

BEYOND THE NICHOLSON CHALLENGE **Jon Ford**

# The NHS is facing a deepening financial crisis

The UK government's recent comprehensive spending review must serve as a wake-up call

It is 65 years since the creation of a national health service, free for all at the point of delivery. This founding principle makes up the DNA of the NHS. But for it to remain a reality the NHS has to remain financially viable. It is why politicians continue to promise to protect and increase the health budget year on year.

The reality, however, is very different. The government's latest comprehensive spending review showed that the massive, annual, and recurrent "efficiency savings" target for the NHS in England—dubbed the Nicholson challenge—will continue for at least a year longer than originally mooted. This means that by April 2016 the service will have to make do with only three quarters of the budget it actually needs to keep pace with demand and technological advances. And the response so far to this challenge only serves to make the threat to financial viability even bigger.

Last month the chancellor of the exchequer, George Osborne, unveiled his latest spending round, in which he announced that the budget of the Department of Health in England would rise from £108.3bn in 2014-15 to £110.4bn in 2015-16, representing a rise in health spending of 1.9%. However, taking into account an allowance for general inflation of 1.8% the true figure is modest growth of just 0.1%.<sup>1</sup> And the trend is set to continue whoever wins the next election, with the Labour party ruling out the "massive increases" in the NHS budget seen under the previous government.<sup>2</sup>

So what does this mean for the NHS? In 2009 the then NHS chief executive, David Nicholson, established the QIPP (quality, innovation, productivity, and prevention) programme to deliver efficiency savings in the NHS of £15-20bn between 2011 and 2014.<sup>3</sup> Nicholson's challenge has been the bedrock of the current

government's plans for continuing to fund the NHS at its current level. In 2010 Osborne unveiled a spending review underpinned by an expectation that the NHS would generate enough resources through these efficiencies to "deal with rising demand from an ageing population and the increased costs of new technology."<sup>4</sup>

However, the latest comprehensive spending review shows that the NHS will have to find the £20bn and then continue to build even more savings on top. We are seeing demand for NHS services rising at a rate of 4% a year.<sup>5</sup> If this continues with the modest levels of growth anticipated by the comprehensive spending review, then the NHS will need to generate further efficiency savings of £4.25bn to stay within budget. This would mean a total of £24.25bn of recurrent savings by 2016—or just under a quarter of its total budget.

The government claims to be on target to meet the Nicholson challenge, but a quick look at where these savings are coming from raises more concern. A National Audit Office report last year found that the NHS had made efficiencies of £5.8bn in the year 2011-12 but that most had come from centrally imposed pay freezes and cuts in the tariffs due to providers.<sup>6</sup>

It is totally unrealistic to think that the NHS can wipe out a quarter of the budget that it needs by chipping away at staff pay and staffing levels. The scale of the savings that need to be found would require pay and staffing levels to be decimated, creating safety and workforce problems that would simply make the service unviable.

Already, doctors are citing relentless demand as the biggest reason they cannot make the improvements to patient care that are needed. A recent BMA survey showed that around two thirds of doctors wanted to make changes



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● Head to head: Should the chancellor of the exchequer lift the ringfence on England's health budget? (*BMJ* 2013;346:f4126)

● News: Commissioners must start redesigning services to ensure real savings, MPs say (*BMJ* 2013;346:f1820)

● News: NHS is unlikely to meet Nicholson challenge to deliver £20bn in efficiency savings, says King's Fund (*BMJ* 2012;345:e6496)

but that, of this group, nine in 10 cited major obstacles to achieving improvements, primarily lack of time, capacity, or support.<sup>7</sup> Doctors tell us they feel frustrated and disempowered in the face of ever increasing patient demand. The recent, widely reported problems in urgent and emergency care are not a one-off event but a symptom of the much deeper pressure on the whole health system.

The government's response seems to be to offer up scapegoats or to tinker at the edges—blaming the 2004 GP contract for the 2013 crisis in emergency care or announcing a major crackdown on so called "health tourism" that might, at best, save the NHS £30m a year.<sup>8,9</sup>

The NHS is facing a deepening financial crisis. The recent comprehensive spending review must serve as a wake-up call.

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INFORMATION TECHNOLOGY **David Payne**

# Can they hack it? Yes they can

A smartphone app for patients to collect blood pressure readings clinched first prize at the inaugural BMJ hack day

Can a group of talented young web developers with no connection to the BMJ group or its many products help create better doctors and deliver a “zero harm NHS” in just 30 hours on the hottest weekend of the year? How about revolutionising scholarly publishing and ensuring that content commissioned in London is relevant to doctors in developing countries?

