

Spotlight

HEALTHCARE: AN UNCERTAIN FUTURE

Barbara Keeley MP / Sarah Wollaston MP / Fabrice Muamba



Spotlight



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Who owns your medical file?



For more than two years, *Spotlight* has asked ministers, MPs, peers and healthcare professionals this question. Almost all, including a former health secretary and the shadow health secretary, answered “you do”, in the knowledge that this is what voters want to hear. But is it true?

Professor Gil McVean, director of the Big Data Institute at Oxford University, says that “patients do not ‘own’ their medical data in the sense that they have the ability to give or sell it to others... your medical data is distributed – GPs, hospitals, and social care all have different systems, and GPs typically use commercial providers to store your data. These commercial providers have considerable rights over who uses your data, and for what. It’s typically the organisation that collected your data that has something closest to ‘ownership’”.

The Department of Health has said that the legal owner of a health record is “the organisation that owns the paper or database on which the record is stored,” and in the courts, too, ownership has proved difficult to establish. In 2012, a patient asked her GP surgery to remove from her medical record information she described as “distressing” and of “no relevance” to her treatment. Her practice disagreed, and when she took the case to court, the judge ruled in favour of “the views of health professionals as to what is in her best interests”. The data controller – the GP practice – was judged to have rights above the person from whom the data was collected.

This question is important in the UK because our health service has huge, well-labelled datasets that are more useful for developing technologies than those from China, India or the US. Last week, Innovate UK announced that companies could apply for government funding to develop technology that tackled “privacy challenges with managing, sharing and exploiting data” in healthcare. For business, chief among these challenges is how they can use the data for profit; for patients, how they establish control. But neither question can be answered until lawmakers can say definitively to whom this valuable resource actually belongs.

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PAULLELLIS/AP/GETTY IMAGES

Theresa May unveils cancer strategy

Augusta Riddy

In her speech to the Conservative Party conference, Prime Minister Theresa May announced a new cancer strategy that will increase early detection rate from one in two people to three in four people by 2028.

She pledged to invest in the latest scanners, as well as lower the age for bowel cancer screenings from 60 to 50, and to build more rapid diagnostic centres that would be “one-stop shops to help people get treatment quicker”.

“The key to boosting your chance of surviving cancer is early diagnosis,”

May told delegates, admitting that the UK was lagging behind other countries in early detection.

Sharing the story of her goddaughter who recently died of cancer, May said that this strategy would mean that by 2028, 55,000 more people will be alive five years after their diagnosis.

It will be funded through the Tories’ NHS “70th birthday investment” of £394m in extra funding per week. Critics argued that cancer services struggle to maintain adequate staff levels, which could undermine the strategy.

Paraplegics walk after spine study

Augusta Riddy

Ground-breaking research by the University of Louisville has enabled two paraplegic patients to walk again with the use of epidural stimulation of the spinal cord.

Epidural stimulation – the application of an electrical current to the spinal cord – has typically been used for pain relief, but by applying 16 electrodes in the lower back, researchers have witnessed two participants being able to walk, and two being able to stand independently. The participants were all paralysed from the waist down as a result of traffic or bike accidents, and have not been able to move their legs for over two years.

“This research demonstrates that some brain-to-spine connectivity may be restored years after a spinal cord injury,” said study author Susan Harkema, PhD. The study was carried out on the basis that signals from the brain cross the injury area, but cannot create movement without some other support.

Participant Kelly Thomas, who was injured in a car accident, said: “The first day I took steps on my own was an emotional milestone in my recovery that I’ll never forget ... it’s amazing what the human body can accomplish with help from research and technology.”

NHS to map 5m genomes in 5 yrs

Arun Kakar

Health Secretary Matt Hancock has announced a “bold aspiration” to sequence five million genomes in the UK over the next five years as part of the NHS Genomic Medicine Service, the first national service of its kind.

Genomics is the study of the body’s genes and has the potential to speed up

diagnosis of rare diseases, a process which at present can take years.

Patients will be asked to give consent for their data to be analysed by approved researchers, who will use the information to develop new treatments and tests for cancers and rare diseases. All “seriously ill” children will be offered sequencing as part of their care from next year.

“I’m incredibly excited about the potential for this type of technology to improve the diagnosis and treatment for patients to help people live longer, healthier lives – a vital part of our long-term plan for the NHS,” said Hancock.



Inquiry hears of blood “cover-up”

Will Dunn

The Infected Blood Inquiry into the widespread infection of haemophilia patients with hepatitis C and HIV during the 1970s and 80s concluded its preliminary hearings on 28 September, having heard from 200 respondents that “there had been attempts to cover up what had happened by ministers, officials, or by the medical establishment”.

At least 1,246 people have died from infections they received from plasma products produced in the United States and other countries from groups of tens of thousands of paid donors, including

prisoners and drug users. The inquiry said more than 200 responses “suggested that official ministerial papers and patients’ medical notes had been destroyed or... allowed to go missing.” The inquiry also heard 237 comments on professional conduct, including accounts of medical professionals “deliberately testing blood products and treatments on patients without consent”.

NHS needs volunteer “army”

Augusta Riddy

People leaving hospital have been called upon to “do their bit” and volunteer for the NHS by Robert Francis, who recently became chairman of patient champion group Healthwatch England.

He declared that the NHS would be “in peril if we the public don’t actually contribute to it”, and complained that Britain “used to be a country where people used to volunteer very regularly”.

Francis argued that it was necessary for hospitals to become “braver” in attracting non-professional support, and social media could play a key role in this recruitment drive.

Patients being discharged from hospitals, he argued, are “a huge group of people who would, if offered the opportunity, give something back ... People have immense skills that the NHS could use for free”.

It remains to be seen what roles within the healthcare service these volunteers could fill, as Francis said they would not “replace the skills of nurses, doctors, hospital porters and everyone else,” but he did predict that “unqualified volunteers may be one of the first people to shout loudly if there’s a problem.”

Between October 2017 and March 2018, the NHS was trying to fill 69,408 nurse and midwife vacancies, up from 57,964 two years previously. Overall, 87,478 NHS vacancies were advertised in the first three months of 2018.



2.5m could lose GP due to work stress

Arun Kakar

More than 2.5m patients could see their GP practice close in the next five years due to GPs at risk of leaving the profession, the Royal College of General Practitioners (RCGP) has warned.

The College said pressures on workloads are making a career in general practice “untenable”, and has called for “drastic action” in the form of an additional £2.5bn a year in funding for general practice by 2020/21.

Some 762 practices are at a risk of closure, the RCGP says, as three-quarters of the workforce are above the age of 55 and thus nearing retirement age.

“The harsh reality is that fantastic, caring GPs are burning out, working in conditions that are unsafe for their own health and that of their patients,” said RCGP chair Helen Stokes-Lampard.

It comes as a Pulse magazine investigation found that “around 25 per cent” of evening and weekend appointments offered by CCGs are being left unfilled. A Freedom of Information request answered by 80 CCGs revealed that around half a million appointment slots on weekends and evenings were left unfilled. NHS planning guidance requires that all CCGs provide “extended access” to GP services by October.

Defending the NHS from “the awkward corner”

The chair of the Health Select Committee and former GP Sarah Wollaston tells Will Dunn that Brexit means MPs and policymakers need to be “difficult” to protect the health service

Shortly before the 2010 general election the candidate for Totnes, Sarah Wollaston – a local GP for whom the election would be her first – was invited to meet Patrick McLoughlin, then the party’s Chief Whip. “He asked me what I would like to do if I was elected,” Wollaston remembers. “I said I would like to be on the Health Select Committee. And he looked at me and said, ‘why would we want a *doctor* on the Health Select Committee?’”

A quick audit of the Department of Health suggests this attitude prevails today. Not one of the six ministers in the Department of Health holds a degree in medicine, any related science, or in fact any science at all. No current health minister has worked in the NHS. By the time Wollaston joined the Conservative Party, she had worked in the NHS for 20 years. “I’d always been politically interested,” she remembers, “but as a junior doctor, I was working, sometimes, 120-hour weeks, which left

no time to be politically involved, and then I had a young family. I thought that politics was something I would never have an opportunity to do.”

Then, one afternoon in May 2009, Wollaston was driving when she heard Anthony Steen, the MP for Totnes, telling the *World at One* why he had spent more than £87,000 of taxpayers’ money on the garden of his second home. “I’ve got a very, very large house,” explained Steen. “Some people say it looks like Balmoral... it does me nicely.” As Steen asked “what right” a “jealous” public had to know what he’d spent their money on, Wollaston sensed the political landscape changing quickly.

Two months later, Wollaston was one of three people running in the UK’s first “open primary” election, in which all voters in the constituency were given a say in who would replace Steen as the Conservative candidate. The other two candidates, a mayor and a council leader, were local career politicians. The local party presented Wollaston with a



pre-written election leaflet but, in the first of a series of respectful disagreements, “I said, ‘no, I’ll write it myself’. In retrospect it probably looked more like an NHS vaccination leaflet.” This, it turned out, was a winning strategy. YouGov data shows that the NHS was five times as important to voters as Europe in 2010 (those were the days) and almost twice as important as education. And with the expenses scandal still fresh, the people of Totnes wanted anything but another professional politician. “I was very upfront in my election leaflet that I didn’t have any political experience,” remembers Wollaston. “I think that was actually an advantage.”

