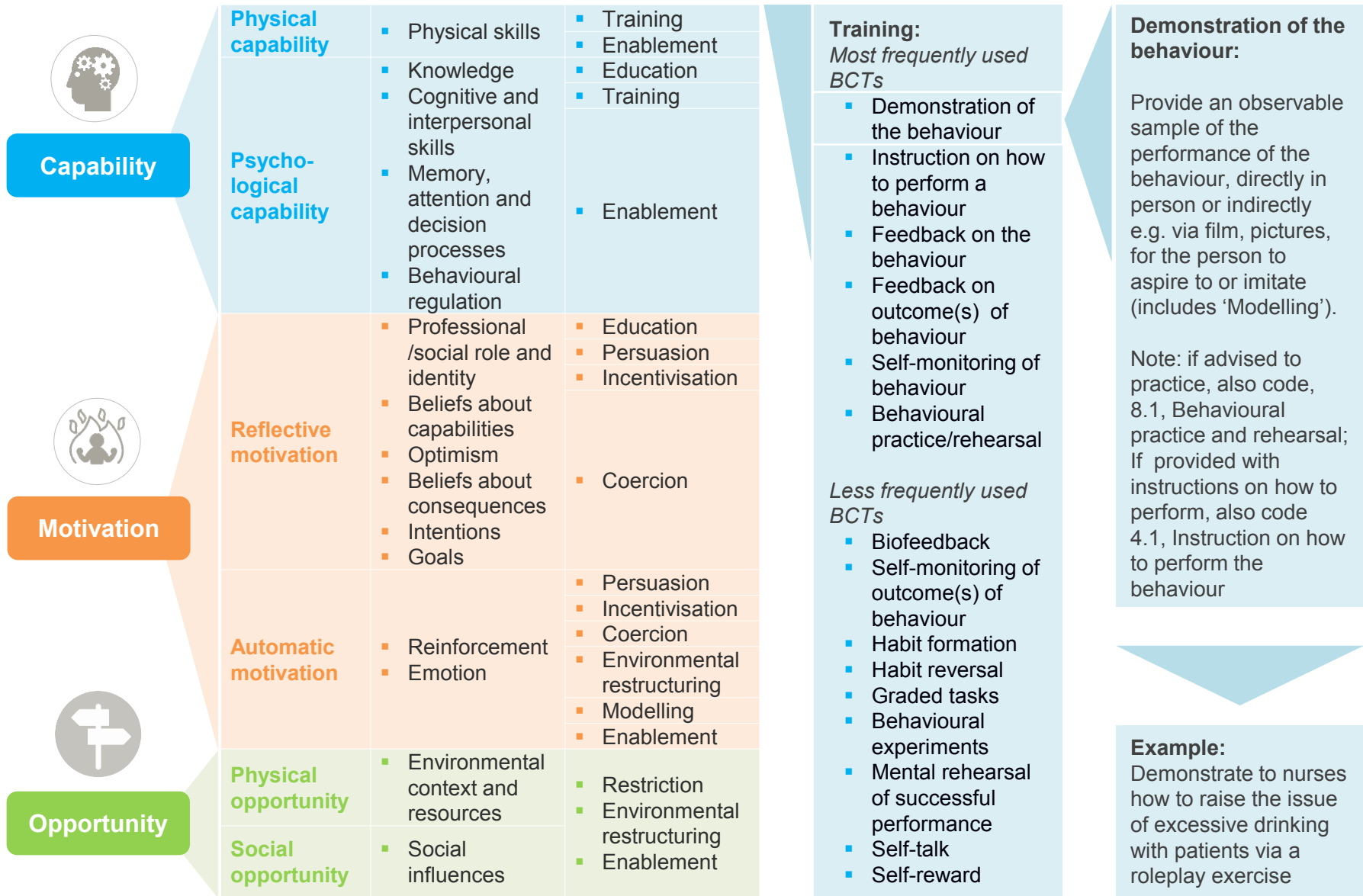
Selecting interventions

COM-B

TDF

Intervention functions

BCT Taxonomy



Multiple modes of delivery can be considered for each BCT

Modes of BCT delivery

| | | | |
|-------------------------|--|--------------------------|------------------------------|
| Face-to-face | Individual | | |
| | Group | | |
| Distance | Population-level | Broadcast media | <i>TV</i> |
| | | | <i>Radio</i> |
| | | | <i>Overhead announcement</i> |
| | | Digital media | <i>Internet</i> |
| | | | <i>Mobile phone app</i> |
| | | Print media | <i>Newspaper</i> |
| | <i>Leaflet</i> | | |
| | <i>Newsletter</i> | | |
| | Outdoor media | <i>Billboard</i> | |
| | | <i>Poster</i> | |
| Individual-level | Phone | <i>Phone helpline</i> | |
| | | <i>Mobile phone text</i> | |
| | Individually accessed computer programme | | |

Selected behaviour change techniques should be evaluated against the APEASE criteria

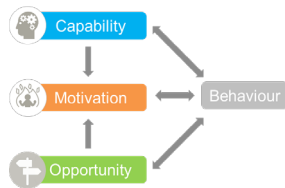
- ✓ **A**ffordability
- ✓ **P**racticability
- ✓ **E**ffectiveness and cost-effectiveness
- ✓ **A**ceptability
- ✓ **S**ide-effects/safety
- ✓ **E**quity

Recap: A solid behaviour change intervention will follow 3 stages

Stages and steps in the design of effective behaviour change interventions

1

Understand the behaviour



- Define the problem in behavioural terms
- Select & specify the **target behaviour**
- Using the COM-B model, **identify what needs to change**

2

Identify intervention options



- Using the Behaviour Change Wheel, **identify intervention functions**
- Assess their feasibility using the APEASE criteria

3

Identify content and implementation options



- Using the BCW, select **behaviour change techniques** from the BCT Taxonomy for each intervention function
- Design **content**
- Choose appropriate **mode of delivery**

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1. Current best practice

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The first step in diagnosing behaviour is defining the problem in behavioural terms

Questions to ask

| | |
|--|--|
| What is the problem behaviour? | |
| Where does the behaviour occur? | |
| Who is involved in performing the behaviour? | |

Next, we need to select the desired, target behaviour(s)

What target behaviours could bring about the desired outcome?

Prioritise the behaviours by considering the following criteria:

1. How much of an impact changing the behaviour will have on desired outcome
2. How likely it is that the behaviour can be changed (when considering likelihood of change being achieved, think about the capability, opportunity and motivation to change of those performing the behaviour)
3. How likely it is that the behaviour (or group of behaviours) will have a positive or negative impact on other, related behaviours
4. How easy it will be to measure the behaviour

