

wbs
WARWICK BUSINESS SCHOOL
THE UNIVERSITY OF WARWICK

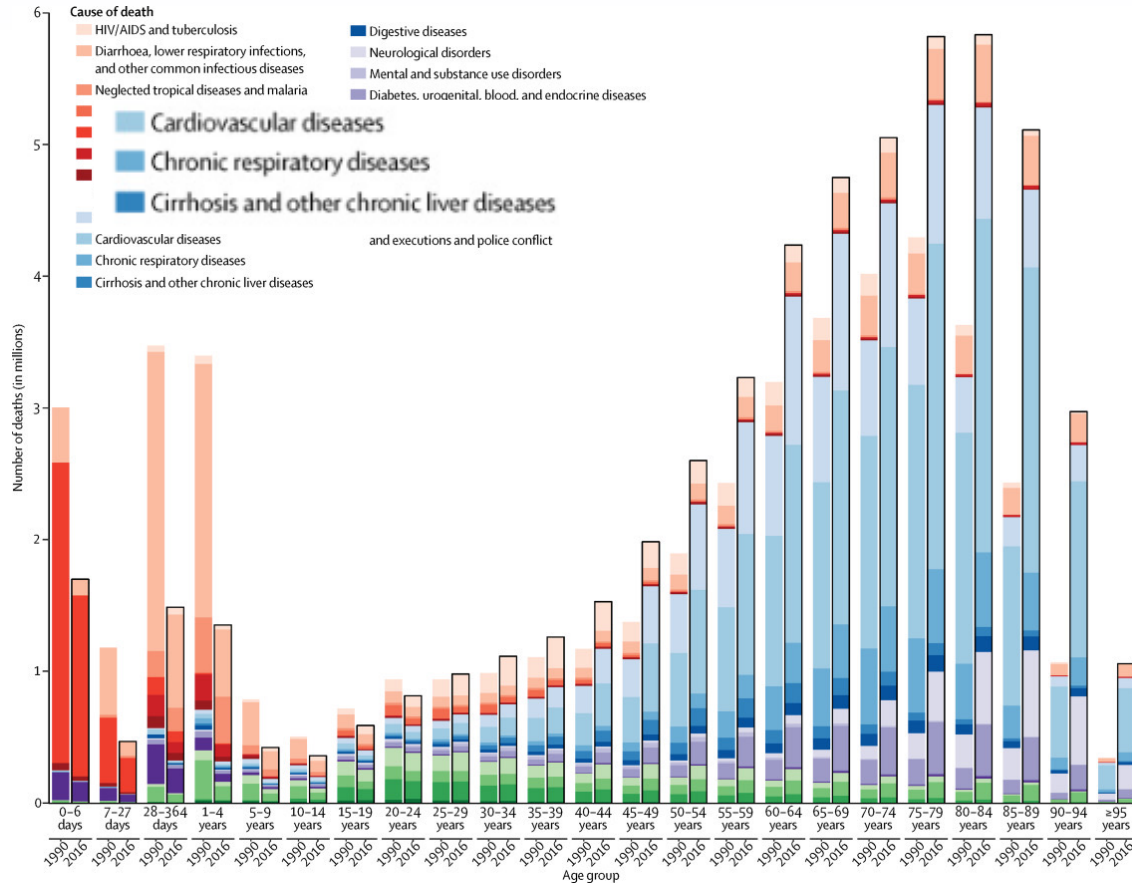
For the Change Makers

Professor Ivo Vlaev

**How quality improvers can
incorporate behavioural
insights to change behaviours**



Why talk about behaviour change?



72.3% of deaths attributable to non-communicable diseases

- largely attributable to modifiable behaviours
e.g physical activity, diet, smoking, alcohol

Naghavi et al., 2017;
The Lancet

Behavioural Insights and Public Policy: Institutions applying BI to public policy around the world



Institutions inside government

Institutions outside government

Multi-national organisations

Behaviour is



Anything a person does in response to internal or external events

Actions may be

overt (motor or verbal) and directly measurable or,

covert (activities not viewable but involving voluntary muscles) and indirectly measurable

Physical events that occur in the body and are controlled by the brain

Is this a behaviour?

Walking in the park

Having the confidence to ride a bike

Taking a statin tablet

Losing weight

Speaking with a louder voice

Intending to eat 3 pieces of fruit a day

Smiling when talked to

Reducing cholesterol



Our first task is to establish which behaviours are necessary to achieve the desired outcome



Health engagement zones in the care system



A Systematic Review of Nudge Interventions to Optimize Medication Prescribing

Usman Talat^{1†}, Kelly Ann Schmidtke^{2†}, Saval Khanal^{3†}, Amy Chan⁴, Alice Turner⁵, Robert Horne⁶, Tim Chadborn⁷, Natalie Gold^{8,9}, Anna Sallis⁷ and Ivo Vlaev^{3*†}*

Designing an intervention

With whom do they need to do it?

Who needs to do what 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?

In what context do they need to do it?

Being more specific about which behaviour(s) we are trying to change allows us to be more focused when it comes to **understanding these behaviours....**



Behavioural specification

Task: Describe the target behaviour according to who needs to do what, when, where, how often and with whom	
Target behaviour	Cleaning hands using alcohol gel
Who needs to perform the behaviour?	All hospital staff
What do they need to do differently to achieve the desired change?	Clean hands using alcohol gel
When do they need to do it?	During each shift
Where do they need to do it?	On hospital premises
How often do they need to do it?	At the start of each shift After using the toilet Before physical contact with patients After physical contact with patients, visitors or staff members After contact with potentially contaminated materials
With whom do they need to do it?	Alone

What is a behaviour change intervention?



An action or set of activities to get individuals to behave differently from how they would act without such an intervention

It can change ...