Wollaston won the primary and, the following year, doubled the Conservative majority in the seat. But while the people of Totnes welcomed a non-politician, politicians themselves were another matter. “You arrive,” says Wollaston, “and you’re expected to immediately toe a party line. When you dissent, that is seen as you being

unhelpful. And once you’re put into the awkward corner, it’s very difficult to be seen as anything other than awkward.” Wollaston had become an MP to make improved, “evidence-led” health policy. “I had strong disagreements with Andrew Lansley, and I wanted to be free to say that.” But in Westminster, the clinical perspective she offered was “positively unwelcome”.

The party tried one more tactic to keep Wollaston’s criticisms quiet: they offered her a job, as a parliamentary private secretary (PPS), one of the most common routes by which MPs progress

“You’re expected to toe a party line”

towards ministerial positions. Having read the Ministerial Code, she was “not tempted at all” to accept, thanks to section 3, part 9: *No Parliamentary Private Secretary who votes against the government can retain his or her position.*

Wollaston says the PPS position is a popular way to move MPs who are “a little bit awkward” into “the vacuum of silence”. She declined, and in a move that must have left Tory whips spluttering, wrote an opinion piece in the *Guardian* criticising the “creeping patronage” of the system. “It was made very clear to me,” she recalls, “that I wouldn’t be asked again.”

Instead, Wollaston chose “the select committee route” to influencing her chosen area of policy, joining the Health Select Committee in 2010 and being elected as the Committee’s chair in 2014. She was re-elected in 2015 and again last year, when she ran unopposed.

The funding problem

Wollaston clearly prefers the even-tempered committee environment to what she calls the “yah-boo horror” of the Commons. Matt Hancock, on the other hand, might have swapped a few minutes of being yelled at by his fellow MPs for the more than two hours of quiet but insistent interrogation he faced from the Health Select Committee, as Wollaston and her colleagues questioned how the new Health Secretary’s plans for a modernised NHS would be carried out and paid for.

“There’s a long list of what they want to do. I know £20.5bn is a vast amount of money,” says Wollaston of the so-called “Brexit dividend” that the Prime Minister has said the NHS will receive from 2023. “But when you consider the backlog, and what it doesn’t cover – it doesn’t cover social care, it doesn’t cover public health. Those will have huge impacts on costs in the health service.”

NHS funding is now in a vicious cycle. There is no money for public health, prevention, social care or mental health, because every spare penny is spent propping up the more urgent needs of ambulances, hospitals, surgery and

medication. But the fact that money isn't being spent on public health, mental health and prevention also means more people end up in hospital, which puts more pressure on acute services, which means there is even less money for social care.

Wollaston says this has applied "as long as I've been in medicine, and in politics... almost every time, the cycle repeats itself, and the money is hoovered up into the acute sector. Money heads into these acute budgets, and mental health and primary care slip further and further behind. We really can't afford to let that happen again, this time around."

One example of this cycle can be found in the way the NHS treats cancer. "In this country," Wollaston points out, "people are more likely to present with cancer in an A&E department than at their GP practice." By the time someone presents at A&E with "later complications, symptoms that are severe enough to take you to an A&E department... you're diagnosing too late." As a doctor, she says, "you often hear people say 'I'm sorry to waste your time' – we need to change that culture." But because people already present too late with their symptoms, the money that might have been spent on public awareness campaigns, earlier appointments and tests has to be spent in hospitals, now. In 2015, a study by Macmillan found that cancer survival rates in the UK were a decade or more behind comparable European countries.

An unequal crisis

The distribution of public health problems is not equal. Many patients face a "postcode lottery" in the treatment they receive, but for Wollaston, the most worrying health inequalities are between people on different levels of income, particularly in early life. Childhood obesity is a timebomb that will detonate mainly on the poor. The gap between the children of affluent and disadvantaged families, she says, "gets wider every year. The more advantaged you are, the more the obesity issue declines. You can put a ruler on it."

It's for this reason that she calls the sugar tax "a big win, particularly if they use the money from it to fund things like children's playgrounds," and supports the government announcement, on the day we meet, of a public consultation on banning the sale of energy drinks to children. A single 500ml can of Monster, one of the most popular brands among children, contains 25 per cent more than the maximum amount of "free sugars" the NHS says a 7-10 year old can safely consume in a day. "Children don't need energy drinks," Wollaston says bluntly, "and particularly not those stuffed full of caffeine as well. People will feel that it's the nanny state," she concedes, but "health inequality in children has such serious implications for their entire life course, that it does justify taking decisions that people won't agree with."

Talk of inequality from a politician whose party has imposed almost a decade of austerity on the country may seem disingenuous. When Wollaston entered parliament in 2010 the Trussell Trust, the UK's largest network of food banks, handed out 41,000 food packs. By 2017, this number had risen to 1.2m. Over the same period, the number of people on zero-hours contracts more than quadrupled and more than 500 libraries closed. Last year, a study by the London School of Economics found that in areas of the UK most affected by austerity, suicide rates had risen by 20 per cent, and that the effect of austerity on social care for the elderly had led to the largest rise in the mortality rate for half a century. How does she reconcile the evidence of harm and inequality austerity created with her desire for greater health equality and a stronger NHS?

Wollaston maintains that "it really was necessary that we got a grip" on the economy in 2010, but she says too that a turning point has been reached. "The elastic," she says, "is stretched to the limit. You have to look at the evidence, and to my mind, local authorities now need to have a relaxation of the austerity they've had, in order for them to be able to contain future costs. Look at what's happened to prison services – we cut too



far, and now it's costing a lot more. The public doesn't want to see these important public services stretched to the extent that they are."

Informed consent

The single clearest example of Wollaston's "evidence-led" politics has been her position on Brexit. She began as what she calls a "Eurosceptic soft-Leaver" but listened to evidence from across the NHS and the wider health system until, uniquely, she changed her mind.

Wollaston says that while she initially supported the Leave campaign, "I wouldn't get on their bus"; again, she offered helpful criticism, and again, it wasn't welcome. Of the infamous £350m claim for NHS funding, Wollaston says she "spent some time trying to persuade them to change it, and very senior people within the Vote Leave campaign kept saying to me 'it doesn't matter... people will just remember the big number.' They knew, absolutely, that it was the wrong



number. They didn't care."

At the same time, however, the Health Select Committee was taking evidence. "I can't think of anyone who came forward and said that this was going to be a great opportunity... researchers, patient groups, the 'qualified persons' who do batch testing... a nurse from Spain, who had worked here for ten years, almost in tears, talking about how she no longer felt welcome. It left me feeling ashamed."

As the scale of the supply problem became apparent, Wollaston was reminded of her time as a GP. "Every so

"NHS issues have nothing to do with WTO tariffs"

SHUTTERSTOCK/TRAVELLIGHT

often, all hell would break loose, because there would be a fire in a warehouse somewhere, or a batch would be withdrawn, and there would be a supply issue. You would sometimes waste half a day trying to track down where you could find one particular medicine. I can see that happening on a grand scale, if we have no deal and no transition. And I think that would be an absolute turning point. If people found they couldn't get medicines or diagnostic tests, there would be an extraordinary level of anger."

The dangerous lie currently emanating "from Rees-Mogg and Boris", she says, "is that this is about tariffs. NHS issues have almost nothing to do with WTO rules. It's about complex, decades-long integration from the research bench to the product arriving on your pharmacy shelf. Take insulin, for example, or medical radio isotopes – 700,000 diagnostic tests a year rely upon those. They can't be stockpiled, and none of them are manufactured here. It's not about WTO rules. It's about how we

physically get them in, if we've got friction at the borders."

Contingency plans are being made to try to cope with the sudden change in the British border, including stockpiling of medicines and importing them via air freight. "How much is that going to cost," asks Wollaston, "and who's going to pay? Ultimately, it will be reflected in charges to hospitals."

At the same time, she predicts, hospitals will be trying to cope with a huge reduction in staff. While Wollaston acknowledges the reassurances the government has offered the 65,000 people from the EU currently working in the NHS, the referendum result dealt a huge blow to recruitment. In 2015, the UK had a net gain of 3,000 nurses from the EU, but by 2017 this had dropped to a net loss of more than 1,000 nurses per year. The slump exactly coincides with the referendum and is not mirrored by non-EU countries. With domestic input into the nursing workforce also declining by more than 1,000 per year overall, Britain faces a catastrophic shortage of nurses. This is another self-reinforcing cycle; as the NHS spends heavily on agency nurses to cover the shortfall (the temporary nursing bill for 2017 was £1.46bn), there will be no money for long-term solutions.

As a doctor, Wollaston has a long acquaintance with the principle of "informed consent". Any patient about to undergo an operation, she says, would "expect to know what the operation is going to be, the risks and benefits. What you wouldn't do is consent someone to an operation two years in advance, without them knowing what the operation involved".

This, she says, is why she has joined the campaign for a second referendum. "If, in two years' time, there are serious unintended consequences, I don't want people writing to me asking 'what did you do?' I want to be able to point to the things that I did try to do. Not because I want to block Brexit, but because I want to check we're prepared. To proceed without informed consent would be a catastrophic mistake."

A private solution to a public crisis

The University of Buckingham's **Anthony Seldon** and **John Clapham** discuss the unique merits of its independent and innovative medical school



Anthony Seldon, vice-chancellor

The medical school started at the University of Buckingham is one of the most exciting developments in medical education this century. The first independent medical school since the Victorian era, it was set up despite medical and educational systems and scepticism, and is now a shining beacon amongst the 34 medical schools in Britain.

