2015 AWARDS FINALISTS

★ UK RESEARCH PAPER
OF THE YEAR

★ WOMEN'S HEALTH
TEAM OF THE YEAR

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UK research paper of the year finalists 2015

The UK Research Paper of the Year category recognises outstanding research by one or more UK authors that has potential to considerably improve health and healthcare. **Nigel Hawkes** describes the shortlisted papers

DISCREPANCIES IN BONE MARROW STEM CELL TRIALS

"Individual trials produce conflicting results, for no very obvious reason"

Do stem cells taken from the bone marrow and injected into patients with heart disease improve heart function? Lots of people believe so, and meta-analyses by the Cochrane Collaboration show a significant positive effect.

But individual trials produce conflicting results, for no very obvious reason. Darrel Francis, professor of cardiology at Imperial College in London, says: "Some things in the early trials didn't add up and when we went to the journals that published them, we were fobbed off. So we decided to look at discrepancies in all the published trials." Discrepancies were defined as two or more reported facts that cannot both be true because they are logically or mathematically impossible.

The team's paper, published in *The BMJ*, concluded that the more discrepancies a paper contained, the more positive its results. "This field of therapy appears to be most effective in the hands of researchers whose reports contain factual impossibilities," say Francis and colleague Graham Cole. "Indeed, when the factual impossibilities disappeared, so did any effect of the therapy."

They expected a sharp reaction from researchers with many discrepancies. "We tried to soften the blow by not naming the hundreds of report authors directly," Francis says. "But it was authors with few discrepancies, and small or zero effect sizes, who criticised the study most vocally." This includes the Cardiovascular Cell Therapy Research Network, funded by the US National Institutes of Health with $30 million, whose data coordinator, Lem Moyé of the University of Texas, told people to disregard the article.

- Nowbar A, Mielewczik M, Karavassilis M, et al. Discrepancies in autologous bone marrow stem cell trials and enhancement of ejection fraction (DAMASCENE): weighted regression and meta-analysis. *BMJ* 2014;348;g2688.

PELVIC FLOOR MUSCLE TRAINING FOR PROLAPSE

Pelvic organ prolapse is common, and strongly linked to childbirth and to increasing age. "As many as 50% of older women have it," says Suzanne Hagen of Glasgow Caledonian University. Surgical repair is possible, although it remains controversial. "Some women see it as a quick fix, but I'm not sure it is," says Hagen. "Most women are advised to try pelvic floor exercises first."

The evidence base for muscle training was, however, poor, so a randomised controlled trial was launched with Hagen as chief investigator in 23 centres in the UK, one in New Zealand, and one in Australia. Women with newly diagnosed prolapse were randomlyassigned to either individualised pelvic floor muscle training with a physiotherapist or to an advice leaflet and no training.

The results, published in the *Lancet*, showed "important differences" in favour of the group randomly assigned to training, Hagen says. "The analysis was done by intention to treat and the conclusions quite conservative because in fact some of the control group went on to have muscle training themselves. So we may have underestimated the benefits."

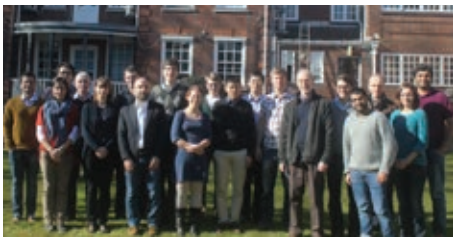
"As many as 50% of older women have it"

The costs of the training are low, at £170 compared to £2000 for surgery. A shortage of physiotherapists in the NHS may be a limitation. "We need to look at what the NHS can do to take up this evidence," Hagen says. "I'm really pleased to have been shortlisted as that brings the work to the attention of people who might otherwise not see it, including GPs."

- Hagen S, Stark D, Glazener C, et al. Individualised pelvic floor muscle training in women with pelvic organ prolapse (POPPY): a multicentre randomised controlled trial. *Lancet* 2014;383:796-806.

2015

GLYCATED HAEMOGLOBIN AND PREDICTION OF CARDIOVASCULAR RISK



"The existing biomarkers are doing quite a decent job"

Millions of people are routinely tested for levels of glycated haemoglobin (HbA_{1c}) to monitor diabetes. Some national guideline bodies have suggested that this measurement might be useful more widely, for improving cardiovascular risk measurements in people without diabetes. Would it help? Data from the Emerging Risk Factors Collaboration (ERFC) was used to find out.