how people behave

how often they perform a behaviour

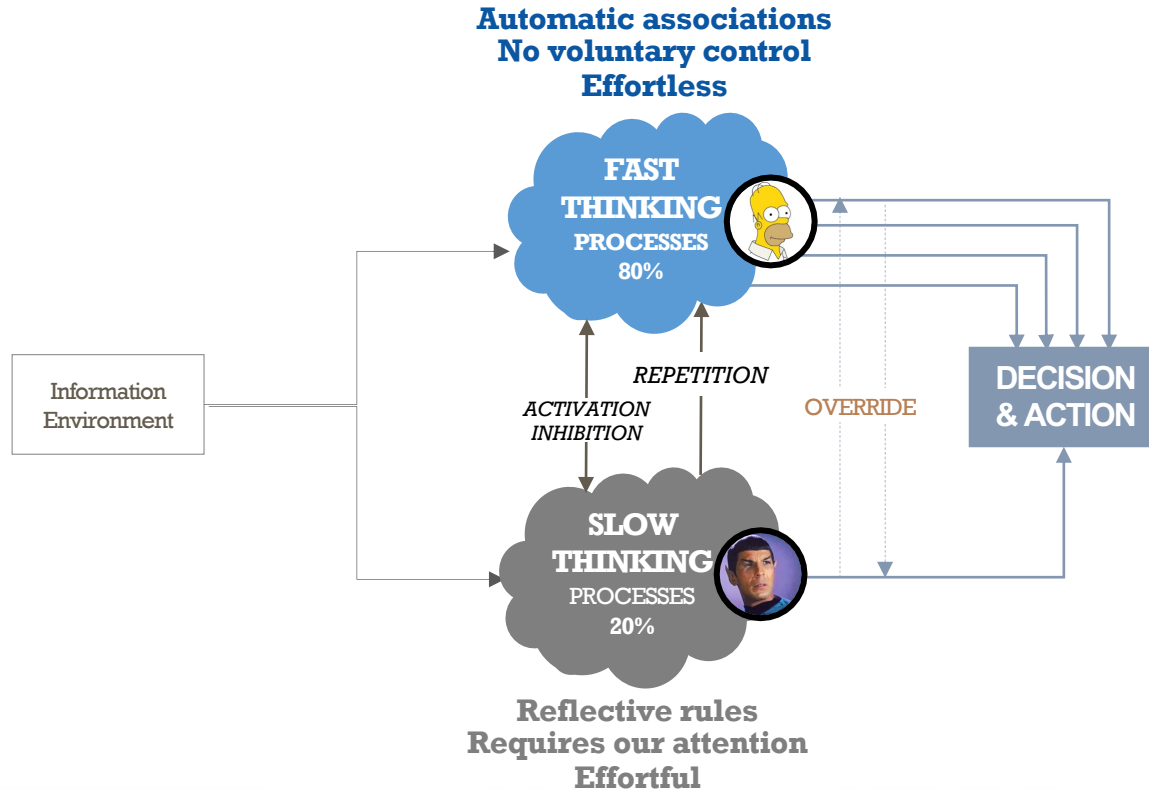
how long they act for

over what **time period**

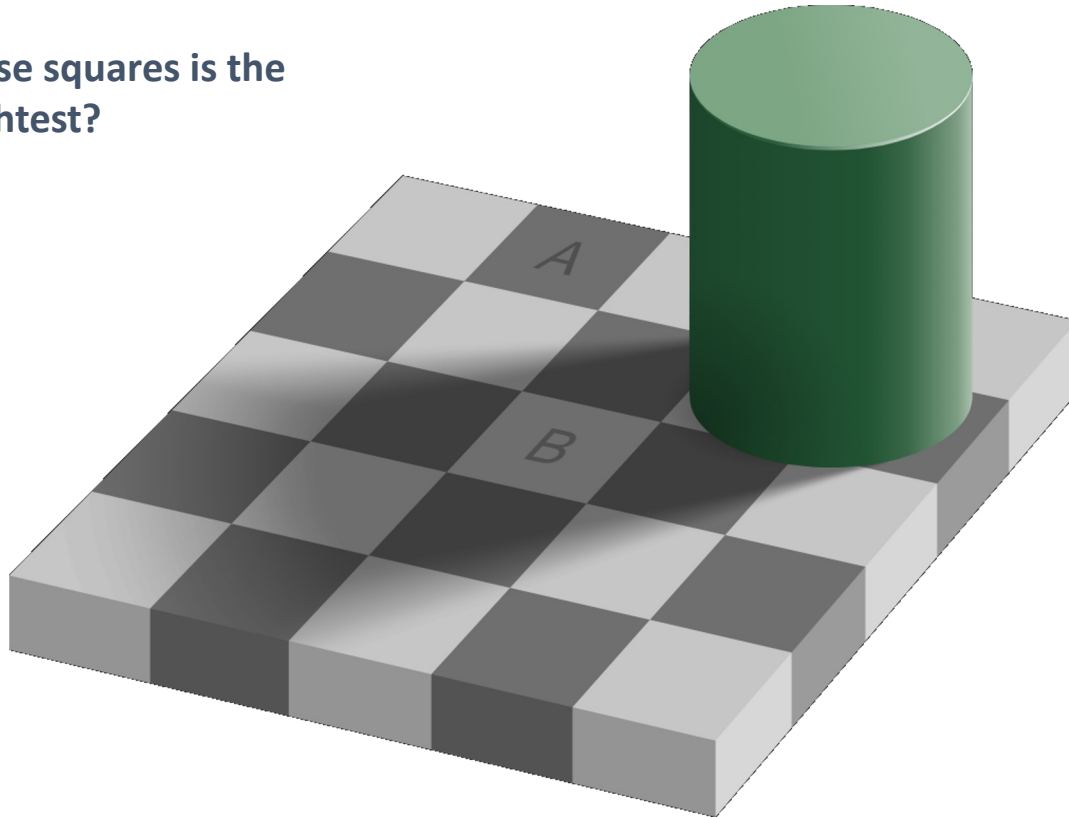


Two types of thinking

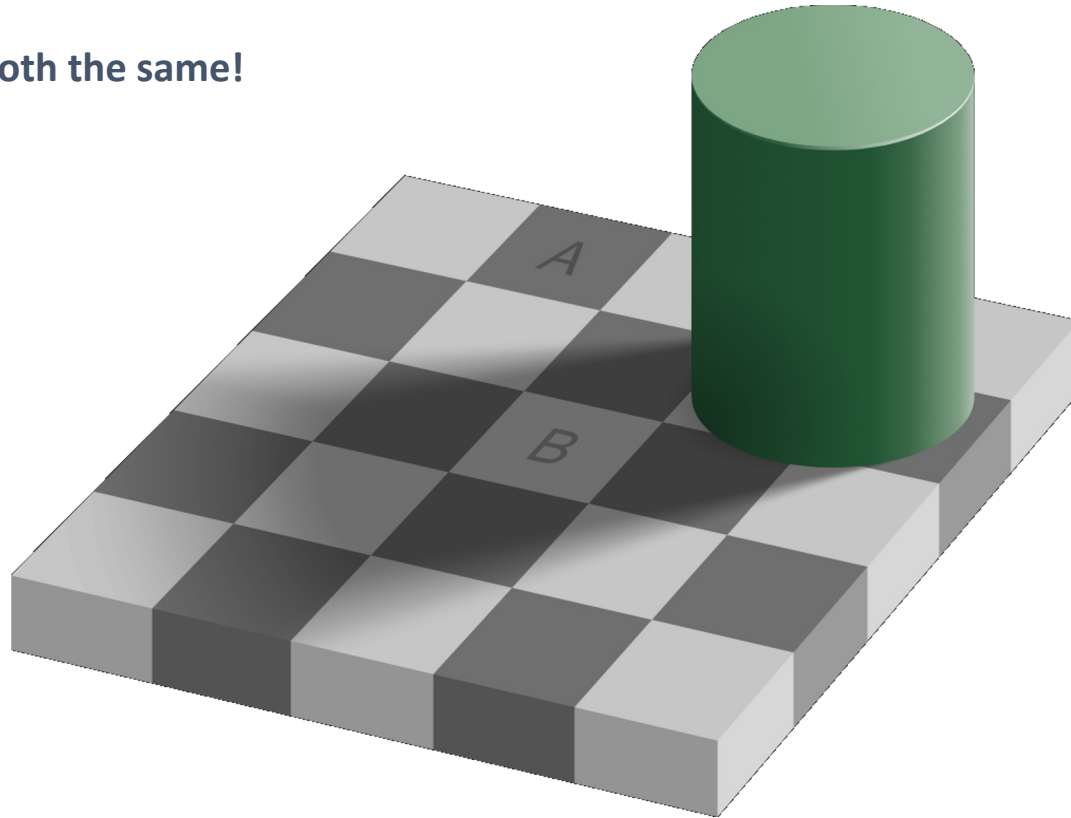
An interactive and complex division of labour producing behaviour



Which of these squares is the lightest?



They are both the same!







Loss aversion is the tendency to prefer avoiding losses than acquiring gains. The opportunity to gain something is highly pleasurable. But the fear of losing something is emotionally intense and provokes strong negative feelings.

On a 1-to-10 (low-to-high) scale what is your enthusiasm for adopting the new medicine?

Physicians were asked to read about a new asthma medicine:

Clinical data show that a new drug leads to significant reductions in both daytime and nighttime symptoms as well as improved lung function.

The trials also showed some reports of serious exacerbations leading to ER visits in the first few weeks of use.

