



Why invest in Behavioural, Environmental, Social and Systems Interventions research?

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Rencontres of Santé Publique,
France May 2021



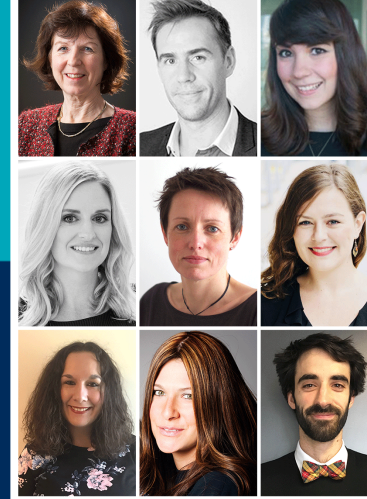
@SusanMichie



**This presentation is done in total independence
from the event organizer.
I have no conflict of interest to declare
regarding the current presentation.**



www.ucl.ac.uk/behaviour-change/
[@UCLBehaveChange](https://twitter.com/UCLBehaveChange)



Who are we?

- Researchers, consultants, trainers & practitioners in behaviour change
- A cross-disciplinary community of academic experts at UCL & beyond
- Global network of > 4,000 contacts

Activities include

- International Summer Schools
- Annual Conference
- MSc in Behaviour Change
- Hubs for exchanging skills, ideas, resources
 - Environment & Behaviour
 - Digi-hub



COVID-19 Scientific Advisor roles



indie_SAGE



1. UK Government's behavioural science advisory group to SAGE
2. Independent SAGE
 - set up by previous CSA to complement scientific work of SAGE
3. Served as COVID-19 consultant advisor to WHO Behavioural Insights team

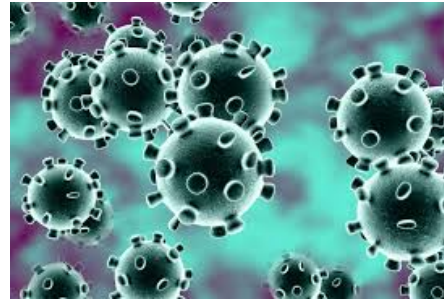
Background to this talk

1. How can we maximally contribute to suppressing the pandemic and mitigating its effects on health and societies?
2. Suppression of pandemics and epidemics cannot rely solely on vaccines and medical treatment
 - they require **behavioural, environmental, social and system interventions** (BESSI) to reduce transmission

Human behaviour ...

- Is at the heart of causing and transmitting:

- pandemic infections



- ... and at the heart of preventing and getting out of them

Behaviours occur in contexts ...

- **Environments**

- The virus transmits more in overcrowded housing, unventilated workplaces



- **Social** relationships

- The virus transmits more when people stand closer together and talk loudly



- **Systems**

- The virus is global – and transmits when people travel frequently between communities



Whose behaviours?

- Citizens
- Health professionals
- Employers
- Service and environmental planners
- Policy-makers at national and local level
- Politicians ...

Key behaviours to prevent transmission

1. Personal protective behaviours

- Distancing, hand/surface hygiene, face coverings, being outdoors, ventilating indoors



2. Adherence to public health measures

- Test, Trace, Isolate Systems
 - Having a test, giving contacts, isolating
- Adherence to rules



3. Vaccination uptake



Behavioural transmission routes

- A diagram of behavioural transmission and behavioural blocks
 - **Note:** published 2020 when emphasis on droplets and surface contamination

West, Michie, Rubin, Amlot (2020) Applying principles of behaviour change to help limit the spread of COVID-19, *Nature Human Behaviour*. [www.nature.com/articles/s41562-020-0887-9](https://doi.org/10.1038/s41562-020-0887-9)

