

A person wearing a red jacket, dark pants, and brown shoes is sitting on the edge of a rocky cliff, looking out over a vast, hazy landscape. The person is seen from the back, sitting with their legs tucked under them. The cliff face is rugged and grey, with some moss visible. The background is a soft, blue-grey sky and distant hills.

How psychosocial factors can influence diabetes outcomes

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Psychosocial factors influence diabetes outcomes

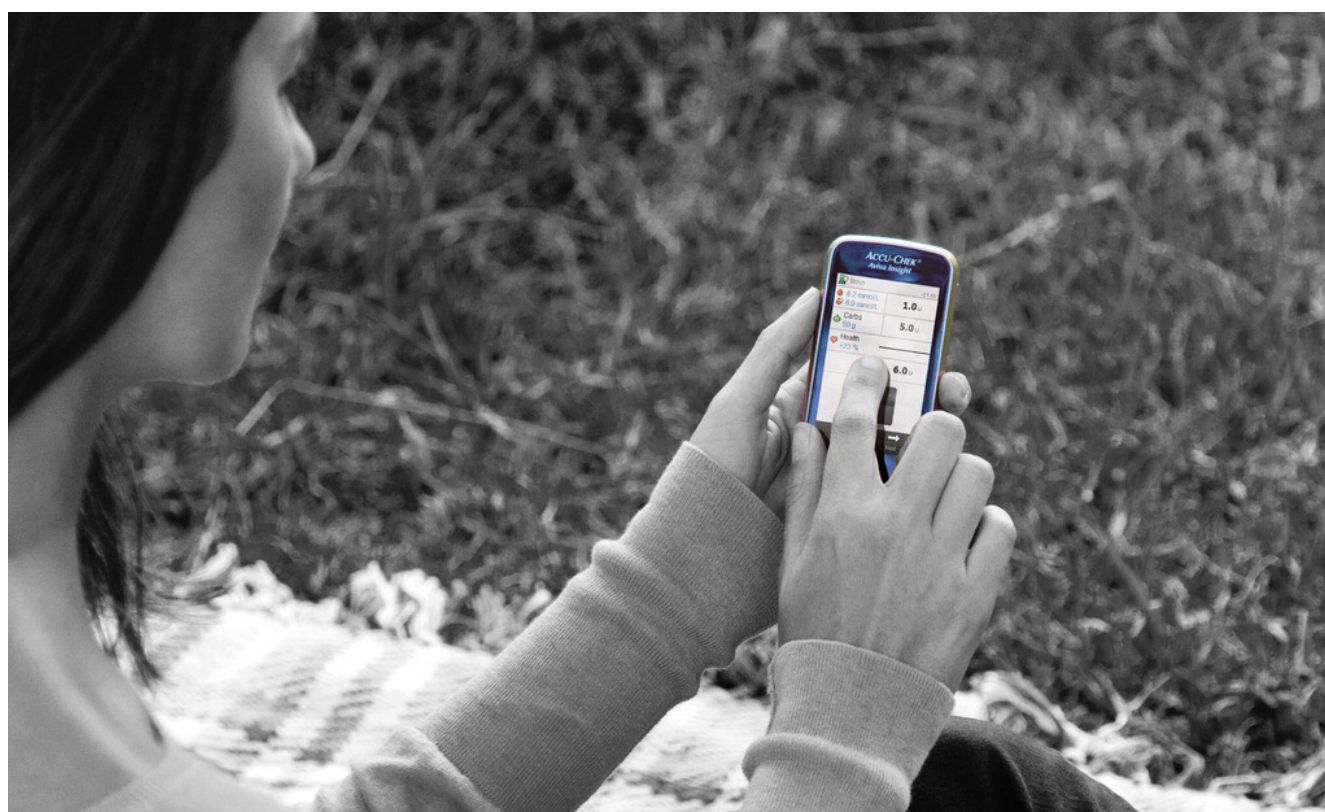
Health psychologist Professor Katharine Barnard explores the role that psychosocial factors play in the management of diabetes and the importance of addressing these to improve diabetes outcomes

Diabetes doesn't just affect someone physically. This chronic and complex condition, which requires close and frequent monitoring of blood sugar levels alongside careful consideration of activity and nutrition, places high behavioural demands on the person living with the illness on a daily basis. This can have a significant impact on a person's mental health, well-being and their quality of life.