DATA POSITIVELY (GAIN) FRAMED:

95% of patients *were not hospitalised* with exacerbations during the first month of therapy



DATA NEGATIVELY (LOSS) FRAMED:

5% of patients *were hospitalised* with exacerbations during the first month of therapy



Wheeler MA. Applying Behavioral Economics to Research Physician Decision Making. Available at: <http://www.quirks.com/articles/applying-behavioral-economics-to-research-physician-decision-making>

Tastes of Behavioural Science

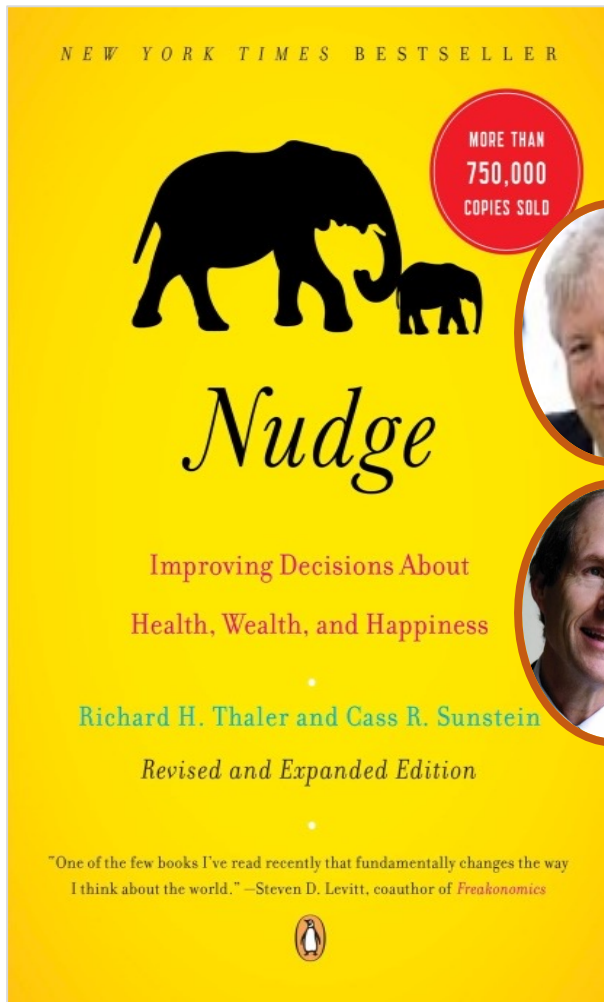
Think about two types of words:

- Words with the letter 'k' in the first position, and
- Words with the letter 'k' in the third position.

Which type of word is more common in English?

Priming (availability) bias

like bake ink
take acknowledge



Richard Thaler
Professor of Economics
University of Chicago
Behavioural Insight Team, UK
Cabinet Office



Cass Sunstein
Professor of Law
Harvard University
Regulatory Czar, Obama
Administration

Nudge is any aspect of the environment that *alters people's behaviour in a predictable way* without forbidding any options or significantly changing their economic incentives.

Libertarian paternalism is the idea that it is both possible and legitimate for private and public institutions to affect behaviour (in order to make their lives longer, healthier, and better) while also respecting freedom of choice

Consider this...



Schiphol Airport,
Amsterdam
80% decline
in 'spillage'

And this...



Lake Shore Drive
Chicago
36% fewer crashes

CHICAGO

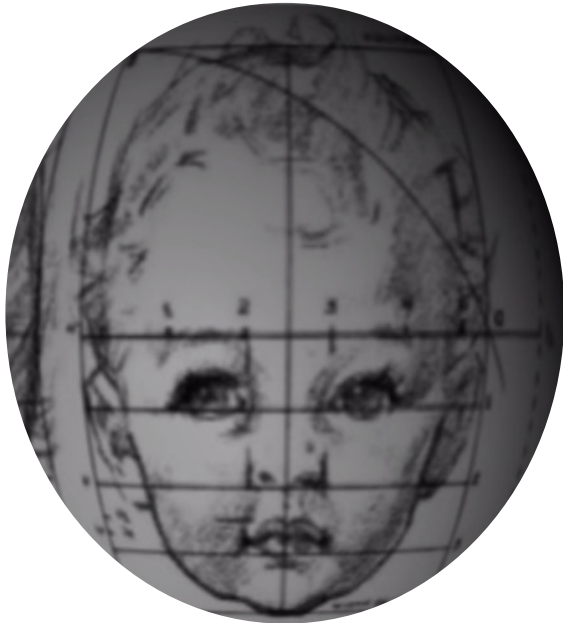


GSB

The University

ate School of Business

And this...



The power of cute

Video link: www.youtube.com/watch?v=s7YVCezBVtQ



Helen's Nail Fashions

MEAT
HALAL MEAT & POULTRY

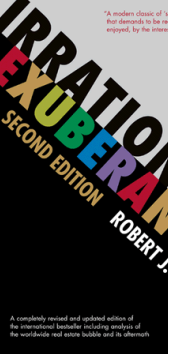
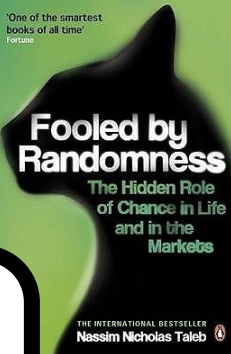
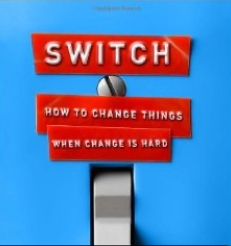
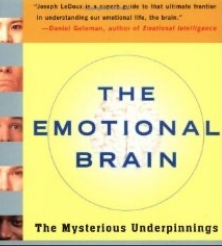
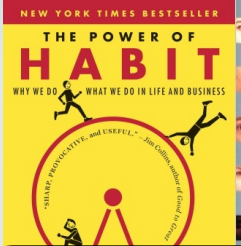
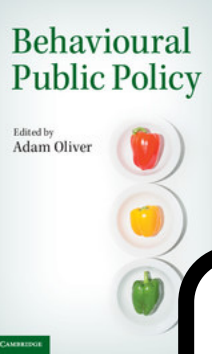
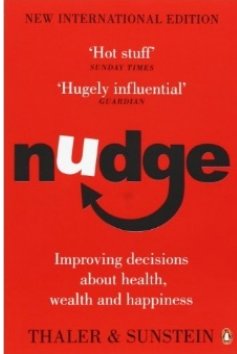
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Helen's Nail Fashions Ltd

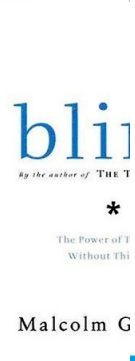
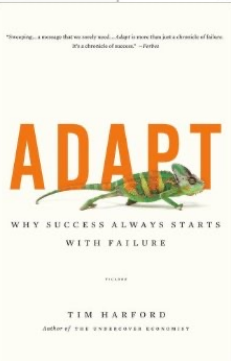
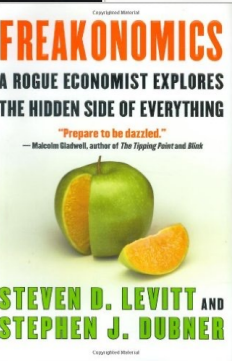
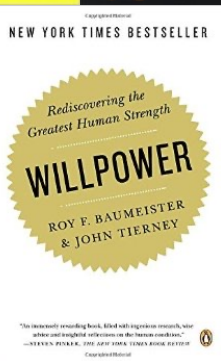
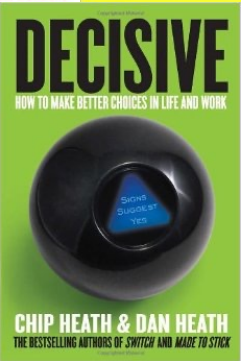
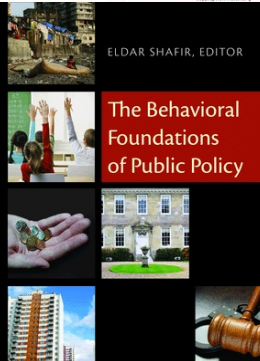
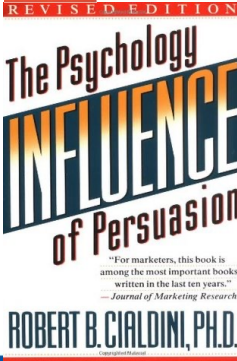
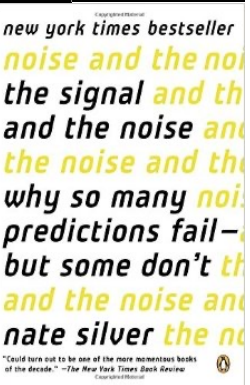
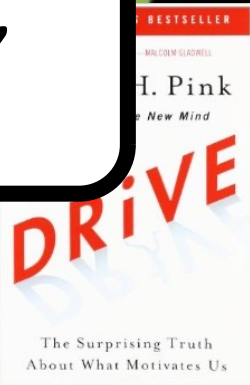
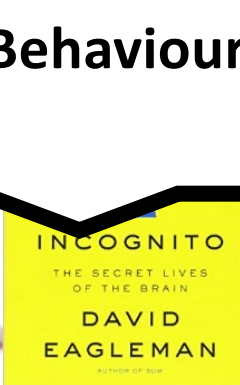
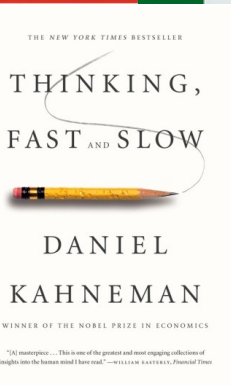
TEL: 020 850 4000