It's important to describe the target behaviour clearly by specifying it

Target behaviour

| | |
|--|--|
| Who needs to perform the behaviour? | |
| What do they need to do differently to achieve the desired change? | |
| When do they need to do it? | |
| Where do they need to do it? | |
| How often do they need to do it? | |
| With whom do they need to do it? | |

Describe the target behaviour according to **who, needs to do what, when, where, how often and with whom**

Next, we need to understand what components of behaviour need to change

Qualitative methods (surveys, interviews, focus group discussions) following the questionnaire below can be used

“In order to regularly ... , I would have to ...”

| Capability | |
|--------------------------------------|---|
| Statement | Example |
| Know more about why it was important | Have a better understanding of the benefits of stopping smoking |
| Know more about how to do it | Have a better understanding of effective ways to lose weight |
| Have better physical skills | Learn how to operate machinery more effectively in one's job |
| Have better mental skills | Learn how to reason more effectively |
| Have more physical strength | Build up muscles for physically demanding physical work |
| Have more mental strength | Develop stronger resilience against cravings |
| Overcome physical limitations | Get around problems of stature or disability |
| Overcome mental obstacles | Reduce unwanted urges or feelings |
| Have more physical stamina | Develop greater capacity to maintain physical effort |
| Have more mental stamina | Develop greater capacity to maintain mental effort |

| Opportunity | |
|---------------------------------------|---|
| Statement | Example |
| Have more time to do it | Create dedicated time during the day |
| Have more money | Be given or earn funds to support the behaviour |
| Have the necessary materials | Acquire better tools for the job |
| Have it more easily accessible | Provide easier access to facilities |
| Have more people around them doing it | Be part of a “crowd” who are doing it |
| Have more triggers to prompt them | Have more reminders at strategic times |
| Have more support from others | Have one's family or friends behind one |

| Motivation | |
|---|--|
| Statement | Example |
| Feel that you want to do it enough | Feel more of a sense of pleasure or satisfaction from doing it |
| Feel that you need to do it enough | Care more about the negative consequences of not doing it |
| Believe that it would be a good thing to do | Have a stronger sense that one should do it |
| Develop better plans for doing it | Have clearer and better developed plans for achieving it |
| Develop a habit of doing it | Get into a pattern of doing it without having to think |
| Something else (please specify) | |