This impact can manifest itself in the form of stress, depression and resentment, among others. Known as psychosocial factors, these are complex and multifaceted, further impacted by the effect of

varying blood sugar levels on mood. Studies investigating the psychosocial consequences of being stigmatized have reported patients with diabetes experiencing feelings of fear, embarrassment, blame, guilt, anxiety, and low self-esteem¹. It's not uncommon for people with diabetes to fear dips in their blood sugar (hypoglycaemia), while the use of needles and the concern over the possibility for complications from the disease both create another level of stress. The burden of these constant thoughts every day can be overwhelming and exhausting².

It's perhaps not surprising then that at least 3 in 5 people with diabetes have been found to experience emotional or psychological problems affecting their well-being³, while there is consistent evidence of elevated rates of depression and anxiety disorders, which present at higher levels compared with the general population⁴. A survey of more than 9,000 people with diabetes by Diabetes UK (DUK) last year, found that 64% of people with diabetes



“sometimes or often” feel down because of their disease². Indeed, a top point revealed in the DUK survey was the need for more emotional and psychological support in order to make living with diabetes easier². These findings highlight that it’s not the mechanism of managing diabetes that is difficult, it’s the living with diabetes, the emotional burden, that is hard to do.

These points are important to consider because psychosocial factors can impact a person with diabetes’ ability and motivation to self-manage the condition, leading to poorer health outcomes, reduced quality of life and increased healthcare costs⁵. Being able to access appropriate psychological support is an integral part of self-management and is a core service component in the NHS Right Care pathway for diabetes and provision in NICE guidelines. And yet, according to another DUK survey, this time in 2015, 76% of people with diabetes who needed emotional or psychological support from a specialist were not offered it⁶. An earlier study suggests 85% of people with diabetes do not have access to specialist psychological services and even where a service is available, the waiting time to be seen frequently exceeds three months⁴.

Given that most people with diabetes have suboptimal blood sugar control – just 20% of people with type 2 diabetes in the UK achieved the recommended targets for glycaemic control, blood pressure and lipid levels in 2010-11, according to DUK⁷ – and given that diabetes already costs the NHS £5.5 billion a year⁸, this points to two startling facts: firstly, that controlling blood sugar is very difficult; and secondly, something about the current system is not working. As such, there is a growing consensus that calls for a change in how diabetes is treated and managed, with a need to focus on the concept of living with diabetes rather than just treating the disease.

For several years it has been argued that a greater focus on psychosocial factors, as part of the approach to diabetes diagnosis and management, is needed in a bid to address the challenges that diabetes presents. As previously mentioned, consideration of these factors is virtually non-existent in current care, yet their consideration is seen as crucial in terms of providing support to meet the needs of people with diabetes and to improve blood glucose control. As Diabetes UK notes in its separate *Minding the Gap* report: “Addressing psychological barriers may dramatically improve glycaemic control as well as the quality of life for the person with diabetes... The provision of information, education and psychological support that facilitates self-management is, therefore, the cornerstone of diabetes care.”⁴ Indeed, by not including psychosocial factors in diabetes diagnosis and management it misses a huge part of the diabetes picture – and until we consider psychosocial factors there is strong evidence to suggest we won’t see an improvement in outcomes.

This does, of course, require a paradigm shift in thinking, as well as a move away from a purely medical model. But it’s not a world away from what the healthcare system is ultimately wanting to achieve. By focusing on reducing the burden of living with diabetes and improving the quality of life for people with the disease, the natural outcome is optimal blood sugar control. We reach the NHS’ desired outcome but have come to it in a different way.

A 2014 paper in *Diabetic Medicine* outlined one such way this could be achieved through a new holistic model for diabetes care. Known as the Kaleidoscope model, this approach aims to understand the driving forces behind behaviour and its impact on diabetes management. It provides a flexible, personalised approach to care, considering that psychosocial factors can change over time⁷.

At the heart of any new approach, however, will be the requirement to ask people with diabetes what they need and then provide that personalised support. This contrasts with what is seen in many circumstances today. For example, in the case of continuous glucose monitors (CGM), which continuously measure glucose in the interstitial fluid via a digital sensor attached to the body, healthcare professionals will often give these to people with diabetes, without first asking them why they might want the new technology and how it will improve their quality of life and without providing the right support or education. If people with diabetes see these devices as too complicated or don't use them effectively, then outcomes won't improve, and mental health and wellbeing will decrease. The focus should not be on the device, but rather on the needs of the individual and tailoring the treatment to meet those needs; ensuring it is the right therapy for the right person at the right time.