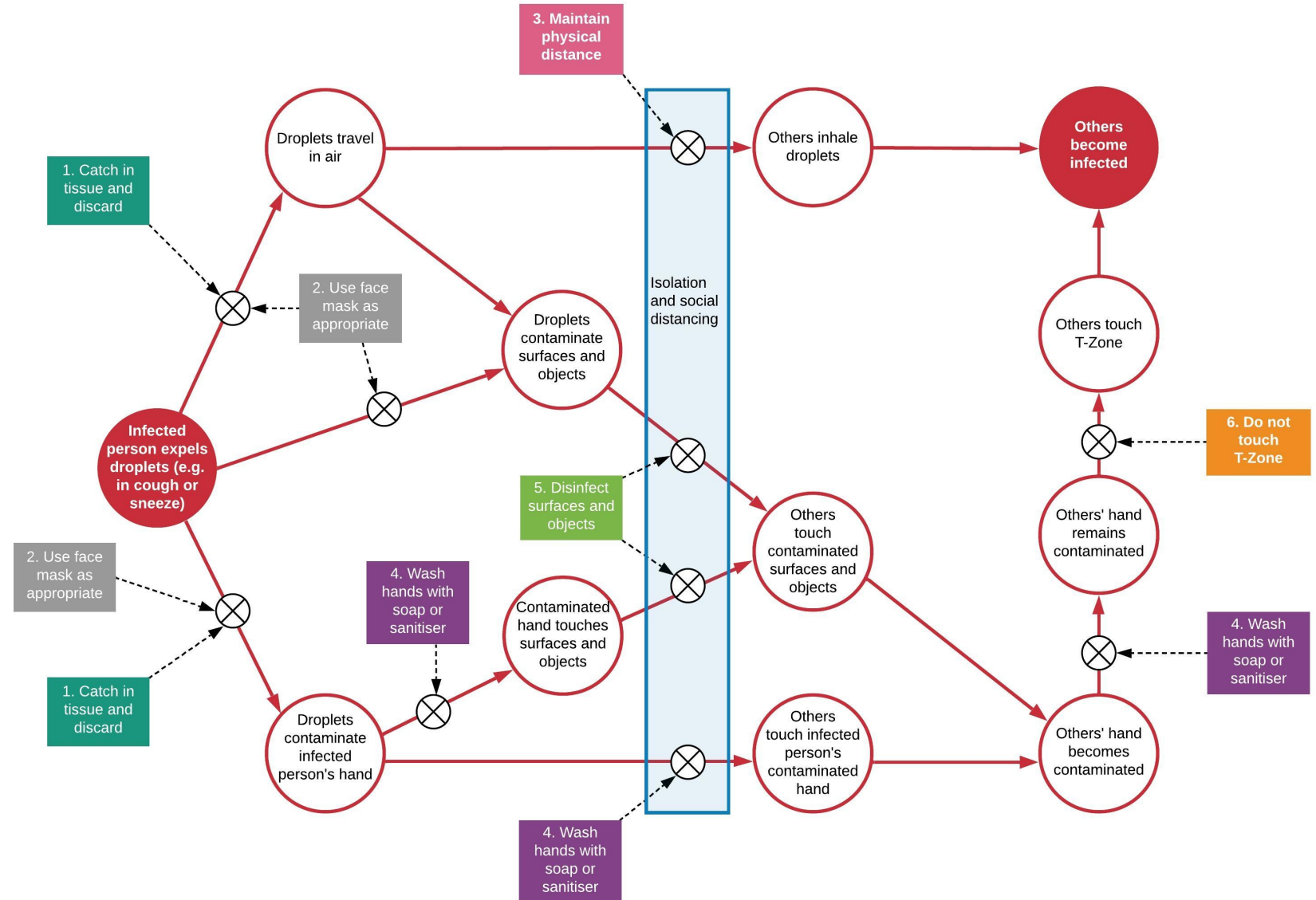


Applying principles of behaviour change to reduce SARS-CoV-2 transmission

Robert West¹✉, Susan Michie², G. James Rubin³ and Richard Amlôt⁴

Pathways to SARS-CoV-2 transmission: the behaviours and measures to block them

Large circles = stages in the pathway.
Red arrows = routes of transmission.
Crosses in small circles = blocks.
Rectangles = behaviours to block transmission routes (red borders = final transmission route).
Dotted arrows point to the blocking points.



Interventions to increase those behavioursBESSIs

1. Behavioural interventions

- Promoting mask wearing

2. Environmental interventions

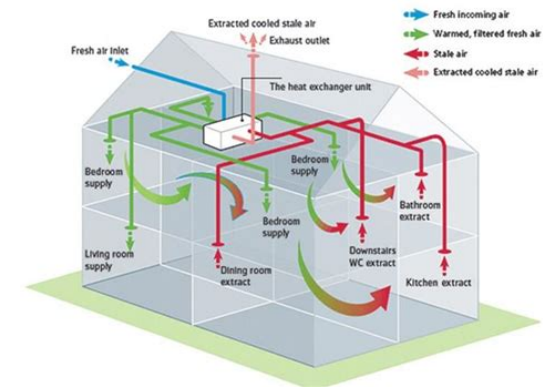
- Providing ventilation systems in buildings

3. Social interventions

- Creating a Covid-safety culture e.g. through school education

4. Systems interventions

- Setting up a Test, Trace, Isolate and Support programme



Cite this as: *BMJ* 2020;370:m2982
<http://dx.doi.org/10.1136/bmj.m2982>



Check for updates

Behavioural, environmental, social, and systems interventions against covid-19

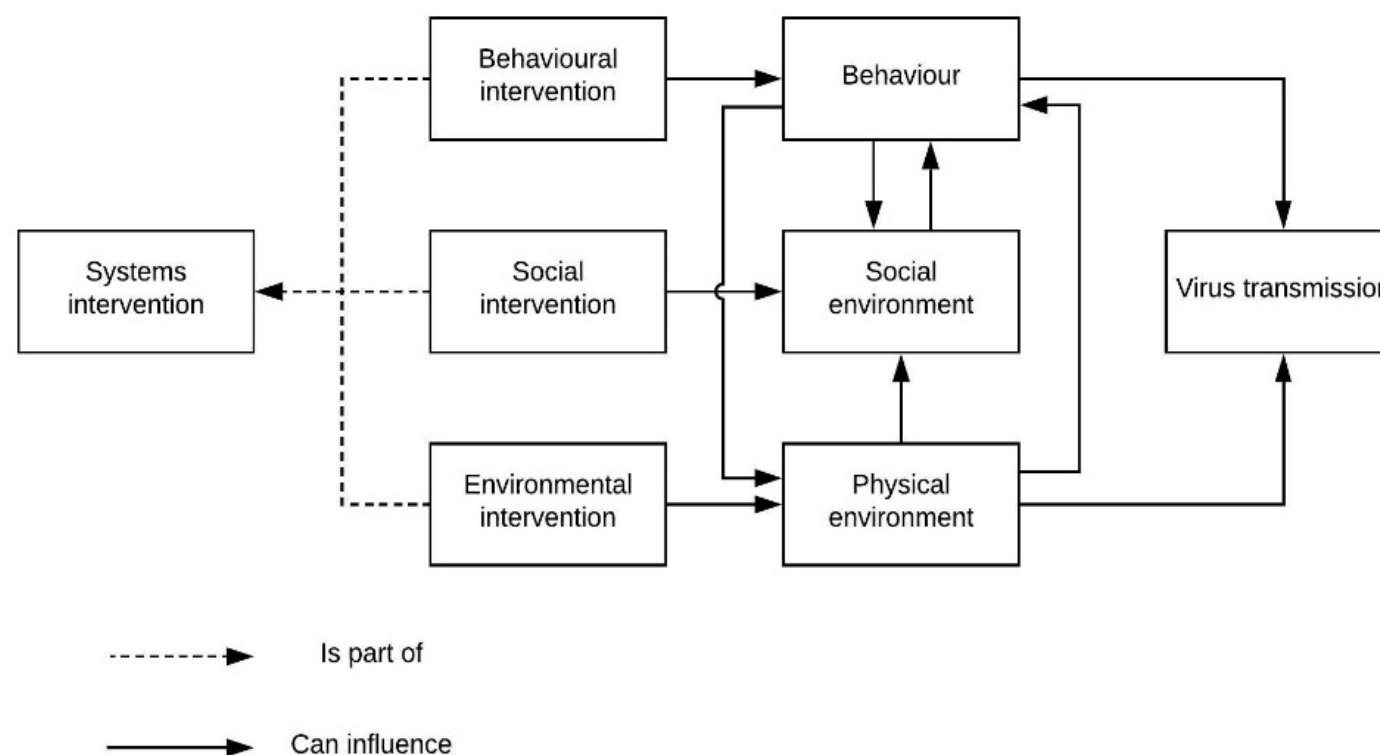
These critical interventions should be top not bottom of the covid-19 research agenda