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'Behavioural Insights'

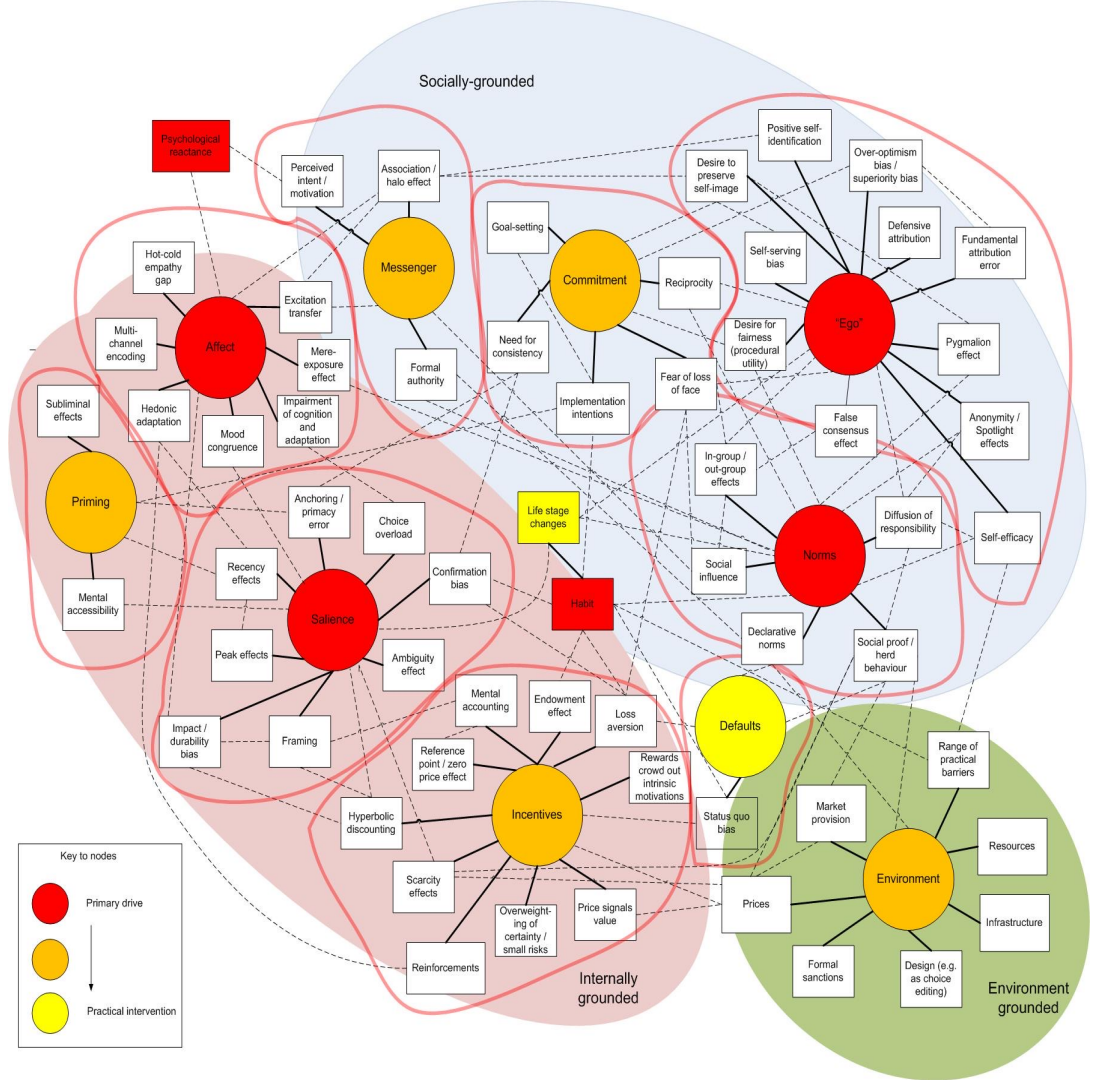




Despite a plethora of reports, they fail in a large part to provide an operating framework for practitioners to use

The proven automatic effects on behaviour were grouped and labeled

MINDSPACE was born!



MINDSPACE EXPLAINED

M

MESSENGER

We are heavily influenced by who communicates information to us
The weight we give to information depends greatly on the instinctive reactions we have to the source of that information

I

INCENTIVES

We often respond to incentives using mental shortcuts
Incentives are used as a mechanism to motivate behaviour change but we often respond to them in strange, but predictable ways

N

NORMS

We tend to do what those around us are already doing
We behave in ways that are influenced by the explicit or implicit behavioural expectations, or rules, of the society or groups we belong to

D

DEFAULTS

We 'go with the flow' of pre-set options
Many decisions we take have a default option, whether we recognise it or not. It is seen that we have an in-built bias to accept the default, even if it has significant consequences

SALIENCE

We respond to things that are novel and that we can understand
We subconsciously filter out much of the information we receive. As a consequence our behaviour is greatly influenced by what our attention is drawn to

PRIMING

Our behaviour is often influenced by sub-conscious cues
We act in ways that can be altered if we are exposed to certain cues beforehand - such as sights, words or sensations

AFFECT

Emotional associations can powerfully shape the way we behave
We are strongly influenced by our feelings and emotions. Emotional responses can be rapid, so that we experience a behavioural reaction before we know what we are reacting to

COMMITMENT

We seek to be consistent with our public promises, and reciprocate acts
We tend to procrastinate and delay taking decisions that are in our best interests.
Commitment devices are widely used to counter our will-power weaknesses

EGO

We act in ways that make us feel better about ourselves
We tend to behave in ways that support the impression of a positive and consistent self-image.

S P A C E

WHAT IS MINDSPACE?

Influencing behaviour is central to public policymaking. Major advances in understanding what determines our behaviour means that we now have a new set of potentially powerful tools to use in challenging areas such as crime, obesity and recycling activities.

MINDSPACE outlines nine robust influences on human behaviour and change. These principles are underpinned by considerable research from the fields of social psychology and behavioural economics. They are therefore presented as the most robust effects that policy-makers should understand and, if appropriate, use.