The achievement was very much the work of Professor Karol Sikora, the son of the Polish army captain who came to Britain during the Second World War. Sikora spent his career as a restless oncologist, challenging orthodoxy wherever he encountered it. My predecessor as vice-chancellor, Terence Keeley, another contrarian was the other person who ensured that it happened, taking its first cohort of 64 students in January 2015. Demand has been considerable, and this September, we recruited over 100 top-quality would-be medics.

A focus on patients and proactive medical care is a particular feature of the

medical school. We have heard many times that the NHS is a National Illness Service rather than a National Health Service. Entrenched thinking has made the focus much more dealing with illness once it occurs rather than trying to ensure prevention of illness.

Yet so much illness is preventable if people at large ate more fresh food and less stodge, drank more water and less alcohol, inhaled more fresh air and less smoke, and if we enjoyed recreation more through physical exercise than glued in front of a screen.

Those dispensing medicine need to take better care of themselves too. For several years I have witnessed with a wife with terminal cancer, and last month at hospitals with a sick daughter, staff who were too tired, distracted or plain rude to converse in a civilised and pleasant way. If medical professionals do not look after their own physical and mental health better, how can they look after patients optimally? So a focus of the Buckingham Medical School is helping to train our doctors to learn to manage themselves more mindfully.

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The state-of-the-art Academic Centre is the result of a partnership between Milton Keynes University Hospital and the University of Buckingham



John Clapham, pro vice-chancellor, health sciences

The other defining feature of UBMS is that it receives no state support whatsoever. It exists because of the students who pay the same fee irrespective of whether they are overseas or home students, with home students comprising 60 per cent of our cohorts. From 2019, when our first cohort graduates, we will from then on be producing doctors at no cost to the taxpayer. That's right, no cost to the taxpayer. Starting with 60 in 2019 building to over 100 from 2022. The whole setup was funded privately by

The course is of no cost to the taxpayer whatsoever

the University of Buckingham.

Our operating model is very simple. We pay from the student fees for all of the elements required for high-quality medical education and for placements we have negotiated directly with the NHS Trusts who take our students. The total cost of our programme is under £170k, compared to some £250k the taxpayer has to fork out to produce each doctor. The other things we do is focus solely on delivering high quality medical education and the staff are dedicated to that principle. This attitude is reflective of the whole university which achieved a TEF Gold for its teaching. Our model also means that we can tell our students exactly what we spend their fees on. It is a high overhead, low margin programme so we are not in it for the mega money but as an expression of the pride we have in our university and the kudos of having a medical school.

Half of the revenue from the medical school, despite it being private, goes directly into the publicly funded NHS. In 2018 this will amount to

over £5.5m, well over 10 per cent of the entire university's revenue. This, and partnership with a medical school, brings benefits to hospitals and the communities around them. They can use the money to recruit new consultants to compensate for the time spent on teaching but from a much wider demographic because of the attraction of education to many consultants. Thus the communities around teaching hospitals benefit from the higher calibre applicants for consultant jobs.

We have built up very strong and positive relationships with our Trust partners. Our first partner, and hub hospital, was Milton Keynes NHS Foundation Trust, now Milton Keynes University Hospital. In February 2018, a state-of-the-art Academic Centre, designed by Philip Bodie of Fielden Mawson, was opened on the hospital campus by His Highness the Duke of Kent. Not only will our students benefit from these glorious facilities but also trainee doctors, nurses and allied health professionals working at the Trust. It is a real symbol, and testament, to the relationship that has developed between our school and the hospital. Something, as our medical school develops, we would like to replicate in some way with our other partners.

We do, however, have an achilles heel: widening participation. We are desperate to be able to engage with this but because we are not HEFCE-funded we were excluded from bidding for the new medical school places announced by Jeremy Hunt. Given the obvious good we do – enhancing the NHS hospitals we work with and producing doctors, free of charge to the taxpayer, for those hospitals – why, then, can't the Secretary of State for Health find a novel way of funding a widening participation scheme through us? It would certainly be cost-effective and send such a positive signal that all avenues are being addressed to tackle our shortage of doctors.

Meet the footballer who died and lived to tell the tale

Former Bolton Wanderers midfielder Fabrice Muamba talks to Rohan Banerjee about the day his heart stopped and why cardiac technology needs to be more readily available

On 17th March 2012, just before the end of the first half in the FA Cup quarter-final tie between Tottenham Hotspur and Bolton Wanderers, midfielder Fabrice Muamba's heart stopped. It did not start beating again for another 78 minutes. According to Bolton's club doctor at the time Jonathan Tobin, Muamba was "in effect dead" during that time.

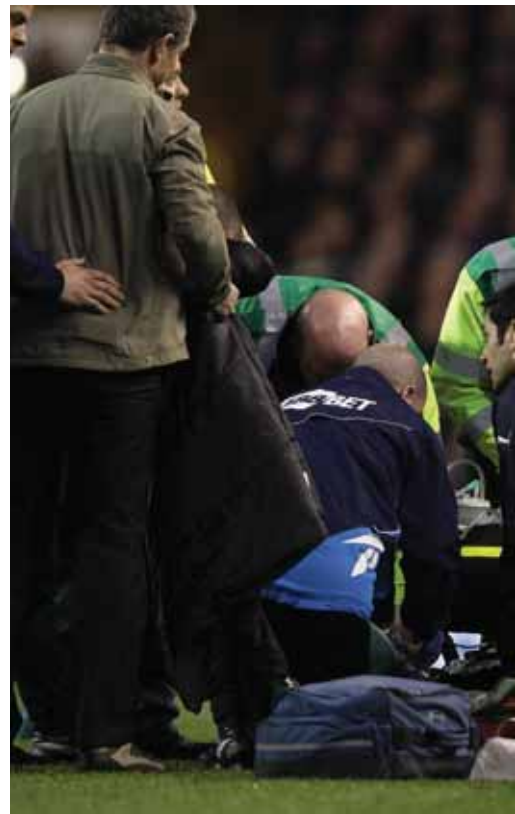
But his life was saved thanks to quick thinking from both the Spurs and Bolton medical teams at pitch-side, aided by consultant cardiologist Andrew Deaner, who had been watching the game as a fan. Muamba received crucially timed CPR – the American Heart Association estimates that every minute's delay in starting CPR reduces a person's chance of survival by ten per cent – and was given electric shocks with a defibrillator, handily kept on-site at White Hart Lane, to kick start his heart back into action. He was then transported to the London Chest Hospital in Bethnal Green, where Deaner oversaw his specialist care. In total, Muamba was given 15 300-joule shocks: two on the pitch, one in the tunnel, and 12 in the ambulance en route

to East London.

What does Muamba remember of that day? "In the lead up [to the game], things had been pretty normal. I warmed up as normal, I was playing as normal. And then suddenly I felt very dizzy, my vision blurred and I couldn't stand properly. My focus went, I couldn't concentrate my vision on anything, and the moment I fell down and my head hit the turf, that's when I was really gone."

The cardiac arrest ended his professional football career, but six years later, Muamba, a father of two, has gained perspective. "I think leaving the game was more difficult at the start for sure," he says, "but I'm all about the bigger picture. Obviously I wanted to keep playing, but I've got the chance to be with my family again, and I've got to put my kids first."

According to the National Institute for Health Research, the chance of someone surviving a cardiac arrest in a public space is around 30 per cent, but when there is a defibrillator and someone trained to use it present, that chance can increase to 80 per cent. In front of just over 30,000 fans at White



Fabrice Muamba collapses in 2012



“You just can’t put a price on a person’s life”

CLIVEROSE/GETTY IMAGES

Hart Lane, as well as the television cameras, Muamba’s cardiac arrest could have hardly been more public. He reflects: “I know that were it not for the defibrillator and the excellent medical teams from both clubs, I wouldn’t be here today. I was very lucky to have my cardiac arrest in the right place with the right equipment, and with highly trained people around me, but I know that not everyone is so lucky.”

Since the incident, Muamba has supported various campaigns and product launches to promote heart health. In 2014, for example, he lent his voice to a joint venture led by the London Ambulance Service (LAS) and Marks & Spencer, to get 1,000 mobile defibrillators fitted in shops, businesses and gyms around the United Kingdom. “The point is that my experience happened unexpectedly, and that shows that you can have a heart problem wherever you go, whatever you are doing. I would encourage all companies to have defibrillator, because it will make a massive difference in the chances of someone surviving a cardiac arrest.” As well as a defibrillator rollout, Muamba also encourages people to “take more of an interest in heart health” by “learning CPR and other similar techniques” because “there may not always be a team of expert doctors nearby”.

Mobile defibrillators cost between £700 and £2,000 per unit. For Muamba, they are “definitely a worthwhile investment”. While he appreciates that for smaller businesses the price might be high, Muamba stresses that “you just can’t put a price on a person’s life”. He adds: “If companies do their research, there are some models that are more affordable and some providers actually let you rent the unit. If companies train their staff and make the equipment accessible, then it means that they’re going to be more prepared should the worst happen.”

Muamba, 23 at the time of his cardiac arrest, was in ostensibly peak physical condition, playing regularly for a Bolton side then in the top flight of English football. Had there been any indication of a problem with his heart beforehand?

Muamba shakes his head. “Most sports clubs will regularly examine their players, but nothing had been picked up. Sometimes things can slip through, which is why it’s important to get checked more than once. Maybe one or two times a season should become more like four or five.”

