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Best behaviour

Scientists are trying to control our actions in this pandemic, but what happens when they get things wrong?

Graham Lawton reports

I WAS at a hospital the other night where I think there were actually a few coronavirus patients, and I shook hands with everybody, you'll be pleased to know. I continue to shake hands and I think it's very important..." UK prime minister Boris Johnson, Downing Street press conference, 3 March 2020.

"Sick Boris faces fight for life". Front page, *Daily Mirror*, 7 April 2020.

If a week is a long time in politics, a month is an eternity in a pandemic. In early March, few batted an eyelid at Johnson's handshakes. Now they seem reckless.

News of the prime minister's illness led many of the Twitterati to point out that the coronavirus "doesn't discriminate". Wrong.

It does – by behaviour. If you come into contact with an infected person, you may well catch it. If you don't, you probably won't.

This is why behavioural science is absolutely central to our fight against the pandemic. Clearly, the hard biomedical sciences such as virology, epidemiology, immunology and pharmacology matter. But unless we also factor in the science of human behaviour – how real humans in the real world act and think – our understanding is incomplete, and our attempts to defeat the virus will fail.

Getting people to do what we want is notoriously hard, which is why governments around the world have been relying on behavioural scientists to inform their approach to the pandemic. There's everything



to play for, as Molly Crockett, a psychologist at Yale University, and her colleagues wrote in a recent paper on behavioural science in the time of coronavirus: "In order to slow the coronavirus pandemic, healthy people must take basic steps to change their behaviour, and doing so has the potential to collectively save thousands if not millions of lives." Get it wrong, however, and the effects could be disastrous.

Arguably, behavioural scientists have been prepping for a challenge like covid-19 for a decade. In 2010, the UK's newly elected coalition government set up its experimental Nudge Unit within the Cabinet Office. The central idea, which was popularised in the 2008 book *Nudge* by Richard Thaler and Cass



Morally charged messages may be the most effective

to ‘actually we know it’s highly effective in a whole range of domains,’ David Halpern, the head of the unit – officially called the Behavioural Insights Team (BIT) and now an independent company – told me before the pandemic. So what started as an exercise in nudging people to make better life choices has expanded into a global enterprise in behavioural engineering.

“It’s really important at most steps of the way: you have to communicate with the general public, you have to think about how you do it consistently and clearly and in a way that people will understand and take the actions,” says Ulrike Hahn, a psychologist at Birkbeck, University of London. “You have to think about social mechanisms for getting people to do stuff.”

The BIT is active in 30 countries and just opened branches in Canada and India. Last year’s Behavioural Exchange meeting in London attracted more than 1000 delegates from all over the world and every conceivable sector of society, including public health.

Mixed messages

As soon as it became clear that the new coronavirus was poised to become a pandemic, behavioural scientists around the globe joined their biomedical colleagues in dropping whatever they were working on to find ways to tackle the virus.

One of the first groups out of the blocks was the BIT. It used its preferred tool – a randomised controlled trial – to test the effectiveness of handwashing information posters. It recruited 2600 adults in the UK and ran an online trial of various posters from around the world (translated into English). Participants were tested on their recall of the message and whether they said they intended to wash their hands more often after seeing them. The results showed that the most effective posters had a “bright, clear design with minimal text and an emphasis on the step-by-step procedure”.

You might ask why a randomised controlled trial is necessary to reach this conclusion, but behavioural science doesn’t always produce obvious answers.

Crockett and her team, for example, tested the effectiveness of different types of messaging on people’s intentions to wash their hands, avoid social gatherings, self-isolate >

Sunstein at the University of Chicago, is that humans often make bad, irrational decisions but can be encouraged to make good, rational ones by changing how choices are presented to them.

The classic example is membership of workplace pension schemes: if you make opting in the default position rather than an active choice, people sign up in greater numbers. They are free to opt out, which is a crucial feature of nudges – they must be “freedom preserving”. The goal of the Nudge Unit, then, was to see whether this approach could improve the design and implementation of public policy.

“I think we’ve gone from ‘this is an interesting idea that probably won’t work’

“Changing people’s behaviours has the potential to save millions of lives”

The behavioural science guide to getting through lockdown

Lockdown isn't easy to deal with. "I feel completely disoriented. My world's been turned upside down," says Pete Lunn, head of Ireland's Behavioural Research Unit and lead author of the paper "Using behavioural science to help fight the coronavirus". But, he says, there are things you can do to help get through it.

1. HABITS

"One of the really interesting things at a time like this is that people break habits and do different things. This is an opportunity to try something new, and form good new habits. Try that thing that you never did because you just carried on with your perpetual behaviour."