MINDSPACE: Influencing Behaviour Through Public Policy

Authors: Paul Dolan, Michael Hallsworth, David Halpern, Dominic King, Ivo Vlaev

Find out more about **MINDSPACE** at

www.instituteforgovernment.org.uk/content/133/mindspace-influencing-behaviour-through-public-policy



MINDSPACE CHECKLIST

Have you...	Did you taken into account the following?
got the right Messenger ?	<ul style="list-style-type: none"> We are more likely to act on information if the messenger has authority and expertise (either formally or through life experience) and if we can associate with them (if they are like us in some way)
got the Incentives right?	<ul style="list-style-type: none"> We dislike losses more than we like gains of an equivalent amount We live for today at the expense of tomorrow but tomorrow is not so strongly preferred to the day after We overweight small probabilities, which partly explains the popularity of lotteries
tapped into the appropriate Norms ?	<ul style="list-style-type: none"> We are influenced by what those around us are doing or whose behaviour our attention is drawn to
thought about the Default option?	<ul style="list-style-type: none"> We go with the status quo or default option, and will rarely opt out from whatever is the preset option
enhanced the Saliency of the information?	<ul style="list-style-type: none"> We respond better to information that grabs our attention and that we can easily understand
accounted for Priming effects?	<ul style="list-style-type: none"> We are influenced by prior exposure to sights, smells and sounds, often outside our conscious awareness
tapped into the right Affect (feelings)?	<ul style="list-style-type: none"> We are influenced by our emotional responses to words, images and events
got the right Commitment devices?	<ul style="list-style-type: none"> We try to be consistent with our commitments and promises, especially when they are made public
got the Ego effect right?	<ul style="list-style-type: none"> We try to act in ways that are consistent with the images we have of ourselves, and when beliefs and behaviour come into conflict, it is often our beliefs that get altered

INFLUENCING BEHAVIOUR THROUGH **MINDSPACE**



New insights from behavioural sciences could lead to significantly improved outcomes, at lower cost than conventional policy tools



Nowadays there are several operating frameworks for practitioners to use

Priming

Our acts are often influenced by subconscious cues



Imperial College
London



Despite traditional communication of 'motivational' benefits versus risks, use of hand sanitizer was too low

Health Psychology

© 2015 American Psychological Association
0278-6133/15/\$12.00 <http://dx.doi.org/10.1037/hea0000239>

BRIEF REPORT

"Priming" Hand Hygiene Compliance in Clinical Environments

Dominic King
Imperial College London

Ivo Vlaev
University of Warwick

Ruth Everett-Thomas and Maureen Fitzpatrick
University of Miami Miller School of Medicine

Ara Darzi
Imperial College London

David J. Birnbach
University of Miami Miller School of Medicine

Priming

Our acts are often influenced by subconscious cues



Taking learnings from behavioral science, three options were tested:



Male eyes



Female eyes



Citrus smell (olfactory)

Priming

Our acts are often influenced by subconscious cues



Which do you think performed the best?



Male eyes



Female eyes



Citrus smell (olfactory)

Priming

Our acts are often influenced by subconscious cues



Control



Citrus
smell
(olfactory)



Male
eyes



Female
eyes

Environmental Engineering to increase Hand-Hygiene Compliance



Kelly Schmidtke, Abid Hussain, David Birnback, Joachim Marti, Tom Marshall, Kristopher Arheart,
Gerard Hodgkinson, and Ivo Vlaev
The Health Foundation

Design/Methods in Birmingham

Are two primes better than one?

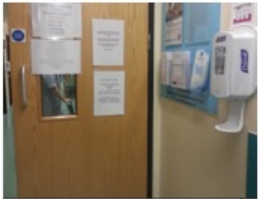
Will the primes' effects persist over a longer duration?



Renal



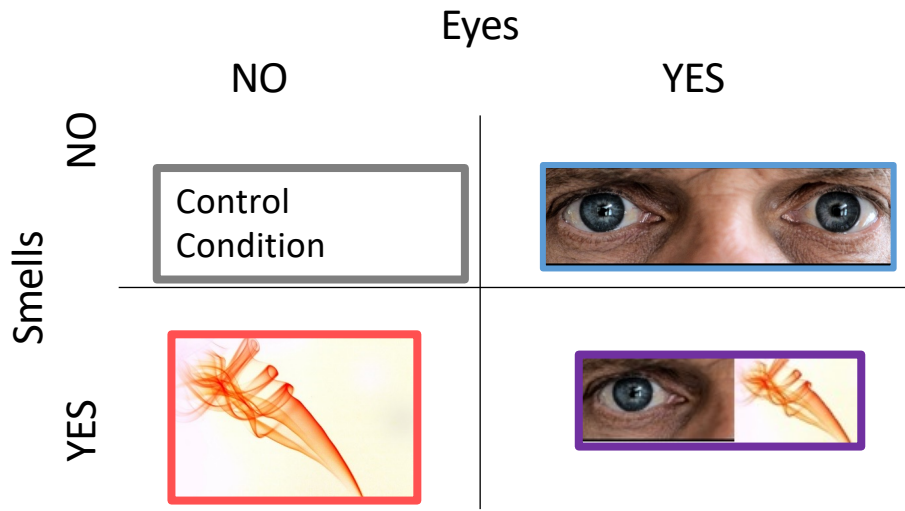
Upper GI



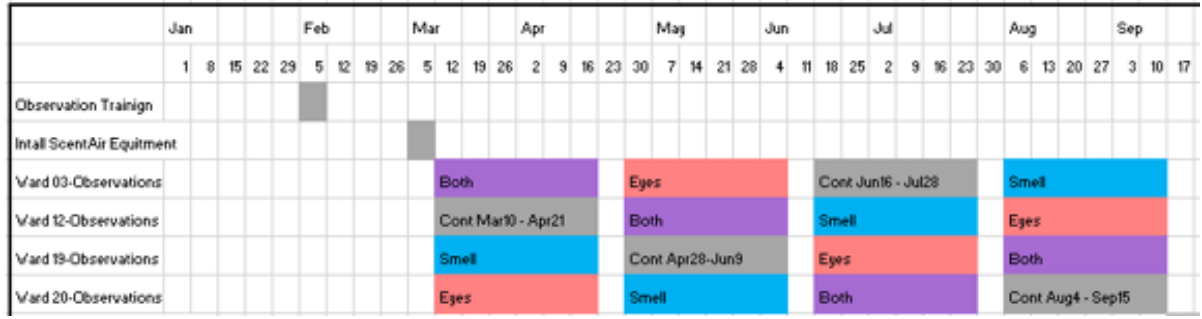
Haematology/
Oncology



Admissions



Gantt Chart.



Design/Methods

Title: Environmental Engineering to Increase Hand-Hygiene Compliance	IRAS project ID: 212973	Sponsor reference: 2016069ID	Primary investigator: Ivo Vlaev
---	----------------------------	---------------------------------	------------------------------------

Circle the item in each row that describes the current period of observation

Ward:	3	12	19	20
Day:	Monday	Wednesday	Other:	
Time:	9:15 – 10:15	10:30 – 11:30	1:30 – 2:30	2:45 – 3:45
Observer:	Schmidtke	Aujla	Other:	

Observer Signature _____ Day / Month / Year _____

How many people asked you why you were on this ward?	
Describe any problems you experienced (write on external page if necessary).	For each problem, say whether the CI should be notified? (yes/no)