Muamba says that athletes, especially footballers, are very aware that their careers “depend on their bodies”. Some players, he says, “may have anxieties. They don’t want to sound like they’re weak. That’s how they see it, but they really shouldn’t. When it comes to your own body, you’ve got to take responsibility and make a proper decision about how you look after yourself.” Muamba says that the “culture in the dressing room is changing, but there is still a lot of work to be done”.

Although Muamba no longer plays football, he has not left the sport. Since his cardiac arrest, Muamba, born in Zaire before becoming a naturalised British citizen, has found work as a pundit for ITV’s coverage of the Africa Cup of Nations and a co-commentator for BT Sport’s coverage of African World Cup qualifying fixtures. Muamba studied for a degree in sports journalism at Staffordshire University, graduating with honours in 2015. He has also completed coaching qualifications with UEFA and hopes to one day be “given a chance to coach at the highest level”. Muamba is currently working for the Professional Footballers’ Association – the English game’s trade union for players.

Having temporarily died in 2012, it is clear that Muamba in 2018 is a man determined to make the most of life. He is glad that his experience has raised more questions about heart health in professional sport. And he is glad for the defibrillator that ultimately gave him the chance to survive. “I’m pleased that the sport is looking at this very seriously, from the top level, right down to the lower divisions. Even in [youth] academies, it’s good to see players being regularly checked. And obviously, if it wasn’t for a defibrillator, I know I wouldn’t be here today.”

Understanding and treating the crisis of atrial fibrillation

Atrial fibrillation is a huge strain on healthcare services, but life-changing treatments are fighting this trend, writes **Alison James**, business leader, Biosense Webster Inc. UK & Ireland



Atrial fibrillation (AF), is an irregular and often fast heartbeat that results in uncoordinated contraction of the top two chambers of the heart. It is fast becoming one of the world's most significant health issues, placing a critical burden on healthcare systems, with the potential to cause devastating consequences for patients.

AF is the most common type of heart arrhythmia and over one million people suffer from the condition in the UK alone. Estimates indicate that by 2030, the number of patients with atrial fibrillation in Europe will be between 14–17m, with 120,000–215,000 new cases per year.

Awareness of treatment options for AF is low, with patients often under-diagnosed and/or referred too late.

Research shows that some patients do not recognize the symptoms of AF, typically leading to a four to five year delay before a diagnosis. There is also a critical misconception regarding the seriousness of atrial fibrillation, as

based on an international survey: 50 per cent of patients believe AF is not a life-threatening condition.

What's more, patients with AF have an increased risk of life-threatening complications and other diseases:

- 5x increase in heart failure
- 2.4x increase in stroke
- 2x increase in cardiovascular mortality

Lifestyle factors, such as obesity or high alcohol consumption, other health conditions such as diabetes and high blood pressure and nonadjustable factors such as old age or genetics are all contributors that can lead to AF.

As well as causing a devastating impact on patients, the direct costs for AF are high for healthcare systems, with it accounting for 0.9 per cent – 2.4 per cent of total annual healthcare expenditures in the UK.

By 2050, Europe is projected to have the greatest number of AF patients compared to other regions globally. This is expected to increase the number

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of stroke events, hospitalisations, and doctor visits, ultimately raising the cost to national healthcare systems.

We are committed to delivering solutions that help clinicians reach more patients and heal more hearts, and for over 20 years we have pioneered the development of atrial fibrillation ablation treatment. It is estimated that only 4 per cent of atrial fibrillation patients undergo ablation treatment, with many relying on medication. We believe ablation treatment is crucial to tackling AF, which is fast becoming the new millennium epidemic.

AF equals 0.9-2.4% of total UK health cost

ATRIAL FIBRILLATION PERSPECTIVES

Syed Ahsan, consultant cardiologist, St Bartholomew's Hospital

Atrial fibrillation is a common problem in people over 65. It causes irregular heart rhythms, which in some cases can lead to debilitating strokes and even mortality.

The guidelines in the UK dictate that patients suffering from atrial fibrillation should be placed on anti-arrhythmic medication in the first instance. In our experience, we find that medication works for some patients, but it can also cause side effects, and for a lot of patients it can even cease to be effective after an extended period of time. When medication proves ineffective, we move onto a catheter ablation.

A catheter ablation is a procedure that can be used for different types of heart rhythm abnormalities, but heart palpitations is by far the most common condition that we are treating with this procedure at the moment. It uses a fine wire to deliver a high-speed frequency to treat the abnormal signals causing the palpitations. The wire is administered through the patient's groin, and up through the ephemeral vein which runs like a motorway to the heart.

There's now a huge drive to try and screen patients, particularly over 65s, who often aren't aware of the abnormality but are most likely to suffer from it. Our detection and treatment rates are certainly going to increase significantly as a result of this, and the technology has evolved so much over the last two years that we're looking at success rates approaching the 80 to 90 per cent mark. We're even getting patients coming to us now and asking us for an ablation.

Training to become a cardiologist takes about six years, and atrial fibrillation falls under a sub-speciality called arrhythmia, or heart rhythm management, which is a long but very rewarding process. It's very satisfying

to see the positive effects of this procedure on patients.

Trudie Lobban, founder and CEO, Arrhythmia Alliance & AF Association

Knowing your pulse can save your life; if pulse checks were routine within the NHS, thousands of lives, and thousands of debilitating AF-related strokes, could be saved every year. The easiest way to detect an arrhythmia is to know the pulse to feel your heart rhythm: uneven, too fast, or too slow?

One of the easiest places to feel your pulse is on your wrist, just below your thumb. You can feel your pulse in other areas of your body including your neck, in your groin or behind your knee.

It is a good idea to try taking your pulse at various points throughout the day (before and after different physical activities). Your pulse rate and rhythm will change depending on what activity you are doing – this is normal. To check your baseline pulse and normal rhythm, try taking your resting pulse when you wake in the morning and before going to bed.

A normal pulse is between 60 and 100 beats per minute, but there are normal reasons why your pulse may be slower or faster. This may be due to age, medication, caffeine, fitness level, other illnesses including a heart condition, stress or anxiety. Although your pulse rate may be within a normal range, it may not be regular.

You should seek further advice if you experience the following:

- If your pulse seems to be racing some or most of the time and you are feeling unwell.
- If your pulse seems to be slow some or most of the time and you are feeling unwell.
- If your pulse feels irregular, even if you do not feel unwell.

If your heart rate is generally slow or fast and/or your heart rhythm is irregular, you should speak to your healthcare professional.

Healthcare apps such as Babylon Health and Push Doctor claim to offer fast, effective help, but doctors and policymakers say they highlight the need for a change in regulation, writes [Sam Forsdick](#)

Could an app replace your GP?



Digital healthcare is a fast-growing market, predicted to grow to £2.9bn in the UK by the end of 2018. Tens of thousands of health apps are available on Apple's App Store and Google Play, and one of the most prominent, with more than 14,000 reviews, is Babylon Health.

The UK-based private company says it has 1.4m users in the UK. Among them is the new health secretary, Matt Hancock. It has been trialled by the NHS, but the Babylon app and the AI that underpins it is unregulated (other than self-regulation), which has raised concerns among healthcare professionals.

A report from the Care Quality Commission found 43 per cent of digital health providers were not providing "safe" care. A hospital doctor working in acute medicine told *Spotlight* that in his experience, Babylon Health "couldn't tell the difference" between "a heart attack or

heartburn", and that if it was being promoted as being able to make this type of distinction, there was a risk that "people would have been harmed."

The company's claims for the app have met with some concern. Posters for the company's GP At Hand app were ruled to have been "misleading" by the Advertising Standards Agency, and at a press conference Ali Parsa, the CEO of Babylon claimed that the AI scored 81 per cent on a medical exam while the average pass mark for doctors is 72 per cent.

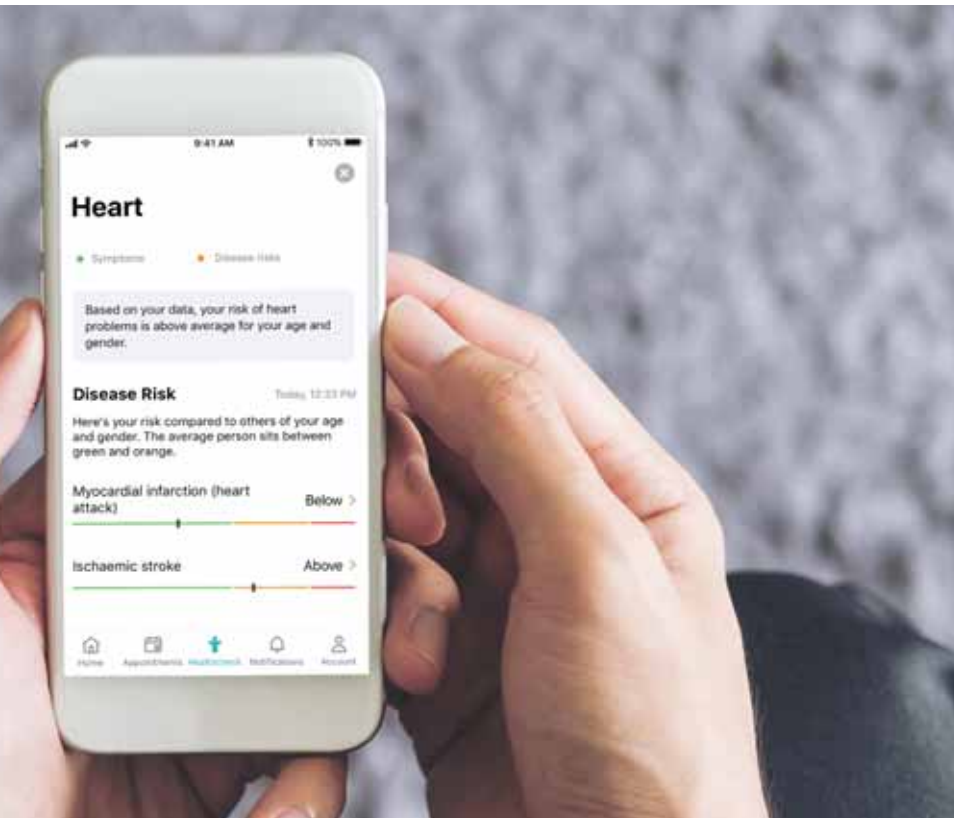
Professor Martin Marshall, vice chair of the Royal College of GPs, responded that "no app or algorithm will be able to do what a GP does," and described the assertion that Babylon's AI could perform better than the average GP as "dubious".