Emanuele Di Angelantonio of the Cardiovascular Epidemiology Unit at Cambridge explains that the ERFC has established a database of over two million participants in 125 prospective studies in western Europe, from which 295 000 records of people without diabetes were extracted. These people were tracked for a median of 9.9 years, during which 20 840 fatal and non-fatal cardiovascular disease (CVD) outcomes were recorded.

"Our main conclusion is that if you add in HbA_{1c} it doesn't really improve prediction," he says. "The existing biomarkers are doing quite a decent job, and it's very difficult to improve on it. In future there may be other biomarkers but we don't think HbA_{1c} is one, good as it is for diabetes."

The study, published in the journal of the American Medical Association (*JAMA*), found a J-shaped relation between HbA_{1c} values and CVD risk, as it did for other measures of glycaemia. This should encourage investigations of whether very low glycaemia levels are markers for ill health, the study authors said.

- The Emerging Risk Factors Collaboration. Glycated hemoglobin measurement and prediction of cardiovascular disease. *JAMA* 2014;311:1225-33.

DELAYED ANTIBIOTIC PRESCRIBING STRATEGIES AND PATIENT OUTCOMES

GPs reluctant to issue antibiotic prescriptions to patients with respiratory tract infections can adopt several delaying strategies. Some say get back in touch if you're not better; some post-date prescriptions; same say come back later and collect the prescription; and some write the prescription but ask the patient to delay using it. And some say no.

"GPs who delay prescribing antibiotics can be confident that their patients won't suffer"

Paul Little, professor of primary care research at Southampton, and colleagues set up a trial to assess the effects of these different strategies. A total of 889 patients in 25 practices were randomly assigned to one or other of the options. "We found it didn't make terribly much difference what you do," says Little. "All the strategies had much the same outcomes in terms of symptom severity, and all managed to result in fewer than 40% of patients using antibiotics. GPs who delay can be confident that their patients won't suffer—and that could have an important effect in reducing antibiotic abuse.

"This study answers two questions that worry GPs. 'If I delay, will horrible things happen? No. And does it matter what form of delay I use? No.' But we have to be a little bit circumspect—very sick patients probably do need antibiotics."

Nor did the patients appear upset by the delays. Satisfaction with the consultation was much the same across the board.

- Little P, Moore M, Kelly J. Delayed antibiotic prescribing strategies for respiratory tract infections in primary care: pragmatic, factorial randomised controlled trial. *BMJ* 2014;348:g1606.

RADIOTHERAPY AFTER MASTECTOMY

"In the 1314 women with between one and three positive nodes, radiation reduced recurrence by nearly a third and the breast cancer death rates by a fifth"

Women whose breast cancer has spread to a few lymph nodes have a better chance of survival if they have radiotherapy after mastectomy, a meta-analysis from the Early Breast Cancer Triallists' Collaborative Group found. It answered a question that had divided oncologists, says Sarah Darby of the Clinical Trial Service Unit in Oxford.

"Practice varied for this group of women," she says. "By the time our paper was published we knew that women with four or more affected lymph nodes gained, but there was still huge uncertainty about those with one to three affected nodes, which covers a large number of women."

The paper analysed results from 3786 women in 14 randomised trials. The data showed that in the 1314 women with between one and three positive nodes, radiation reduced recurrence by nearly a third and the breast cancer death rates by a fifth. That represents nearly 12 fewer recurrences per 100 women after 10 years, and eight fewer deaths per 100 women after 20 years.

UK guidelines have not changed to reflect the finding but Darby believes they will when further studies on the best sites for local radiotherapy are published.

- Early Breast Cancer Triallists' Collaborative Group. Effect of radiotherapy after mastectomy and axillary surgery on 10-year recurrence and 20-year breast cancer mortality: meta-analysis of individual patient data for 8135 women in 22 randomised trials. *Lancet* 2014;383:2127-35.

Women's health team of the year finalists 2015

Changing expectations is the theme that links the five shortlisted entries in the Women's health team category of *The BMJ* Awards, says **Nigel Hawkes**. Rather than dramatic breakthroughs in care, the teams succeeded by using existing knowledge better through persuasion, training, and altering entrenched attitudes. Teamwork, openness, and a willingness to share perceptions good and bad were common factors

The Women's Health Team of the Year is sponsored by The Faculty of Sexual and Reproductive Healthcare.

