NewStatesman

A new direction for stroke treatment

Mechanical thrombectomy in the UK

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An investment worth making

Clodagh Dunlop, a police officer from Northern Ireland, survived a stroke suffered at 35. She tells her story

There is never a "good" place for anything bad to happen to anybody, but I have to admit that I always held a notion that already being in an A&E hospital department when suffering a stroke would be like winning the lottery, with expert medical professionals and intervention equipment on-hand, hopefully able to save my life. I discovered in April 2015, when I suffered from having a clot suddenly lodged in my brain, when the stakes you are playing with are your life, the odds are really not that favourable.

I was already in A&E, having arrived via ambulance after having an "episode". Aged 35, I didn't associate my episode with a stroke; I didn't realise that I just had a transient ischemic attack (TIA), but I did know that I wanted medical attention. I was a young, fit and healthy police officer that responded in 999 calls; I ran seven-minute miles almost every day before or after work to de-stress and stay sharp. I loved my life. I remember the time waiting in A&E, my sister staying with me. I remember the moment the clot lodged in my brain as I remember saying "I love you" to her, before losing my vision and then my consciousness, and violently thrashing with muscle spasms before blanking out.

My next memory is waking up intensive care, tubes and lines emerging from my body and being paralysed from the top of my head to the soles on my feet. I remember being locked inside my body, being able to see and hear everything, feeling the rush of air across my skin as a nurse walked by. How could this have happened to me? Why did this happen to me? Whilst in hospital rehabilitating for six months, trying to get my brain to reconnect with the muscles of my body I thought of all the "if only" scenarios that could have prevented my disabilities.

The timing of my stroke in the A&E unit was not akin to winning the lottery as I now know. Had I somehow scheduled the incident during the week, Monday through Friday in office-type hours, the mechanical thrombectomy procedure which saved my life would have been completed post-haste and potentially I could have left the hospital after a few days with little or no side effects, certainly without life-altering disabilities, ongoing rehabilitation in the community and a continuing care package.

The mechanical thrombectomy procedure is not a 24/7 service in any hospital; in some parts of the United Kingdom it is not even available. I owe my life to the team at the Royal Hospital Belfast, who when contacted out of hours, made the decision to come to work and save my life.

I am and will be forever grateful for their good will, and similarly every month when I receive a personal independence payment or rehabilitation therapy, I am annoyed and bemused that a small proportion of the money spent to now assist me through the rest of my life was not spent in preventing or minimising my disabilities in the first place.

Putting an end to the postcode lottery

Access to high-quality care should not depend on geography, writes Baroness Wheeler, part of the Lords Health Team and Labour's Health Whip in the Lords

Stroke affects over 1.2 million people across the United Kingdom and remains the fourth-biggest killer and the largest cause of adult disability. Current access to stroke treatments is variable across the country. In some areas, even the most basic stroke treatments are not given to all stroke patients. With the number of strokes set to rise by more than a third over the next two decades, we must take steps now to end this "postcode lottery" of care.

As a carer keen to see improved stroke services, I welcome the recognition in the NHS Long Term Plan of stroke as a clinical priority. The plan sets out NHS England's ambitious vision for stroke prevention, treatment and care over the next ten years, and it is very encouraging to see improved access to thrombectomy and thrombolysis – both cutting-edge stroke treatments – as two key targets.

It is very concerning that only a fraction (around 10 per cent) of those eligible for a thrombectomy treatment currently receive it. Thrombolysis, a clot-busting drug, is also only available for around half of all patients who could benefit from it. Yet these procedures are can be a very powerful intervention for stroke patients. Both are highly effective at preventing or reducing severe disability after stroke, and even saving lives.

Thrombectomy and thrombolysis also carry huge potential to save the NHS money. They give stroke survivors a big boost in their quality of life, which then saves money in longer-term health, care and welfare costs. In England, estimated roll-out costs for thrombectomy are around £9m. Yet, this would be recouped quickly after the first year of delivery thanks to annual savings of £6m as a result of the treatment.

To really make the postcode lottery of stroke care a thing of the past – and deliver thrombectomy and thrombolysis nationally – we have to ensure that all local stroke services are configured in the most efficient and effective way. Thrombectomy can only work well within properly organised acute services able to deal with the requirements of such a highly specialised service.

The government and NHS must also focus attention on ensuring there are enough specially trained professionals necessary to carry out the increasing number of thrombectomy procedures, and set out how they will achieve this. Thrombectomy is a highly skilled operation, and there are already significant workforce challenges. The new thrombectomy Commissioning for Quality and Innovation national goal (CQUIN) in place is an encouraging start, and has the potential to increase the number of places in the country where people can have a thrombectomy if taken up by local areas.