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Interventions: different for different behaviours



1. Washing hands with soap

- Requires access to soap + establishing new rules
- 'If-then' plans to link behaviour with settings e.g. entering buildings, before eating/preparing food



2. Not touching the T-zone (eyes, nose, mouth)

- Requires breaking an automatic habit or responding to urge
- Develop an incompatible behaviour e.g. keep hands below shoulder level or additional behaviour



3. Use of facemasks and tissues

- Requires accessible facemasks and tissues
- Requires new routines to ensure they are to hand e.g. checking bag/pocket every morning



4. Social distancing/ Ventilation

- More complex, depends on other people, neighbourhood, building & transport environments,

We urgently need research to:

1. Improve current BESSIs
2. Design and evaluate novel BESSIs
3. Conduct living systematic reviews of the effects of BESSIs to
 - Support decision makers' decisions about which interventions to use in any given situation
 - Prioritise future research needs

HOWEVER!

Funding: the current situation

- **QUESTION 1:** How much of \$3.3B global funding for COVID research spent on BESSIs vs pharmaceutical interventions?
- **ANSWER: 3-4%** (Research Investments in Global Health study; <https://www.the-ciru.com/resin>)
- **QUESTION 2:** How many *registered* BESSI vs pharmaceutical trials, and how many *conducted* BESSI vs pharmaceutical trials?





Behavioural, Environmental, Social and Systems Interventions (for pandemic preparedness)

Twitter: @Bessi_Collab

Email: bessi@bessi.net.au

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The scorecard gives a snapshot of current COVID-19 research. Scorecard data is derived from a search of Epistemonikas COVID-19 L.OVE.

<https://www.bessi-collab.net/>

	Registered	Reported
Drug Trials	2006	469
BESSI Trials*	12	7

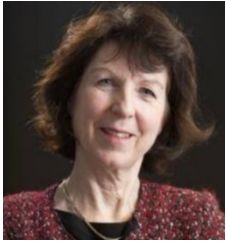
Need for a collaboration



@BESSI_Collab

Need to bring together a collaboration of researchers, decision-makers, implementers & funders to address this imbalance

What is the BESSI collaboration?



Susan Michie, UK



Jeremy Grimshaw, Canada



Paul Glasziou, Australia



Mareike Schomerus, Kenya



- Network of collaborators
- JISCmail list (c200), website, Twitter
- Global webinars
- Leading BESSI research proposals
 - Providing support esp to global South
 - Encouraging interdisciplinary collaboration
 - Focus on implementation
 - Sharing of resources

[URL: www.bessi-collab.net/](http://www.bessi-collab.net/)

