Case examples of applying behavioural and cultural insights (BCI) to health-related policies, services and communication processes

The case examples in this annex demonstrate the range and diversity of applications of behavioural and cultural insights (BCI) to improve health-related policies, services and communication processes. Most of the examples have been evaluated and proven to have a positive impact on health and well-being. The list is not exhaustive and is meant to provide inspiration for those looking to apply BCI in their own contexts.

Table 1. Overview of case examples

<table>
<thead>
<tr>
<th>Health policy</th>
<th>Health services</th>
<th>Health communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Influencing food choices through nutritional front-of-pack labelling (France)</td>
<td>• Improving surgical safety through simple checklists (global)</td>
<td>• Reducing antibiotic prescribing through social-norm feedback (United Kingdom)</td>
</tr>
<tr>
<td>• Decreasing consumption of high-sugar drinks through new tax design (United Kingdom)</td>
<td>• Increasing patient treatment adherence through enhancing convenience with digital tools (Republic of Moldova)</td>
<td>• Increasing uptake of cervical cancer screening through letters and reminders (Armenia)</td>
</tr>
<tr>
<td>• Introducing vaccines for new age groups informed by behavioural insights (BI) (Sweden)</td>
<td>• Increasing vaccination through identifying and addressing community-specific barriers (United Kingdom)</td>
<td>• Promoting health behaviours through trusted health information messengers (Kyrgyzstan)</td>
</tr>
<tr>
<td>• Tailoring COVID-19 response through BI population surveys and rapid stakeholder engagement (North Macedonia)</td>
<td>• Improving health outcomes and equal access to care through intercultural mediation (Belgium)</td>
<td>• Enhancing management of hospital waiting lists through redesigning and testing validation letters (Ireland)</td>
</tr>
<tr>
<td>• Improving physical outcomes and treatment compliance among people with Parkinson’s disease through social prescribing of dance lessons (Belgium, France, Malta, Netherlands, Portugal, Sweden, United Kingdom)</td>
<td>• Increasing health effects and cost-effectiveness of physical therapy for children through making it fun and engaging (United Kingdom)</td>
<td></td>
</tr>
</tbody>
</table>
Health policy

It is challenging for individuals to change health-related behaviours when faced with unhealthy alternatives that are more attractive, convenient or cheap, and possibly even underpinned by social norms and expectations. In some cases, rather than increasing people’s knowledge or changing their perceptions, it may be more effective to alter the environment around them. As such, at the policy level, BCI can be applied to the design of regulatory measures, the design of policies and interventions, and the functioning of health systems and communities.

Influencing food choices through nutritional front-of-pack labelling (France)

BCI studies have shown that the provision of traditional tabular, numerical, back-of-pack nutritional information does not have any significant impact on people’s dietary choices and is unlikely to lead to any meaningful result from a public policy perspective (1,2). In contrast, front-of-pack labelling (FOPL) provides consumers with nutritional information at first glance, often in a simplified format. FOPL is a cost-effective solution that enables people to easily compare food options and make healthier choices, and can also encourage producers to make healthier products.

To identify what kind of FOPL would be acceptable and effective, France conducted an extended consultative process with the food manufacturing and retail industries, scientists, and consumers. These consultations led to the proposal of several FOPL systems, which were then tested using various methodologies combining experimental designs, randomized controlled trials (RCTs) on experimental platforms, and a large-scale, real-world trial in 60 supermarkets in 2016 (3). Ultimately, the Nutri-Score system, a nutritional label based on a five-colour coded scale going from dark green to dark orange, associated with letters from A to E, proved to perform best in influencing the nutritional quality of consumers’ food purchases. France adopted the Nutri-Score in 2017, followed by several other countries in the WHO European Region (4).

Decreasing consumption of high-sugar drinks through new tax design (United Kingdom)

In 2016, the Government of the United Kingdom announced that the Soft Drinks Industry Levy would come into effect in 2018. The design and implementation of the Levy were informed by a public consultation in 2016. Acknowledging that individual behaviour change is challenging, the tax targets producer behaviour by encouraging reformulation, as the tax escalates according to sugar levels in the drink. This has caused the soft drinks industry to significantly reduce the sugars in their products, leading to a 30% reduction of sugars sold per capita per day from soft drinks (5).

