



National Plan for Sport and Recreation Committee

Corrected oral evidence: National plan for sport and recreation

Wednesday 26 May 2021

3.30 pm

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Members present: Lord Willis of Knaresborough (The Chair); Lord Addington; Baroness Blower; Baroness Brady; The Earl of Devon; Baroness Grey-Thompson; Lord Hayward; Lord Knight of Weymouth; Baroness Morris of Yardley; Lord Moynihan; Lord Snape.

Evidence Session No. 22

Virtual Proceeding

Questions 167 - 171

Witnesses

I: Anton Derlyatka, Co-founder and CEO, Sweatcoin; Professor Chris Todd, Professor of Primary Care and Community Health, University of Manchester, Director, National Institute for Health Research, Older People and Frailty Policy Research Unit, and Lead, National Institute for Health Research, Applied Research Collaboration, Greater Manchester Healthy Ageing Theme.

USE OF THE TRANSCRIPT

This is a corrected transcript of evidence taken in public and webcast on www.parliamentlive.tv.

Examination of witnesses

Anton Derlyatka and Professor Chris Todd.

Q167 **The Chair:** Good afternoon, everyone, and welcome to the committee. I welcome our two witnesses this afternoon, Anton Derlyatka and Professor Chris Todd. Anton Derlyatka is co-founder and CEO of Sweatcoin, and Professor Chris Todd is professor of primary care and community health at the University of Manchester, director of the National Institute for Health Research Older People and Frailty Policy Research Unit, and lead at the National Institute for Health Research Applied Research Collaboration for Greater Manchester Healthy Ageing Theme. Welcome to you both. That is quite a reputation there, Professor Todd.

Professor Chris Todd: Yes—sorry it is a mouthful.

The Chair: No, you are okay. We always like to have impressive witnesses. Welcome to you, Anton. I am delighted you are with us.

Anton Derlyatka: Sorry to be so concise.

The Chair: First, I will declare a number of interests. First of all, Anton, I am a user of the Sweatcoin app.

Anton Derlyatka: Thank you very much.

The Chair: So I pay your wages.

Anton Derlyatka: Thank you.

The Chair: Not quite—but I do use it, so I have to declare that. Secondly, I am chair of the NIHR Applied Research Collaboration for Yorkshire and Humber. I therefore take some salary from NIHR and work in a similar setting to you, Chris. I was also the chair of the NIHR Collaboration for Leadership in Health Research and Care in Yorkshire and Humber. Again, our paths have crossed in those directions in the past.

I will start with you, Anton. In essence, this inquiry is an opportunity to make recommendations about how the Government can encourage people of all ages to lead more active and, by default, healthier lifestyles. Technology and the use of IT and apps have been seen by many as having a fundamental role to play in achieving that goal.

In 2015, the Government, in its *Sporting Future* document, said: “The ability of these apps and devices to capture data and encourage increased levels of activity will define the world of sport and physical activity in the coming decade.” What do you see, six years on, as the opportunities and limitations of using technology to encourage people to lead more active and healthy lifestyles? Have we learned any lessons during the pandemic about the potential of technology to achieve that goal?

Anton Derlyatka: That is an excellent question. I have three or four main observations, especially over the past year with the pandemic.

There are a few things. Obviously, technology is a very low-cost thing and, as a result, there are very low barriers to entry, versus the more traditional things such as gym membership, or even step trackers. I would like to differentiate between various types of technology. Step trackers, which were all the rage about five to seven years ago, have almost been replaced by other technology that is cheaper and more accessible.

One thing that has become apparent in the past five years is that, because of low costs, we are seeing a huge amount of scaling and an ability to reach those segments of the population that were extremely difficult to reach before. So, there is low cost, great scale and then personalisation. Personalisation is the great opportunity that we do not feel has been fully realised yet. By providing more personalised solutions, we can develop much higher levels of retention, which we call stickiness, for different segments of the population, particularly those groups that are harder to reach.

Finally, over the past 12 months, with the lockdown, we have seen some massive, tectonic changes in people's routines. People dropped old routines and started to adopt new ones. Sometimes, that was not for the better, as lots of people ended up sitting at home watching streaming, instead of being more active. Those are the four things, I would say, that we would observe.

In terms of challenge, I think the biggest challenge is the sheer abundance of tech and competition for attention arising from it. That, again, highlights the importance of personalised engagement techniques to keep users engaged, which would allow us to help them adopt healthier behaviours.

The Chair: Do you feel that incentivising the use of technology, and particularly the use of apps, is the way to keep people engaged, or is there a better way of doing that? This field seems constantly to have a change, where the next idea comes in. In your opening remarks, you mentioned that that has happened with a number of technologies. Are we just simply going to go from one technology to the other, rather than having some sustainable technologies to deliver what we are trying to find?