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The awards ceremony takes place on 6 May at the Park Plaza, Westminster Bridge, London
thebmjawards.com

IMPROVING INDUCTION OF LABOUR

Induction of labour is increasingly common, says Sabrina O'Dwyer, a specialty registrar at Barts Health NHS Trust, but is "infamous" for being poorly managed, to the irritation of women and at the risk of increasing the caesarean section rate. "We have an ageing maternal population, more medical problems, more fertility treatments, more diabetes in pregnancy, and all lead to a higher induction of labour rate," she says. "But it is elective work, it doesn't take priority, and it can be neglected a bit. It features a lot in complaint letters."

"The results show a reduction in active labour from the time of admission, and a fall in the caesarean section rate from 30% to 20%"

A study launched at Whipps Cross Hospital in north London, part of the Barts trust, found inconsistent and outdated guidelines, poor patient information, a lack of coordination, and no feedback to staff. "Caesarean rates were high—we were an outlier," she says.

One big change was to implement outpatient induction of labour in low risk women, using Propess, a single administration prostaglandin that works over 24 hours. Strong conditions were enforced, such as insisting that women had access to a phone, good English, and the competence to remove the pessary as instructed. An induction of labour suite with a dedicated midwife was also introduced, and the programme involved effective and continued engagement of all the staff involved.

The results show a reduction in active labour from the time of admission, and a fall in the caesarean section rate from 30% to 20%, as well as improved patient satisfaction scores. "There was a big culture change," O'Dwyer says. "We have to prioritise women's expectations and outcomes. The idea that they could wait for ever needed to change. The challenge now is to sustain the improvements."

TRAINING FOR CULTURAL CHANGE

"Mandatory training days were used for human factors training"

Cultural change through human factors training was the key to reducing postpartum haemorrhage at Peterborough City Hospital. "In 2012 in our hospital it was very high," says Manjula Samyraju, consultant and intrapartum care lead at the trust. "We tried very hard in 2013 to reduce it and had some success in reducing cases of massive blood loss (more than two litres) but had little effect on less severe blood loss which ought to have been avoidable."

With the support of Maggie Boyall, practice development midwife at the trust, and others, she decided that training in the human factors that often underlie poor performance might help. A survey in September 2013 showed a defensive culture in the maternity staff, with more than half of responders saying they would not raise their concerns for fear of ruffling other people's feathers.

With the aid of the University of Hertfordshire and support from the trust board, mandatory training days were used for human factors training. "It's non-clinical," she explains. "It's about why do we make mistakes, how can we help each other and manage risks better. It's not about systems but about how individuals can change them. At the end of the day it's about how we come to work."

Achieving change was difficult, but worthwhile. Blood transfusions in the postnatal ward were cut by 30%. Postpartum haemorrhage was no longer the top risk. A new staff survey showed that 85% now felt able to express their views and concerns. "Oher departments are showing an interest and may take up the same training themselves," Samyraju says.

2015

ESSENTIAL OBSTETRIC TRAINING

In low and middle income countries with weak healthcare systems, services in obstetrics and care of the newborn struggle. This is the problem addressed by the "Making it Happen" programme from the Liverpool School of Tropical Medicine, which mobilises 300 UK based volunteers to deliver short courses of training in 11 countries across sub-Saharan Africa and South Asia.

"We go out initially to start training and build up capacity, and then we play a quality assurance role," says Charles Ameh, deputy head of the Centre for Maternal and Newborn Health. "Most of our volunteers work full time in the NHS and take unpaid leave to carry out the training, so we make sure they are away for a maximum of two weeks at a time." Sustaining the improvements achieved is very important so the team has set up and furnished more than 200 skills rooms to scale up training packages to regional and national levels. Outcomes show a mean reduction in maternal deaths of 50% and a 15% reduction in stillbirths.

"We've trained over 12 000 healthcare workers so far in phase 2 of the project," Ameh says. "Clearly there's a high need for this kind of training. Even within the countries we already work in there's room to expand."