The BCW encourages **modification of the questionnaire** to ensure the target behaviour is addressed specifically

Conjoint analysis can be used to gauge the relative contributions of each component of behaviour

Mock-up of a pairwise ranking question – 1000 minds online software

In order to reduce my ordering of CT lumbar spine for non-trauma low back pain, I would need to ...

Know more about radiation doses in CT scans

this one

OR

Have a better understanding of alternative ways of diagnosing low back pain

this one

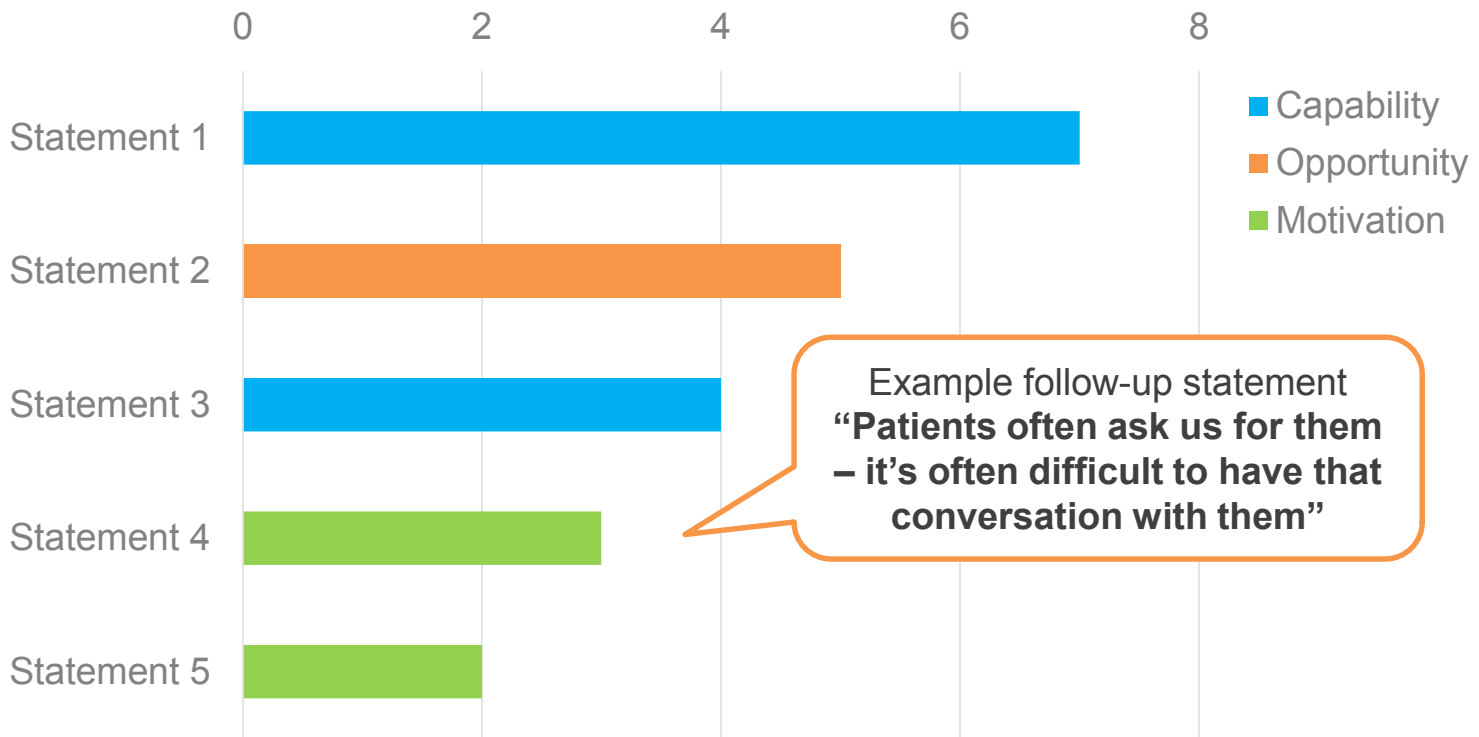
they are equal

<< undo last decision

Skip this decision for now >>

Rankings can be produced identifying what needs to change, and focus group discussions can enrich the picture