Anton Derlyatka: I do not think there is a holy grail, where we might say, "This is the winning technology, and that, in and by itself, will solve all our problems". We should be talking about a reasonable combination of a variety of different technologies. At the end of the day, the biggest thing that technology allows us to do is to come up with a highly personalised experience. One size fits all does not really work.

Incentives are hugely powerful to some people—I would say to a vast majority of people. However, they need to be administered wisely and correctly. Incorrect use of incentives will do more harm than good. It is just trying to drive that personalisation, making sure that users get what they really need.

To give you an example, we are working with the NHS on the diabetes prevention programme front. A traditional diabetes prevention programme that might last a few months typically has a retention of 27%, meaning that by the end of the programme only 27% of participants actually continue to be engaged. Using some gamification techniques and greater personalisation delivered great results of 100% retention at the end of the programme. That is just the power of personalisation, and incentives is just one tool.

The Chair: Chris?

Professor Chris Todd: On the same question, I assume.

The Chair: Yes.

Professor Chris Todd: First, I must preface all my answers by saying that these are not the views of the NIHR, the NHS or the Department of Health—it is in my contract more or less. These are personal views; I am speaking as myself and on behalf of my group.

My area of expertise is among older people—our work has been with older people. By “older people”, traditionally, people talk about over-65s, but we tend to think of it in terms of the life course, so probably no upper cut-off and coming in at about 55. Actually, I would quite like to think of life course throughout.

We have seen clearly that exercise and activity have great physical and mental health benefits—I am sure we would not be here if you did not know that—and it is never too late to start. That is a message that I really want to push.

We have found that there seems to be a bit of an inverse relationship between availability of apps and evidence. We did a review last year where we looked at apps for the promotion of activity among older people. We call it the “Map the Apps” review. My colleague Lisa McGarrigle and I did this. We found about 7,500 different apps that purported to do physical activity promotion. Once we had looked at those carefully to see whether they were appropriate for older people, whether they presented evidence-based interventions, we ended up with six apps out of 7,500 that presented an evidence base in exercise interventions aimed at or for the use of older people to improve their strength and balance to prevent falls. There was no evidence for an awful lot of the apps that are out there that they will actually work.

We would argue strongly that apps and technologies need to be evidence based. We really need to know that there is evidence that they bring about change and that they help people to change their behaviour and live healthier lifestyles. The vast majority of apps out there do not have any such evidence.

There seems to be a bit of a strange thing: researchers like me—people in universities and academia—spend a lot of time developing an app, doing the research and demonstrating, or not demonstrating, that the

particular thing works, and then it never gets commercialised—I suppose, because that is not the world we come from. On the other hand, a lot of the commercially available apps do not have that evidence that we would like to see to bring about change and substantiate their claims.

I completely agree that one size does not fit all, and one app does not fit all. Personalisation is the key. We should be thinking about how to bring about behaviour change, which needs the use of theory in these apps.

On opportunities, I think we said in our written evidence that there is clearly emerging evidence that apps and technologies can work to help promote healthy lifestyles. Older people in particular want to remain independent and be part of their communities. They will want to do that. That is probably the hook for them: to remain independent.

eHealth and mHealth apps clearly have potential, and things like self-monitoring, incorporating theory, behaviour change techniques and some professional support are very important. We have clearly demonstrated that the use of interactive eHealth and mHealth applications that have behaviour change underpinning them can work. We have developed some smartphone and tablet-based apps, such as the Keep On Keep Up app, which we can talk about later, which uses these techniques and which has, in the last year, clearly been taken up by and helped people during the pandemic.

On limitations, I think that the biggest limitation and the biggest risk—I would have to take up a point with the other evidence given—is that technologies can exacerbate the health divide, because they cost money. They are not always cheap. There are many people in our society, from the poorer parts of society and the more deprived parts of society, who cannot afford access to these apps and the services they provide.

I am happy to fill in more on that if you want.

The Chair: Thank you very much for that, Chris. I am going to move on to Baroness Blower.

Q168 **Baroness Blower:** I would like this question to go to Chris first. Do fitness trackers and other health and fitness apps have a diversity problem? I am very interested from the ageing point of view. If only six out of 7,500 apps appear to be any use whatever to older people, is that the proportion that you might have expected, or should there be more? Are there other diversity issues with apps?

Could you both say something about the question of exacerbating divides? There is clearly a diversity issue on the basis of social class, for example, if there is a cost. Do apps have a diversity problem?

Professor Chris Todd: I would say, for the most part, yes, they do. That number, six out of 7,500, surprised me—I thought we would get a lot more that were suitable out of that large number of apps that are out there in the ether space or whatever you want to call it.

