



# Advancing self-care support for people with chronic diseases

## Contribution of behaviour change science

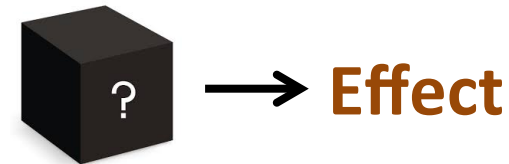
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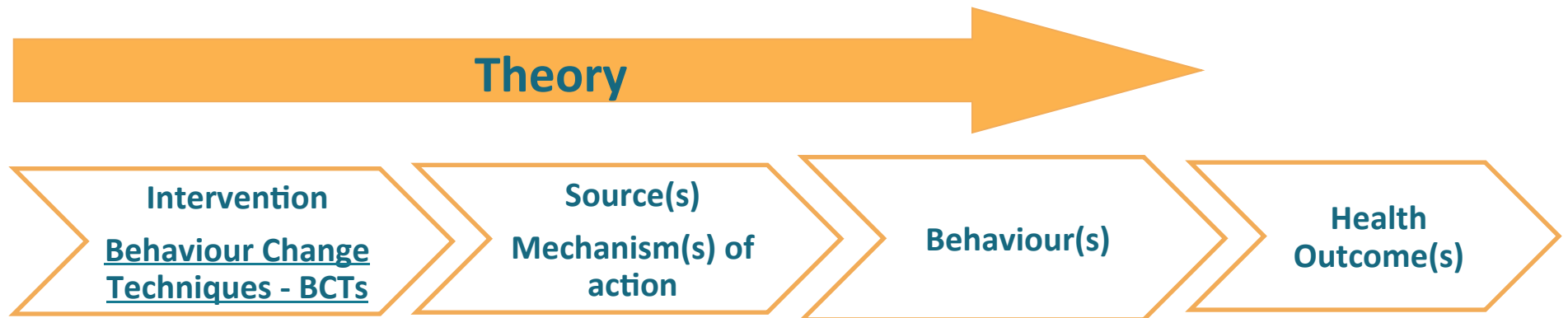
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- High variability in the effects of interventions to change health behaviours
- To design effective interventions we need to understand:
  - Why they vary across behaviour, population and context
  - Which components are effective
  - What is the specific content
  - Why are they effective
- ...AND use systematic methods from behaviour science



# Behaviour change Science



## Behaviour change Science

- Frameworks and theory to guide the development, implementation and evaluation of interventions
  - E.g. **Behaviour Change Wheel** (Michie et al 2011,2014)
- Use of standardised language to describe and organize components of behaviour change interventions
  - E.g. **Behaviour Change Techniques Taxonomy V1** (Michie et al 2013,2015)
- Frameworks for describing the competences required to deliver behaviour change interventions
  - E.g. **Train4Health Competency Framework** (Cadogan et al)

## When attending the GP ....

1. Examine  
the problem

2. Make a  
formulation and  
diagnosis

3. Prescribe a treatment

Approach behaviour change  
interventions in similar manner...

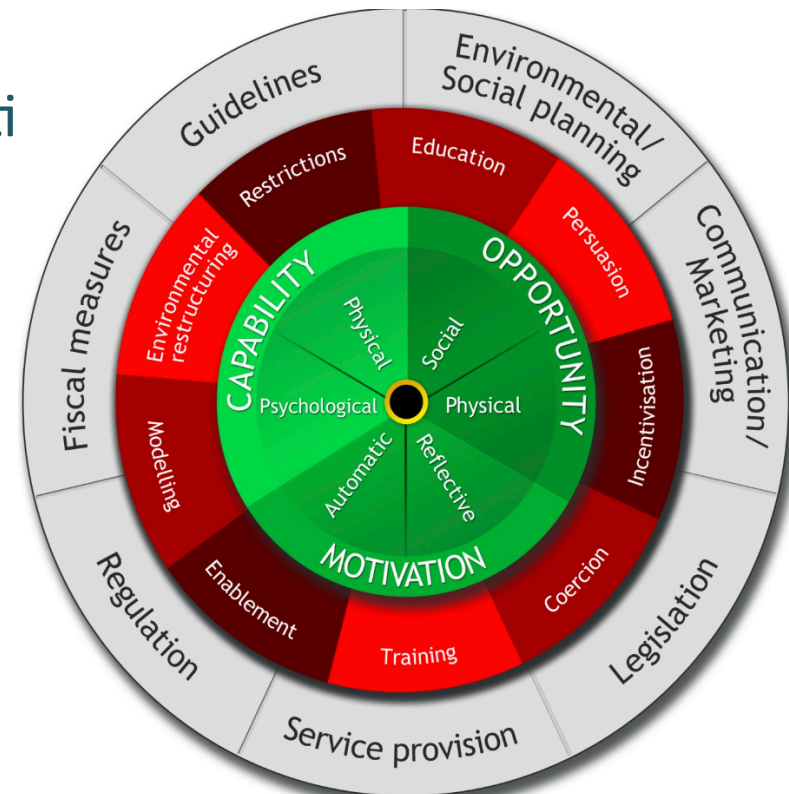
Systematically select intervention  
strategies based on thorough  
'behavioural diagnosis'