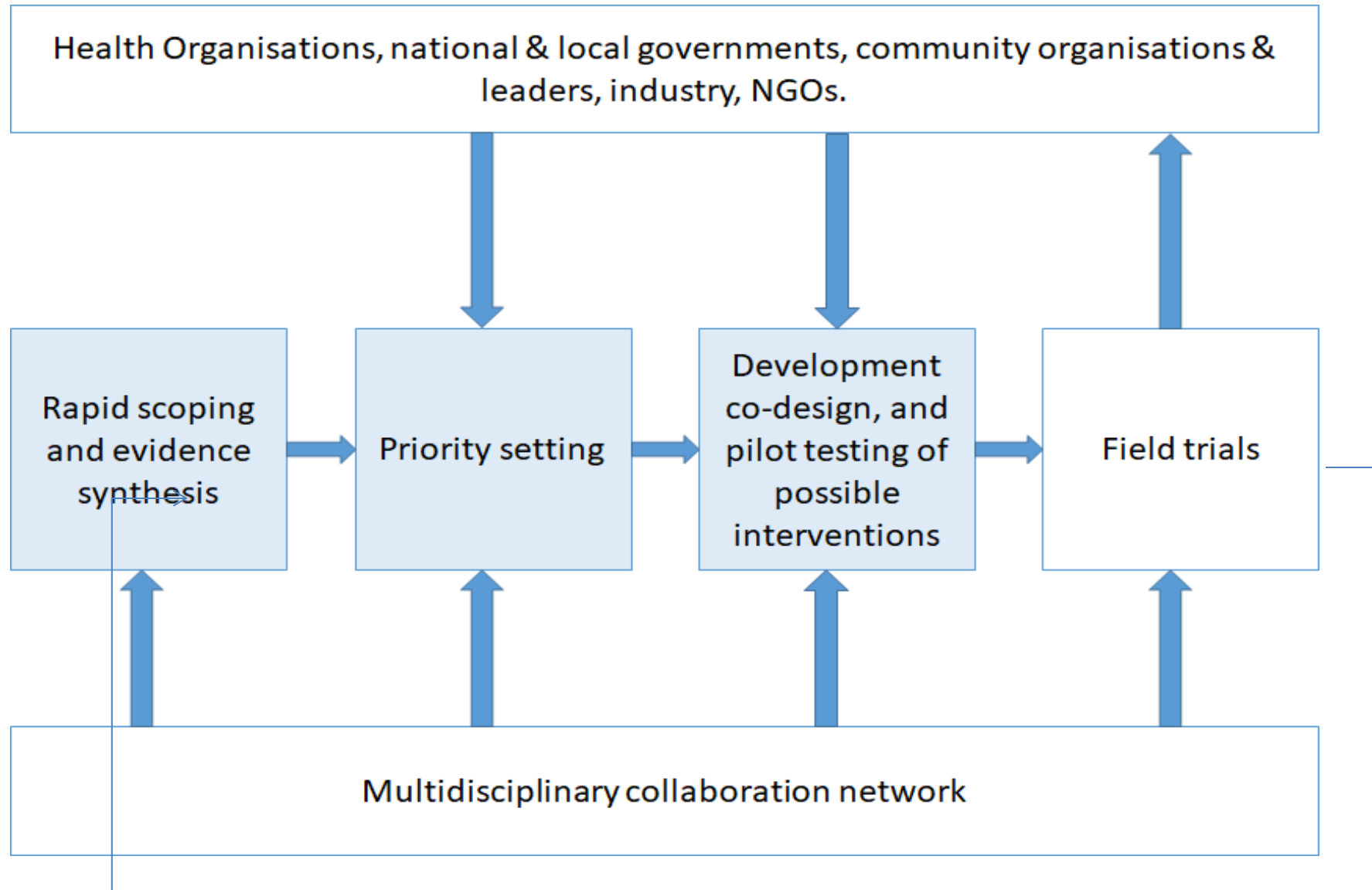
The 7 BESSI Collaboration Principles: summary

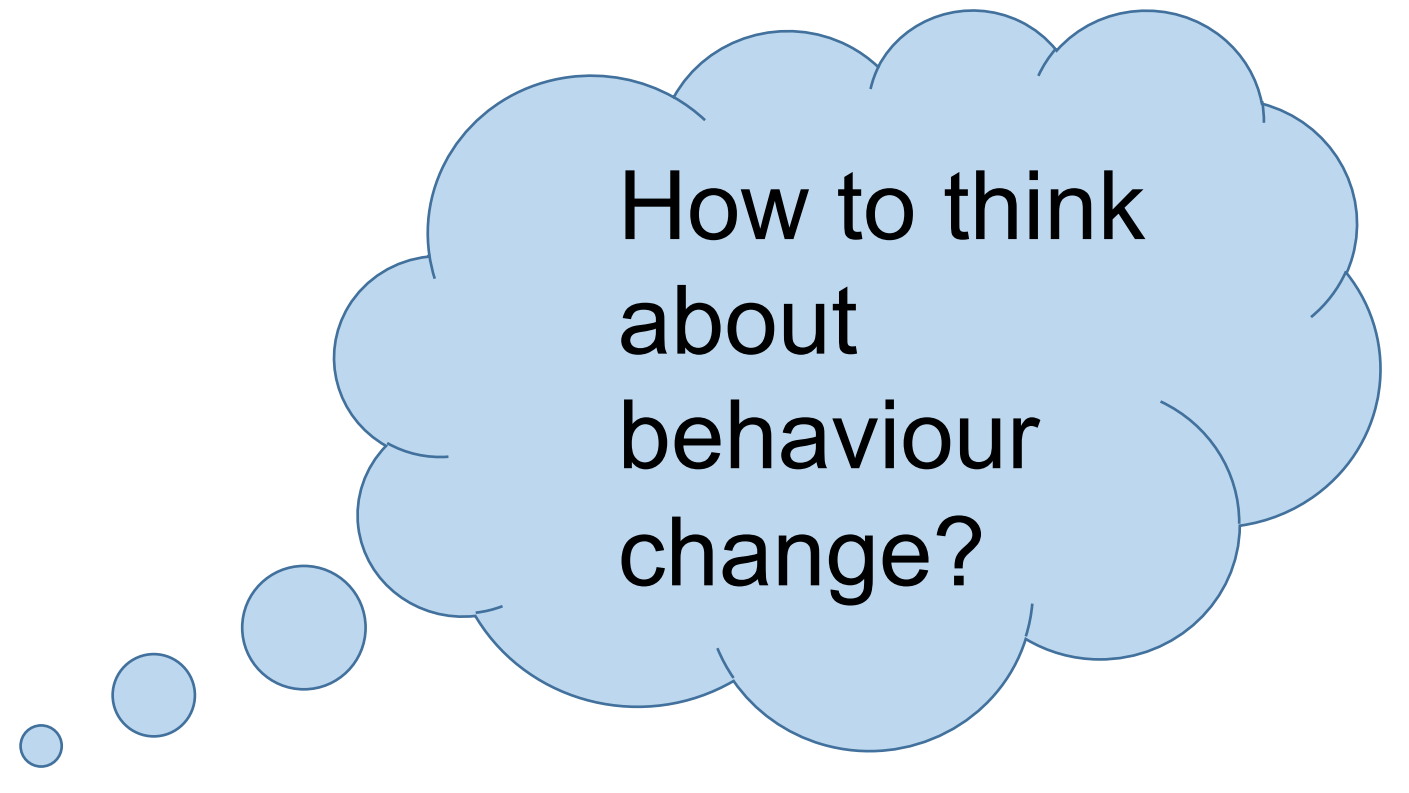
1. Need research to **develop, evaluate, and implement BESSIs** - key part of the global response to & preparedness for pandemics
2. **Interdisciplinary** collaboration and **partnership** with relevant stakeholders
3. Compare BESSIs ... across **settings and populations**
4. Use variety of **research methods** ... including process & outcome evaluations ...
5. Research across countries to assess **generalisability** ...
6. Use theory to inform research e.g. to understand target behaviours in context ...
7. Prioritise **co-creation with communities vulnerable** to infection and harms...