That being said, there is certainly a place for technology in diabetes diagnosis and management, with the expectation that it will reduce the mental burden of living with diabetes and improve the quality of life.

Advances in addressing psychosocial factors through technology to improve outcomes have been slow but breakthroughs are starting to be seen. The PRECISE study, the results of which were published in the journal *Diabetes Care* in 2017, are a case in point. This European 180-day, prospective, multi-centre, pivotal trial – funded by Senseonics Inc. – looked to assess the safety and accuracy of Eversense by Senseonics, a new type of CGM system that uses an implantable glucose sensor, which can measure glucose values for up to 180 days, compared to seven or up to 14 days for non-implantable systems that are currently available in the market. The results were positive for safety and accuracy, lending its support as a worthy alternative to the traditional transcutaneous CGM system⁹.

“Studies investigating the psychosocial consequences being stigmatized have reported patients with diabetes experiencing feelings of fear, embarrassment, blame, guilt, anxiety, and low self-esteem”

But what was significant about this particular study was that participant-reported outcomes measures looking at the quality of life were also assessed. The study showed that 90% of the participants stated that: “using the system helped minimise the burden of diabetes in my life”, although the study did not register an improvement in the perceived quality of life⁹.

A psychosocial sub-study went further to determine the acceptability and impact of the implantable CGM sensor. Here, the responses to questionnaires