There is much work to get underway to ensure stroke services across the UK deliver the best possible stroke treatments and care. Stroke patients will only be able to access life-changing treatments if the infrastructure and staff are in place to deliver them. I hope that our focus on improving patient access to thrombectomy and acts as a catalyst for improvements in stroke care more widely.

Stryker and the *New Statesman* hosted an event in Westminster to analyse the challenges and opportunities associated with stroke treatment across the UK

"Without mechanical thrombectomy, I would not be here"

For Clodagh Dunlop, a police officer from Northern Ireland, mechanical thrombectomy's game-changing credentials for stroke treatment are "self-evident". She knows that without the procedure, which involves the removal of a clot blocking blood vessels using a stent retriever to restore blood flow to a person's brain, she "would not be here today". Suffering a stroke at 35, she was one of an increasing number of young people to experience this problem, but was thankfully treated swiftly and effectively in Belfast's A&E department, despite it being outside of the stroke centre's usual working hours. "I was lucky," she told a round table discussion hosted by the *New Statesman* and Stryker. "The thrombectomy service was only usually on offer from 8.30am to 5.30pm. The consultant who performed the surgery had to be called in on a public holiday…so 24/7 care is a serious goal [that the National Health Service must aspire to]."

Dunlop explained that the six months of post-stroke rehabilitation she went through came at a "substantial cost to the NHS", and also had a knock-on effect to her day job and the wider economy. "I'm grateful that I've been able to return to full-time work, but as strokes become more common among people of working age, we have to think about how to make a system that is more preventive, and avoids people being off work for so long."

Approximately 100,000 people in the United Kingdom suffer from a stroke every year. According to Public Health England, strokes are a leading cause of death and disability in the UK; 1.2 million stroke survivors cost the NHS some £26bn annually. While overall rates of deaths related to strokes have slowed in the past 15 years, in part thanks to new technologies, stroke care in general remains in a state of policymaking limbo. Mechanical thrombectomy is by far the most effective stroke treatment with less than three patients needed to affect a "good" outcome – much less than the 17 needed for a heart attack.

Regional inconsistencies in infrastructure and implementation mean, however, that while stroke care has undoubtedly advanced, not everyone in the UK is benefiting from this progress. And so addressing that imbalance formed

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the basis of a discussion in Westminster, bringing together a group of clinicians, policymakers and industry experts.

Sir David Amess, vice-chair of the all-party parliamentary group on thrombosis and whose Southend West consistency has a specialist stroke unit at the local hospital, noted in his opening remarks that the appointment of "techy" Matt Hancock as Secretary of State for Health and Social Care was "encouraging". Hancock is "fascinated by technologies and he understands them", Amess said of the 40-year-old, suggesting that Hancock would ensure "sustained" investment in breakthrough treatments. But he warned that the "pressure" of treating patients from as far afield as Kent and Sussex could not be "coped with" forever in Southend. "Other centres do need to be established. Mechanical thrombectomy is a game-changing treatment, and you need specialists in other places."

As there is no "pattern" as to when and how strokes occur, Imperial College Healthcare Trust's Dr Soma Banerjee highlighted, delivering stroke units which are open 24/7 must represent a "priority" for the NHS. Mechanical thrombectomy, she pointed out, "is only as successful as it can be, if done at speed". She added: "The reality is that a stroke can happen anywhere, at any time. I appreciate that in our sector there is an issue with providing 24/7 specialist care…you need to think carefully about manpower, the distribution of specialists, the rota required to manage however many staff you may need. You've got to guard against burnout."

While much of the conversation at the round table event was premised on a "postcode lottery" – the idea that a stroke sufferer who lived too far away from a specialist unit could be penalised for their decision to do so – Dr Robert Crossley, consultant neuroradiologist at North Bristol NHS Trust, put forward the case for "centralised" care. "There has been research at Newcastle and Exeter universities," he explained, "which found that in excess of 90 per cent of the UK population lives within 45 minutes of a neuroscience specialist centre. The siren call for setting up a huge number of additional thrombectomy centres needs to be resisted, for the time being, while we addresses this more pragmatically. We need to be able to fully resource and enhance existing centres that already do high-volume stroke treatment, before we talk about rolling things out."

Dr Tufail Patankar, consultant interventional neuroradiologist at Leeds General Infirmary, agreed that stroke strategy needed to be viewed with a bigger picture in mind. He said that it's "not as simple as just paying for more consultants", and that money should be invested "across the board". Patankar explained: "What's the point of having six or seven consultants, when you can't actually get the patient [to be eligible for thrombectomy], because there is a problem in diagnosing them. We need nurses and radiographers, too."