@BESSI_Collab

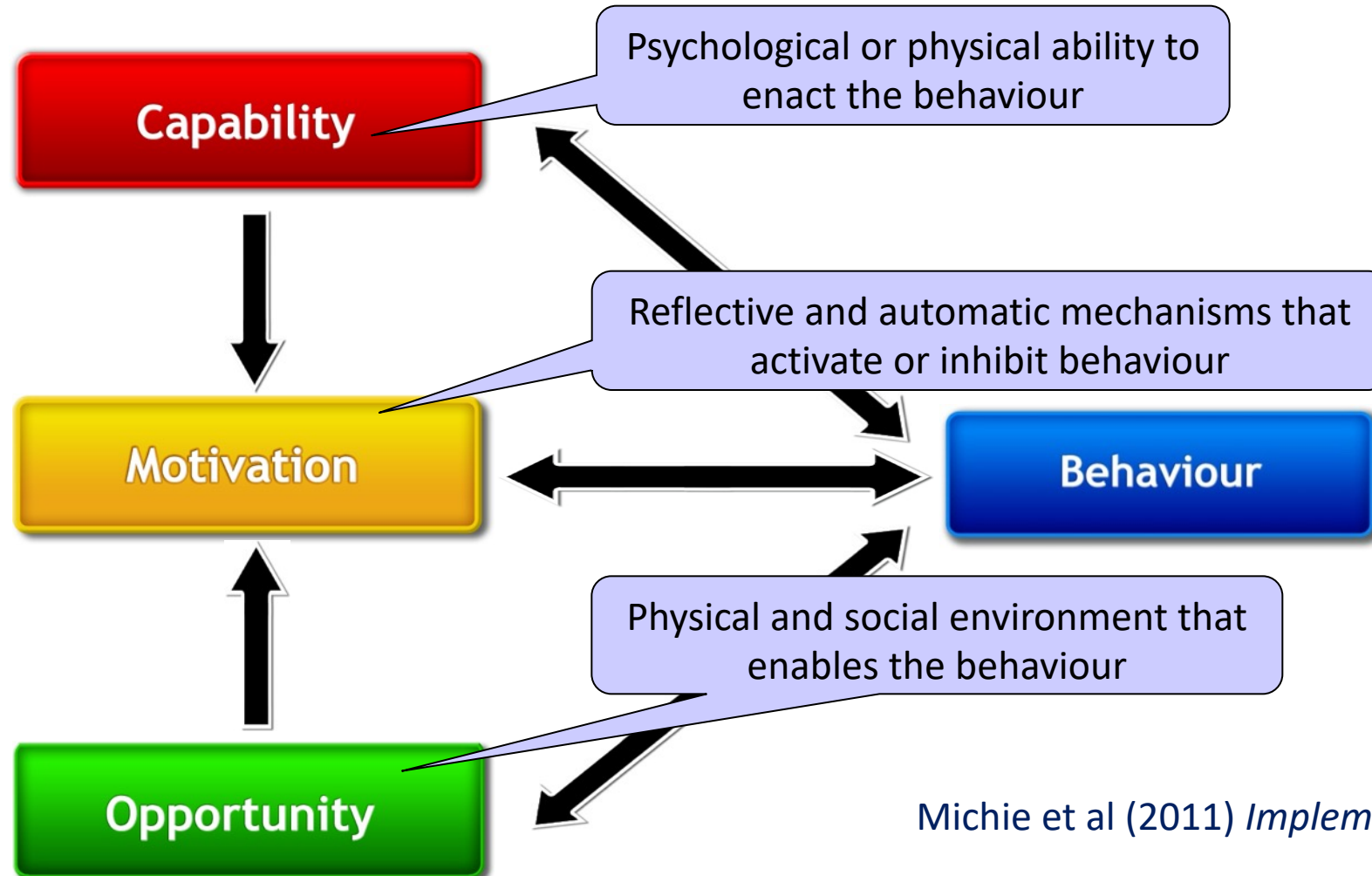
BESSI research strategy



A large, light blue thought bubble with a dark blue outline, containing the text "How to think about behaviour change?". To the left of the main bubble are three smaller, light blue circles of increasing size, also with dark blue outlines, arranged in a diagonal line from bottom-left to top-right.

How to think
about
behaviour
change?