It looks to me as if most of the health and fitness apps around are essentially aimed at white, middle-class, younger people, and they cost money. We really need to work more with marginalised groups in our society to co-design—I will say that word a number of times—and co-produce tracker apps that are suitable and co-designed and co-created with people from other cultural backgrounds and other parts of society.

That is probably the short answer to this. We really need to do a lot more work to include people from across the spectrum. We clearly have digital exclusion happening in our society. Some 4.8 million people never access the internet, of which 3.7 million are older than 55. That would seem a rather telling statistic.

It is very clear that there is a digital divide related to class, poverty, ethnicity and age. All these things come together to drive digital exclusion.

Having said that, I will hold up this publication that we produced fairly recently at the university, *On Digital Inequalities*.¹ It has just come out, and I can get a copy sent to you. It goes through some of the evidence about the digital inequalities that we are seeing in our society today.

The Chair: Thank you very much, Chris.

Anton Derlyatka: I hold a slightly more optimistic view. Of course, there is digital inequality, but that stems mostly from whether people can afford certain technology. The vast majority of apps available on Android and iPhones are free. Of course there are paid levels, but it has to be understood that most of them are free, and the ones that want to reach the hardest-to-reach demographics make it their case. They have to be free apps—that is the way forward.

When it comes to trackers, that is very different. The step counters, the Fitbits and the things that you wear on your wrist are expensive, and they are therefore discriminatory. For as long as we look at certain technologies that are available for free, that needs to be taken into consideration. Unfortunately, we still do not have 100% penetration of smartphones, but we are getting there. That needs to be understood, and I would encourage everyone to differentiate between different types of technologies. Free apps are available to anyone.

The second point is that being available does not necessarily mean that people actually use it. That is a massive difference. The big question is how we convince people or make them interested in using something. That is where I would very much agree with Chris. We need to use the best insights from behavioural science and the best learning from the technology space—how to make people interested and keep them engaged. The fact that somebody has installed an app does not necessarily mean that this person will use it in 30 days. That is often

¹ Note by witness: University of Manchester, *On Digital Inequalities* (11 May 2021): <https://www.policy.manchester.ac.uk/publications/on-digital-inequalities/>

seen, and I do not want to say bad things about anyone, but some people say, “Yeah, we have a great app. It encourages walking or running”, or, “It encourages people to run 10K, and we have got a million people to install it”. We should ask the question: out of that million people, how many actually used it yesterday?

My final point on this is this. I hope the esteemed committee does not take it that, out of 7,000 apps in existence, only six actually work. There are wonderful apps for mental health, physical activity and diet that have been proven and that have run massive academic studies. We have worked with the University of Warwick’s Institute of Digital Healthcare, with Dr Mark Elliott, on one of the biggest behavioural studies in history, with 6,000 people. We looked at how we could improve the level of physical activity over the long run. I know lots of other colleagues in the technology sector who co-operate with academia on a daily basis.

Having said that, I agree with Chris that, by and large, en masse, it is not particularly common for the app family to engage with academia. Most apps are small—they are tiny start-ups. There has to be a line drawn between apps that have been proven, validated, used and loved by millions of people—not just installed, but used—and the odd app that has been developed by a young student in their bedroom and just put into the App Store.

The Chair: A number of people want to come in. Could you all be very brief, please, so that we can get everybody in?

Baroness Morris of Yardley: That was all really interesting. Of the apps that are paid for, is there not a commercial driver for the people who make the apps to promote greater inclusivity? Normally, if you make something and whole sections of the population would benefit from it but are not purchasing it, it would be the maker who would do something about it in order to drive revenues. On the parallel question for the apps that you do not charge for, of these start-up companies, am I right in thinking—I suppose the answer to this is yes—that the people who develop such apps are all of a similar background and age, and that that is part of the barrier?

Anton Derlyatka: I would not say so. In my company, for example, we have 13 different nationalities; every single community is represented. Of course, people tend to be slightly younger, but it is our job to find a way to the hearts and minds of people who are older. I referred, for example, to the diabetes prevention programme that we are working on. That is for very particular demographics: typically, older people living in south London in more deprived communities. It is our job to find a way.

There are different business models. Some apps are paid, and you cannot install them without paying. Other apps are available for free. There are different ways to generate revenue.

In the technology world, a core competence is the ability to build products that appeal to the widest possible audiences. A Fitbit costs an

awful lot—it is north of 50 quid. That in itself is already a selection factor, as not everyone can afford it. However, as long as you have a mobile phone—not everybody does, and we have to work incredibly hard to make sure that everyone does—you have this entry ticket into the world of free technology, which, with the help of academia, should be vetted, verified and made available to the general public.

Baroness Brady: Anton, do you see any of the NHS apps as competition to you? Do you rate any of them? Are any of them any good?

