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Applying behaviour change science to improve the health of everyone in Wales

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Summary
The prudent healthcare approach is built on an assumption of cultural change in Wales - a change in our attitudes and in beliefs about healthcare. And, above all a change in our *behaviour*. What we do or don't do will determine the success of the prudent healthcare approach.
This article emphasises the importance of taking a behavioural approach to healthcare and describes our approach to finding behavioural solutions to real world health challenges. We will look at the role behaviour change science can play in encouraging the right environments for health professionals and patients to make changes for better health outcomes in a prudent manner.

"Prudent healthcare will not be delivered by Welsh Government directives. It will require those working in the NHS, and its partners, to think about what it means to their disciplines, service areas, and professions, including the practical steps they can take to ensure it is embedded in everyday practice. The public must also think about what a prudent NHS Wales might mean for them, including taking responsibility for their own health"
Professor Mark Drakeford, Minister for Health and Social Services[1]

Systems and people

We hope to reinforce the message that if we are to achieve large-scale improvement in the health of Wales, we will need to think about behavioural change across all levels of our healthcare system. At the same

time, we will also need to acknowledge the importance of focusing on individual health behaviour. This is no small feat. If prudent healthcare is going to be a reality, we not only need to do things differently, we need to do them better. We will also need, as individuals as well as members of society, to take responsibility for the future health of everyone in Wales. We hope to introduce behaviour change science and convince you that focusing on behaviour will be an integral part of our journey to a prudent healthcare system in Wales.

What do we mean by “behaviour” and “behaviour change science”?

Behaviour change science (BCS) sits at the interface of several disciplines: behaviour analysis, economics, psychology, design and neuroscience[2]. It is a ‘real world’ discipline, which seeks to understand the processes and factors influencing our individual decisions and behaviour. At its heart, BCS is a practical science that aims to provide solutions to the complex behavioural issues in society. The purpose for any behaviour change initiative is to apply knowledge, to effectively and positively influence behaviours.

Behaviour

In BCS we define behaviour broadly: behaviour in our conceptualisation refers to everything we do or say. This includes both our actions, thoughts and our language - and our conversations. If it’s something you do - it’s behaviour. And that is the interest of BCS.

Why is behaviour change important for prudent healthcare?

There is a growing evidence base about *how* and *why* people make certain health decisions and *when* and *where* particular behavioural interventions could be most effective. This knowledge can help improve existing approaches to health and lead in the development of more effective and efficient interventions, programmes and policies.

We know BCS has great potential, but despite its promise, it is still a relatively new discipline and this means the evidence base is relatively immature, especially for large-scale issues like public health. Further

research needs to be undertaken to strengthen our empirical knowledge of what works best and in what context[3].

We will need an investment in research to test promising findings from BCS within the context of the Welsh healthcare system and most especially in *actionable research*[4] that is of immediate value and applicability to those working within the Welsh NHS.

Public health policy has until very recently taken a traditional economic approach to healthcare policy and provision[5]. These conventional economic approaches are underpinned by the theory that we are all essentially rational decision-makers and irrational decisions and behaviours about our health only happen when we lack sufficient information or choices[6]. In this model, the typical solution for tackling health issues is more policy or more education. Encouraging individuals to eat healthily through education campaigns or discouraging the consumption of alcohol by raising the cost may have some impact, but we know they are not enough to achieve widespread behaviour change[7].

This discrepancy between what people say they *should* do and what they *actually* do is known as the value-action gap and represents a key behavioural challenge for prudent healthcare. In order to close this gap, policy makers around the world have begun to look to BCS and its focus on the behaviours of individuals. The establishment of the Behavioural Insights Team (www.behaviouralinsights.co.uk) in 2010 marked a step change within UK public health policy. Its approach demonstrated that a focus on behaviour can lead to significant increases in the effectiveness and efficiency of UK public policies and interventions, and can lead to innovative solutions.

There is a growing realisation that we need a different model, a more realistic interpretation of the function our behaviour than that offered by the traditional economic paradigm[5,8]. From our BCS perspective, the problems we face in society are primarily *behavioural*. Obesity is an outcome of *what we habitually do or don't do*; bad manners, unsafe

practices, health and fitness, is an outcome of *what we habitually do, or don’t do*. Consequently any new approach must have behaviour change at its core.

What does prudent healthcare look like from a behaviour change science perspective?

People who take responsibility for their own health and wellbeing are aware of how their behaviour has an impact on their health. As a result, they are better able to respond to new health challenges when they appear. They understand their health is partly *contingent* on their behaviour, and their habitual patterns with respect to health.

Behaviourally speaking, a contingency is simply a relationship between a behaviour and the consequence or outcome of that behaviour.