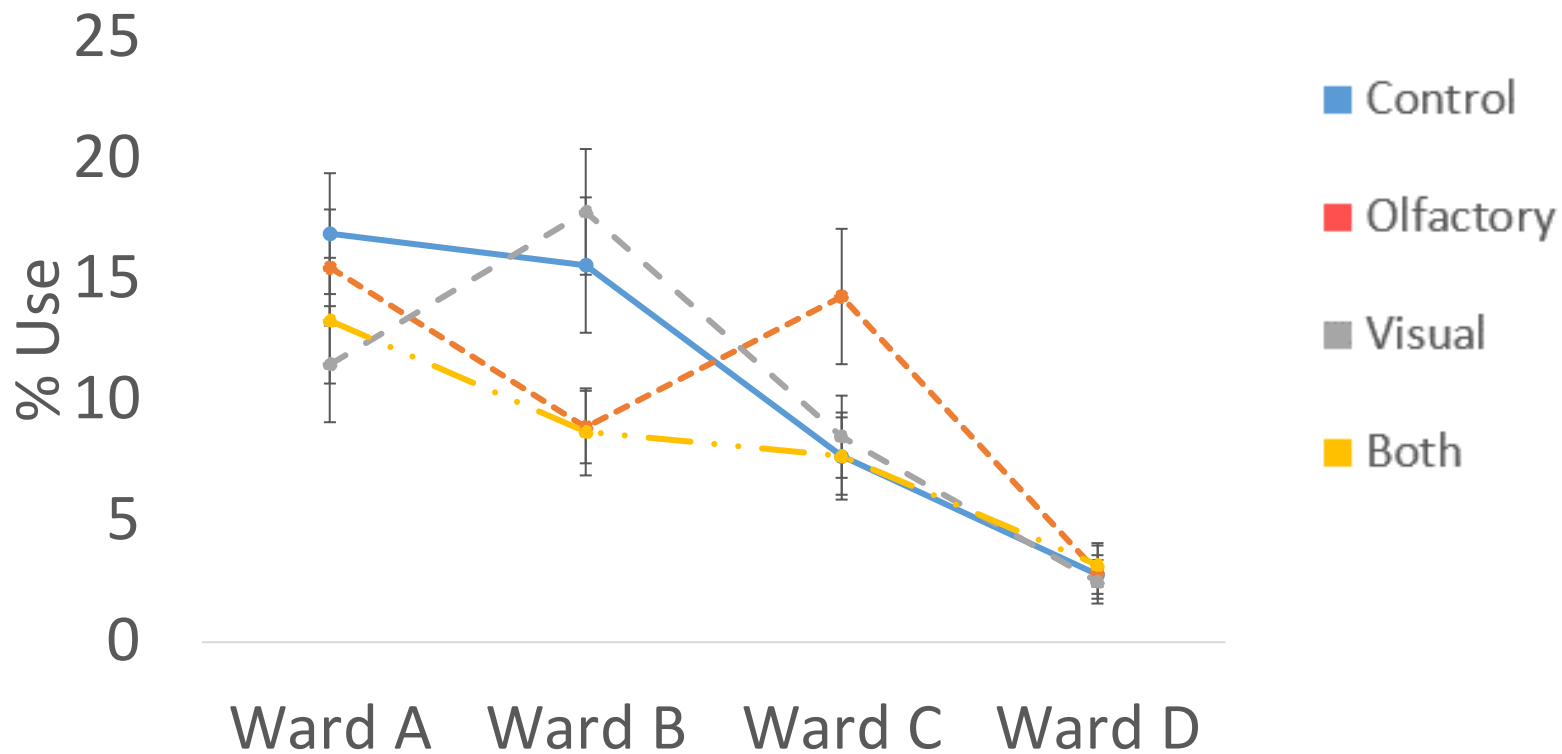
In the table below, each row represents a unique ward entry. Put an X in the column that best describes the person and their actions during said entry.

	Gender		Role at HEFT				Disinfectant Use	
	Male	Female	Doctor	Nurse	Other Staff	Visitor	Gel	Soap
1								
2								
3								
4								
5								
6								
7								
8								

Ward	Date	Schmidt	Aujla	Patel	Male	Female	Doctor	Nurse	Other	Visitor	Gel
3	3/13/2017	1	0	0	0	1	0	0	1	0	0
3	3/13/2017	1	0	0	0	1	0	1	0	0	0
3	3/13/2017	1	0	0	0	1	0	1	0	0	1
3	3/13/2017	1	0	0	0	1	0	0	0	1	0
3	3/13/2017	1	0	0	0	1	0	0	1	0	0
3	3/13/2017	1	0	0	0	1	0	0	0	0	0
3	3/13/2017	1	0	0	1	0	0	0	1	0	0
3	3/13/2017	1	0	0	0	1	0	1	0	0	0
3	3/13/2017	1	0	0	0	1	0	0	0	1	0
3	3/13/2017	1	0	0	1	0	0	0	1	0	0
3	3/13/2017	1	0	0	0	1	0	0	1	0	1
3	3/13/2017	1	0	0	1	0	0	0	1	0	0
3	3/13/2017	1	0	0	0	1	0	0	1	0	0
3	3/13/2017	1	0	0	0	1	0	0	1	0	0
3	3/13/2017	1	0	0	0	1	0	1	0	0	0
3	3/13/2017	1	0	0	0	1	0	0	1	0	0
3	3/13/2017	1	0	0	1	0	0	0	1	0	0
3	3/13/2017	1	0	0	0	1	0	0	1	0	0

Results

Gel-Dispenser-activity by Ward and Condition



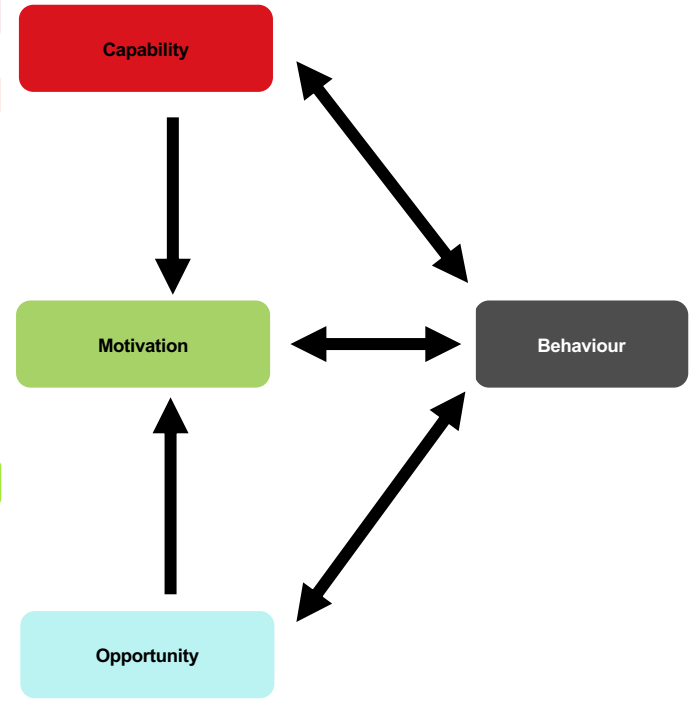
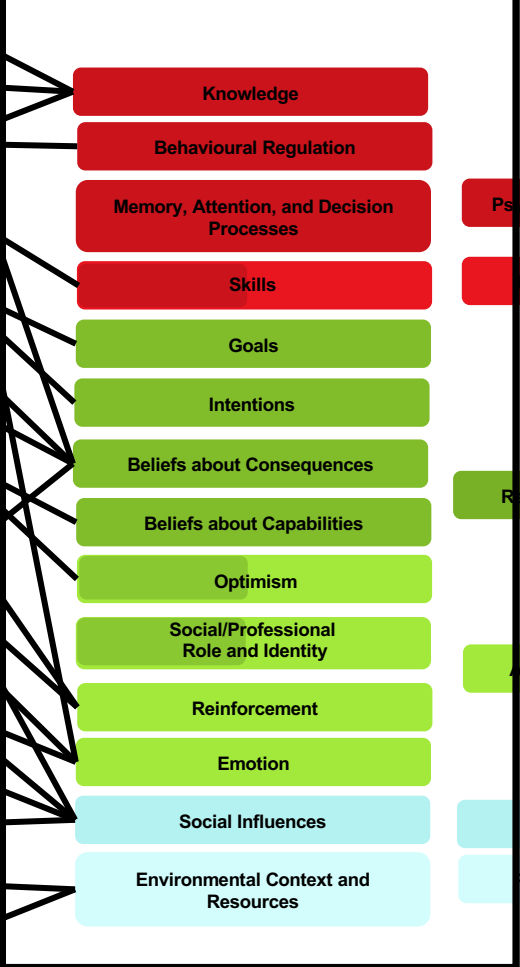
Behaviour Change Wheel

COM-B Model

Behaviour Change Techniques

- Shaping Knowledge
- Natural Consequences
- Feedback and monitoring
- Repetition and substitution
- Goals and Planning
- Covert learning
- Comparison of Outcomes
- Self-belief
- Scheduled consequences
- Reward and Threat
- Regulation
- Social Support
- Identity
- Comparison of behaviour
- Associations
- Antecedents

Theoretical Domains Framework





Design/Methods

Theoretical Domains Framework's domains

Knowledge

Skills

Memory, Attention and Decision Processes

Behavioural Regulation

Social Influences

Environmental Context and Resources

Social/Professional Role & Identity

Beliefs about Capabilities

Optimism

Beliefs about Consequences

Intentions

Goals

Social/Professional Role & Identity

Optimism

Reinforcement

Emotion

Please consider your own hand hygiene. Then circle the number between 1 and 7 that best reflects your opinion at present.