"The 'Making it Happen' programme mobilises 300 UK based volunteers to deliver short courses of training in 11 countries across sub-Saharan Africa and South Asia"

DIABETES PRECONCEPTION WEBSITE

"If they have poor glycaemic control, they risk congenital malformations and miscarriage, so it's important to plan"

"Women with diabetes need to plan for pregnancy, but it's not happening," says Valerie Holmes, senior lecturer at Queen's University Belfast. "If they have poor glycaemic control, they risk congenital malformations and miscarriage, so it's important to plan." Changes such as the increasing prevalence of type 2 diabetes at younger ages, and the movement of care from secondary to primary mean that conversations aren't happening, and awareness of the risks is low.

She applied for a grant from Diabetes UK to develop a DVD, which was distributed to almost 5000 women with diabetes in Northern Ireland, and subsequently converted into a website with the backing of Public Health Agency Northern Ireland.

Results showed that women were significantly more likely to have had their blood glucose recorded in the six months before conception and to have planned to take folic acid supplements. The team has also targeted health professionals. Holmes says the responses from both groups have been strongly positive, stressing that the DVD filled an educational void.

"Doctors find it hard to have the right conversations with women because they need to mention it before they are pregnant or maybe even planning. So we try to get information packs to GP surgeries and to pharmacies where women will see them."

DAY CASE BREAST CANCER SURGERY

How long do breast cancer patients need to stay in hospital after surgery? At Wrightington Wigan and Leigh NHS Foundation Trust in 2010 it was between two and three days. But consultant breast and oncoplastic surgeon Amar Deshpande believed that for straightforward cases without reconstruction length of stay could be reduced.

"It is not necessary to stay for two to three nights but the culture had grown up that people have to," he says. "Once we got everyone together to discuss it, it wasn't difficult to persuade them that it would be beneficial to reduce it. Initially we were looking to send them home the next day, then we moved to the same day. Patients weren't hard to persuade once we had been able to reassure them that they would get good support and that if they needed it help would be only a phone call away."

Enlisting the support of community nurses was key. "When they realised how important it was, they got involved. In addition, because we hold clinics every week day, if patients do need to be looked at they can be brought to the hospital."

"It is not medically necessary to stay for two to three nights but the culture had grown up that people have to stay in"

Now breast cancer surgery is done as a day case procedure for 85% of patients, and length of stay has fallen from an average of 2.7 days to 0.6 in 2014. "We found no evidence of harm. Patients have heard of it by word of mouth and now expect to be home the same day—and it reduces their risk of deep vein thrombosis and hospital acquired infection."

Listen to the podcast: bmj.com/podcasts
Watch the debate: www.healthdebate.net

ELECTION 2015

What the politicians aren't saying about health

After the hustings debate on health last week, *The BMJ* gathered health experts to find out their reaction. **Rebecca Coombes** reports

What happened when the major political parties appeared at a health hustings debate last week? Did any party win the debate, or did it generate more heat than light?

The London event (watch online at www.healthdebate.net) saw health secretary Jeremy Hunt clash with his Labour opposite after Andy Burnham's surprise commitment to above inflation pay deals for NHS staff. But a remarkable degree of consensus also broke out: on the need to integrate health and social care, equality of care for mental health patients, and to make general practice jobs more attractive. And, although the parties differ about amounts and timings, all parties acknowledged the NHS needs more money.

The BMJ, the debate's media partner, gathered a group of health cognoscenti around a table after the debate to give their immediate reaction. Which party was the most credible on the affordability of its manifesto pledges, and which had the clearest vision to keeping the NHS sustainable?

The panellists included big names from the health think tanks: Nigel Edwards, the Nuffield Trust's chief executive; Chris Ham, the King's Fund's chief executive; and Anita Charlesworth, the Health Foundation's chief economist; as well as doctors' leaders Mark Porter, chair of BMA Council, and Jane Dacre, president of the Royal College of Physicians. Jeremy Taylor, chief executive of the patient advocacy charity National Voices, and Johnny Marshall, a GP and director of policy at the NHS Confederation, also joined the postmortem. You can listen to their thoughts online at bmj.com/podcasts.

Money talk

Taylor liked the "beef" in the debate, and in particular singled out the level of passion and detail about mental health from all the political parties—"something you wouldn't have seen five years' ago," he claimed—but bemoaned the arguments about money in the place of debate about "actual patients and their experiences."

"It was interesting how little debate focused on patients. It followed traditional tramlines around money and the inputs it will buy but not about the actual quality of the care."