The first key element of behaviour-focused prudent healthcare is an acknowledgement of the importance of behaviour. BCS also shows that by making small, incremental changes in people’s behaviour or habits, their attitudes and beliefs tend to follow.

A second element is the importance of contingencies supporting the behaviours. For example, treatment may be excluded if someone behaves in a certain way (for example smoking and overweight). Many effective behaviour change strategies use contingencies to alter the behaviour of individuals within large systems.

Contingent services

Contingent access to services is an example of how NHS Wales could deliver co-production in service delivery. Contingent services would encourage patients to engage more with their own health, and the NHS would need to provide access to effective support services, such as nutritional, behavioural and pharmacological interventions for patients, to create the conditions for patients to achieve their goals.

Finally, an overarching element of this approach is that behaviour is driven by clear feedback – our actions produce consequences. Modern technology, including smartphone apps, can help to make clear links between behaviour

and consequences and provide real-time feedback to help make decisions quickly, effectively and in the most healthful manner.

Using a light touch

A behaviourally prudent healthcare approach would also see the incorporation of many small incremental and light-touch interventions, sitting alongside more systematic initiatives. These would be developed across social networks and adapted to local requirements. On-going action research would feed evidence to policy-makers to allow for adaptation and change. Individuals would see the value in their own behaviour and would be increasingly motivated to develop healthy behaviours, supported by a streamlined and prudent healthcare system for Wales.

Behaviour change at all levels of the system

Complex systems, like NHS Wales, require a systems-level approach to bring about widespread behaviour change. However, changing behaviour within a complex system also requires an understanding that it is the people who work in and use the healthcare system and what they do that will determine positive outcomes. This is true at all levels of the system, from the political and policy level to the interactions between healthcare professionals and the public.

Thinking about the system, not thinking by the system

BCS encourages us to think broadly about how systems are designed, and how this impacts on everyone operating within the system. It represents a system-wide organising principle, which is focused on individual people within that system. We believe a better understanding of the factors which influence the behaviours of individuals within the healthcare system – from those who work and use the healthcare system to those who design the policies and strategies by which it is governed - is an essential element in the realisation of the prudent healthcare approach.

Language matters

Within BCS we think about language as a special form of behaviour and one that has potentially large effects on people’s behaviour and an individual’s

motivation. We all know from personal experience the language we are exposed to can dramatically alter how we feel about others and how we interact with and understand our surroundings. Language can be employed to engender behavioural changes at an organisation or cultural level as well as enhancing the effectiveness of health interventions.

Commercial language fosters competition, not cooperation

Recent commentators have raised concerns about the impact the increasing use of commercial language within the NHS has had on patient care[9]. Research shows that exposing individuals to more commercial, consumer-orientated language opposed to more civic, community-orientated language can lead them to engage in more competitive, selfish and uncooperative behaviour [see for example 5&6 in][9]].

Insights from BCS suggest the framing of language influences our actions via the emotions, values and behaviour we have learned to associate with a given ‘frame’. These findings suggest that the Welsh NHS should consider a move away from the current commercially-framed language and associated focus on targets, cost-savings and indicators and adopt a more civic, personal-framed language throughout the system.

Prudent language

Language framing could also be used with great effect at the individual level to further the principles of prudent healthcare. The Minister for Health and Social Services Mark Drakeford gave a powerful but simple example of language framing in a Q&A session with the Institute of Welsh Affairs[10] when he related a visit to a GP in West Wales. The GP had recently consciously altered how he greeted new patients. Instead of the usual welcome of *“what can* **I** *do for you today”*, he instead reframed it as *“what are we going to do today to address the issue…”*. The subtle change in wording shifts the responsibility from the health professional alone, to both the patient and the health professional.

Carrots or peas?

The Food Dudes programme[11] is another example of how language framing can significantly change behaviour. Developed at Bangor University, it is a multi-component school-based intervention targeting healthy eating in early years. BCS has informed the design of the initial program and its subsequent evidence-based evolution.

As part of the Food Dudes dining experience, school dinner ladies are instructed to change how they present the choice of vegetables to children at lunchtime. The default offering of *"do you want any vegetables?"* instead becomes *"would you like carrots, green beans or both?"*. In this study the number of children choosing at least one vegetable increase by more than 190 per cent[12]. By simply making choosing vegetables the more salient behaviour children's intake of vegetables was significantly increased. This also highlights the potential for using and embedding prudent healthcare in our schools – we know that early habits tend to stick.

Behaviour is about choice and context

An overarching principle of BCS, integral to understanding individual, group and institutional behaviour, is that *all behaviour occurs in context*. Our choice behaviours are governed by the context in which they occur. Seemingly innocuous changes to the choice architecture can result in significant changes in behaviour. For example research from BCS shows that altering the placement of healthier foods in a cafeteria to make them easier to reach, relative to unhealthier foods, increases the likelihood of them being chosen[13]

Bite sized changes

The Food Dudes programme also makes use of these findings to great effect by placing chopped fruit in bite sized pieces – which was less effort to eat - in front of less healthy deserts options and in easy reach of the children to increase the likelihood of children choosing fruit.