Introducing vaccines for new age groups informed by behavioural insights (BI) (Sweden)

In Sweden, BI survey data about attitudes, perceptions and behaviours related to the COVID-19 pandemic were used to inform the national policy and guidance for vaccination of younger age groups. The BI data showed that willingness to vaccinate decreased with decreasing age, from 80% among 16–17-year-olds down to as low as 52% among parents of 5–7-year-olds. The insights from the BI population survey were used to tailor national and local vaccination messages and promotion initiatives, and informed the decision to recommend COVID-19 vaccination for those aged 12–17 years, but not for
those aged 5–11 years. The data showed that among those willing to vaccinate, younger age groups and their parents/guardians had different needs – a higher proportion had questions or concerns about safety and evidence and whether vaccination was in the interest of the child. The drivers of vaccination were also different, as younger groups primarily indicated that they accepted vaccination to protect others, not themselves (6).

**Tailoring COVID-19 response through BI population surveys and rapid stakeholder engagement (North Macedonia)**

Throughout the pandemic, North Macedonia used BI to tailor COVID-19 measures and restrictions to the evolving needs of the population. Using the *Survey tool and guidance for behavioural insights on COVID-19*, developed by the WHO Regional Office for Europe, health authorities were able to collect data, discuss and contextualize findings with key stakeholders, and rapidly translate findings into action (7). The questionnaire includes variables such as COVID-19 risk perception, health literacy, protective behaviours, well-being, trust and vaccination intention.

Through this work, health authorities have tailored risk communication and outreach activities for the most vulnerable and marginalized groups, carried out capacity-building activities to engage the local community and people in the workplace, and collaborated with health-care workers to identify unmet needs and strengthen their ability to take a patient-centred approach (8). Since the onset of the pandemic, more than 30 countries and areas within the Region have made use of the survey tool, either with direct support from the Regional Office or independently.

**Health services**

BCI can be used to strengthen health services by making them more convenient, accessible, acceptable and equitable, and to make sure they respond to the needs of patients, citizens and health providers. Such a people-centred approach in the health-care system can lead to better uptake of preventive measures, better adherence to treatment, more appropriate use of health services, and more appropriate procedures, treatment and prescribing among health personnel.

**Improving surgical safety through simple checklists (global)**

Surgical complications are common and often preventable. Drawing on lessons learned from the aviation industry, the WHO Surgical Safety Checklist was developed as a simple tool to promote appropriate behaviours during surgery, thereby decreasing human errors and adverse events (9). Beyond providing a gentle reminder of critical steps in the surgical process, the checklist also encourages changes in the culture and behaviour of the surgical team as a whole. Through the introduction of a formal pause during introductions and debriefings, all members of the surgical team are given the opportunity to speak up, irrespective of hierarchical rank or seniority.

Studies have found that this simple tool is effective in changing behaviours: complications were reduced by over one third and deaths cut by nearly 50% in eight pilot hospitals representing a variety of economic circumstances and diverse patient populations. The list is now used by most surgical providers around the world (10).
Increasing patient treatment adherence through enhancing convenience with digital tools (Republic of Moldova)

Tuberculosis leads to 1.4 million deaths annually, and medical treatment is critical. Many countries use directly observed therapy (DOT) for medical treatment, where a health-care professional observes the patient take the treatment. This requires a high level of effort from both the patient and the health system, and can lead to low treatment adherence. BCI can shed light on barriers to optimal treatment adherence, such as the fact that even highly motivated patients can be deterred by the effort it takes to travel to a clinic every time they need to take the medication.

A potential solution that focuses on making medical treatment easier is video-observed treatment (VOT) where the patient films themselves taking the medication and sends it to their health-care professional. An RCT conducted in the Republic of Moldova found that VOT led to higher adherence (1.29 days missed per two-week period for VOT compared with 5.24 for DOT). The study demonstrates that increasing convenience, for example through VOT, offers a promising, time-saving alternative for increasing medical adherence (11).