Edwards agreed, adding that the money talk was a little superficial and vague. "I think we got more heat than light, and we didn't solve the conundrum that, while a number of parties are promising extra money [the Conservative and Liberal Democrats have pledged £8bn (€11bn; $12bn) extra over the lifetime of the next parliament, Labour at least £2bn], they also have very long shopping lists of extra things. Is there some double counting going on; are they spending this money twice?"

Quite aside from this pledged extra funding, where are the £22bn of efficiency savings demanded by Simon Stevens, NHS England's chief executive, going to come from, asked Porter? "The efficiency savings this parliament have been delivered through pay restraint for staff, and most of the parties are saying that can't continue; nor can reducing the prices that the NHS pays for services because that is pushing organisations over the edge into deficit. So where will savings come from?"

Charlesworth feared there was no clear vision on returning the NHS to financial good health. "All the politicians struggle to match their vision with the reality of NHS they will inherit if elected next month. This is a service under immense strain that is surviving week to week in most organisations. In the last parliament the government managed through tactical solutions—one offs—and now the challenge is to systematically get the NHS to focus on improving its efficiency and the way it delivers care day in, day out. Politicians don't have a real sense of their role in this."

Marshall identified why most health secretaries couldn't resist meddling with the NHS: "There is a tension between celebrating personalisation—allowing local leaders to identify the best models of care—versus the national need to be seen to be doing something—rescuing the NHS so I will get elected again."

Getting it wrong on doctor numbers

Most agreed that the workforce promises in the various manifestos, including thousands of extra new GPs, seemed to have been plucked out of the air. During the main health debate politicians faced a Twitter backlash (#healthdebate) to their rather bland, non-committal responses to the current GP crisis.

Ham could see why: "Characterising the debate as 'we need 8000 more GPs' is far too narrow thinking about the future of primary care. I don't know anyone who thinks we will get anywhere near recruiting this number of GPs by 2020," he said. Instead we should draw from emerging evidence, such as better use of technology to help people access primary care. And by mending a leaky ship, added Porter, who was also frustrated by this false logic that pressures

From left: Anita Charlesworth, Nigel Edwards, Chris Ham, Johnny Marshall, Jane Dacre, Mark Porter, and Jeremy Taylor

ALL PICTURES BY SARAH TURTON

in primary care could be relieved by recruiting more GPs. "It ignores the fact that training schemes are not full. Doctors actively avoid general practice when leaving medical school, largely because of the onslaught on GPs by a government that doesn't value their work and wants them to do more under a contract they say should never have been signed." The recruitment pledges were just so old hat, added Charlesworth: "It was a bit backward looking. The way health needs are changing means we don't just need 8000 more doctors doing the same as they were."

> "All the politicians struggle to match their vision with the reality of NHS they will inherit if elected next month"

Jam today?

What frustrated the roundtable most about the debate was a failure to engage in the immediate crisis facing the NHS.

Charlesworth said: "We do need politicians to be clear about what they are doing this year and next year. And where we are going to be in five years' time. Most don't want to give this full picture. It is a real problem."

Edwards said: "It's not clear where the Liberal Democrats' extra funding comes in. There is a suggestion in the manifesto that it comes in later in the parliament. But in this case the pressure and need for money is now. Hunt was clearer today that money is spread over the course of the whole parliament. Burnham's money arrives in a big wodge, and we don't know how quickly the party can raise the mansion tax, but it may not be as fast as he is assuming. You get the feeling that privately he'd like to commit to the £8bn but that Ed Balls [the shadow chancellor] would be after him if he were to mention it.

Dacre was anxious about the lack of any "transition" money. "We will be expected to keep services in business as usual while redesigning services for tomorrow with a workforce trained for yesterday—and without having any more money than in NHS England's *Five Year Forward View*."

Whether they like it or not, the extra funding will need to be phased in "sooner, rather than later," said Ham, "because the NHS is projecting a deficit of about £2bn this year and there's also the question of how you will fund the extra doctors and nurses and seven day working. These all have a hefty price tag. In social care the funding gap will be about £4bn by 2020. The real issue is how you keep the NHS on the road to deliver today's job, let alone future commitments."

Why did politicians' "park" the public *v* private debate?