Anton Derlyatka: That is a great question. I do not see any apps that drive healthier behaviours as competition; they are collaborators for us. I would not be able to provide you with a very specific assessment of the individual apps—not today, at least—even though I may have my biased opinion.

The biggest challenge to any app out there is: how do you build an engaging experience? Building an app per se oftentimes seems almost to be the end result to some people working in the public sector. They have a great app; it has been built and it has even been installed. The question is: how many people use it consistently? That is the holy grail. How do you build an engaging experience? This is how you reach those demographics that are impossible to reach through traditional means.

The Chair: Anton, should the Government therefore be spending resources on trying to achieve that holy grail?

Anton Derlyatka: I think the Government should spend money on understanding what they can use and learn from the best practices available out there, be that academia, public sector or private sector. There is so much going on. There are lots of new things that are incredibly exciting and that can be very useful in building an inclusive, non-discriminatory and personalised experience.

There has been huge progress in the past five years. Governments should probably take an extra step in learning about and understanding all this, and then apply it to whatever they do, be that the apps developed by Public Health England or collaborating with the private sector and academia to develop something that would be available to the general public and that would work for the general public.

The Chair: Do you want to come in here, Chris?

Professor Chris Todd: I just wanted to make the point that it is all very well to say that the apps are free, but the technology to access the apps—smartphones—is not free. They are actually quite expensive. Many older people and many people in our society cannot afford to buy the up-to-date smartphones that can run the operating systems that are needed for the latest apps. That is the problem.

Anton Derlyatka: Absolutely correct.

Professor Chris Todd: We have found in our work that some older people have been giving up their landlines and buying dumb phones—not very smart phones—that do not have internet access, and they are unable to access 3G, let alone 4G or 5G, in their communities. There seems to be a congruence of poverty and poverty of access through the infrastructure, with 5G, 4G or 3G not being available in parts of our cities, which really surprised us. The apps might be free, but the access to them is not.

The other thing about them is that you or I can use something small, but if I am old and I have rheumatoid arthritis, I cannot possibly use this kind of technology, as much as I might like to.

There are lots of barriers, not just money—there is infrastructure. The other barrier is probably people's fear or concern about embracing something new, and what we might call the digital skills to use these things.

The Chair: We were frightened of cars when they first came about.

Anton Derlyatka: I would like to make a further short remark. Of course phones are expensive. However, in the history of the world, that is probably a technology that, while far from perfect, still has the biggest potential scale. Every single product has a certain amount of scale. Gyms, for example, are probably only ever available to 20%, 30% or 40% of the population. Phones are far from perfect—perhaps 80% to 90%—but that is still significantly more.

Professor Chris Todd: Parks are free—that is an important thing to remember.

Anton Derlyatka: Correct.

Professor Chris Todd: Parks and outdoor spaces should be free.

The Chair: Right, but I will stop you there—if you were going to go on. Lord Addington, will this be very quick?

Lord Addington: Yes, it is a one-liner. Do all these apps work better when you have some back-up to them—that is, somebody to talk to, or a doctor to tell you to do the stuff? Are all of them dependent on that?

Professor Chris Todd: Not necessarily. If they are well designed, you do not necessarily need a human being at the other end. For some of them, it is very useful to have a human being; some of them require that kind of thing. We have been doing some rehabilitation work that uses apps and human beings—physiotherapists—to provide that rehabilitation, and that works very well. Other apps will be fine without a human being at the other end, with just a clever algorithm—and I mean clever—running them.

The Chair: Anton, you were nodding your head, so I take it that you agree with that.

Anton Derlyatka: I have nothing more to add.

The Chair: We will move on now to Lord Knight of Weymouth.

Q169 **Lord Knight of Weymouth:** What are the key elements that need to be considered when developing an online or virtual physical activity offer? I would like to start by exploring this with you, Anton. You might have a general answer, but I am especially interested—and you have touched on this a bit—in the motivation to actually start. As a commercial designer, you will have worked through the user journey. You will have gone for currency as a motivation to get people to download, engage and start to use it. You will also have looked at all the other things that you might have hooked them in with. I am interested to understand that a bit more.

If you have anything to add on the ongoing user journey, once they have downloaded it, on how you get them to keep coming back to it and have it at the right place on their phones so that they are reminded to use it and so on, that would be lovely.

Anton Derlyatka: That is a brilliant question. I would say that we build the app—and anyone should build their app, for that matter—on three major pillars: simplicity, engagement and personalisation. In our case, these are personalised rewards. The best approach is to work backwards from the groups or target users who need help the most. How do you create an experience that is simple and easy to use and understand? That is absolutely paramount. That is particularly important if you want to reach social and demographic groups that are harder to reach. Also, it is quite important to retain the users once you have acquired them. One of the biggest issues an app developer may face is that, whatever users they manage to attract, they end up not using the app in the longer term. We need to understand that online is very scalable. Apps are easy to download on to phones, but at the same time they are easy to forget. There are so many different apps, and we have a limited amount of time.