*diagnosis that's  
affordable?*

## The Behaviour Change Wheel (BCW)

Integrative framework to aid the systematic development and evaluation of behaviour change interventions

Derived from a synthesis of 19 frameworks of behavior change identified in a systematic literature review



Michie, Van Stralen, & West, 2011; Michie, Atkins, & West, 2014

**STEP 1**  
What behaviour(s) are you trying to change?

Define 'problem' in behavioural terms

**STEP 2**  
What will it take to bring about change?



**STEP 3**  
What interventions might work?

**Behaviour Change Wheel & Taxonomy of BCTs**

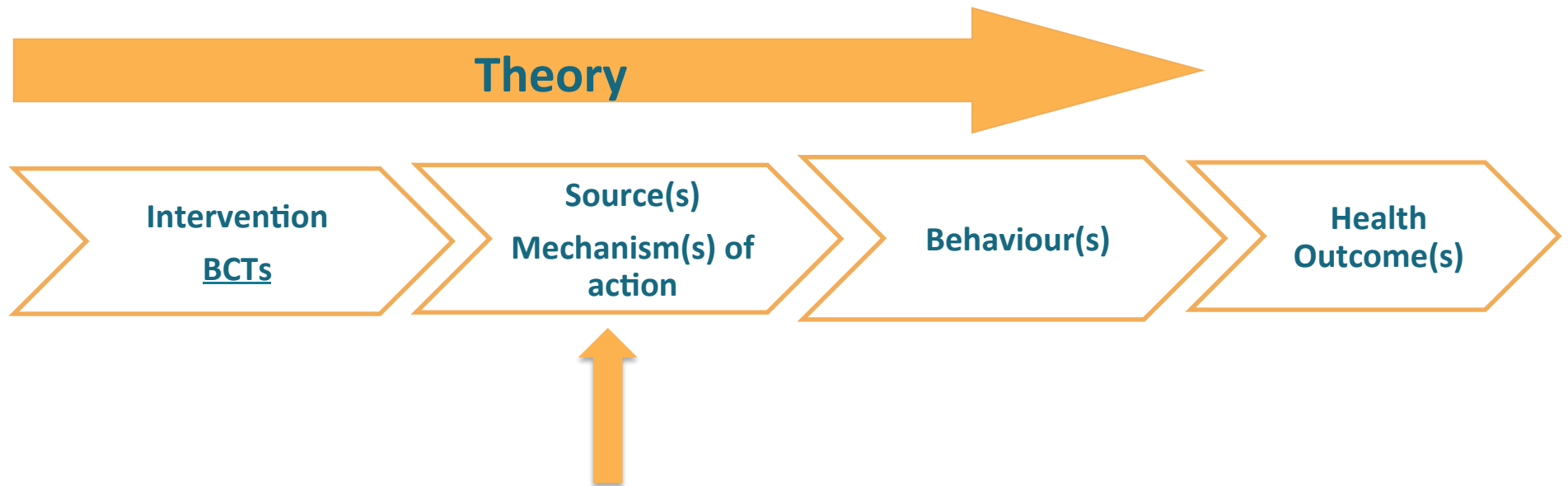


The diagram shows the Behaviour Change Wheel (a circular model with three concentric rings: Capability, Motivation, and Opportunity) and the Taxonomy of BCTs (a red box with 'BCT' above 'Taxonomy').