Designing for easy choices

The main premise of good choice architecture is that any change to the choice environment *should make the desired behaviour easier*. As choice

architecture encourages individuals to make more healthy choices themselves, it supports the prudent healthcare principle of carrying out the minimal appropriate intervention. Furthermore, these interventions can promote equality and equity because everyone within the choice environment is equally exposed. Because these interventions work with our decision-making biases, they can often have a relatively greater effect on the most disadvantaged individuals – studies show lower socioeconomic status is linked to increased cognitive burden and reduced health[14].

Opt in or opt out?

The prudent healthcare approach to increasing organ donation rates is to *make the desired behaviour easier to do* by changing the default setting. Wales is leading the UK by being the first country to adopt an opt-out setting. From December 1, 2015, Wales will move to a soft, opt-out system for [organ donation] consent. The decision to change from an opt-in to an opt-out system is based on substantial evidence of the power of *effort and default settings*. Research comparing the organ consent rates of 11 European countries found those with opt-out systems had rates nearing 100 per cent, while opt-in default - which included the UK - languished at less than 30 per cent[15].

Making default desirable

When we are presented with choices that require a behaviour change, we are more likely to stick with the default (easy option), rather than exert the energy to change. BCS is not overly prescriptive about what constitutes a choice-architecture intervention. It may involve increasing the provision or presentation of nutritional information on food stuffs as promoted by the Department for Health. It could involve redesigning a building to improve the ambience, as with the Design Councils innovative Improving Patient Experience in A&E project[16]. Alternatively, it could make stairways in public buildings more salient relative to lifts, as with a novel project being undertaken by the Wales Centre for Behaviour Change[17].

"*Just do it!*" just doesn't work

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Telling and education alone doesn’t work. There are smarter ways.
BCS recognises how important the context is when influencing decision making. For example, we investigated how the environment or choice architecture may be altered to nudge people toward increasing their hand washing behaviour in hospitals.

The long walk to the hand sanitiser

The World Health Organization[18] describes the global burden of healthcare-associated infections (HCAIs). Recent studies conducted in Europe, found hospital-wide prevalence rates ranging from 4.6 per cent to 9.3 per cent. In Wales, the rate of hospital-acquired MRSA in 2013/14 was 5.6 per 100,000 cases[19]. MRSA was also the cause of 0.2 per cent of all hospital deaths in the UK from 2009-13[20]. One of the main ways of combating HCAIs is to maintain good practice in hand hygiene[21]. Yet, getting people to actually practice good hand hygiene consistently is more difficult. One study, conducted by Wales Centre for Behaviour Change (WCBC) studied hand washing in an intensive care unit in a large hospital [22].Researchers found that promoting hand washing by telling staff, training and the use of fairly complicated signs placed around the hospital had minimal impact. Not only was this approach not effective in the long term, but it was also relatively expensive in time and resources to maintain. By developing and implementing a simple behavioural nudge - red footprints on the floor from the ward door to the sanitising hand gel dispenser, researchers improved hand hygiene behaviour. As a result of the foot print nudge, sanitising hand gel increased from 38 to 93 per cent for ward staff in this study.

Delivering prudent healthcare

We are defined by our actions - advocating a healthy lifestyle ultimately means nothing unless individuals actually do it, and do it consistently. The value-action gap explains the discrepancy between our stated attitudes and our actual behaviour. BCS can help close the value-action gap for people throughout Wales.

This can be achieved in a number of ways: by focusing on behaviour of people in the healthcare system at all levels; by engineering the choice architecture to support healthy choices; by providing appropriate contingencies at an individual level to help the people of Wales take responsibility for their own health; by developing systems of support that recognise that some individuals will require more support to encourage health related habits; and by using BCS to influence the cultural attributes of our nation towards owning their own health.

A unique opportunity

The Welsh Government is uniquely placed to advance these gains by ensuring behaviour change becomes a central tenant of the prudent healthcare agenda. With organisations such as the Wales Centre for Behaviour Change* and world-leading behavioural and health research being conducted across the Welsh universities, the Welsh Government has a wealth of behaviour change resources at its disposal. Despite the myriad of health issues we are facing, this puts us in a good place.

*The Wales Centre for Behaviour Change [http://behaviourscience.org/] is based at Bangor University School of Psychology. The centre has been primarily funded through the Wales European Funding Office and brings together a multidisciplinary team specialising in translating scientific evidence on behaviour change into behaviour change in practice. The group has a unique mix of experts in behaviour analysis, neuroscience, health economics, human-digital integration, design, and sustainable models of enterprise.

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