The Labour Party, if elected, will repeal the Health and Social Care Act 2012. This much we know, and Burnham passionately defended this stance in the main debate. "We have to call time on the market experiment in the NHS," he said, because it just adds complexity and extra cost. He claimed this repeal wouldn't amount to another reorganisation, "to have new policy, you don't need new organisations," and he vowed to work with the clinical commissioning groups and health and wellbeing boards he might inherit.

But the roundtable panel was sceptical about these claims. Dacre said that just the term reorganisation "makes the hair on the back of my neck stand up.

"I do not want everyone to be distracted by moving the deckchairs around again. I find it very difficult to understand how you could repeal the health and social care act without a major reorganisation."

Porter added: "I think Labour has its heart in the right place on this but hasn't thought out well enough how the legislative change it is talking about leads to the actual change it wants to see, which is the removal of competition and market mechanisms from the English NHS."

Edwards agreed: "I think there is a degree of crowd pleasing with this policy without anyone having done the difficult backroom work, and when that hits the civil servants they will say, 'Well minister, I think you will find this very difficult.'"

An election different from all the others?

Something new and unusual about this debate emerged as the health politicians slugged it out over policy. Porter put his finger on it:

"This is the first general election where you see an obvious play among the parties for parts in a coalition. There is an explicit recognition that there will have to be a process of negotiation following the election. It is entering political discourse in a way it hasn't before with the realisation that no one programme for health is going to be implemented wholesale."

Maybe this explains the consensus on key issues. Porter identified as "a new unified vision" for the need to integrate health and social care. "Never before have the parties looked at putting the two services together as explicitly and as importantly as they are now. There was a bit of a failed attempt last time, but there's a more unified vision now—although against the background of an increasingly tight spending settlement."

Charlesworth hoped this new trend in political thinking would yield new behaviours in subsequent health secretaries.

"Increasingly what we understand about change is that it isn't 'big and structural' but about constancy of purpose, giving space to enact change, and support, recognising that change is never effective immediately, and a provision of hope and vision. But this is a very different model to the way health secretaries have seen their role previously, which is shopping lists of new policies. This is fine when you have lots of money, but that is not the state we are in."

And beware—all the panel agreed that health was unlikely to be near the top of anyone's list of things they were trading favours on when the parties sat down and negotiated a likely coalition agreement.

"Health is no one's red line issue," says Edwards. In fact in the 2010 coalition agreement between the Conservatives and the Liberal Democrats they almost forgot health altogether. Ham added, "If the new government gets this wrong we could spend three years being sidetracked on second, third, fourth order issues, while NHS ships are slowly sinking."

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- Observations: Future proofing the NHS: the new care models (*BMJ* 2015;350:h1505)
- Feature: Manifesto pledges: more money for the NHS. . . problem solved? (*BMJ* 2015;350:h2109)
- Analysis: The NHS in the age of anxiety: rhetoric and reality—an essay by Rudolf Klein (*BMJ* 2013;347:f4422)

The NHS crisis: are we missing the point?

Jan Filochowski argues that the NHS can no longer respond to financial challenges by simply reducing capacity and has to adopt a new approach that acknowledges and meets demand

A year ago the highly respected Commonwealth Fund made its latest assessment of first world health systems and rated the NHS top.[1] Since then, there has been an increasing chorus that the NHS needs more funding to continue to thrive, with the £8bn specified in NHS England's *Five Year Forward View* in November widely accepted as authoritative.[2] The *Forward View* did not refer to any impending crisis. However, by December the NHS was embroiled in its biggest one for a decade, with long and unacceptable waits everywhere. Despite two successive mild winters without a major flu outbreak, the NHS has hardly coped this year. Why has this happened, what does it tell us about the sustainability of the NHS, and how can we rectify it?

System in crisis

Waits of over four hours in emergency departments were 50% higher in 2014-15 than in 2013-14.[3] Delays in discharging patients needing post-hospital care are 29% higher than a year ago, 49% higher than two years ago.[4] The extra beds needed to accommodate these patients have been found by taking surgical, intensive care, and maternity beds. This has displaced other patients, creating new waits. Cancelled operations increased by 32% in a year.[4] In January 2015, 8% (25 000) fewer patients were operated on than in January 2014. By February, 29% more patients were waiting over 18 weeks than had been a year earlier.[5] Ambulances have been routinely missing their target times for reaching emergency patients. Delays in getting patients into emergency departments have increased by 63%.[4] Once in, patients are waiting longer to get a bed—there has been a 700% increase in 12 hour trolley waits in a year and an 1800% increase in two years.[4]

Stories of great difficulties in booking urgent general practice appointments and of week long waits for them are rife. Numbers of psychiatric beds have been reduced substantially in the past five years. Intensive care beds for adults, children, and newborns are in extremely short supply, causing daily cross country transfers.