**STEP 4**  
Which specific components should the intervention involve?



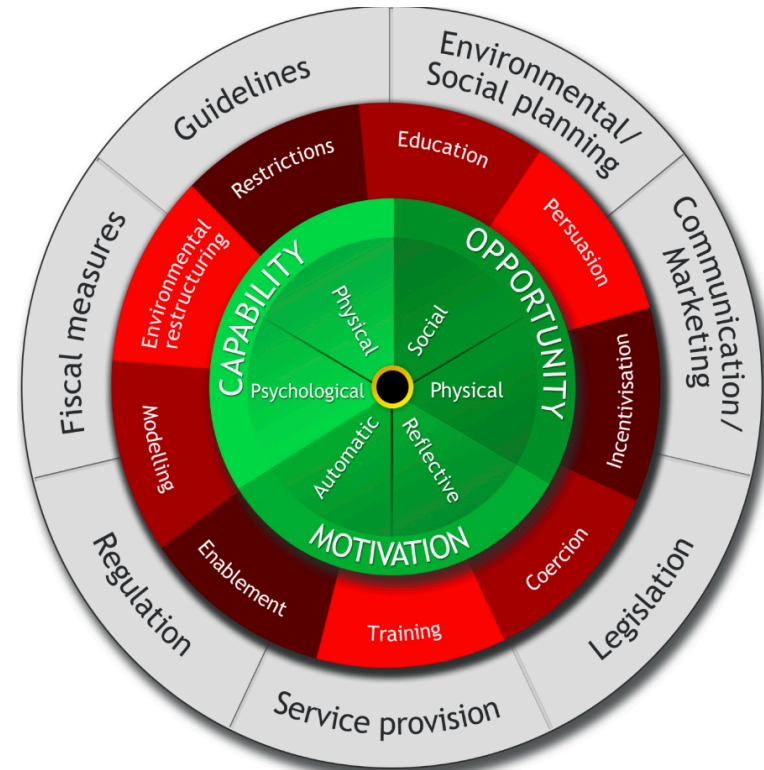
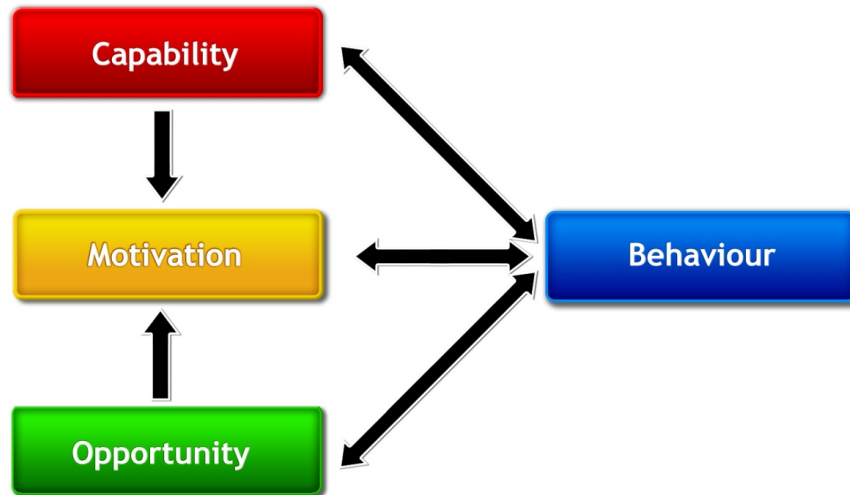
# Behaviour change Science