It is vital to work with academia, with people who understand the behavioural science and who have other scientific insights. In our case, we apply a great degree of personalisation by varying the rewards you get. For example, for a few days of walking, you can get a food bag, for example, which keeps you engaged in the short term. In the longer term, you need something different, because two or three food bags in a row will probably not interest you as much. Longer term, you can save up for a pair of headphones, for example, which keeps you interested in the longer term. Even with that, it would be a gross oversimplification to say, “It is just a currency. Let us pay people to be active”. No—it is not as simple as that. If we just say—

Lord Knight of Weymouth: Anton, I do not want to allow you to get too tempted to just sell us your app.

Anton Derlyatka: No, no—I am probably doing exactly the opposite. Saying that it is incentivising people by paying them is oversimplifying things, because you need to develop an experience or user journey that can keep users equally interested on day 1, day 30 and day 365.

Lord Knight of Weymouth: Let me come back to something that you said, which reminded me, in turn, of what Baroness Morris touched on. You talked right at the beginning of that answer about starting with your target user. I guess I would have a fear that there are not going to be that many people who would target the elderly as a user group. In the end, if you are starting a business, you are going to go with the people who will spend money, because you have a mortgage to pay, or whatever, and investors to feed. The harder-to-reach ones will be harder to engage. When you have done your competitor analysis, are there many who are starting with target users such as the elderly, ethnic minorities, disadvantaged people or those who are currently inactive? Why would they go after those?

Anton Derlyatka: Of course, but to give an example, we are working with the NHS, and this is the demographics it is very interested in. In our particular case at Sweatcoin—and I am very sorry for talking about my own business—

Lord Knight of Weymouth: That is fine.

Anton Derlyatka: What is really useful is to create some sort of platformic use case, which can then be targeted at particular demographic groups. They can be specifically targeted at elderly people who have a prediabetic condition. At the same time, that platform, with a little bit of tweaking, can be targeted at young adults living in south London on a council estate. It is fundamental to have a technology with a platformic underlying layer, which would enable greater levels of engagement and would then enable personalisation. This is absolutely fundamental. It is similar with the great apps of today. Instagram, for all its worth, has a great degree of personalisation and can be very relevant to people of completely different ages or social demographic groups.

Lord Knight of Weymouth: This touches on what Baroness Brady was saying. You are doing some work with the NHS. Is that the role for the public sector—to partner with people like you to use your expertise with their motivation to target those who are currently ignored by the straightforward commercial offer?

Anton Derlyatka: I would say so, provided that those have been chosen wisely—that they have been tested in the academic setting. The private sector can move so much faster and, generally, it is at the forefront of exploring new things. Learning and taking the best out of the private sector and using it for the benefit of the general public is the right approach, provided that there are some lines that cannot be crossed.

Lord Knight of Weymouth: Thank you; that is really helpful.

Chris, I am interested in what your research and evidence tell you about the key elements for designing a successful online or virtual physical activity offer, whatever it might be. I was really interested in your evidence. I have been a serial user, over the past 10 years, as a privileged white male, of all sorts of things, including the NHS's wonderful

free app, Couch to 5K, which changed my life, as I am now a dedicated 5K runner.

I have also recently used Noom, which uses neurolinguistic programming, pretty successfully, I think. I got a hint from your evidence that behaviour therapy science, in combination with apps and devices, was the place to explore. Is that a fair reading of what you are saying?

Professor Chris Todd: I think it is fair. It is really important that we make sure that, within these kinds of technologies, we think about the psychological theories and about how to ensure that people find them attractive and continue to do the activity or the exercise. Anton is completely right that adherence is the key. There is no point having an activity that people do once but do not do any more. That is not going to make you fitter in any way.

Co-production would be my one-word answer to the question—to work with the end-users, whichever group that might be, in the construction and creation of the app, the intervention or the exercise programme, so that you are actually giving people the thing that fits their needs and expectations. We have done work around this area, and we have found, for example, that older people want to maintain their independence and maintain control over their lives. Those are really important hooks, if I can put it that way, to help get people to use these things. They have to be usable, and they want feedback that they can understand. The cost and support in doing so are also very important.

We would also want to emphasise positive reinforcement and positive messaging. It should always be positive messages: not, “You failed to do that”, but, “You will be able to do this”, to move people forward and help them develop their exercise and activity levels.