Increasing vaccination through identifying and addressing community-specific barriers (United Kingdom)

It is sometimes assumed that low vaccination uptake can be explained by vaccine scepticism alone. Yet the reasons behind low uptake may be complex and require careful consideration. The WHO Tailoring Immunization Programmes (TIP) approach combines multiple data, BCI research and stakeholder engagement to uncover the barriers to and drivers of vaccination in specific communities in order to tailor a response. Applying the TIP approach to the Charedi Orthodox Jewish community in London, United Kingdom, showed that the main barriers were associated with access to and convenience of immunization services, rather than cultural or religious anti-vaccination sentiment. The insights generated through the TIP approach allowed for the development of targeted interventions, including flexible appointments in family-friendly surroundings and robust call and recall systems (12).

Improving health outcomes and equal access to care through intercultural mediation (Belgium)

Cultural differences between the patient and the health provider can lead to misunderstandings that can have negative impacts on the success of treatment or prevention measures, and may discourage patients from returning for care in time. An innovative approach, originating in Belgium, consists of training intercultural mediators who act as bridges between patients and health professionals. Intercultural mediators can help explain and contextualize messages and situations for both the patient and the health worker. Their role also involves interpretation, health education and advocacy. Over three decades, this approach was piloted and evaluated, and is now integrated within the health-care system in Belgium. Evaluation studies have found that cultural mediators can improve the quality of care, strengthen the doctor–patient relationship and lead to improved health outcomes (13).

Improving physical outcomes and treatment compliance among people with Parkinson’s disease through social prescribing of dance lessons (Belgium, France, Malta, Netherlands, Portugal, Sweden, United Kingdom)
The negative impacts of some chronic diseases can be mitigated through the right kinds of physical training; however, repeated training can be a tiresome burden on patients, which may lead to low compliance and high dropout rates. Social prescribing is an innovative and growing alternative, making physical training more appealing and motivating while still following clinical principles. For example, across multiple meta-analyses, dance has been found to provide clinically meaningful improvements in motor scores for people with Parkinson’s disease, as well as improvements in balance, gait speed and functional mobility. High compliance and low dropout rates as well as continued activity beyond the study period have also been shown (14).

Within the Region, a number of Member States offer dance classes for people with Parkinson’s disease. The majority of these are led by dance organizations that have developed relationships with doctors in primary care facilities, hospitals or specialist treatment centres. Some provide direct referrals and participants can also self-refer (14).

**Increasing health effects and cost-effectiveness of physical therapy for children through making it fun and engaging (United Kingdom)**

Children with hemiplegia (a weakness or paralysis affecting one side of the body resulting from brain injury or stroke) are recommended to undergo intensive programmes of physical therapy. Children can experience this therapy as repetitive and isolating, which may decrease the effectiveness of the treatment and negatively affect their well-being, in turn increasing their care needs. In response, Breathe Magic was designed to incorporate traditional hand therapy exercises into magic tricks to make the exercises more fun and engaging. By delivering the sessions in a group setting, they also meet some of the psychosocial needs of young people with hemiplegia (14).

The programme was co-designed with input from artists, scientists, health-care staff and patients. Since its inception in 2008, the programme in Australia and the United Kingdom has been shown to result in clinically significant improvements in bimanual motor skills; improved well-being, communication skills, self-esteem and parent–child relationships; and a cost-saving reduction in the hours of care and support needed by each child. The programme has been shown to be comparable with other treatments such as botulinum toxin injections, both in terms of effectiveness and cost (14).

**Health communication**

Message framing as well as the language, visuals and channels used for engaging and communicating with people need to be tailored to the context to effectively influence health behaviours. To make sure messages and channels are effective, and that they do not have negative backfire effects, it can be useful to test them in an initial experiment. In some cases, it may be possible and effective to use channels that allow a wide number of people to be reached at a relatively low cost; in others, more intensive or direct approaches are needed.

**Reducing antibiotic prescribing through social-norm feedback (United Kingdom)**

Many doctors continue to prescribe unnecessary antibiotics even though it contributes to antimicrobial resistance. The reasons vary across contexts, including time pressure during consultations, cultural
expectations related to prescribing, perceived risk of reputational damage and legal reprisal, and so-called action bias – the desire to do something for the patient (15).