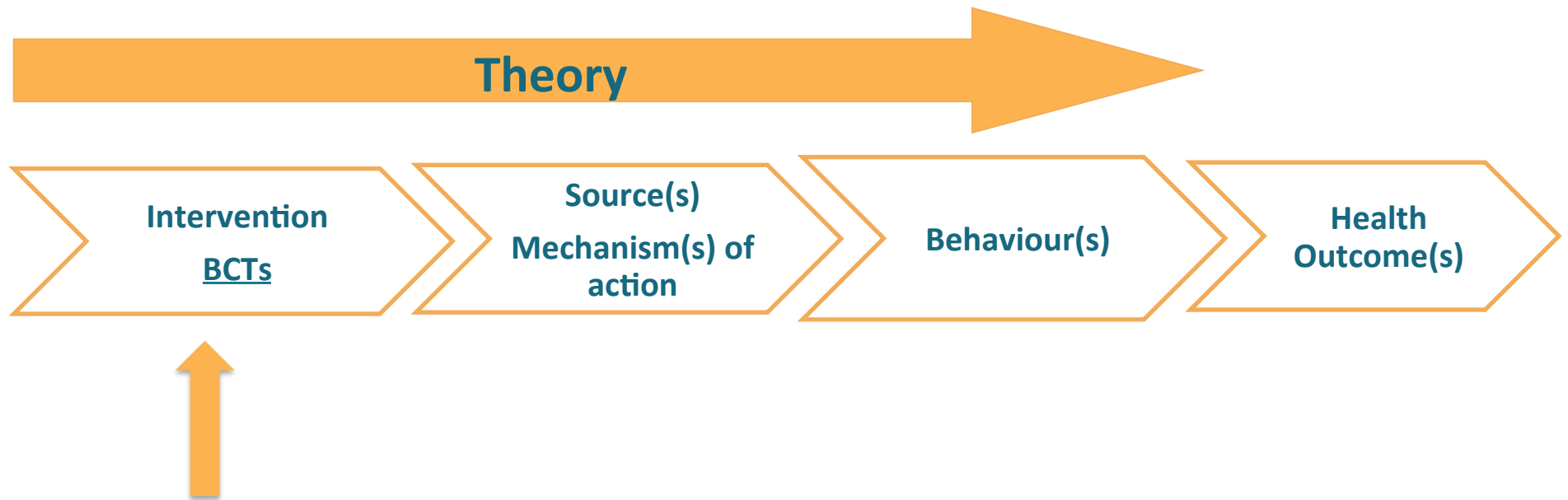
- Changing behaviour requires changing the sources of those behaviours

## COM-B Model



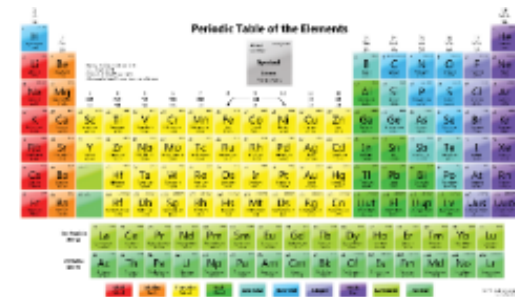
Michie, Van Stralen, & West, 2011; Michie, Atkins, & West, 2014

# Behaviour change Science



## A common language: Taxonomies of BCTs

- Agreed, standard method of describing intervention content
- ‘Periodic table’ of BCTs
- Consistent terminology & clear labels



## A common language: Taxonomies of BCTs

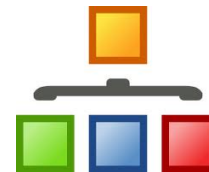
- **Describe** interventions as accurately as possible
- **Evaluate** e.g. in factorial designs
- **Synthesise** published reports in systematic reviews
- **Design** interventions





## BCT Taxonomy v1

- Developed by 400 experts from 12 countries
- Clearly labelled, well defined, distinct, precise
- Hierarchically organised to improve ease of use
- Applies to an extensive range of behaviour change interventions



# BCT Taxonomy v1: 93 items in 16 groups

Page	Grouping and BCTs	Page	Grouping and BCTs	Page	Grouping and BCTs
<b>1</b>	<b>1. Goals and planning</b>	<b>8</b>	<b>6. Comparison of behaviour</b>	<b>16</b>	<b>12. Antecedents</b>
	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		6.1. Demonstration of the behavior 6.2. Social comparison 6.3. Information about others' approval		12.1. Restructuring the physical environment 12.2. Restructuring the social environment 12.3. Avoidance/reducing exposure to cues for the behavior

No.	Label	Definition	Examples
<b>1. Goals and planning</b>			
<b>1.1</b>	<b><i>Goal setting (behavior)</i></b>	Set or agree on a goal defined in terms of the behavior to be achieved <i>Note: only code goal-setting if there is sufficient evidence that goal set as part of intervention; if goal unspecified or a behavioral outcome, code <b>1.3, Goal setting (outcome)</b>; if the goal defines a specific context, frequency, duration or intensity for the behavior, <u>also</u> code <b>1.4, Action planning</b></i>	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