The AI chatbot, which offers a triage service for patients to type in ailments and receive advice, has come under particular scrutiny. Although warnings

on the app stress that it does not provide a diagnosis, the app gives suggestions as to what could be wrong with the patient and recommends whether to see a doctor or call an ambulance.

In tests described by a hospital doctor, it appeared to struggle to tell the difference between a heart attack and a panic attack, and suggested symptoms of a chest infection could indicate multiple sclerosis. In a test of the app conducted by *Spotlight*, when the "patient" reported vomiting it questioned whether the patient's testicles were sore, and whether wind could be passed, before determining that a doctor should be seen. When typing in symptoms of a panic attack (as described on the NHS website) it advised calling 999.

The hospital doctor, who asked to remain anonymous, described the service as "absolutely woeful... I think most members of the general public



Our own test of the app led to some odd responses

would do better. It doesn't seem to nuance the length of symptoms so the answers and responses you get back from the algorithm are often quite bizarre."

He believes that the app was "inadequately tested and overpromoted". When launched in 2015 it was presented as an app that "gave safe advice 100 per cent of the time". But for those that had chest pain or breathlessness, placing their trust in an app that could make errors could have constituted, he said, "a significant risk". Babylon Health has since been presented as a more basic triage app, which, he accepts, means "the risk is [now] low".

But Margaret McCartney, a GP of 20 years, warned that the false positives it could produce would be "just as harmful to the healthcare service as a whole". "When people are identified as needing help, when in fact they don't, it creates an increase in waiting times and an

increased difficulty getting to see a health care professional; this harms everybody."

What regulation is in place to ensure patient safety?

The Babylon website states: "The outcomes, usage data and feedback are audited regularly by our in-house medical team to ensure that we are satisfying our users, providing a safe and useful service, and to see how we can improve our content."

Dr Mobasher Butt, medical director at Babylon, admitted the two published technical reports that assess the performance and safety of the app do not include a randomised control trial – a form of trial which Dr Butt described as providing "the highest level of evidence". His reasoning for this was that the slow and methodical nature of the test made it outdated for testing the "rapidly evolving technology", meaning that any results would be out of date by the time they were published. He added: "our approach to clinical testing and validation is incredibly robust." He explained that it involves several stages of testing and validation by internal and external clinicians, and that this was an ongoing process.

Dr Butt also claimed that there was "a strong regulatory component" from the Medicines and Healthcare products Regulatory Agency (MHRA), and "while the device manufacturer might need to submit their own materials it is actually a very comprehensive process".

Health apps, such as Babylon, Ada and Push Doctor, are listed as a class one or low-risk medical device – the same class as more rudimentary devices such as stethoscopes, bandages or splints. This means that they only require self assessment in order to be registered with the MHRA.

McCartney wrote in the *British Medical Journal*: "We have many regulators but little proactivity, even for an app which – despite the small print warning us that it 'does not constitute medical advice, diagnosis, or treatment' – is being used as the front door into NHS care."

"AI has great potential in healthcare, but this potential will not be realised, and

“Regulation needs to evolve rapidly”



Many GP surgeries rely on more traditional technologies

harm may be caused, if we don't accept the need for robust testing before it's publicly launched and widely used. We have no clear regulator, no clear trial process, and no clear accountability trail. What could possibly go wrong?"

Her sentiments were reflected by Professor Martin Marshall, vice chair of the Royal College of GPs, who said that the claim that the AI worked better than a GP "made for a nice headline," but "wasn't very meaningful".

"Technology like this has enormous potential to help doctors make better diagnoses," but "I think regulation needs to evolve and it needs to do so rapidly". Marshall also thought that it was government's responsibility "to promote the technology, and it's likely to change the nature of healthcare in the future". However, he said, "I don't think it's their job to promote single products". Instead, he called for more support for "making sure that it's properly evaluated and properly regulated".

The MHRA declared that it regularly carries out "post-market surveillance and maintain[s] dialogue with manufacturers. Patient safety is our highest priority and should anything be identified during our post-market surveillance, we take action

as appropriate to protect public health."

Changes to MHRA regulation are coming into place by May 2020, when the agency will be required to assess the apps' data. Murphy believes this will give the MHRA "greater oversight over the safety of these apps". Babylon said it was already working to meet requirements.

Concerns with health apps were raised in parliament in July, during questions in the House of Commons on online NHS services following Matt Hancock's appointment as Health Secretary. Sarah Wollaston asked why no regulator is examining the safety and effectiveness of diagnostic apps, to which Hancock replied: "The response when there are challenges such as the one my honourable friend raises is not to reject the technology, but the opposite: to keep improving the technology so that it gets better and better, and to make sure that the rules keep up to pace."

Babylon say their mission is "to provide affordable and accessible healthcare and put it into the hands of everyone on earth". It's a bold statement and a problem that Babylon believes AI can solve. However, regulation may still have to follow the lead of technology as it continues to set the pace.



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What are Accountable Care Organisations?



A guide to ACOs, the controversial proposed structural overhaul to healthcare in the UK, by Augusta Riddy

What is an ACO?

Accountable care organisations (ACOs) are a model of integrated care that NHS England and the government are trying to introduce in this country. An ACO integrates primary, secondary, and community care for a large defined geographical area, and operates under one capitated – a set amount per head – budget, run by one organisation. The first ACO has yet to be established in the UK, but should it happen, the contract would likely be put out to a full tendering process (under EU and UK procurement law) to be awarded either to an existing NHS body/partner, or an external company.

Considerable opposition and confusion around ACOs has led NHS England to rename them Integrated Care Providers (ICPs), under advice from the Health and Social Care Committee (*see quote box, right*). This explainer will refer to the model as an “ACO” for clarity, but ICPs are referred to by some interviewees

and bodies.

Sustainability and transformation partnerships (STPs) were established in March 2016, splitting England into 44 geographic “footprints” which cover all CCGs, local authorities, NHS providers and other healthcare bodies within an area. NHS England declared their intention to gradually replace STPs with ACOs and integrated care systems (ICSs) in March 2017, in its *Next Steps on the NHS Five Year Forward View* report. ICSs are similar to ACOs in that they will encourage the integration of different forms of care, but they would not merge different bodies under one contract provided by a single organisation. Instead, they will work within the existing funding structure.

The introduction of ACOs has been met with two judicial reviews, but both challenges were unsuccessful. However, the judge who proceeded over a challenge brought forward by the group 999 Call for the NHS – *see “against”*



SHUTTERSTOCK/BRIAN A JACKSON

ACOs will integrate care for large parts of the country

section for interview with Jo Land – has given permission for the decision to be appealed on all grounds, and this appeal will be heard later this year. These judicial challenges, an NHS England consultation on “contracting arrangements for ICPs” concluding in late October 2018, and a critical Health and Social Care Select Committee report have all served to considerably delay any progress on the policy.

Currently, the only area seeking to establish an ACO is Dudley, which, if achieved, would cover its population of around 300,000. Dudley sits within the Black Country STP – *please see “for” section for interview with Dudley CCG chief executive*. Beyond Dudley, 14 STPs are working towards becoming ICSs.

The argument against ACOs

ACOs are common in the United States, and those opposed to their introduction view them as an import that paves the way for a more comprehensive privatisation of the NHS, creating the opportunity for private companies to win contracts to manage care for large swathes of the population.

Jo Land is a spokesperson for the 999 Call for the NHS campaign, which is appealing the unsuccessful judicial review of ACOs. Land says that although the door to privatisation was “already opened” by the Health and Social Care Act of 2012, the NHS as it currently stands is difficult for private companies to make money from. ACOs, on the other hand, make it much easier, she argues, because “a private company could run an ACO lock, stock and barrel – it could commission the services and provide the services”.

She argues that because money would not be allocated on a case-by-case basis – so, for example, every time a patient receives treatment from a hospital, that hospital is remunerated – but as a set per-head amount, it “incentivises the rationing of care”.

“[Our concern is] that it’s going to limit healthcare because what ACOs do is introduce a capitated budget so there’s a fixed budget per head ... whether

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Health and Social Care Committee

In the summary of its report into integrated care systems, the Commons Health and Social Care Committee said that the introduction of ACOs into the NHS had been “confused by concerns” with organisations in the US “which are different but also called ACOs”. “The main concern is the possibility that these new contracts might extend the scope of private sector involvement in the NHS.” Following this report, the government and NHS England began referring to ACOs as Integrated Care Providers (ICPs).

The committee also advised that “given the risks that would follow any collapse of a private organisation holding such a contract,” and the public’s “preference” for a publicly-owned NHS, “we recommend that ACOs, if introduced, should be NHS bodies and established in primary legislation.”

it’s the NHS or whether it’s private companies running the show, there’s an incentive to try to produce a surplus.”