Mock-up of a pairwise ranking results, relative importance



Based on the results of the questionnaire and/or focus group discussions, a behavioural diagnosis can be made

| COM-B Components | What needs to happen for the target behaviour to occur? | Is there a need for change? |
|--|---|-----------------------------|
| <i>Physical capability</i> | | |
| <i>Psychological capability</i> | | |
| <i>Physical opportunity</i> | | |
| <i>Social opportunity</i> | | |
| <i>Reflective motivation</i> | | |
| <i>Automatic motivation</i> | | |
| Behavioural diagnosis of the relevant COM-B components: | | |

N.B. The **TDF domains** can be added for further detail

Contents

1. Current best practice
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- 3. Designing interventions**
4. Proposed next steps

Once the major components of behaviour are understood, the BCW can be used to select the best intervention functions

| Candidate intervention functions | Evaluation of fit – are they recommended by the intervention function table? Do they meet the APEASE criteria? |
|----------------------------------|--|
|----------------------------------|--|

Education

| | |
|-------------------|--|
| <i>Persuasion</i> | |
|-------------------|--|

Incentivisation

| | |
|-----------------|--|
| <i>Coercion</i> | |
|-----------------|--|

Training

| | |
|--------------------|--|
| <i>Restriction</i> | |
|--------------------|--|

Environmental restructuring

| | |
|------------------|--|
| <i>Modelling</i> | |
|------------------|--|

Enablement

| |
|---|
| Selected intervention functions: |
|---|

The BCW can then be used to select behaviour change techniques from the BCT Taxonomy, for each intervention function

| Selected Intervention functions | Selected Behaviour Change Techniques | Feasibility assessment (do they meet the APEASE criteria?) |
|---------------------------------|--------------------------------------|--|
| | | |
| | | |
| | | |

Consider the best mode of delivery for each BCT selected

| Selected Behaviour Change Techniques | Mode of delivery | Feasibility assessment (do they meet the APEASE criteria?) |
|--------------------------------------|------------------|--|
| | | |
| | | |
| | | |

A solid intervention plan will describe technique, mode, and content to address each identified barrier/enabler

| What needs to change? | TDF domain | Potential interventions (technique, mode, content) |
|--|--|---|
| GPs' perceptions of patients' expectations and of patients' beliefs about consequences | Knowledge (patient) | <ul style="list-style-type: none"> ▪ Technique: Information provision (directed at patient) ▪ Mode: Patient handout ▪ Content: Handout contains lay language about key messages from the guideline [33]; GPs encouraged to give patients with acute LBP the handouts to reinforce verbal advice |
| Attitudes towards managing patients without x-ray, based on perceived consequences of the behaviour, e.g. fear of missing underlying pathology and belief that patient will feel reassured with an x-ray | 1. Beliefs about consequences 2. Knowledge (GP) | <ul style="list-style-type: none"> ▪ Techniques: Information provision; Persuasive communication ▪ Mode: Facilitated workshop; DVD ▪ Content: <ul style="list-style-type: none"> ▪ Highly respected senior clinician presents persuasive message about harms (harmful amounts of unnecessary radiation) and limited benefits (poor diagnostic utility) of x-ray for LBP ▪ GPs provide examples of when important underlying pathology was missed due to absence of x-ray of LBP episode, giving opportunity forexpert to discuss this case and demonstrate that x-ray wasn't required. |
| Perceived need to give the patient something to replace x-ray | Skills | <ul style="list-style-type: none"> ▪ Techniques: Provide instruction and modelling to increase a competing behaviour ▪ Mode: Facilitated workshop; DVD ▪ Content: Instruct, model/role-play and create a script to facilitate the competing behaviour of prescribing an activity log for patients (rather than giving x-ray referral). |