A year ago, a quarter of trusts were in deficit. Today 80% are, producing a billion pound aggregate overspend.

The problem, according to the mainstream managerial and political leadership of the NHS, is the huge and inexorable (but oddly unexpected) rising tide of demand. Not so. For the past decade, emergency department attendances and inpatient and outpatient numbers have risen reasonably steadily by at most 3% a year. The last two years have followed this trend, with emergency department attendances only 2.6% higher, and admissions 2.9% higher, in 2014-15 than in 2013-14.[3] Demand hasn't surprised or surged. Rather, the dramatically increased queues show the NHS has run out of the physical and human supply to meet demand.

> The NHS has coped with this progressive squeeze . . . not by reducing demand but by displacing it

Loss of capacity

But why? Each year the NHS nationally tries to meet increased demand, on the arbitrary assumption that whatever savings are required to manage within the NHS's allocation can be made. The savings invariably entail reducing capacity. For the past few years, there has been some spare capacity and some efficiency gain to be found, so the NHS has coped with this progressive squeeze. It has done this not by reducing demand but by displacing it. Patients get treated but in a less appropriate, slower way, and at greater cost. Emergency patients occupy elective beds, patients requiring social care occupy emergency beds, ordinary patients intensive care beds, and intensive care patients theatre recovery—displacement in each case because that's all that's left. This means less output, and because it is unplanned, care is less safe and costs more. Finally gridlock occurs when there is nowhere left to displace patients to.

Other demands are increasing the pressure to spend more on staff. In January 2015 the National Institute for Health and Care Excellence recommended one nurse for every four emergency department bays. Last July it recommended a 1:12 ratio in acute wards. Implementing the recommendations of the Francis report into Mid Staffordshire trust,[6] the Keogh mortality review,[7] and a 24/7 service also requires many extra, mainly nursing, staff. Nurses account for nearly 50% of staff, and staff costs are 70% of NHS spend. So the need to reduce demand and make non-staff savings is ratcheted up further, beyond any realistic prospect of success.

The root of the problem is the NHS's monopolistic business model. It involves using monopoly buying power to hold down capacity to "what we can afford." We daren't increase supply but can't contain demand. Nobody is refused entry, and too few leave. We tip all our requirements into the dustbin, close the lid firmly, and assume it will be OK. What we create is a chaotic fight between often mutually exclusive demands. And, for the reasons explained earlier, as demand is displaced, it ends up costing more than having enough capacity: a false economy. When the bin is about to explode, as now, a little

BIOGRAPHY

Jan Filochowski spent 20 years as an NHS chief executive of six large hospital (acute and specialist) trusts, lastly Great Ormond Street, before retiring from the NHS at the end of 2013. He is well known as a turnaround specialist. In 2003 he was named a hero of the NHS and described as a "serial improver of failing hospitals." In 2013 he published *Too Good To Fail?*, which was shortlisted for management book of the year in 2014. The book analyses what causes organisational failure, how to prevent it, and how to recover from it, drawing on his own experience but looking at organisations of every sort across the globe. As well as being a visiting professor, Jan now provides advice to NHS organisations, lectures to academic and management audiences, and participates in CQC inspections.

SEAN GALLAGHER/NATIONAL GEOGRAPHIC/ALAMY

money is thrown in, creating a bit more space, but as soon as the lid is closed again, the same dysfunctions happen almost immediately.

So how does the model operate? The current national tariff in some cases doesn't pay at all for extra demand (much of it mental health), or pays an arbitrary 30% (rising to 50% but extended to more services) for acute emergency admissions. Trusts lose money for treating more patients but are not allowed to turn them away. This hurts "bog standard" general hospitals most, because their work is mainly emergency; it pushes them into deficit and prevents them from creating the capacity to meet that demand. If trusts believe they cannot win, they will stop trying. The NHS will then move from steady decline to deep failure, a pattern I demonstrate happens across all sectors at what I term the point of denial in my book, *Too Good To Fail*?[8] The NHS is now very close to this point.

