



An educational project spearheaded by Novo Nordisk's UK affiliate uses virtual reality to highlight the unmet needs of type 2 diabetes patients. *People* strapped on a pair of virtual reality goggles to find out more.

A fantastic voyage

Text: Chris Moss • Photo: Dan Dunkley

Stepping into the cavernous Liverpool Echo arena,

Adam Boucher is like a kid at Christmas. "Just wait until you try it for yourself," he says, grinning from ear to ear. "Everyone who's had a go has been blown away – you won't have experienced anything like it."

As we approach Novo Nordisk's space-age exhibition booth at the Diabetes UK Professional Conference 2014, it soon becomes clear what he means. Four healthcare professionals (HCPs) are hooked up to futuristic virtual reality headsets, bobbing, weaving and frantically flapping their arms about.

"It's fair to say you look ridiculous while you're playing," Novo Nordisk UK's Medical Education and Events Manager concedes. "But it's so immersive you soon lose any reservations."

To boldly go...

As one of the beaming HCPs removes her visor and re-joins her colleagues in the real world, I step up to test Adam's claim. Pulling on the Oculus Rift headset – technology so new it's still in prototype phase – I'm instantly immersed in the beautifully rendered, stereoscopic 3D world of Diabetes Voyager. My mission: to control my virtual type 2 patient's HbA_{1c} levels, reduce the risk of hypoglycaemia and help burn excess fat.

With Microsoft Kinect hardware tracking my every movement, I first enter the patient's bloodstream, battling away glycated haemoglobin molecules with my hands. I'm then whisked off to the brain, tasked with following an electrical impulse as it winds its way through a maze of neural pathways at ever-increasing speeds. One false move, and my patient slips into hypoglycaemia – its effects mimicked by my headset.

My third and final challenge pits me against the excess fat cells putting my patient at risk of developing heart disease. As the heart pumps away in the background, rogue chunks of adipose tissue hurtle towards me while I flail my arms around in a desperate bid to destroy them before they explode on my visor.

It's all over in a little under seven minutes, and once my highscore has flashed up – a "respectable" 8,041 points, I'm told – I remove the headset and reacquaint myself with reality.

"What did you think?" asks Adam – and I have to admit that learning about the effects of type 2 diabetes has never been so engaging.

Cutting-edge

"I've genuinely wanted to do something like this for about 15 years, but the technology's never been available," he explains. "So when I saw the potential to use Oculus Rift in this way – to edu-

cate people about unmet patient needs in type 2 diabetes – it was a dream come true.

"I had to win a few hearts and minds, but the wonderful thing about Novo Nordisk is that they're not afraid to try something new."

But Adam's vision would have counted for little without the help of London-based digital healthcare agency Emotive, who provided the technical expertise needed to get Voyager off the drawing board and into production.

"We've worked with Novo Nordisk before on a few projects, but this one is going to be very difficult to top," the firm's Head of Digital Andy Hastie tells me.

"We're certainly not aware of any other healthcare company doing anything quite this advanced – Novo Nordisk is well ahead of the curve here."

One step ahead

Staying ahead of the competition is now the challenge for Adam and his team. A quick scan of the exhibition hall highlights what they are up against, with several other big pharma companies starting to use interactive technology in a bid to attract the attention of HCPs.

"This was a chance to do something that no-one has ever done in healthcare," Adam says. "We're seeing new technology being embraced

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by our competitors at exhibitions like this, but nothing as advanced as Voyager.

"You have to stand out from the crowd, and this is an innovation that helps us do that while also providing a unique perspective on how diabetes works."

But exhibitions are only part of a much bigger picture for Adam. "This is just the start," he explains. "We want to help our affiliates find uses for Voyager internally, as well as exploring the potential for HCPs to take the technology and use it to educate and engage their patients."

"I think Voyager really brings to life what we do as a company. Judging by the feedback we've already had, I'm certain it can have a real impact – now we want to share this opportunity with our colleagues all over the world."

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diabetesvoyager.co.uk



Watch the Oculus Rift in action or find the video on NovoTube

Liraglutide under the microscope in Alzheimer's study

It is already in phase 3 clinical trials for the treatment of obesity and type 1 diabetes – but could liraglutide also prove effective in the fight against Alzheimer's? *People* magazine spoke to one of the GLP-1 analogue's most passionate advocates, Senior Principal Scientist Lotte Bjerre Knudsen, to find out more.

Text: Chris Moss • Photo: iStock

As the researcher who spearheaded Novo Nordisk's 20-year project to develop Victoza®, few people are more passionate about the potential uses of the GLP-1 analogue than 'Mrs Liraglutide' herself.

The nickname is testament to Lotte Bjerre Knudsen's two-decade labour of love to develop the drug into the blockbuster product it is today – a journey full of ups and downs that now looks set to take another unexpected twist.

"We had never considered that liraglutide could one day be used to treat Alzheimer's, but the results of recent mouse-based studies conducted in the UK and US suggest it could have potential," she told *People*.

Enough potential, it turns out, to prompt Imperial College London to launch a large-scale clinical trial examining the product's potential to treat humans suffering from the most severe form of dementia.

"Although significant results have been shown in mouse studies, we cannot be certain liraglutide will have the same effect on humans," Lotte explained. "Hopefully, this new study will give us more of an understanding of liraglutide's potential to treat Alzheimer's."

Sponsored by organisations including the Van Geest Foundation and the UK charity Alzheimer's Society and supported by Novo Nordisk, the trial will test the theory that liraglutide can improve cognitive function in Alzheimer's patients.

The mechanism for this remains unclear, but it is thought the product may be able to reverse damage caused to the brain by the build-up of amyloid fibrils and 'tangles' of Tau proteins – both widely believed to be root causes of the degenerative disorder.

More information needed

Although Novo Nordisk currently has no concrete plans to initiate clinical investigations of its own into this complex disease, Lotte said the company's next move would be largely dependent on the outcome of the Imperial College study.

"If – and at the moment it's a big if – the results from this new study show that liraglutide can have a beneficial effect on Alzheimer's patients, we [Novo Nordisk] would seriously consider actively pursuing further research ourselves."

Investigating a drug already in use has benefits, as liraglutide has already passed through large parts of the research process, making drug development much cheaper and faster.

"It can be an incredibly difficult and complicated process to develop new treatments from scratch," Lotte explained. "But it's much easier – and cheaper – to investigate possible alternative uses for a drug that is already in use."

"Alzheimer's is such a devastating disease – not only for the patient, but for their loved ones, too. It is very early days yet, but hopefully liraglutide can build upon the promise it has already shown, because at the moment the outlook for Alzheimer's patients is very bleak indeed."



The build-up of amyloid fibrils in the brain is believed to be one of the root causes of Alzheimer's disease.