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Technology from Formula One to be used in Surrey healthcare trial

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By using the same technology that helped Jenson Button to win the Australian Grand Prix in Melbourne on Sunday, the NHS is on the verge of a breakthrough that could revolutionise healthcare and cut millions off the health budget.

NHS Surrey spends £40-100 million a year on its 6,000 most expensive patients. By employing the technology pioneered at the McLaren factory near Woking for Button's car, its conservative estimate is that it will save £10-20 million. McLaren hope that, having conquered Surrey, the scheme can go nationwide.

When Button turned on his engine in Melbourne, his attempt to retain the World Championship title was relying on feedback during the race from 300 data streams that told his team how well he and his car were performing. McLaren have adapted this system of live feedback from their cars to the man on the street.

The science is called live telemetry. McLaren receive their 300 data streams via miniaturised sensors on the car and the driver. At the most basic level, this data will tell them, for instance, the heart rate of the driver and the fuel level in the car.

McLaren have been working in partnership with UK Sport since last year to see how live telemetry could improve the results of Great Britain's cyclists, canoeists, sailors and rowers.

That idea has been taken farther to apply it to everyday healthcare issues. If we can track the heart rate of an elite athlete, why not also track the heart rate of a patient recovering from a heart attack?

If, for instance, a patient is released from hospital having suffered a heart problem, the McLaren technology can employ wireless sensors the size of sticking plasters that will send, via the internet to the doctor or clinician responsible, a continuous record of the patient's heart rate and electrocardiogram, the graph that monitors the heartbeat.

And rather than have the doctor permanently monitoring numerous data streams, the software can be set up so that when any patient's heart rate, or weight, or blood levels — or whatever is being recorded — go above or below a certain level, it can alert the doctor with an e-mail or text message.

The most obvious possibilities for advancements in healthcare are twofold. First, it will allow doctors to keep better care of their patients. Second, it will allow hospitals to free up beds because, rather than feel the need to keep patients in for observation, they will be able to observe those patients remotely.

NHS Surrey hopes to be using the new technology by the end of the year. Maitland Hyslop, the director of market management and development at NHS Surrey, said: "If we can use the sensors in this way, we can anticipate a lot of our patients' requirements and give them better and more individual care. We would have a better way of looking after people and save a lot of money. It's a win-win situation."

Most of McLaren's work is conducted in extreme secrecy, but its Applied Technologies arm is ready to take this project to the outside world.



Jenson Button

The first trials of the new technology will start next month and are to be carried out by Seahorse Scientific Services, the laboratory data company. "Applying this technology to everyday healthcare is very exciting and very innovative," Raj Ahmed, the chief operating officer of Seahorse, said.

"We're starting to make good progress in Surrey," Stephen Rose, the solutions architect in McLaren Applied Technologies, said. "Once you've got a proven model in how it works and Surrey can say, 'We've saved this much money because we kept this many people from having to go to hospital,' then we have good headlines and a good start. There is a lot of interest from pharma. Because no one has done this before, there are a lot of questions asking, 'Is this going to work?' "

The best answer to that lies within their success in Formula One. If they can keep 300 data streams working simultaneously, why not one or two for patients requiring the attention of their carers?

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