2. CONNECTEDNESS

"Everybody is suffering at the moment. We've been sampling people's well-being throughout the day and it's as if the entire population has been made unemployed all at once. One of the reasons is that people are feeling isolated. They're feeling lonely, they're feeling like their social contacts are not exciting. So get in touch with old friends, make sure that you're contacting parents and family on a regular basis. This is really important."

3. OUTDOORS ACTIVITY

"We can see in our data that the thing that gives people the highest sense of well-being is anything where they're outside. Wherever people are outside, they're happier. So find safe ways to get yourself out. That exercise once a day is vital, because it feels normal again."

and share health messages. They expected practical, utilitarian messages to be the most effective, but found that they barely worked at all. Morally charged ones, especially those emphasising our responsibilities towards family, friends and even strangers, were much more effective.

Another team that was quick off the mark was the Behavioural Research Unit at Ireland's Economic & Social Research Institute. In March, as the number of covid-19 cases in Italy span out of control, it identified more than 100 research papers and wrote a literature review, "Using behavioural science to help fight the coronavirus".

"There is a body of applied scientific knowledge that can be called upon," says team leader Pete Lunn. "We do know that multiple measures can be taken that are likely to reduce transmission." Some of these focus on individual behaviour, such as washing our hands or touching our faces, while others encourage actions that benefit society at large.

The team found seven areas where behavioural science can contribute: hand cleanliness, face-touching, coping with isolation, encouraging collective action, avoiding antisocial behaviour, crisis communication and risk perception.

The review was published on 12 March and formed a key strand of the Irish government's strategy. "We sent them a copy of the paper on the morning we released it, and they've been using it ever since," says Lunn. "It's been used to guide quite a lot of the Department of Health's messaging, some of the stuff in the papers, the stuff in the telly adverts here."

Certain interventions are simple and obvious, says Lunn. "Handwashing and hand-

sanitising is pretty straightforward. You put the sanitiser in a place where people cannot miss it. If you walk around it, you might suffer some social disapproval because we'll see you're not using the sanitiser. It works: most people use it more. It's a nudge, basically."

Others are more complex and trickier to pull off. Encouraging collective action, for example, is a classic public goods problem where enough people must override their own self-interest in pursuit of a common goal. Existing research suggests that people are "conditional cooperators": willing to make sacrifices for the greater good, but only if others do too.

Strike a nerve

The trick here, says Lunn, is to generate a common group identity. That means "getting across that we are in it together and communicating to everybody a strategy that says, 'If we all do X, we will all be better off, and here's why'. And also introducing gradual degrees of social punishment and disapproval for people who don't bat for the team." Think tutting when people don't social distance or challenging those who break the rules.

Emotions also sway our decisions and behaviours around the virus. In a more recent experiment, Lunn's team showed people posters including one that emphasised the possibility of infecting a specific at-risk person, such as someone's grandmother, or a neutral poster communicating the government's advice.

When asked later about their plans for the coming days, those who had seen the emotion-fuelled posters said they were more

Interventions like handwashing and using hand sanitiser are the simplest to encourage



BEATA ZAWRZEL/UNRPHOTO/PA IMAGES



Placing chairs appropriately makes social distancing a no-brainer

likely to practise social distancing, even though participants themselves predicted that the neutral posters would be more effective.

The Irish government enacted a progressive tightening of social freedoms, culminating in a lockdown on 28 March. According to Lunn, this was greeted with a high level of compliance and trust. “People are responding,” he says. “I think the general view here at the moment is the chief medical officer has played a blinder.” The policies also appear, tentatively, to be working. If Ireland’s experience shows how behavioural science can help, events across the Irish Sea show how it can also go wrong.

Compared with its European neighbours, the UK took a relaxed approach to behavioural restrictions. The handshake-happy Johnson of 3 March was merely following official advice that handwashing, not social distancing, was the key to halting transmission. But this laissez-faire approach didn’t work, and on 23 March, the government imposed a lockdown.

Precisely what guidance inspired the original policy and its sudden reversal is unclear, not least because the government has been decidedly secretive about the advice it has been receiving. But we know that it has heard from a team called the Scientific Pandemic Influenza group on Behaviour and Communications, originally convened in 2009 in response to the swine flu epidemic and reactivated on 13 February 2020 to respond to the new coronavirus. The group’s remit isn’t to propose policies, but to advise on how to implement

those recommended by medical experts.

The consensus among behavioural scientists is that they made some bad calls. “In all honesty, I think they just got it wrong,” says Lunn. “And I think they know they got it wrong now. And I think that’s what the large majority of the behavioural science community, in Britain and internationally, think.”