## The Behavior Change Technique Taxonomy (v1) of 93 Hierarchically Clustered Techniques: Building an International Consensus for the Reporting of Behavior Change Interventions

Susan Michie, DPhil, CPsychol · Michelle Richardson, PhD · Marie Johnston, PhD, CPsychol · Charles Abraham, DPhil, CPsychol · Jill Francis, PhD, CPsychol · Wendy Hardeman, PhD · Martin P. Eccles, MD · James Cane, PhD · Caroline E. Wood, PhD

## A taxonomy of behaviour change methods: an Intervention Mapping approach

Gerjo Kok<sup>a</sup>, Nell H. Gottlieb<sup>b</sup>, Gjalte-Jorn Y. Peters<sup>a,c</sup>, Patricia Dolan Mullen<sup>b</sup>, Guy S. Parcel<sup>b</sup>, Robert A.C. Ruiter<sup>a</sup>, María E. Fernández<sup>b</sup>, Christine Markham<sup>b</sup> and L. Kay Bartholomew<sup>b</sup>

<sup>a</sup>School of Psychology & Neuroscience, Maastricht University, Maastricht, MD, The Netherlands; <sup>b</sup>School of Public Health, University of Texas, Houston, TX, USA; <sup>c</sup>School of Psychology, Open University, Heerlen, DL, The Netherlands

## A Classification of Motivation and Behavior Change Techniques Used in Self-Determination Theory-Based Interventions in Health Contexts

Pedro J. Teixeira  
University of Lisbon

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Marlene N. Silva  
University of Lisbon and Lusófona University

Jennifer Brunet  
University of Ottawa

nature  
human behaviour

RESOURCE  
19-0798-9

The complete taxonomy of behavior change techniques for self-determination theory-based interventions and their classification into self-enactabilization and self-enactabilization

**'Self-enactabilization'**

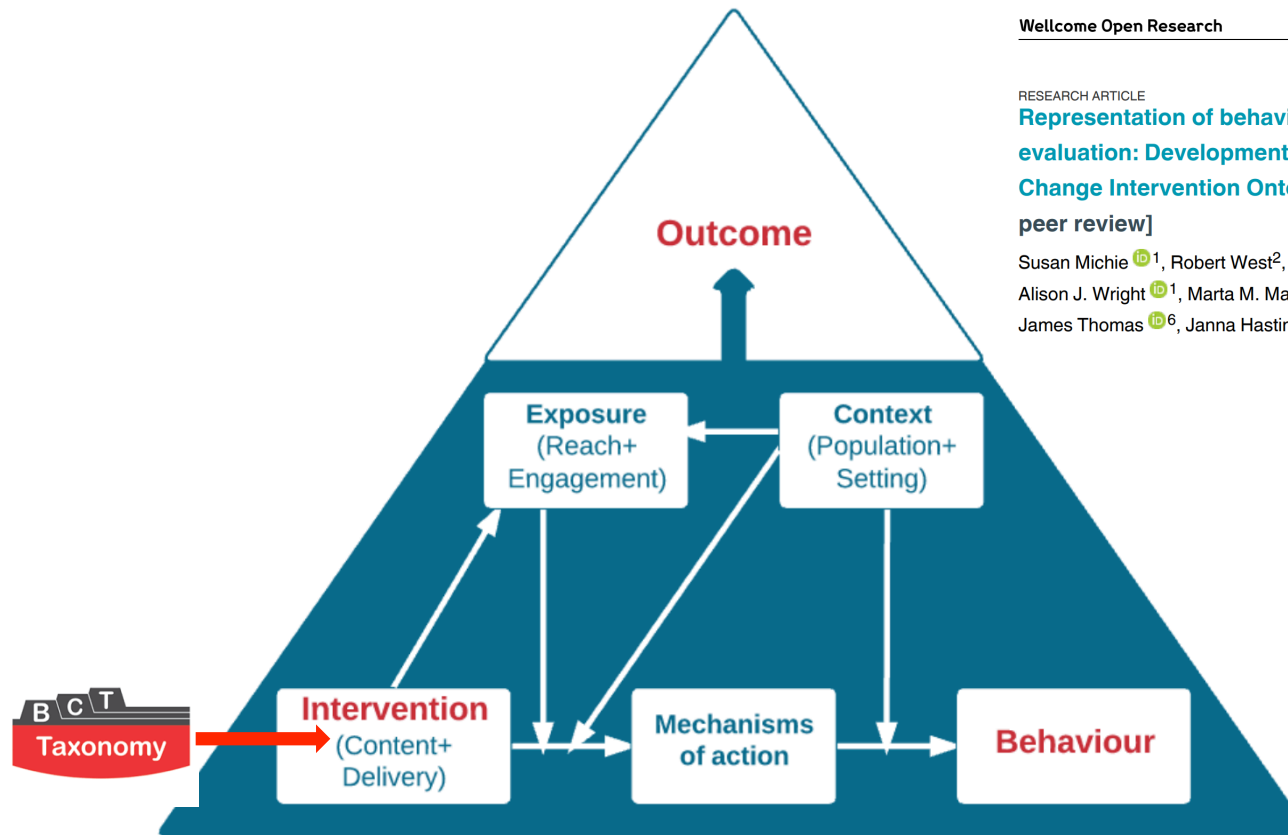
N. H. Gottlieb<sup>1</sup>, M. M. Marques<sup>2</sup>, Minna Stenius<sup>3,4</sup>, Marguerite Beattie<sup>5</sup>, Franziska Ehbrecht<sup>6</sup>, Martin S. Hagger<sup>6,7</sup>, Wendy Hardeman<sup>8</sup> and Nelli Hankonen<sup>1\*</sup>