Alex Mortimer, consultant neuroradiologist at North Bristol NHS Trust, continued: "Yes, there needs to be a [thrombectomy] centre in every region in the country, but more pertinent than building lots of new facilities, is improving the

"There aren't enough specialists"

pre-existing infrastructure we already have. A big step towards beating the so-called postcode lottery means improving the transfers of patients… it means improving the access to the ambulance service and helping hospitals to improve the flow of patients particularly in stroke imaging and diagnosis."

Is it possible to do more with less? Mortimer said: "A smaller network of centres, which are better equipped and have more expertise, is more realistically achievable [in the short term]. If you build lots of new centres, you run the risk of having the most inexperienced clinicians being placed at the youngest centres… there is then a risk that services could fragment."

The round table agreed, overall, that an improvement in UK stroke care strategy necessitated more conversations between healthcare providers and policymakers. Baroness Masham of Ilton, crossbench peer and co-chair of the all-party parliamentary group on health, said it was important that in the midst of the United Kingdom's decision to leave the European Union that the government did not "get distracted by other things" and continued to "facilitate conversations between the people able to make a difference".

And while there was an agreement, as well, that training more consultants so they are capable to perform mechanical thrombectomies in the long run, this came with the caveat, as Crossley put it, of centres "learning to walk before they can run". Key issues surrounding hospital infrastructure, ambulance transport, and concentrating expertise must be addressed, according to Charlotte Nichols, public affairs officer at the Stroke Association. She affirmed: "Yes, the main issue is to do with the workforce – there aren't enough specialists. But stroke strategy overall necessitates a greater efficiency in high-volume services. Quick transfers are key and we need to afford more urgency to the structural issues around stroke treatment."

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How the NHS is aiming for a stroke-free future

Swift treatment and support services are at the core of the UK's stroke strategy, writes Stephen Powis, national medical director at NHS England

While the United Kingdom has made giant strides in stroke care and treatment, there are still about 100,000 patients suffering from a stroke each year, over half of whom will go on to live with a resulting disability. The side effect of getting better at treating strokes, within the context of an ageing population, is that while fewer people may die thanks to new treatments, there is likely to be an increase in the overall number of patients needing stroke-related care.

The majority of strokes could be prevented if the major risk factors were managed effectively. Cardiovascular prevention is rightly, therefore, a critical component of the NHS Long Term Plan which sets out the objective of preventing 150,000 strokes and heart attacks over the next ten years. Identifying and managing high blood pressure and high cholesterol through lifestyle changes and medication, finding and treating people who have irregular heart rhythm, atrial fibrillation, and preventing diabetes – a significant cause of strokes – are all essential to avoid an epidemic of stroke, heart disease and dementia.

For over 20 years we have been using alteplase, a drug injected to dissolve the blood clot causing an ischaemic stroke, and for the last three years we have had evidence that putting a catheter into the artery and physically pulling out the blockage can prevent brain damage.

The NHS has developed services that now offer the alteplase injection in all hospitals treating acute stroke 24/7. But it is only being given to 14 per cent of patients with ischaemic stroke because it must be given at the latest four and a half hours after the onset of the symptoms of a stroke. The NHS Long Term Plan aims to deliver alteplase to all those eligible for it, roughly 20 per cent, by 2025.

Clot extraction is even more effective, transforming someone from an outcome of severe disability to one of independence for about one in four patients, but only around ten per cent of patients will be appropriate for treatment. We are continuing to expand clot extraction from one per cent now to ten per cent of patients, allowing thousands more people each year to be independent after their stroke.

Achieving the ambitions for stroke in the NHS Long Term Plan will require investment of human and financial resource, and will also need the support of the communities who stand to benefit, since delivering these improvements to patient care will require acute stroke services to be reconfigured to ensure more patients are able to benefit and receive timely treatment. To do this we will work via the National Stroke Programme to establish Integrated Stroke Delivery Networks – joined up services in each area – to achieve these ambitions and save over 1,000 extra lives each year.

More work is needed to deliver consistently high-quality, longer-term rehabilitation in the community for as long as a patient is benefitting from it and this is again a commitment made in the NHS Long Term Plan. Nearly all areas of England need to provide more and better rehabilitation after a stroke. The NHS is not only aiming to save lives, but the quality of lives, too.

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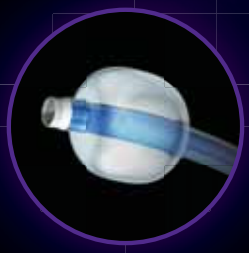

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