The British Medical Association (BMA), which represents doctors across the UK, said that although it agreed with the principle of “integrating health and social care services ... we do not believe that NHS England’s current proposals for a new ACO contract are a viable means of delivering integrated care”. The organisation raised similar concerns to the Call 999 campaign: “Lack of clarity and accountability surrounding their development, the risk of privatisation they present, whether the government will provide the level of NHS funding required for them to work, and how they will ensure services are based on a foundation of strong primary care.”

Similarly, the BMA is sceptical about



the concept of ICSs. Citing their “association” with ACOs, the organisation said that they had considerable concerns about the transparency of plans around ICSs, and whether they too would be properly funded. Land believes that ICSs are simply another rebranding and advancement of the ACO agenda: “One of our slogans is ‘if it walks like a duck, if it sounds like a duck, it probably is a duck.’”

The argument for ACOs

On the other side of the debate, some health professionals are eagerly awaiting the introduction of ACOs. One of them is Paul Maubach, chief executive of Dudley CCG, the body driving the attempt to establish an ACO in the area.

He believes that an ACO (or ICP as he and other healthcare professionals now refer to them) is the best way to cement the integration of care that his CCG has already been working towards. “If you look at it in terms of the local view of a person or a local population, what they need is all those different services collaborating as one ... part of our objective with creating an ICP is to bring the organisational support around that care model.”

As for the future role of Dudley CCG, “we would transfer a lot of what we do to the [ICP] provider ... [Our core function] would be holding the provider to account for the outcomes that we’re trying to achieve for the population.”

Maubach believes that the current funding model – whereby “the hospital gets paid not on whether they achieve a good outcome for the patient, but for how many times they see them ... or the number of treatments they do” – is “illogical”. He believes that providers should be funded on a results basis, and that the capitated funding model would encourage different bodies to work together to achieve these results: “This [ICP] contract allows us to not only fund services in a different way, but align these services that really ought to be collaborating together to incentivise them on the same basis.”

On concerns around privatisation, Maubach calls this a “red herring”. He argues that, although competitive tendering is required by law, an area would only be likely to seek the establishment of an ACO/ICP when it has already worked hard to develop an effective local partnership that is integrating care, as Dudley has been for

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NHS England

An ACO, NHS England claims, “is not a new type of legal entity”, but would “simply be the provider organisation” awarded a single contract “for all the services which are within scope for the local accountable care model.”

“Given the interest” in ACOs, NHS England held a 12-week public consultation, and has since had to launch another 12-week consultation on contracting arrangements for ICPs. “The term Integrated Care Provider is in recognition that, as reported by the Health and Social Care Committee, previous use of the term ‘accountable care’ has generated unwarranted misunderstanding.”

NHS England says there is “widespread support for ending the fragmented way that care has been provided,” and these reforms are part of the “number of ways” it is “working towards this”.

some time with its partners: general practices and local NHS providers. “The likelihood of [an outside organisation] being able to demonstrate the degree of integration, the degree of capability, the degree of local connections ... would be very difficult for them,” he explains. “Is the private sector best placed to deliver that really complex care coordination? That’s much less likely.”

When asked to comment on the possible introduction of ACOs, chief executive of NHS Providers Chris Hopson said that his organisation believes “if a local health and care system think this is the best approach to use, they should be allowed to do so, having consulted their local population.”

“We would expect NHS trusts and primary care partners to be the key players in these contracts if and where they are adopted, either as single organisations or as the leader or co-leader of a wider consortium.”

It's time to realise the potential of in vitro diagnostics

In vitro diagnostics have a vital role to play in preventative care, easing pressure on the NHS and achieving positive health outcomes, explains Doris-Ann Williams, chief executive at BIVDA

The use of diagnostics to improve healthcare is finally being recognised. In vitro diagnostics (IVDs) are used in many more ways than to make a diagnosis; IVDs can also rule out causes of ill health, be used in screening for preventative treatment and to safeguard the blood supply for transfusion, monitor treatment progression and, increasingly, to determine the suitability of patient cohorts for receiving specific drugs.

Recently, three early priorities for the NHS have been announced by the new Health and Social Care Secretary Matthew Hancock MP: workforce, technology and prevention. The use and deployment of IVDs can support these priorities, delivering benefits for patients and the NHS.

Firstly: workforce. In common with a lot of specialties, there is a declining pathology workforce. However, 29 pathology networks are being created in England. These will ensure that the fully automated laboratory processes in blood sciences, and increasing automation in other parts of pathology, make the best use of staff time with most of the non-urgent samples being tested in large laboratories running 24/7. More urgent work will be managed in smaller laboratories, allowing for a rapid response for time-critical information. Increasingly, pathology staff will help manage testing in the community, thus providing a new career track for biomedical scientists and a more convenient route for patients to get rapid access to tests without having to go to a hospital.

Secondly: technology. It is well known that Mr. Hancock is experienced in digital technology, but his vision extends to ensuring that the NHS is able to embrace and utilise new technology. This should streamline pathways of care for patients and make the best use of resources for the healthcare system. There are many innovations in the IVD industry which could make a real difference, such as innovations in digital pathology where tissue images are viewed on computer screens under much higher resolution than a microscope, allowing for a more rapid diagnosis. This also means that histopathologists can work in remote locations and easily share slides for second opinions with expert colleagues anywhere in the world. In addition, IVD systems, as well as having been automated in a laboratory setting, have been miniaturised and simplified for use outside a laboratory, both in other locations within a hospital but also in the community and in patients' homes.

And finally: prevention. The NHS typically focuses on delivering healthcare in a hospital but there is now recognition of the critical role that prevention plays in the sustainability of our health and social care system. The IVD industry can help identify people at risk, and the information base from genomics will aid this. IVD technology also has a crucial role to play in reducing the burden of managing a long-term chronic disease, allowing patients to monitor their own health and reduce the need for outpatient care and hospitalisation. Aside from the use of a small meter to measure blood sugar for people with diabetes – used for several decades now – there are many other technologies in development which transform peoples' lives. IVDs are now coming into their own and will take over from drugs as the tool which is most valued when considering how to achieve better health outcomes over the next decade, whilst delivering better utilisation of healthcare professionals and diminishing resources.

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IoT devices can improve older people's quality of life

Cutting-edge internet of things technology can offer real solutions to the challenges posed by an ageing population, explains **Anne Sheehan**, enterprise director at Vodafone UK



Thanks to medical advancements and a higher standard of living, people in the UK are living longer. In 2016, 18 per cent of us were 65 or over. According to forecasts by the ONS in its *Overview of the UK Population* published last year, by 2036, this will have risen to 24 per cent. Coupled with a forecast 14 per cent population increase, this presents significant new challenges to policymakers.

Some of these challenges are obvious: how will local authorities tackle the increasing demand for social care? How will hospitals train sufficient medical staff to care for a growing number of elderly patients? Other challenges are more subtle: how can we ensure a high quality of life for an aging population? How can technology be used to help?

The government is looking to answer these questions, and more, through the Ageing Society Grand Challenge, published in the Department of Business, Energy and

Industrial Strategy's *Grand Challenge Missions*. This is one of the four big questions set out in the Industrial Strategy – the government's plan to boost productivity and increase people's earning power. The aim of the Grand Challenge is to "ensure that people can enjoy at least five extra healthy, independent years of life by 2035, while narrowing the gap between the experience of the richest and poorest". In other words, the emphasis is on tackling quality of life challenges for people over 65 across all socio-economic groups.

Breaking this challenge down, there are some key points to consider. First, if people are going to have an extra five years of life, they should be able to enjoy them. Second, the "healthy, independent years" tackle the first two problems outlined in this article. Third, "narrowing the gap" is vital – many of the methods of delivering these benefits will be technological. Technology has, historically, often been the domain of

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the wealthy. To overcome this challenge, people of all economic backgrounds must be able to take advantage of the benefits on offer, not just the rich.

At Vodafone, we believe that all of this is obtainable. Indeed, much of this technology is available today. Technology that encourages independent living. Technology that helps to prevent illness. Technology that tackles loneliness.

Restoring personal independence

Restoring a sense of personal independence is a key issue for older people. Everyday self-care tasks like

taking a bath, getting dressed and having a meal can be difficult without a helping hand. Indeed, 21 per cent of men aged over 65 need help with at least one of these kinds of tasks, and that percentage is even higher among women, according to recent research carried out by Age UK.

Providing care for people in this position is expensive. Indeed, 80 per cent of the average elderly care budget is spent on the 10 per cent in the most need. How can we keep people from needing this support for as long as possible? How can we reassure them and their families that they can live their lives knowing that, if they need it, help is on the way?

This is where internet of things (IoT) technologies like remote support can help. Remote monitoring sensors can ensure that friends and loved ones are alerted when there is an emergency. They can also be used to collect vital data that enables preventative action. Products like Vodafone's new V-SOS

wristband notifies family members if the wearer suffers a fall. There is also an emergency button that the wearer can press if they need assistance.

Other remote monitoring products alert family members if the bathroom light isn't switched on in the morning, or if the kettle hasn't been used, as this may indicate a problem. Companies like Republic of Things in Manchester will monitor the environment, humidity and movement in a home. If the temperature drops significantly, or if humidity reaches a level at which bacteria can start to grow, the relevant team in the local authority is notified so that a home visit can take place.