The COM-B model: Behaviour occurs as an interaction between three necessary conditions



Michie et al (2011) *Implementation Science*

Example: adherence to 'lockdowns' depends on ...

- **Capability**

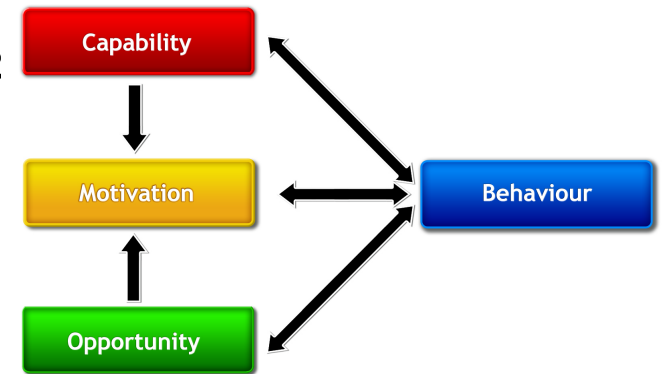
- Knowledge of what to do – (frequent changes, inconsistencies)

- **Motivation**

- Trust in Government and feeling of collective solidarity
- Understanding rationale for restrictions
 - clear, concise, consistent explanations, accessible to all

- **Opportunity**

- Ensure sufficient practical and financial support so people don't have to go out to work
- Maximise low-risk opportunities e.g. outdoor activities



“Positive approach & focus on enabling people rather than blaming and relying on enforcement ...”



UK recommended strategies by behavioural influence

CAPABILITY

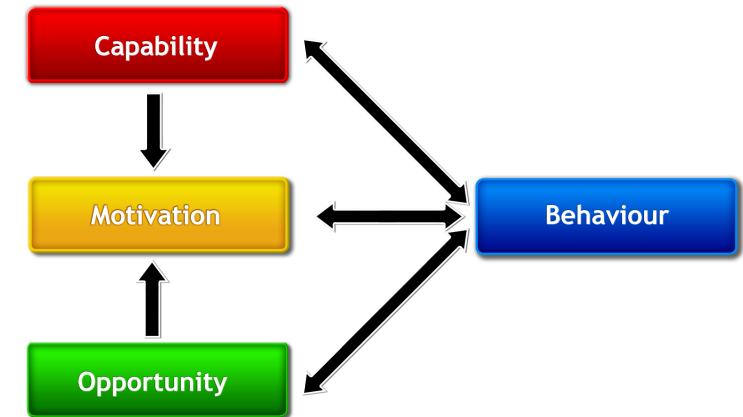
1. Focus on helping people identify and **manage risky situations**
2. Target **intensive information** where needed

MOTIVATION

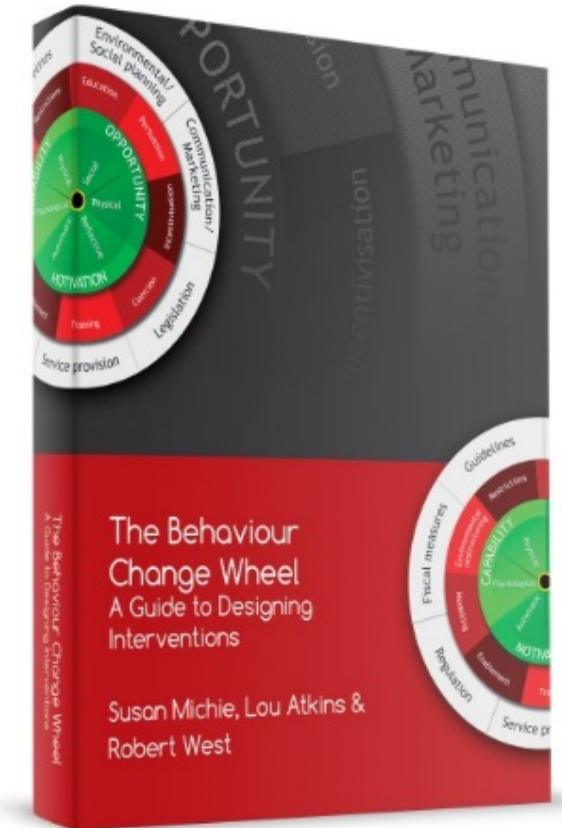
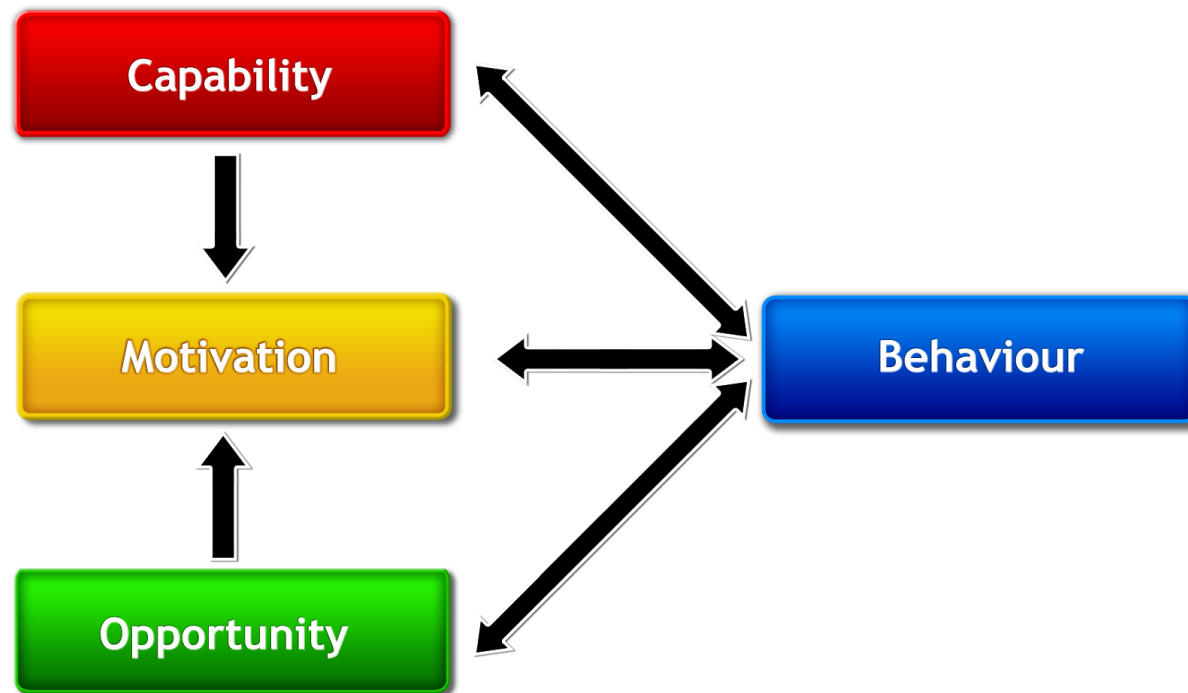
1. Provide **positive feedback**
2. Emphasise that **everyone has an important part to play**