These were just a few of the many challenges facing the 13 teams that took part in BMJ’s inaugural hack day last weekend. Just as Andy Murray clinched the top men’s title at Wimbledon, the winning team was unveiling its innovation: a smartphone app for patients to collect and compute home blood pressure readings that follow NICE guidance.

NICE recommends ambulatory or home based monitoring if a clinic blood pressure reading is 140/90 mm Hg or higher.<sup>1</sup> It suggests taking two consecutive measurements twice daily and at least one minute apart for seven days. GPs are recommended to discard the measurements taken on the first day at home and to use the average value of the remaining measurements to confirm a diagnosis.

The winning app, developed by the hackers Andrea Weir and Alok Matta and the GP Anne Marie Cunningham,<sup>2</sup> who is also a clinical lecturer at the University of Cardiff, impressed the judges with its “simplicity and cheapness” and because it saves GPs from having to calculate averages from numerous slips of paper, reducing the potential for error.

In the “show and tell” session Cunningham said the app worked by using home based monitors that cost as little as £15 in chemists and supermarkets, rather than the £1500 ambulatory devices, and automatically calculates average readings to comply with NICE guidance.

The app includes a video on how and when to take blood pressure readings at home. A patient adds readings of systolic and diastolic

pressure, and the app prevents users from adding wrong values or inputting data again before 60 seconds have elapsed. It would work offline and across different platforms, Cunningham said, and also included “push notifications” to remind patients that they need to take a reading. The data can be emailed or exported in CSV files or XML.

Cunningham said that the app would help to protect against overdiagnosis. She added that although the data wouldn’t automatically go to the GP, she hoped that the app could be adapted to do that in the future. The app could also be adapted for other conditions such as diabetes and asthma that also rely on patients’ self management.

The day, organised by Rewired State, began on Saturday morning with four challenges from BMJ staff to the hackers, who were given access to the underlying datasets that drive BMJ products such as Best Practice, onExamination, and journal articles.<sup>3</sup>

The hackers were asked to develop ideas aimed at:

- Creating a “zero harm” NHS
- Bringing innovative applications to create better doctors for future healthcare needs
- Developing solutions to “localise” BMJ published materials to make them more relevant to different countries, and
- Revolutionising the scholarly publishing process.

The BMJ judges (chief executive officer Tim Brooks, editor in chief Fiona Godlee, and chief technical officer Sharon Cooper) were joined by Helen Bevan, chief of service transformation at the NHS Institute for Innovation and Improvement, and Geraint Lewis, chief data officer at the NHS. They were asked to select three winners.

In second place was a reward based game aimed at medical students that uses BMJ’s onExamination obstetrics and gynaecology questions, developed by Jon Hilton, Daniel Inniss, Giuseppe Sollazzo, Kaelan Fouwels,

“**Can a group of talented young web developers with no connection to the BMJ group or its many products help create better doctors and deliver a “zero harm NHS” in just 30 sleep deprived hours?**”



and Kush Depala.<sup>4</sup>

Hilton, a medical student, described the project as a way to make revision more collaborative and less solitary. He told his fellow hackers: “Find the fun, and the job’s a game.” Players, competing against friends, get a tick if they click the answer to a question correctly. Hilton, who describes himself as a “self confessed geek” on his Twitter profile, said that the technology could also accommodate a doctor joining in to advise on answers.

The idea could also meet BMJ’s localisation challenge by testing the translation skills of UK doctors working overseas, by scoring their accuracy in translating certain terms, he added. A third potential use would be to score doctors on their skill at “de-jargonising” BMJ Best Practice text for patients.

The third prototype,<sup>5</sup> the Open Access Button, responded to the scholarly publishing revolution challenge and built on an existing project by counting the number of times a user hit an internet paywall when trying to access an article. Readers then click on a button, and their location data help to build a real time “map of frustration.” An online form captures their professional background and the reasons they need to access the paper.

The team’s six members sought ideas from Twitter and used a paper from the *BMJ* journal to populate a map of denied access.

The tool also aims to identify sources where a paper is freely available, perhaps as a pre-print version on an author’s website.

All teams presented their projects clearly and enthusiastically, despite the fact that many hackers had worked until dawn and camped out on the floor in sleeping bags. Many were back at their computers by 8 am.

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Visit <http://hacks.rewiredstate.org/events/bmj> to find out about the other teams’ work.

References are in the version on *bmj.com*.

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