The benefits of this kind of support are twofold. First, people can live their life as they choose, knowing help will arrive if it's needed. They don't have to feel like they are constantly being checked up on.

Second, stretched council resources are eased, as caseworkers can make visits where they are needed, rather than on a set timetable.

Fostering a sense of community

Another real challenge for older people is loneliness and social isolation. Those who are less able to leave their home, or who live far away from friends and family, may find themselves with fewer opportunities to talk to people or play an active role in their community. But thanks to video chat, voice controlled devices or even a transportable robot head, such as devices developed by Norwegian startup No Isolation, it's becoming easier and easier to stay connected to those you love, and to make new friends.

Giving elderly people freedom in their own homes, family members peace of mind, and carers a more targeted and responsive schedule can only make life easier, and more enjoyable for all three. There's work to do for industry and policymakers to support people and communities in the uptake of these new technologies but, working together, we can deliver a real improvement in people's lives.

Technology helps restore independence

Hospitals in two major cities stand empty and unfinished in the wake of the Carillion collapse. **Jonny Ball** explores the failure of a funding model that now costs the NHS more than £2bn a year

The policy behind Liverpool's empty hospital

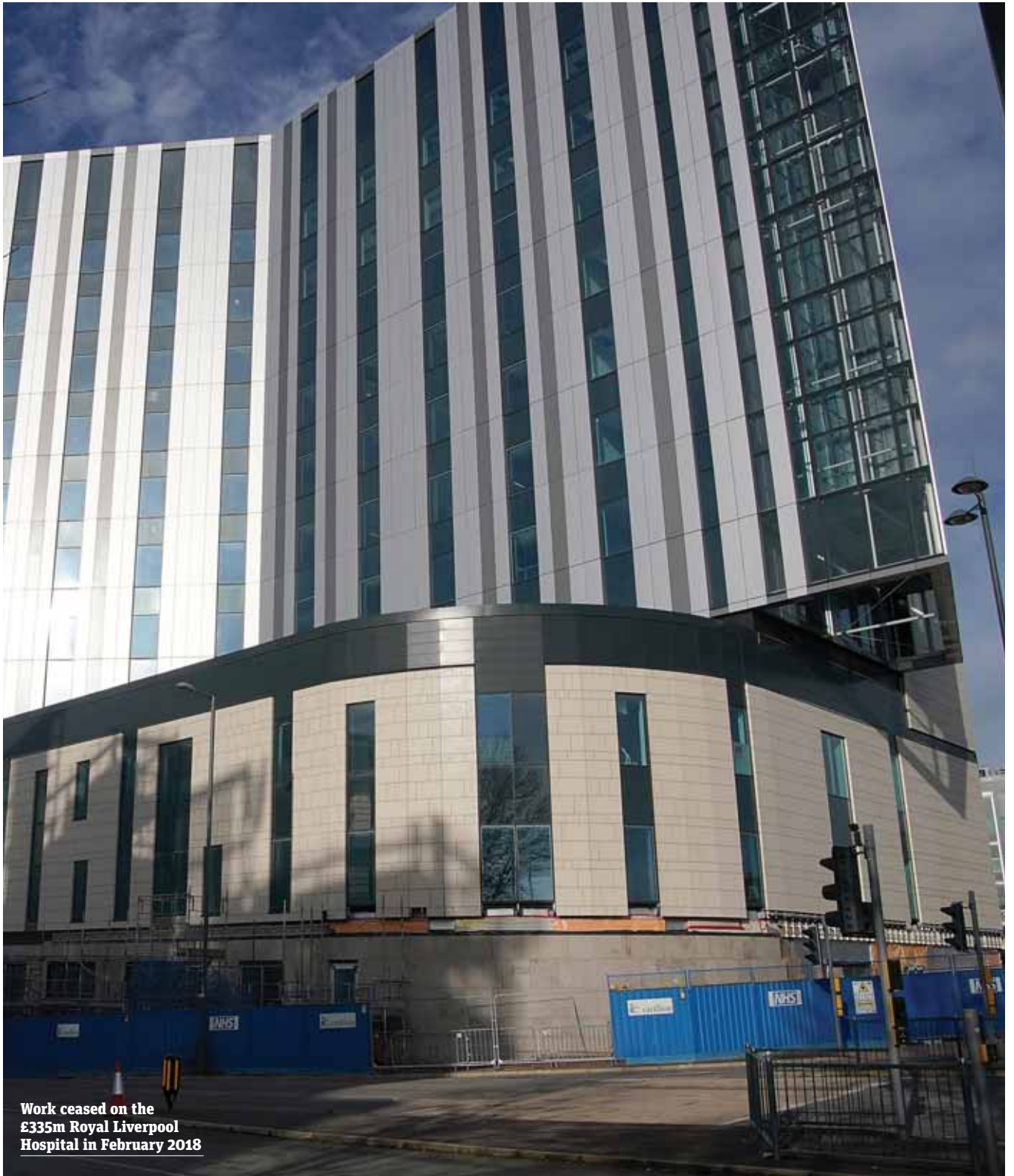
On the final day of this year's party conference in Liverpool, Labour's vision of publicly-owned public services was branded "economic madness" by Conservative critics, who described it as a rehash of "failed ideas that didn't work in the past". At the Conservatives' own conference in Birmingham, Philip Hammond described "the socialist manual" of Labour policy as a "discredited ideology that will never solve real-world problems".

But in the hospitals of both cities, Hammond's words did not ring true. Less than a week before Hammond's speech, the Department of Health spent around £120m bringing Liverpool's biggest hospital back into public ownership. The renationalisation of the Royal Liverpool Hospital project was less an act of "economic madness", than one of necessity; the scheme had

ground to a halt when the company paid to design and build the hospital under a £335m Private Finance Initiative (PFI) agreement, Carillion, collapsed.

The same had happened in Birmingham. In August, the government agreed to bring the Birmingham Midlands Hospital, also being built under a Carillion PFI scheme worth £350m, back onto the public books. In both cities, major new hospitals remain unfinished.

The contract for the building of the new Royal Liverpool Hospital was agreed in 2013 by the local NHS Trust and the Hospital Company, a PFI investment vehicle with investors including multinational financial services firm Legal & General and the European Investment Bank. On the same day, Carillion was awarded a five-year deal worth £235m for the design and construction of what was billed



**Work ceased on the
£335m Royal Liverpool
Hospital in February 2018**

CHRISTOPHER FURLONG/GETTY IMAGES

as a state-of-the-art facility to replace the original Royal, a monolithic 1970s brutalist block once described by Andy Burnham as “a little piece of Eastern Europe” on Merseyside.

Five years later, on 15 January 2018, Carillion became the subject of the largest ever trading liquidation in the UK’s history, reporting liabilities of £7bn and cash holdings of just £29m. Carillion employees were left in limbo, subcontractors were left unpaid, and Liverpool was left with a multi-million pound building, frustratingly close to completion but standing empty, as the inadequate facilities in the original Royal Hospital came under ever greater pressure. Louise Ellman, the MP for Liverpool Riverside, where the hospital is situated, says the new Royal is “around 90 per cent complete. Most of it is built, there’s equipment in what will be some of the wards. It’s an impressive building. But unless that 10 per cent is finished, none of it can be brought into use.”

Carillion employed a business model that was described by a parliamentary report into its failings as “a relentless dash for cash, driven by acquisitions, rising debt, expansion into new markets and exploitation of suppliers”. With its “complicit” accountants and auditors, it had misrepresented its accounts with “increasingly fantastical figures” while increasing its dividends every year. Rachel Reeves MP, chair of the Business, Energy and Industrial Strategy Select Committee and co-author of the report, said that “it was impossible to get a true sense of the assets, liabilities and cash generation of the business.”

Carillion’s external auditors, KPMG, were told by one MP on the BEIS committee that they couldn’t be trusted “to audit the contents of my fridge,” while the chair of the Work and Pensions Committee, Frank Field, described the incomplete shell of the new hospital as a “creaking monument to greed”. “The mystery wasn’t that Carillion collapsed,” concluded the parliamentary report, “but that it lasted so long.”

As the local NHS Trust, the Hospital Company, its investors, the Department



of Health, the Treasury, and the official receivers scrambled to find a way to continue work on the building, an engineering firm was employed to identify what was needed to see the scheme through to completion. They found that Carillion had used combustible cladding, similar to that used on the Grenfell tower block, on much of the building’s exterior, breaching regulations for the design of healthcare premises. They also found that cracked concrete beams in the building threatened its structural integrity, raising costs and complicating the process of finding another contractor to complete the project. On 25 September it was announced that the government would step in and

publicly fund the remaining work on the hospital, with an estimated completion date of 2020.

As a specialist in PFI-financed capital projects and “facilities management” in the public sector, Carillion had established itself as an auxiliary provider of public services ranging from the upkeep of military barracks to hospital catering and cleaning trains. Grace Blakeley, a research fellow at the Institute for Public Policy Research, describes the model as a “system of arbitrage in which the government outsources contracts to huge oligopolies – Carillion, Capita, Serco,” which “subcontract the real work to the real contractors down the line. As well as outsourcing public services themselves,”



“A creaking monument to greed”

PAUL ELLIS/ANP/GETTY IMAGES

she explains, “we’ve outsourced government procurement.”

PFI began under John Major and flourished in the Blair and Brown era, but its effects will extend far into the future. The National Audit Office (NAO) has found that over the next 25 years, the taxpayer will spend more than £200bn effectively servicing the debts incurred by PFI and its successor, PF2. Frank Field recalls that during the New Labour years in the Wirral, “schools were being built by PFI with 18.3 per cent rate of interest, plus management charges.” At a time when government could have borrowed at less than a third of that rate, huge amounts were being handed to the private sector, often spread over decades.