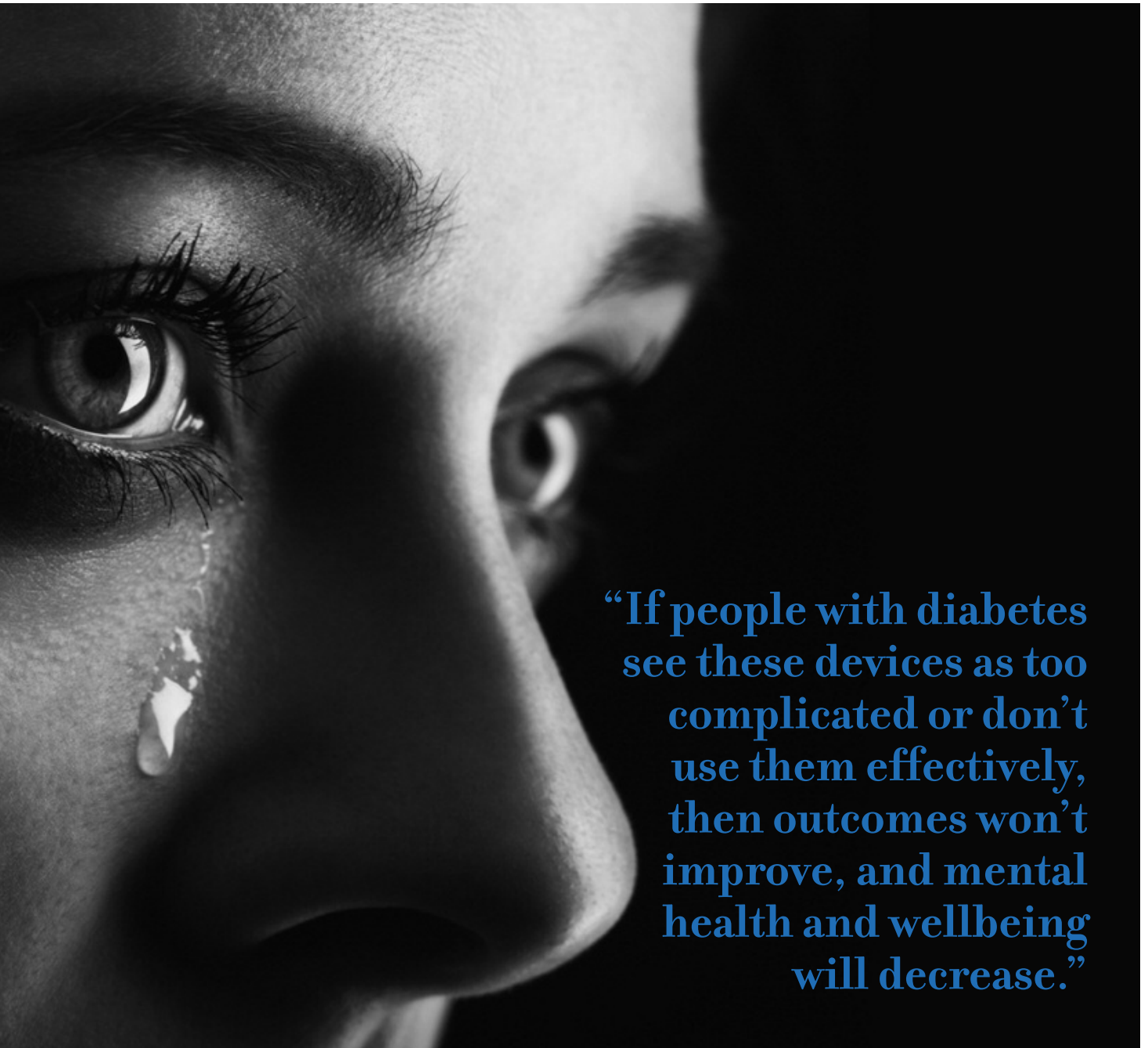


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noted a significant improvement in the level of diabetes distress, which corresponded with an improvement in blood glucose control. According to the results, 90% of CGM naïve participants and 81% of previous CGM users, reported increased confidence about diabetes management, 73% felt safer while sleeping and 78% felt more confident about avoiding serious hypoglycaemia, while 93% of CGM naïve participants (and 86% of previous CGM users) reported a minimised burden of diabetes. The responses were seen to correspond with an average improvement in HbA_{1c} from 7.5₁ to

7.05 over the 90 days of using the CGM¹⁰. Such a reduction is associated with a reduced risk of developing a diabetes-related complication.

This study is indicative of a wider – albeit slow – shift towards adopting the consideration of psychosocial factors in diabetes diagnosis and management. In the US, the US Food and Drug Administration, in collaboration with diabetes experts, is looking at developing patient-reported outcomes measures (Inspire Measures) – looking at the trade-offs in a closed-loop artificial pancreas system to gain a level



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of benefit – that is, how much management (i.e. physically having to change sensors) would a person with diabetes be willing to accept to gain a level of benefit from the device. This will form part of the decision algorithm in diabetes management, with a first draft expected to be published shortly.

Indeed, there is even an attempt to harmonise patient-reported outcomes across clinical trials so that psychosocial patient-reported outcomes can be measured through robust and meaningful validated questions alongside therapy safety and efficacy. The National Institutes of Health in the US have recently

announced the funding of four artificial pancreas trials that use the Inspire Measures to better understand patients.

One device company, Roche Diabetes Care, is also exploring this concept and has a clinical trial for one of its devices powered on validated patient-reported outcomes measures to demonstrate the efficacy of the device, based on the reduction of psychosocial factors. This is a very innovative and forward-thinking approach to doing clinical trials, highlighting the growing importance that psychosocial factors play in diabetes management.

Elsewhere in the US, the American Diabetes Association has partnered with the American Psychological Association to train more than 100 mental health providers in diabetes-specific education to prepare them with the knowledge and tools to treat the unique mental health challenges associated with diabetes. The move acknowledges that there are a limited number of trained healthcare professionals with experience to address the psychosocial factors and meet the mental health needs of patients with diabetes.

The UK has been slower to adopt the consideration of psychosocial factors, but interest in this is gaining momentum. The All-Party Parliamentary Group (APPG) for Diabetes met in March 2018 to discuss emotional and psychological support for people with diabetes, discussing amongst other things, suggestions, such as the introduction of twice yearly training for medical staff to specifically address diabetes and mental health⁵.

During the meeting, NHS Grampian, which offers people with diabetes an annual screening for anxiety and depression, was heralded as an exemplar of how to consider psychosocial factors in diabetes. This effort was seen to help raise awareness of emotional wellbeing and help prioritise topics of care and the tailoring of treatment. The APPG recommended that the NHS Grampian model is adopted across NHS England, alongside the introduction of a National Diabetes Database with mental health information, noting that: “Diabetes and mental health can be difficult to separate, which is why there is a need for additional specialist support and understanding.”⁵ The APPG meeting and the recommendations reflect a willingness to engage in this area. While the exact level of engagement is still to be seen, this is a step in the right direction – even if it is just financially driven.