And it's not about private versus public. Circle's explanation of its failure at Hinchingbrooke Hospital was similar. So Circle decided to cut its losses and go, which NHS providers cannot do.

This business model also creates staff shortages. Capacity constraints mean an assumed lower need for staff, fewer training places, and reduced future supplies of staff. When demand remains high and more staff are needed, they aren't there. Those that are become overworked, and some of them leave, adding to the shortage. The NHS then has to hire agency staff at inflated cost, £2.6bn last year.[9]

Unblocking the system

Part of the reason for the endurance of this model is the fragmentation of responsibility after the Lansley reforms. The problem now is clearly one for the NHS overall, and it requires an overall solution, starting with tackling the queues. Getting rid of a queue often costs less than keeping it. For example, declared delayed discharges cost a billion pounds. However, most delayed discharges aren't declared. In my experience, the true delays are over twice as high. Add to that the waste of resource caused by disrupting other activity and a very large saving can be achieved after (the absolutely key point: after) creating the capacity and clearing the queues.

Let me illustrate the two business models. An elective care centre opened just before I became chief executive of a "failing" trust, as part of a plan to separate emergency and planned services. Apparently it had teething problems. In truth it was overspending at a catastrophic rate and unable to treat sufficient patients, putting huge pressure on patient waits. It was a top-down solution, ignoring the realities of implementation, like the business model it unconsciously followed.

The dramatically increased queues show the NHS has run out of the physical and human supply to meet demand

The first problem was the assumption that staff would transfer from their previous hospital. Many chose not to. The trust had a recruitment freeze. Those planning the centre felt they couldn't recruit replacement staff. They tried to run theatres with fewer staff but were unable to. Patients weren't treated but staffing costs were incurred. Managers now did everything they could to run the theatres fully, buying in agency staff at raised rates. The trust was contractually required to ensure the many cancelled patients were treated promptly. Lacking the capacity, they used private hospitals at premium rates. Demand was displaced not reduced and met inefficiently at extra cost. The tactics were all costly, but the root cause was clear: reliance on a business model that said, "Hold spending, cap supply, make demand fit in with that." When it doesn't, as it can't, it costs a fortune to put things right.

So we changed the business model to one that acknowledged demand, then ensured it was met at each stage. We ensured realism about which sessions we could staff and stood down those we couldn't. We began a vigorous recruitment effort and progressively reduced agency staff. Theatre capacity increased as staffing increased, with fewer cancellations and minimal costly outsourced work. A seemingly more expensive business model meant more work was done, more cost effectively with no waste. Within months the overspend had been eliminated.

How could this thinking be applied to the NHS as a whole? By changing to a business model with propulsive power—a paddle steamer model—that meets peak demand, creating enough capacity to enable patients to pass through each and every potential bottleneck without delay, and to meet all the demand and remove all bottlenecks. Pricing is based on realistic costs, reviewed by a regulator, as in the rail and water industries, enabling good providers, public or private, to thrive on a level playing field. This way we create enough supply and the mechanisms to pay for it and enable long term investment.

Implementing this model means a steady but modest increase in resources, because of the increasing demand, but services that are right sized, able to cope, and therefore more efficient, cost less. Given time, the billions lost in delayed discharge blockages will be saved, as will the billions spent on agency staff. Add the savings from unblocking elsewhere and we're away. But can it be done?

The NHS has already done it at micro level. In Medway we turned the country's longest waits into the fastest falling ones with no more resources than anyone else by unpicking the tangle, tracking down each successive blockage, and removing it. As such lessons were learnt generally, waits plummeted across England. Sadly they weren't spread through all services, and the dustbin model returned. With respect to delayed discharges, in Sweden, they minimise delayed transfers from health to social care by running them together and having a legal requirement to make the transfer in two days. They manage this with fewer hospital beds per head than us.

The alternative is to carry on as we are. But can we with the NHS "falling off a cliff"[10] and "services stretched to breaking point"[11]? Our next Commonwealth Fund ranking will be lower and the fall could be steep. The solutions are there if we want them, and cheaper than what we are doing now. Unless we change the business model, we will fall off that cliff, so we can't afford not to explore them.

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