So why would any fiscally prudent government countenance PFI? Blakeley says it’s chiefly about making the debt another government’s problem. “The level of borrowing the government is undertaking is kept off the books for a long period of time,” she explains. “Rather than saying £5bn now, the government is able to say it’s paying £100m a year for however many years.” The taxpayer pays for these figures to be massaged through “much higher interest than if the government had borrowed the money upfront,” Blakeley explains, but for the government, PFI remains attractive because the debt “doesn’t appear in the deficit figures, initially”.

PFI is as an accounting trick, then, and an incredibly expensive one: according to the NAO, the cost of privately financing public projects can be 40 per cent higher than when projects are financed by direct government borrowing.

Despite the massive, long-term bill it incurs, proponents of PFI and PF2 say that taking the real levels of debt incurred through capital projects onto the government balance sheet would have its own ramifications. A massive increase in the official levels of sovereign debt could threaten the country’s credit worthiness, raising the future cost of borrowing. In this reading, governments that use PFI engage in creative accounting, get themselves into larger

amounts of debt, long term, but in doing so they also ensure that they – and businesses within the state – are able to borrow money more cheaply, which balances the cost within the overall economy.

Blakeley, however, says this argument “doesn’t hold much water, both because we have a fairly good credit rating and because interest rates have never been lower than they are now. In fact, the government can effectively borrow at negative real rates of interest, so public borrowing is incredibly cheap. And public borrowing for investment is generally not frowned upon by investors because you’re creating excess capacity in the economy down the line as well as boosting demand now. Borrowing to invest will pay for itself as long as it’s not done to a silly extent. So, most of the things done under PFI or that sort of contract could be done by public borrowing now. Not only would it be cheaper, but the government could also run those services or contracts based on considerations about environmental and economic impact, rather than the narrow profitability that they’re run on now.”

“I argued with Gordon Brown to do this [when Labour were in government]” says Frank Field, “but he wouldn’t.”

If there is an upside to the empty corridors of the Royal Liverpool, then, it is that Carillion’s collapse may make it more difficult for governments to justify the use of PFI in future. Nor is the story of the hospital unique. A thirty-year obsession with outsourcing, privatisation, competition and marketisation of the public realm has created a situation in which the government has been forced to step in and run services where the private sector fails, from the 14 hospital trusts that had relied upon Carillion for services, to the HMP Birmingham, the East Coast Main Line, and even security personnel at the 2012 London Olympics. If Philip Hammond seeks a “discredited ideology that will never solve real-world problems,” he may find it in the more than 700 PFI deals that remain operational.

The Conservatives have run out of time to fix social care



Barbara Keeley, Shadow Minister for Social Care, argues that a funding solution for social care is long overdue, and only Labour can now deliver it

This autumn could prove to be a crucial moment for the future of the social care system. Many within the sector are pinning their hopes on the government's long-awaited green paper to solve the crisis, which becomes more acute with every passing week.

Councils, which deliver social care to older people and younger people with care needs, are in the grip of serious financial problems. Earlier this month, Somerset County Council revealed it was making emergency cuts to stave off bankruptcy, a fate that has already befallen Northamptonshire County Council.

Councils have had their budgets from central government cut by an average of 40 per cent since 2010, which has seen over £7bn drained from social care funding, reducing the amount of care councils can provide. The funding gap, which already stands at around £1.3bn, is

set to rise to £2.5bn by 2020.

These funding reductions mean that 400,000 fewer people are now getting publicly-funded care than in 2010. 1.4m older people who need care do not get the support they need to carry out basic tasks like washing, dressing and toileting.

Cuts have led to a growing number of care providers within the predominantly outsourced social care system handing back contracts or closing altogether because they cannot provide safe care on the sums allocated to them.

Access to care is not the only problem. A fifth of all services nationally are rated as requiring improvement or as inadequate, and there are pockets of particularly poor care throughout the country. Many dedicated care workers are overworked, underpaid and struggling to give the care they want to provide.



The current crisis is unsustainable, but it is remarkable how often that has been said over the 20 years since the first review, the Royal Commission on Long-Term Care for the Elderly, reported in 1999.

Who pays for care remains the most vexing question. Under the current rules, anyone with assets or savings of over £23,250 pays for the whole cost of care without any state support. Beneath this figure, support is tapered until the individual reaches £14,250, at which point their care is free.

This is manifestly unfair. It makes an arbitrary distinction between people with certain medical conditions, such as cancer, who get free healthcare on the NHS, while others, with conditions such as dementia, get no care unless they pay for it.

The low asset threshold of the means test often sucks large numbers of people into paying high and even “catastrophic” social care costs, exhausting their savings or selling their home to meet costs accrued over many years. There is no upper limit: one in ten older people pays £100,000 or more for social care, though lower sums can be equally catastrophic for many more.

A recent survey by *Which?* found that only one in ten over-55s have money set aside to pay for the help they may need in later life, and that 15 per cent of those surveyed said they would ask their GP about social care rather than their local council.

So why is it that the current system, with all its inequities, has persisted? Since 1999, there have been 12 white papers, green papers and other consultations about social care in England as well as five independent reviews and commissions, not to mention a host of other research papers, all full of ideas on how to put in place social care on a sustainable long-term footing. And yet no lasting settlement.

Labour’s plans to offer care free at the point of need, outlined in its 2010 white paper, were shelved by electoral defeat that year after aggressive Tory sloganeering that branded Labour’s plan

to impose a levy on estates a “Death Tax”, poisoning the well of debate on social care thereafter.

Since then, the Conservative government has ducked reform while simultaneously cutting care funding. In 2016, it shelved the care cost cap created by the 2014 Care Act. The ill-thought out “Dementia Tax” policy, which included the value of people’s homes in the means test for home care, had an impact so toxic it was effectively dropped within four days.

Fearing the wrath of a distrustful electorate, the government has delayed a green paper it promised to deliver this summer until the autumn – a full year after it was first announced. However, the succession of ideas floated tentatively in the press recently, including a “Care ISA” and an auto-enrolment savings scheme, suggest that the green paper is not likely to produce any firm new proposals, or indeed the funding needed to ease the current crisis.

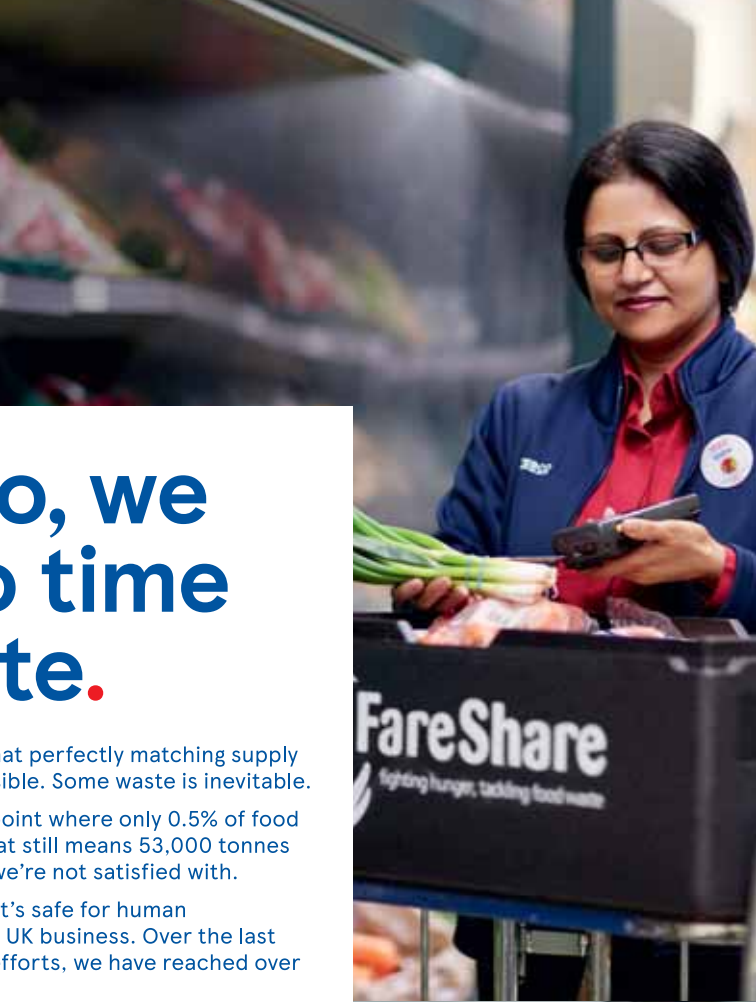
The government appears to lack both the courage and the ideas to reform social care and it also fails to understand the value of social care to the people who rely on it. Labour recognises that social care enables people to live with independence and dignity, which is why our reforms will address how social care is delivered as well as how it is funded.

Labour has already pledged to invest an additional £8bn to lift both the quality of care and access to care. We would then plan to move to a sustainable system of care which would pool the risk of paying for care through a cap on individual costs.

We would encourage councils to commission care on an ethical basis from providers who sign up to an ethical care charter and agree to certain terms and conditions for care staff as a minimum. Ethical commissioning could also create a more vibrant network of services; social enterprises, mutuals, public and third sector organisations, not just private sector providers. This would help lift quality and enable a focus on the personal needs of people who are cared for.



1.4m people in need don't get basic support



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