Colleagues and I have done a couple of studies where we have used particular psychological theories about behaviour change. We have put those into the apps to try to make the app more effective at bringing about change, so that people take up exercise and continue to do it over time. I will not go through the specifics of the theories—there are a couple of papers on them—but they use things like how you feel you are in comparison with other people: social comparisons. This is an activity that you believe you can do. There is no point having an activity that you believe is outside your ability. If there is a risk, you have to perceive that risk—the risk of falling down—as something that actually affects you, rather than other people.

Action planning is another component: thinking about a series of actions that you would need to take, with a goal in mind—to become a 5K runner, for example. You must have thought, “Right, this is something I would like to achieve”. You did not just get up and do 5K; you worked up to it by setting yourself a series of targets.

Lord Knight of Weymouth: Chris, let me ask you about another element, which is the pros and cons of introducing exergaming or

gamification techniques to promote physical activity. In your evidence, you have talked a bit about gaming. Last week, when we were hearing evidence, I asked someone about the journey from e-sports into actual physical exercise. The answer that we had from him was, essentially, “Be inspired by the learning design of these things and by how engaging they are”. Even among older people, do you see gamification as having real merit?

Professor Chris Todd: I certainly do. We have done a randomised trial. My colleague Emma Stanmore and I, and some other colleagues, recently did a randomised trial of an exergame involving people in sheltered housing. These were relatively unfit, older people. We used the exergame and compared it with more standard intervention and demonstrated quite big gains. Some people get off on the competitiveness, while some people get off on the fact that it is a game, with the enjoyability and sociability of there being other people around, and the reinforcement from people saying, “Yes, you are doing well”. It definitely worked. We had really big changes—surprisingly big changes in performance among this group of people, with a 70% reduction in falls, which is really big. So, gamification definitely works with older people.

Of course, it may be a different gamification that you might use for a younger group—and the way you present it. A quick example of that—

The Chair: Very quick, please.

Professor Chris Todd: Many of these games have music going on. You do not want to put house music on. Some colleagues of ours in Germany use oompah music for the music that gave the rhythm for the activity, because the people were used to that kind of music. That is a clear example. Gamification definitely works.

We are doing a review at the moment, and we will come back to you in six months’ time and tell you how well it works across the board—we hope.

Lord Knight of Weymouth: You will be too late in six months.

Professor Chris Todd: I know.

Lord Knight of Weymouth: Anton, you were nodding about gamification. I assume that is kind of what you do, in the end, with a specific sort of reward. You were nodding about the personalisation of gamification, too.

Anton Derlyatka: Absolutely.

Lord Knight of Weymouth: Is that straightforward enough for designers to work through?

Anton Derlyatka: No, it is not straightforward at all. As I said, personalisation is key, and everyone enjoys something different. Until recently, traditional gamification, with badges and leader boards, was

focused very much on competitiveness. That competitiveness works extremely well for what we call amateur athletes. I know that some of you are ex-athletes or current athletes. It is incredibly competitive; however, it is not for everyone. Some people, especially those who are in less good physical shape, are afraid, and that almost serves as a bad thing.

The Chair: A barrier.

Anton Derlyatka: It is a barrier. What we are seeing, and what is massively successful, for example in our work with the NHS, is a group working towards a single goal—co-operation, rather than competition.

There are endless numbers of gamification techniques that can be applied if you start with the user, finding something that works for that particular user.

Q170 **Baroness Brady:** My question is for Anton—and if you have anything to add, Chris, please do.

Anton, tell me about the role of influencers and social media in promoting physical activity and active lifestyles. Is it important, or not very important?

Anton Derlyatka: They can be hugely important, but you need to treat it with a pinch of salt, because this can go terribly wrong. You need to ensure that the incentives of those influencers are totally aligned with the incentives of whoever is trying to promote the message. If that is not the case, if you choose the wrong influencer and if the influencer promotes a different message, things can go terribly wrong. In short, influencers are hugely important, but they need to be handled correctly.

Baroness Brady: I was thinking of someone like Joe Wicks, who, through the pandemic, got many millions of young people doing activity where they were not doing it. I would have thought that would be a very good thing.

Anton Derlyatka: Absolutely. Then again, it is not available to 100% of the population, unfortunately. Joe Wicks is hugely influential and very important, and he drives massive change across the board. However, unfortunately, that is still not available to everyone; not everyone can do what he proposes.

Part of the reason we started with very basic things such as counting steps is to build something that would be accessible to nearly 100%. Of course, you need to make sure that people who cannot walk also need to be part of it. That is hugely important. Then again, you start building this step by step. You try to build something that is accessible to everyone. In short, Joe Wicks is hugely important, but that is not the sole solution.

Baroness Brady: You said that building the app is the first part, and getting people to use it consistently was the absolute key. You do not see a huge role for influencers in getting people to download it and use it.