A national-scale RCT run by the Behavioural Insights Team and Public Health England targeted general practitioner (GP) practices in England whose antibiotic prescribing rate was in the top 20% for the area. Half of the high-prescribing GP practices were randomly allocated to receive a letter from a high-profile messenger (the country’s chief medical officer) providing social-norm feedback (“The great majority (80%) of practices in [local area] prescribe fewer antibiotics per head than yours”). The results showed a 3.3% relative reduction in antibiotic prescribing among the GP practices that received letters compared to those that did not. The research team calculated that, if the control group was also treated, the intervention would equate to a 0.85% reduction in antibiotic items nationally during the study period. For comparison, the National Health Service set aside significant funding to reward a 1% reduction in antibiotic items prescribed. The effect of the one-time letter was shown to last at least six months. This is a meaningful result for a low-cost intervention that is easy to scale up (16).

**Increasing uptake of cervical cancer screening through letters and reminders (Armenia)**

BCI evidence from high-income countries shows that invitation letters and reminders can substantially increase women’s participation in cervical cancer screening programmes. A group of academics worked with the national screening programme of Armenia, the Armenia National SDG Innovation Lab and a range of other partners to design and run an RCT to test the impact of invitations and reminders in Shirak, the region with the lowest income levels in Armenia. The invitation letters enhanced screening participation, especially when followed by reminders: compared to the 2.1% probability of getting screened among those who did not receive a letter, those who received letters and reminders were three to four times more likely to get screened (17).

The RCT also tested differently framed messages in the letters (such as underlining the potential negative consequences of not attending a check-up) but these did not result in different rates of compliance, suggesting that the act of sending an invitation was more important than the specific wording of the letters (17). The project showed that appropriately tested letters and reminders are a cost-effective intervention which can change health behaviours in both high- and low-income settings.

**Promoting health behaviours through trusted health information messengers (Kyrgyzstan)**

A key issue in BCI and communication is the importance of selecting the right messenger. When information is delivered by trusted and respected members of the community, it is more likely to lead to change. In response to low levels of health literacy among the rural population in Kyrgyzstan, the Community Action for Health (CAH) programme was initiated in 2002 as a partnership for health promotion between the government health system and village health committees (VHCs). Members of each VHC are democratically elected by neighbourhoods and trained to implement health actions by visiting people in their homes and working with other organizations. The impacts of this innovative approach on behaviours among village populations are substantial. Outcomes that can be attributed to VHCs include the reversal of the brucellosis epidemic in Kyrgyzstan through the promotion of behaviours that protect people from infection during sheep lambing (with a total estimated cost savings of
US$ 4 827 065 between 2007 and 2011), over 2 million people screened for hypertension, an increase in awareness of nutrition, and early detection of health problems in children and pregnant women. As of 2018, the CAH was a countrywide programme involving some 1700 VHCs that covered 84% of all villages (18).

Enhancing management of hospital waiting lists through redesigning and testing validation letters (Ireland)

It is good practice for hospitals to check whether patients on waiting lists are still in need of treatment. This is commonly done via validation letters to patients. Yet, it is estimated that approximately 25% of patients do not provide a response to the letters. In Ireland, BCI was used to redesign and test different letter formats to encourage more patients to engage with the validation process. Through an RCT, the study found that using the redesigned letter resulted in nearly 20% of non-responders changing their behaviour and responding. The revised letter includes design elements such as a call for action, simplification, personalization, an apology for the waiting time and a reminder of the consequences of non-response (such as removal from the waiting list). Following the publication of the results in 2018, the redesigned letter has been adopted as the national template for waiting-list validation correspondence in Ireland (19).

Additional resources

For more examples and resources on how to build capacity and use BCI for health, see these resources from WHO.

- The BCI-Hub – a knowledge-sharing platform for evidence and good practices related to BCI: https://bci-hub.org/
- An online training course on BCI: https://bci-hub.org/capacity-building
- Policy considerations on how to set up a national BCI unit for health, including points on stakeholder engagement, staffing and selecting projects: https://apps.who.int/iris/handle/10665/352505
- A report by the WHO Director-General on the Behavioural Sciences for Better Health Initiative: https://www.who.int/publications/m/item/behavioural-sciences-for-better-health-initiative

References