Understanding how psychosocial factors impact upon the efficacy of treatments will fundamentally shake up diabetes management. Placing the person

with diabetes as the central pillar and focusing on addressing psychosocial factors is critical for shifting the needle in diabetes outcomes. As healthcare professionals, we want people with diabetes to be prescribed the right therapy that is appropriate for them at that time. With the right personalised support in place, people with diabetes can achieve optimal blood sugar control with minimal diabetes burden. In this scenario, everyone wins.

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Diabetes: The fastest growing health crisis of our time

Head of Policy, Knowledge and Insight at Diabetes UK, Robin Hewings sheds light on the condition of diabetes in the UK

Diabetes is the fastest growing health crisis of our time. There are 3.7 million people now living with the condition in the UK, a figure that has more than doubled in the last 20 years.

A diagnosis of diabetes is very serious. The condition requires constant self-management, including lifelong, daily injections of insulin if you have Type 1 diabetes or insulin-controlled Type 2 diabetes. If people are not supported to manage diabetes, it can lead to devastating complications. Diabetes is the leading cause of preventable sight loss in people of working age in the UK and is a major cause of lower limb amputation, kidney failure and stroke.

As well as the human cost, diabetes and its many complications cost the NHS £10 billion every year, which represents around 10% of the entire NHS budget. With the number of people living with

diabetes continuing to rise, there is a real risk these figures will rise in tandem to unsustainable levels.

That's why it's crucial that we support people with diabetes to live well with the condition and in doing so, to reduce their risk of developing these devastating and costly complications.

While there have been improvements to the delivery of diabetes care in England and Wales, the overall health outcomes for people with diabetes are still marked by significant levels of variation. Data from the [2016-2017 National Diabetes Audit](#) shows that just 18.9% of people with Type 1 diabetes and only 40.8% of people with Type 2 diabetes are achieving the recommended treatment targets for blood glucose, cholesterol and blood pressure.

Thankfully, after many years of campaigning by Diabetes UK, in partnership with people affected by diabetes, the government and our health leaders now recognise that improving the quality of diabetes care is key to helping people with the condition live long, full lives and in turn, reducing the huge burden on the NHS.



Robin Hewings, Head of Policy, Knowledge and Insight

This is what, in part, led to the announcement from NHS England Chief Executive Simon Stevens at our Professional Conference in March that a further £40 million has been earmarked to drive improvements in diabetes care, via the [NHS' Transformation Funding](#).

The diabetes Transformation Funding, which was launched in 2017, is a pot of money that CCGs can bid for to target key diabetes services for improvement. The extra funding, combined with the diabetes [Improvement and Assessment Framework](#), which assesses CCGs on how they perform key diabetes services, could help to radically improve health outcomes for people with diabetes if it is sustained.

Reducing the number of people at risk of Type 2 diabetes would also help to reduce the impact of the condition on the NHS. Type 2 diabetes accounts for 90% of diabetes cases and unlike Type 1 diabetes, is closely linked to being overweight and obese so,

in most cases, could be prevented or delayed by maintaining a healthy weight.

The [NHS Diabetes Prevention Programme](#), a joint initiative between Diabetes UK, NHS England and Public Health England, is doing great work to identify and support some of the 5 million people in the UK who are at high risk of Type 2 diabetes to make the necessary lifestyle changes to reduce their risk.

But we also need to create a healthier environment to make it as easy as possible for all of us to make healthier choices and in turn, reduce our risk of developing Type 2 diabetes. All too often making the unhealthy choice is the easy choice.

This is why we are also calling on the government to introduce mandatory front of pack traffic light food labelling, through our [Food Upfront](#) campaign; ban price promotions on junk food and toughen restrictions on junk food advertising to children.

Diabetes presents a huge challenge but, if we get better at preventing Type 2 diabetes and improving care for people diagnosed with Type 1 and Type 2 diabetes, we can achieve our vision of a world where diabetes does no harm.

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The new Eversense XL CGM system

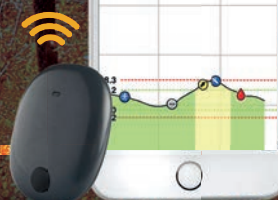
The only sensor to last seasons not days

The first and only long term implantable CGM sensor available in the UK*

Advanced CGM technology from Eversense offers the first continuous glucose monitoring sensor to measure glucose levels for up to 180 days without the need to change the sensor every week and carry an additional receiving device†. The system helps people with diabetes to manage their diabetes with more flexibility, confidence and discretion.

Find out more

www.accu-chek.co.uk/eversense



*Information correct as of November 2017

† Some CGM sensors do not require an additional receiving device

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