OPPORTUNITY

1. Promote and support **positive alternatives**
2. Help people **change their environments and form new social customs**
3. Target **practical support** where needed



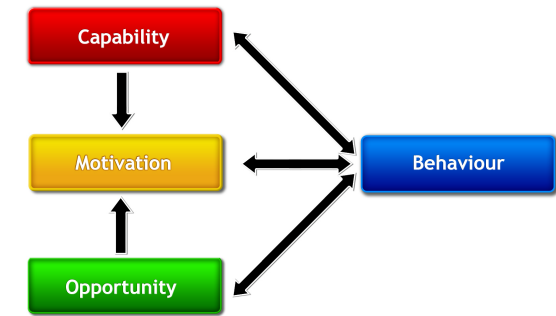
Draw on a simple model of behaviour: COM-B



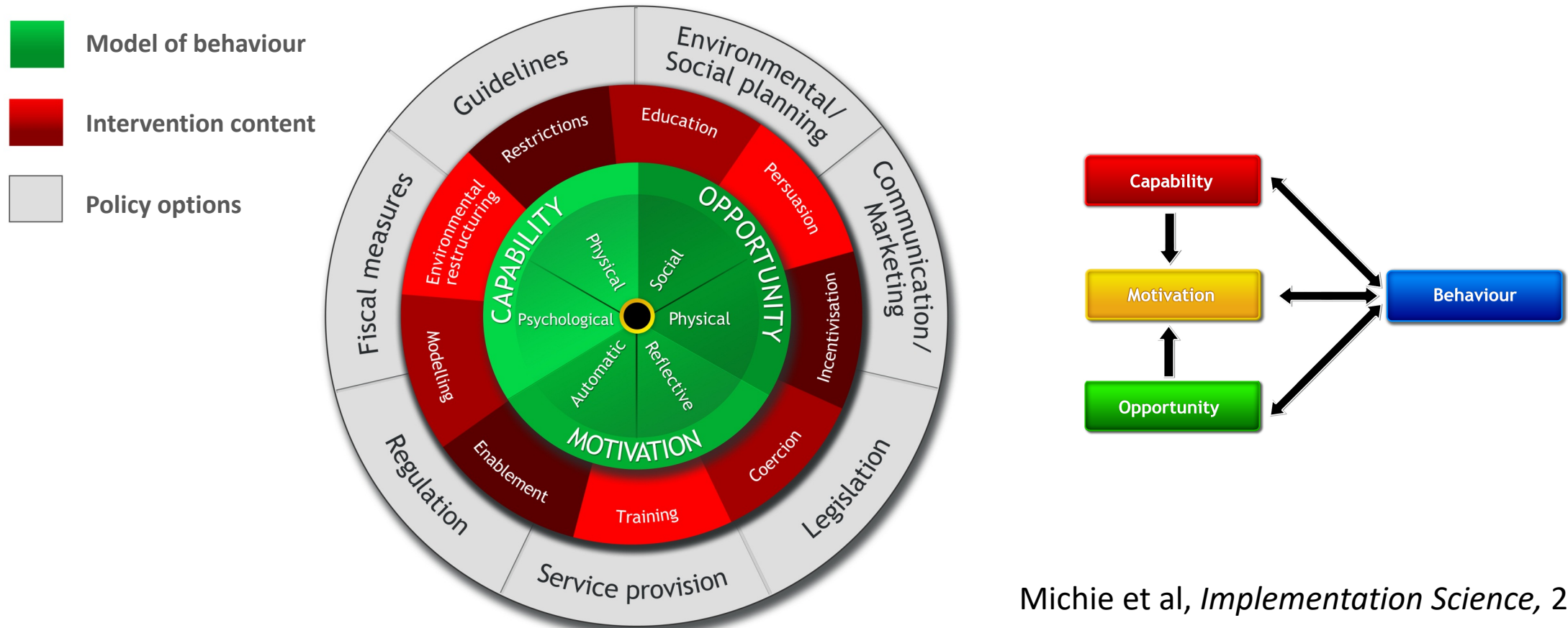
Michie et al (2011) *Implementation Science*