## How to select a BCT?

- Depends on the source of the behaviour
  - Evidence-based – from meta-analysis/reviews
  - Guidance from Behavior Change Wheel and other frameworks
  - Guidance from the theory being used



# Human Behaviour Change Intervention Ontology



Wellcome Open Research

Wellcome Open Research 2020, 5:123 Last updated: 30 JUN 2020

Check for updates

RESEARCH ARTICLE

**Representation of behaviour change interventions and their evaluation: Development of the Upper Level of the Behaviour Change Intervention Ontology** [version 1; peer review: awaiting peer review]

Susan Michie <sup>1</sup>, Robert West<sup>2</sup>, Ailbhe N. Finnerty<sup>1</sup>, Emma Norris <sup>1</sup>, Alison J. Wright <sup>1</sup>, Marta M. Marques <sup>1,3</sup>, Marie Johnston <sup>4</sup>, Michael P. Kelly<sup>5</sup>, James Thomas <sup>6</sup>, Janna Hastings <sup>1</sup>

[www.humanbehaviourchange.org](http://www.humanbehaviourchange.org)

## Some resources from the Centre for Behaviour Change



All proceeds from CBC teaching, training, books and products go further development

[www.ucl.ac.uk/behaviour-change](http://www.ucl.ac.uk/behaviour-change)



## Formal theories

- 83 theories
- 1738 constructs



Davis et al, Health Psychology Review, 2014

Michie et al, [www.behaviourchangetheories.com](http://www.behaviourchangetheories.com), 2014

*Courtesy: Susan Michie*

## There is an urgent need...

To develop an understanding of human behaviour to answer variants of the **'big question'**

*When it comes to behaviour change interventions:*

what works, compared with what, for what behaviours, how well, for how long, with whom, in what setting, and why?

## **Developing Behavior Change Interventions for Self-Management in Chronic Illness**

An Integrative Overview

Vera Araújo-Soares,<sup>1,2</sup> Nelli Hankonen,<sup>3</sup> Justin Presseau,<sup>4,5,6</sup> Angela Rodrigues,<sup>1,7</sup> and Falko F. Sniehotta<sup>1,7</sup>

### **Step 2: Define the scientific core of the intervention**

- (i) Understand causal/contextual factors (Causal Modelling)
  - a. Describe formal (behavioral) theories used in understanding the predictors of the target health behavior
  - b. Describe how key uncertainties were identified to select aim of evidence synthesis
  - c. Describe literature search and review process
  - d. Describe the rationale/aims and the process of (possible) original empirical research
  - e. Describe rating of influencing factors (psychological, social, predictors/mechanisms) for changeability and relevance
- (ii) Develop a logic/theoretical model
  - a. Describe the process of developing the logic model (if possible, include early and later versions of the logic model)  
or providers and/or commissioners was investigated
  - c. Describe the decision processes related to room for local adaptation and necessity of fidelity for various components



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