On 16 March – a week before lockdown – the government received an open letter signed by nearly 700 UK-based behavioural scientists expressing deep concern about its social distancing policies.

One of the letter’s lead authors was Hahn. She says the main problem was that the

“Almost 700 behavioural scientists wrote a letter of deep concern about the UK’s social distancing policies”

government put too much emphasis on “behavioural fatigue”, the worry that people would rapidly tire of measures limiting social contact and abandon them just when they were most needed. “We always thought that that argument was overstated,” she says. “The evidence for it is not very strong.”

To make matters worse, the UK government didn’t initially share the evidence base for its strategy. When it eventually did publish it on 20 March, behavioural scientists were unimpressed. “That document didn’t really elaborate on this behavioural fatigue thing,” says Hahn. “I haven’t changed my mind.”

It isn’t that behavioural fatigue doesn’t exist, she says – as many can attest after weeks or months of lockdown. “It is not implausible: keeping up behaviours – in particular ones where you don’t see an immediate return, but that are onerous – is going to flag over time. So I don’t think it’s a non-issue. What was troubling me was the extent to which it was being used to justify whether or not to move ahead with a more extreme lockdown.”

Lunn is less forgiving. “The evidence is pretty weak,” he says. “And why it came out after the fact, I don’t know.”

The advice also appears to have put too much emphasis on a narrow, nudge-based approach to behavioural change while ignoring the perspectives of other behavioural sciences such as psychology and behavioural economics, says Hahn. Many people detect the fingerprints of the Behavioural Insights >

“A gradual lifting of lockdown is better – the stronger the shock, the more people struggle”



Scottish first minister Nicola Sturgeon leads by example, adopting the “elbow cough” to minimise the spread of germs

Team on the strategy, although it hasn't commented and declined a request for an on-the-record interview.

Another concern is that the UK response was politically motivated. In essence, the fear is that the government cherry-picked advice that fit its libertarian instincts – or, as Johnson put it when announcing the lockdown on 20 March, “the ancient, inalienable right of free-born people of the United Kingdom to go to the pub”.

This is all in stark contrast to the behavioural expertise that was brought to bear on the UK's swine flu preparations a decade ago, says Hahn. “There was a very thorough discussion

of the behavioural science evidence underpinning those strategies,” she says. That included research that is still relevant today, including on face mask compliance and maintenance of social distancing.

The UK's failures, however, don't negate the fact that behavioural science can help with the crisis. “It still has a lot to offer,” says Hahn.

Right now, the most pressing question is how to maintain, and eventually lift, lockdown. Behavioural science can offer personal advice for how to play the long game, says Lunn (see “The behavioural science guide to getting through lockdown”, page 40). But there are also some insights for government.

“One of the reasons I think the Irish authorities did better than the UK authorities was by being more gradual,” he says. “The UK essentially went in two jumps, doing very little and then slamming very strong restrictions on extremely rapidly. We imposed restrictions earlier, then increased the level in four stages.”

The gradual approach is better, he says, because the stronger the shock, the more people struggle with the new situation. “Social support takes time to organise itself, and if you do things really suddenly, some people can't cope.”

The same logic should work for ending lockdown. “It will be much better to do it in more gradual stages, where specific restrictions are lifted one at a time. And I get the logic that we'll need to ease restrictions and then possibly put them back down again, depending what the data show. Communicating that is going to be super important,” says Lunn.

The best way to do that is yet to be determined, as this is such a novel problem. Yet crisis communication principles used by the US Centers for Disease Control and Prevention, which rely heavily on behavioural science, offer some insights.

These include being open about information, including what you do and don't know, telling the truth, expressing empathy, giving people something to act on and showing respect. In terms of nudging, openness shouldn't be a problem, because – surprisingly – it still works even when we know we are being manipulated. ■



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Think first, share later

Like many biomedical scientists, behavioural scientists are scrambling to create rapid interventions designed to slow the pandemic's spread.

Gordon Pennycook at the University of Regina in Canada and his team wanted to understand why some people believe misinformation about the virus and share it on social media. Their goal was to

design an intervention to stop them.

It turns out that most people who spread falsehoods don't do so maliciously. Instead, the researchers discovered that people are far worse at determining whether something is true or not when deciding whether to share it on social media compared with when they are asked directly about

the accuracy of the information they are sharing. A simple prompt to think about the accuracy of a non-political headline halved the amount of misinformation that people shared.

Social media platforms should add an “accuracy nudge” to reduce the circulation of dangerous misinformation, says Pennycook.