Designing interventions

1. Use a model e.g. COM-B to understand the behaviour in context
 - What is maintaining the behaviour?
 - What needs to change for the behaviour to change?
2. On the basis of this 'behavioural diagnosis', identify which intervention strategies are likely to be effective
3. Use systematic method by using a framework, e.g. the Behaviour Change Wheel
 - Developed by synthesising 19 framework of behaviour change intervention, identified in a systematic review



The Behaviour Change Wheel: including COM-B



Michie et al, *Implementation Science*, 2011

Guides to using this approach in practice

IS Implementation Science

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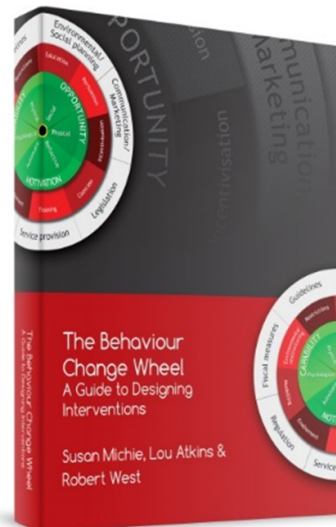
Research | Open Access | Published: 23 April 2011

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

Susan Michie , Maartje M van Stralen & Robert West

Implementation Science 6, Article number: 42 (2011) | [Cite this article](#)

427k Accesses | 2850 Citations | 673 Altmetric | [Metrics](#)



User friendly guide available free on Centre for Behaviour Change website



Public Health
England

Protecting and improving the nation's health

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/933328/UFG_National_Guide_v04.00_1_1.pdf

Achieving behaviour change

A guide for national government

Example of applying behavioural approach ...



Special section article | [Open Access](#) | 

Reducing SARS-CoV-2 transmission in the UK: A behavioural science approach to identifying options for increasing adherence to social distancing and shielding vulnerable people

Susan Michie✉, Robert West, M. Brooke Rogers, Chris Bonell, G. James Rubin, Richard Amlôt

First published: 19 May 2020 | <https://doi.org/10.1111/bjhp.12428>

<https://onlinelibrary.wiley.com/doi/full/10.1111/bjhp.12428>

SPI-B was asked to provide an assessment of the impact of the vaccine programme on adherence to rules and guidance aimed at reducing transmission and how any adverse impacts may be mitigated.

Worked with English health service to produce downloadable animation + leaflet, poster, guidance for staff in 16 languages



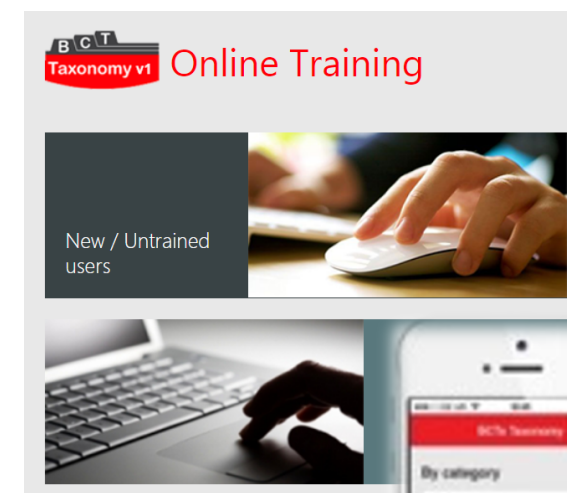
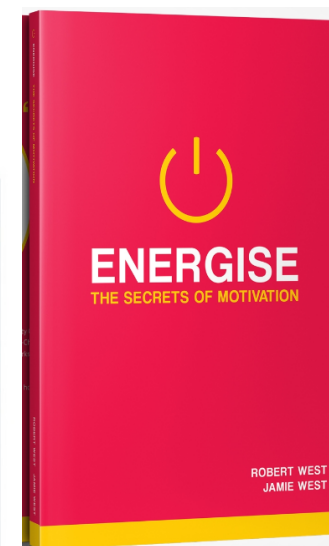
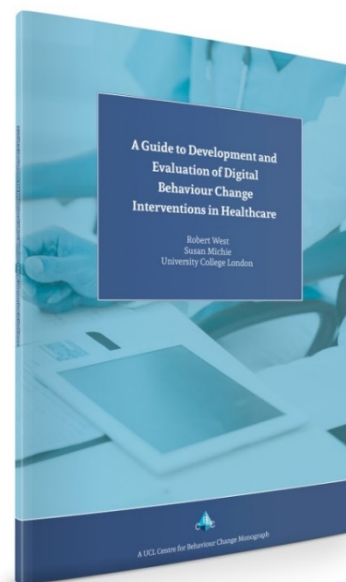
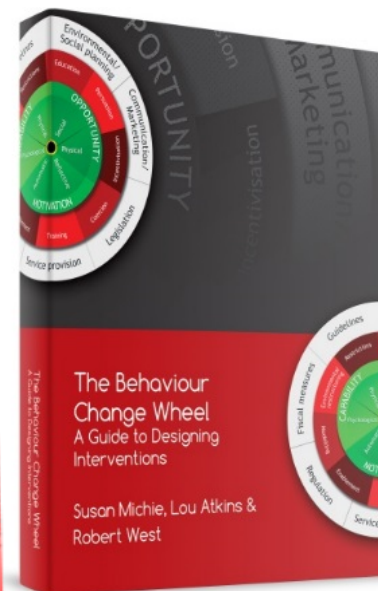
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Sustaining behaviour change

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Resources... e.g.



www.ucl.ac.uk/behaviour-change

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