Anton Derlyatka: No, I did not say that. It can be vast. There are two main reasons why Sweatcoin has more than 40 million registered users around the world. First, we are hugely viral, with word of mouth—fathers inviting kids and vice versa. The second big reason is influencers. This is how we grew. We also know that, if you do not do it well, things go wrong. You also need to have a message.

Baroness Brady: Let us presume that you do it well. With the NHS apps not having huge take-up, do you think it should be engaging with influencers to download its app or other apps to get that message out there?

Anton Derlyatka: I would say yes, but, then again, the influencers should also be confident that those apps will change the lives of their subscribers. The influencers start to care much more about the well-being of their subscriber base. If, all of a sudden, you start promoting something that is frankly not working, they will compromise the user base they have built.

Baroness Brady: Okay. I do not know if you have anything to add, Chris.

Professor Chris Todd: Joe Wicks has obviously not taken up among a particular part of society—not older people.

Baroness Brady: I was not pushing him as an example.

Professor Chris Todd: I know, but, alternatively, there are other people, like the Make Movement your Mission crew, who have done fabulous work with older people, and they do not get huge applause.

What I would say when we come down to thinking about influencers, social media and society is that images of older people are not terribly helpful in our society. Basically, the exercise app has the supergran who does the exercise, but those are not realistic or the sorts of images that would then draw most older people into taking part in activity. I do not disagree with Anton's point on this, but we have to make sure that the social influencers are actually influencing the target audience or target group in the right way.

The Chair: We can have a little bit extra on our last question now.

Q171 **Lord Snape:** The two of you have given us plenty to think about. Thanks for the very interesting presentation.

If you had the opportunity to write a recommendation from this committee to government, what would it be? I will come to you first, Chris. We are all ageing in the House of Lords, and I do not know how healthy we are, but perhaps you could help us out.

Professor Chris Todd: Post pandemic, we will be seeing an epidemic of deconditioning. Large numbers of people have not been doing activity. We already know that is the case. A large number of people have not

been active, so we really must do something to get those people more active again as we come out of lockdowns.

What we really need is a national programme to get all people active again, taking a life-course approach. I am not just going to say old people, but across that whole life course. That is probably a blended model, to tell the truth. Technology has a part to play, but also face-to-face activities, where people can take part in parks—all those things definitely have a part to play.

Ultimately, my message would be that the pandemic has shown us starkly that prevention is better than cure. Therefore, it really is time to make sure that we are doing things to prevent the development of ill health and activity promotion. The use of these blended approaches is the way ahead. Personalisation, making things that are available and getting them so that people enter at their ability and then progress is definitely the way forward.

Anton Derlyatka: There is a strong need for a national programme on physical activity: a programme that cuts across different departments and aims to encourage people to take that first step. I know that this committee deals with sport, but in order to become a competitive athlete, we have to start somewhere. As they say, a journey of a thousand miles starts with a single step. It is really important to drive that basic form of physical activity at grass-roots level to make people more active, even just by making them walk a little bit more. That cannot be handled simply by Public Health England or whatever the new authority is going to be. It has to be a national programme.

The second thing I would really like to see is slightly more appetite for innovation, and probably slightly more appetite for positive risk taking on the part of the Government and the public sector. When I say “risk”, that does not mean that it should be unverified or something dodgy, but, as Covid showed us, sometimes there is a good moment to move quickly, and I think the time has come for physical activity. I would very much encourage that approach.

Lord Snape: Is there a particular theme the Government could adopt? We have tried fear. This country gets more and more obese every year, does it not? We have tried fear: “The pandemic will kill you all if you are too fat”, and all the rest of it. It does not seem to be working as far as an enormous number of the population are concerned. Is there a theme that the Government could adopt that would be more appealing and would make people think, “That is a really good idea”, rather than trying to terrify them out of obesity, which we are trying to do?

Anton Derlyatka: Lord Snape, I am afraid I am biased here, but I have been a great believer in the power of incentives over the past seven years. The Government have now, as we speak, launched the health incentives programme. I am a great believer that a smart use of incentives in collaboration with the most recent developments, gamification and behaviour science can do wonders if they are applied

across the board and make people adopt healthier behaviours—more specifically, by becoming more physically active and eating better. For both, incentives can, in a smart way, be designed specifically for the most difficult-to-reach demographics—the hardest-to-reach people. I am totally with Chris: for the elderly, this can do wonders. We have seen that through our work with the NHS.

Professor Chris Todd: I would certainly say that fear is not the key. It has to be positive, gain-framed messages that will make people come.

Anton Derlyatka: Absolutely.

Professor Chris Todd: The other thing is that, whatever we do, we must be really careful not to exacerbate the health divide, and not to exacerbate health inequalities by allowing one part of our society to gallop off ahead and leave other people behind.