7. I engage in hand hygiene out of respect for my patients

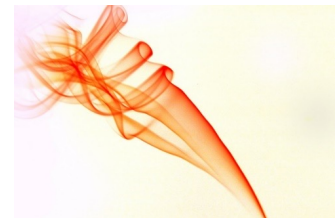
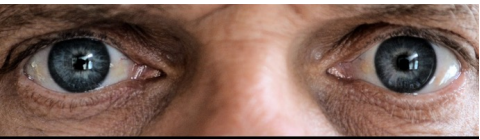
Strongly agree

1 2 3 4 5 6 7

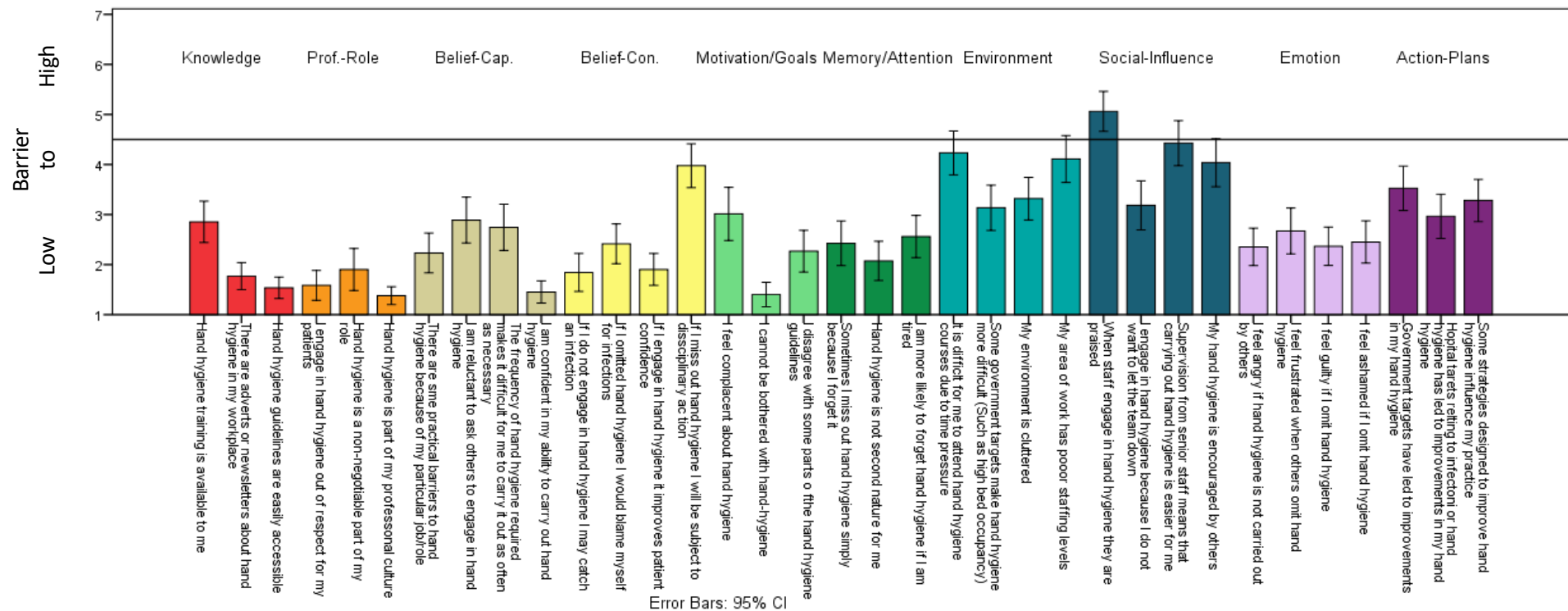
Strongly disagree

11. I feel complacent about hand hygiene

1 2 3 4 5 6 7



97 Staff survey about Barriers and Facilitators to Hand-Hygiene



4 DECEMBER 2019



IMPROVING HAND HYGIENE

PROBLEM BRIEF



www.nudgeathon.com



Design for Health



ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/rfdh20>

Co-designing theoretically informed, conceptual prototypes for interventions to increase hand hygiene in hospital settings: a case study

Krishane Patel, Kelly Ann Schmidtke, Umar Taj, NobuLali Dangazele, Danial Read & Ivo Vlaev

core design team

2 quality improvement experts
2 behavioural scientists

judging panel

stakeholders who commissioned
subject experts

5 sub- teams

5 behavioural scientists
5 designers
28 nurses, doctors, and
practitioners in charge of
infection prevention and control

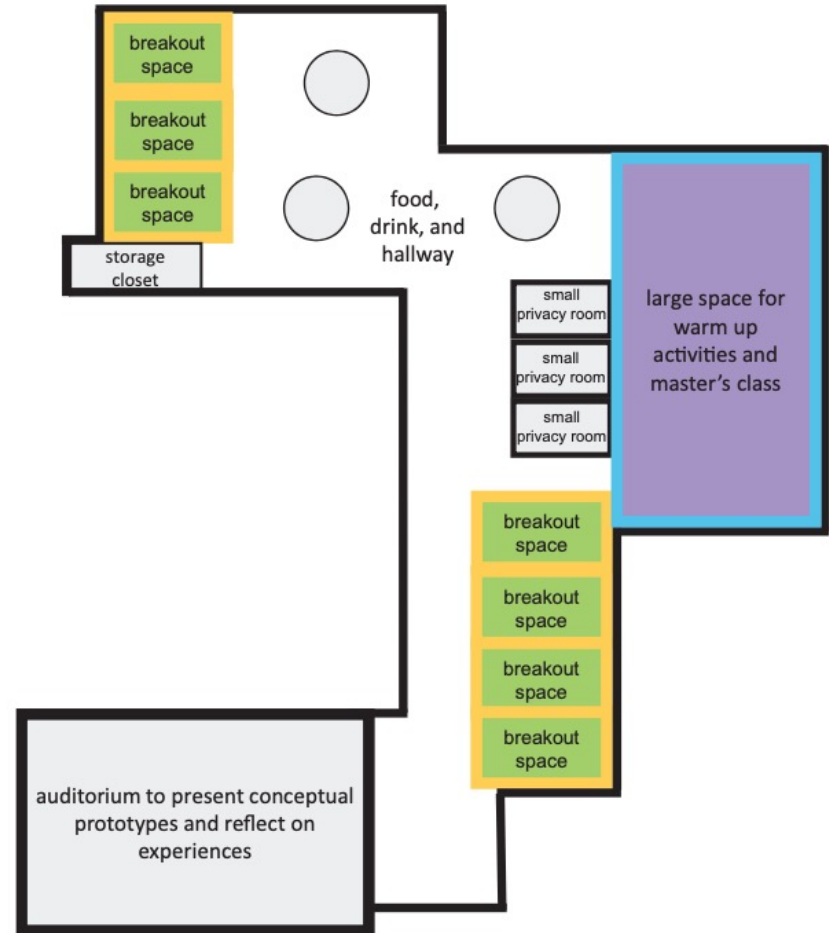


Figure 2. Layout (floorplan) of the physical space participant moved between during the workshop.



Figure 3. Gel dispenser redesign: a gel dispenser than counts down when used to give an indication of normal daily use.