That is possibly not the upbeat message at the end, but I think it is a very important risk that, whatever we do, we must not exacerbate that health divide.

The Chair: Before we run out of time, let me ask you both this, starting with you, Anton. One of the issues that the committee has constantly had thrust upon it is that of reliable data. You have mentioned data yourself, and Chris has mentioned it, particularly about take-up and continuation. Is there any way that we could actually get reliable data through technology in order to design programmes that will be effective in future? Self-reporting does not seem to cut the mustard.

Anton Derlyatka: You are absolutely right—you have hit the nail on the head. We can definitely do that, but we need to invest into this, because the quality of the intervention is only as good as the quality of the data that underlies it.

To give an example, when we talk about steps and being rewarded for steps, most people take their phone and start shaking it in their hand. Obviously, they try to game the system. For that, we had to build a pretty sophisticated verification algorithm that makes it impossible to cheat the system. Whatever intervention we are designing, we need to make sure that the data is, first, of high quality and, secondly, can be independently verified. Collect it and check it: that is the fundamental part of it. Most of the current generation of technology has been built on self-reporting, and you can only go so far with self-reporting. Sometimes it does wonders in certain use cases, but, as we can see with some other use cases, it is not particularly useful.

The Chair: Thank you for that. Chris, that is particularly important in your world of working with the frail and elderly. A couple of years ago, we developed the frailty index, which is now in use in every doctor's surgery virtually throughout the whole of the United Kingdom, but getting patients themselves to report and to have that verified is incredibly difficult.

Professor Chris Todd: You mean in terms of their activity levels.

The Chair: Yes.

Professor Chris Todd: I am with you that we need to improve the data quality and that technologies will help us. Bizarrely, the way you validate people's data from a phone, I think, is that you have to ask them: "Did you go for a run today?"; or, "Did you do the walk?"

Anton Derlyatka: Not necessarily.

Professor Chris Todd: I know. It is getting better, but most of the technologies were originally built on that need.

We really need to have better data, and we need to think smartly about where the data can come from. Of course, that can also come from the use of leisure services if people go to them and they use them, and we can possibly track that use, but you cannot connect any of this data up.

The other thing that is quite clear is that the data that is coming from these phones tends to be completely anonymised and only used in the big round. It is very difficult to connect to any one thing that we have done with people. That is one of the big problems we face.

Anton Derlyatka: I would add one thing to that. In an age of people becoming much more concerned—and rightly so—about the privacy of their data, there has to be a way to convince them that sharing a certain type of data will be safe. They will want to share it only when they enjoy the experience and that experience is engaging for them. It all comes back to whether you can build a trustworthy product that will make people stick to it. Only then are they in a position where they feel safe to share their personal data, which, in turn, will help us to develop better-quality interventions.

The Chair: Before I bring in Baroness Morris, it would be really useful for the committee, Anton and Chris, if there are any examples of really good collection and authentication of data that are being used either in the private sector or in the public sector that we might be able to cite in terms of quality.

Professor Chris Todd: In terms of data quality.

The Chair: In terms of quality, yes. You have the last word, Baroness Morris.

Baroness Morris of Yardley: This is a quick question to Chris, and it follows up from what you have just said, Lord Willis.

I cannot remember its name now, but you know the big biotech study that is looking at the over-50s, where they are collecting data over decades.

Professor Chris Todd: Yes—Biobank.

Baroness Morris of Yardley: Biobank—I knew I had the “bio” right, but the “tech” was wrong. I know it has collected data, as I am a member of that, and I have done an exercise thing for it. My question was: is there any really good data coming through from that? Presumably, that is quite high quality. Is there anything there that would be useful to the committee?

Professor Chris Todd: That is a very good observation. We are using Biobank in some of our work to look at the development of frailty and sarcopenia—muscle loss. There are good data there. The thing is that we are having to wait for the people who started, especially those who started in their 50s, to age, so that we can see how it goes.

There are good data there, not always using tracking data and not always using fitness data for any long periods. The tendency is to get people to do it for a week. You give them the equipment and tell them, “Do it for a week. Thank you very much”. You then pass the equipment on to somebody else. That is the way we have had to do it in the past.

If we could get you all to buy one, I guess—

The Chair: Do not start selling the committee things.

Professor Chris Todd: I am not going to. Sorry.

The Chair: We are all very poor pensioners here.

Thank you very much for that, Chris. A transcript of the meeting has been taken, and it will be published on the committee website. If you wish to change anything, please feel free to let us know. I thank you both enormously, Chris and Anton. We have thoroughly enjoyed your session with us, and we have learned a great deal. We very much appreciate the time you have given us this afternoon.

On that note, I will suspend the session.