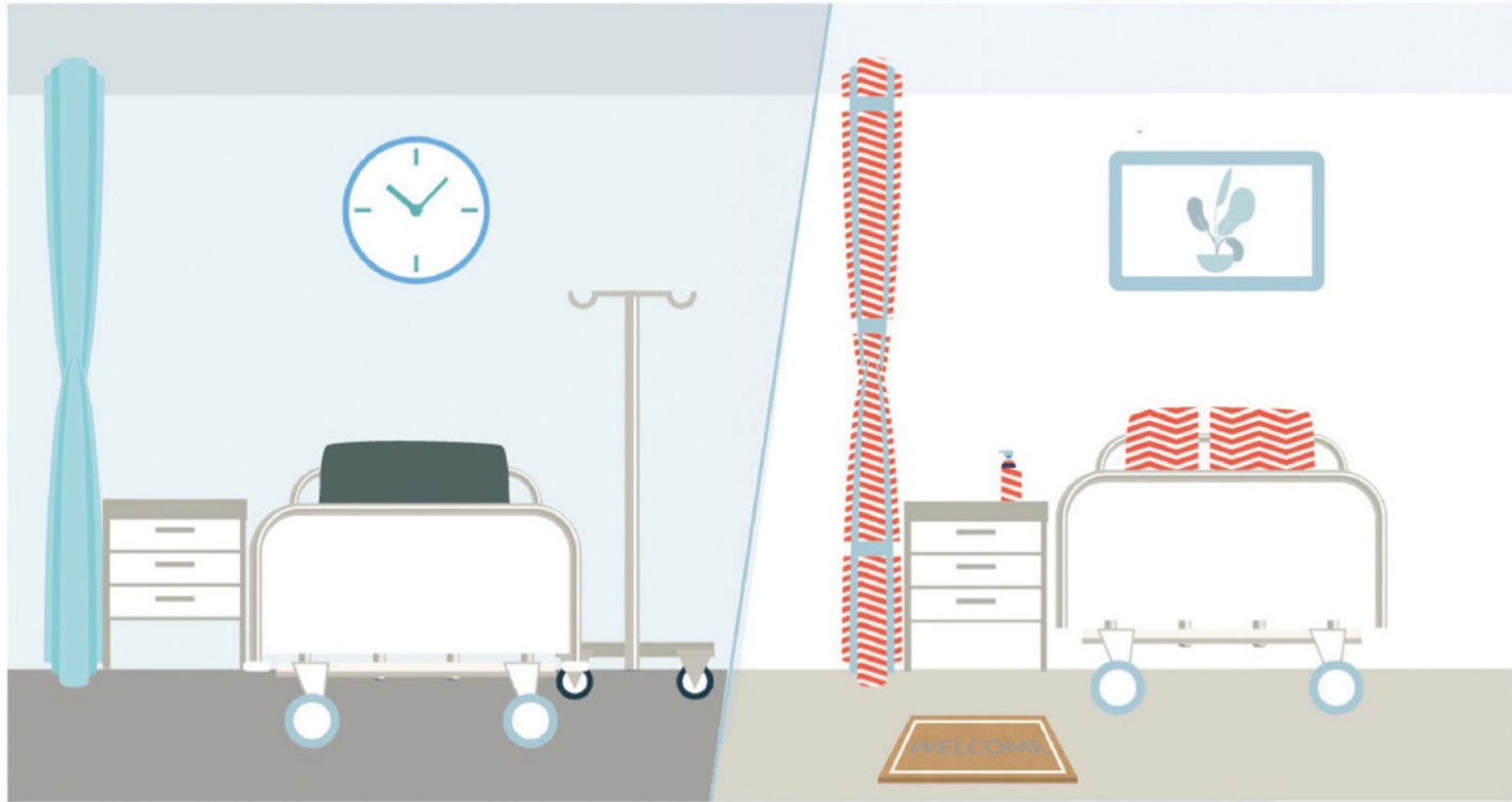


Figure 4. Shifting from our bed space to a patient's home space: reframing and redesigning the bedside space to feel and resemble a patient's home space.

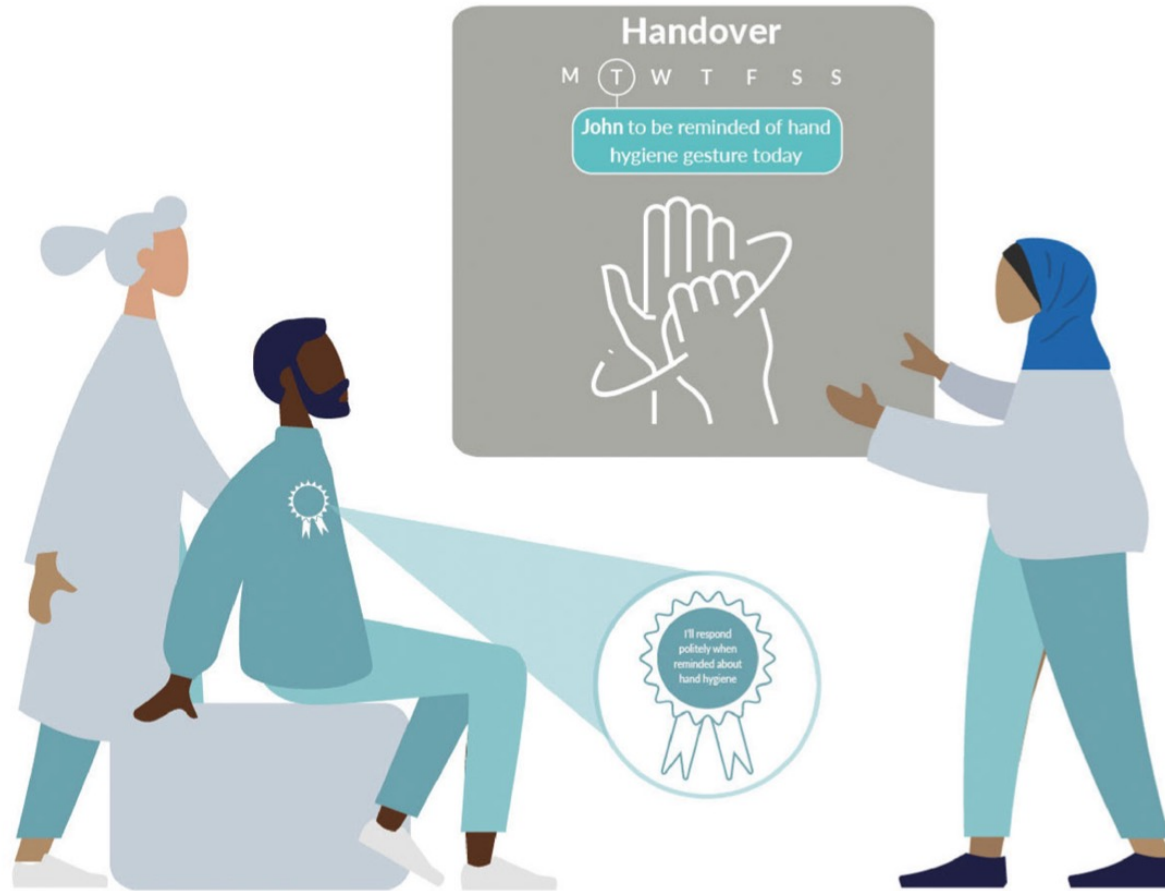


Figure 5. Promoting hand hygiene in handovers: making speaking up normal through role modelling at handovers.



Figure 6. Racoongo: gamifying hand hygiene through empowering children, families, and carers to support quality assurance of staff.

paediatric admission documents

Personal Care Plan

Weight: _____

Sleeping pattern: _____

Bowel movements: _____

***Please wash your hands before touching my child**

I will wash my hands

Figure 7. 'What matters to me' in my personal care plan: reminder prompts built into existing forms.

Thank you

