The Future of London's Hospitals

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It is marvellous actually coming here to Gresham College to deliver this talk. It combines two of my passions: the first being the social history of medicine and the second is my work on medical care policy. I have particularly studied the 1800s in London during my PhD some years ago, where I looked at medical politics and conflict, and London offers a very fine example of this. I have worked on secondment now to DH over the last year on the policy review, particularly looking at the medical workforce planning models. We have been trying to predict the kinds of doctors and how many we need for the next twenty or thirty years, because those decisions for investment have to be made in the next two years. We need an idea of what the Health Service might need in twenty years' time and what it might look like, and this is a part of what I hope to address tonight.

Before I begin, I should just say that I am speaking in the personal capacity here. None of my comments are anything to do with the policy development that is going on at King's or at the Department of Health. They are all my personal reflections, as you will see.

If we just think about the range that we are going to cover over the next forty minutes or so, it is important to grasp how medical care, especially in London, is constantly changing. It is a very dynamic hospital system, it is extremely innovative, and we have many examples of changes over the last thirty years, which I want to draw on as we look forward into the next thirty. I have worked in this area now for twenty years, so I have worked from when Mrs Thatcher was in onwards, and as you start to look critically at all the different sorts of policies on development, for any government, there are themes where we have continuity, and one of them is going local.

I would like to begin by having a look at where this idea of going local comes from and where it is it taking us. Obviously I am going to touch on polyclinics through this. I think most people do not like the words and they may not stand, but the idea here is go local where you can, centralise where you need to. So it is necessary for us to have a look at that as a policy theme, developed originally, by the way, in the 1911 National Insurance Act.

We will also take a look at an area close to my heart: critically looking at the advances in drugs, technology and therapeutics. This is very important because we have got stepwise changes coming in the modality of care, how we do things, and this will change the sorts of deployment patterns of staff, but also, critically, the relationships with those staff and where they work. The art of the possible becomes different, and so to look at this, I am just going to reflect on a couple of my personal experiences from the last thirty years to illustrate this great body of knowledge that actually powers London's development of hospitals, and what is this word "hospital" and why we are so obsessed with it. I am going to make a proposal about a rather eclectic mix for the next thirty years and quite a wide definition of the use of the word "hospital".

Then, finally, I will touch on a policy that is just coming in now. This concerns the Academic Health Science Research Centres, the first one of which is coming in West London, at Imperial. My own college, King's, has just announced our own one, with King's, Guy's, Thomies, so we will have a look at what that means for the future patterning of staff in these integrated clinical networks.

So looking to the future, we need to understand the past and also what is happening in technology. London has a dynamic and ever-changing hospital scene. We are not ossified in our past, we build on the past, but we keep moving forward. So, to understand what lies ahead, I will begin with the past.

I would like to briefly tell you about my own experience within the NHS, to illustrate my own experience of this fast-moving world. I entered the Health Service in 1975, joining the Royal Free Hospital in Gray's Inn Road. At the time this had a specialist unity in radioactive medicines, radio-pharmacy and cancer care, however, by the time I went up, they had shut it and moved it up to the new and modern hospital on Lawn Road, Hampstead. From there I moved to the Friern Barnet Hospital, on the North Circular, which has now been converted into some very nice and expensive flats. This fate was the same for my next hospital, the Liverpool Road Hospital, in Angel. The New End Hospital, in Hampstead, is also now a block of flats. The Queen Elizabeth Army hospital is now the Art College next to the Tate. St Stephen's in Chelsea is now Westminster Chelsea. St Mary Abbot's in South Kensington is now a block of flats. St John's in Battersea now mostly a housing estate. Finally, I have also been at Queen Mary's at Roehampton, two-thirds of which have now been redeveloped as flats and other buildings.

The point here is that London is dynamic and it's moving. It has hospital stock, but if it does not need it, it sells it off, redevelops, goes with technology and with therapeutics. Even in my short time in the London system, which is from '74/'75 up through to about '86/'87, before I went onto the Policy Unit, the whole system has changed. So if that was just that short period, looking to the future, we can expect a lot more of that sort of change.

So, to help us to project forward for the next thirty years, having spent the last year building econometric forecasting models trying to predict how many doctors we will need in twenty years, we have had to get some idea of what the design of healthcare actually might be over that period.

The first observation to make is that the majority of us will still be living. We are getting older and older and older and we have to make provision for that. There is some brilliant research which was commissioned by Mrs Thatcher's Government, by the then Secretary of State for Health, Ken Clarke. The research was done by Rawlinson, Kelly & Whittlestone, who are research architects and so have to design buildings that actually have a functionality that lasts for twenty or thirty years. In their position they must consider building materials, the site, the appearance, and they have to understand the flows of people who will use that building. This research by Rawlinson, Kelly & Whittlestone was carried out in the late-1980s, early-1990s, so we are nearly twenty years into their research, and they have been proven to be very prophetic in what they predicted through their final design where we have an intensive intervention centre for the five big emergency services, being mental health, obstetrics, children, general medicine, and surgery.

They made the point that if you did not have to co-locate them, we could open up the issue of whether we need A&E Departments and a blue light service as we traditionally know them, because if you separate out those five emergency blue light calls, you can actually get a different design. So what they predicted was that because of traffic gridlocks and all sorts of problems with just getting people around, actually we should try and build, instead of big hospitals, very local health maintenance centres, housing children, maternity services, outpatients, clinical support, and diagnostic and treatments. This was very local, and each one of these would serve a population clustering around perhaps three to five GP practices, so there would be a link with the local set of GP practices and that we would also have self-care centres and homecare services. This was a revolution when it was proposed in 1989-1990, and I can remember that they got criticised strongly for this. Most people looked at this and said "I can't see the word hospital on it,

so it can't be right", whereas actually what they were looking at is functionality, so actually the building structures follow the function you require.

Prophetically they also created the model for aided living centres where, particularly for care of the elderly, we can start to see that we should bring together the health and social services focus around rehab, day hospitals and respite care. So this is the model of devolution, developed self-care model, from 1989-1991. It actually builds on the model originally outlined by the 1911 Act, by Lloyd George, using the Welsh miners' model. It was incorporated in the NHS Act 1946, and the Beveridge Report 1942, and critically, there is a long pedigree to the thinking of going local.

Now, if we take all these ideas and start to project forward, what does this mean for London? To begin by looking at the research field, the GE, for instance, are currently looking at types of new technologies for imaging. So in a short period of time we have gone from the great Marie Curie and Pierre Curie with radium and being able to visualise bones, right through to x-rays, to PET, to digital x-ray, and now GE have commissioned nearly 1,000 PhD students to look at this area that will create new models of imaging that will give us much finer resolution to help with diagnosis.

This allows us to get into something called early health. This allows the strategy for developing health policy in the future to be a matter of health provision being much broader and a much more efficient model of care. Through this we have to shift from the post-symptomatic presentation, where we feel ill so we go to the doctor and then there are tests and interventions, to pre-symptomatic screening. It is much more cost effective to intervene earlier in the disease curve, but the problem is we do not have fine enough diagnostic tools. That is the focus of the current research. So if we went to Siemens Nixdorf, Toshiba, and these great companies that are researching in this field, and the technology trends, we can see that we will have much more sophisticated information and informatics to help decision making much earlier. That means we need to have those provisions, and to help us there, we have got all sorts of interesting developments.

Before Mr Blair left office, he signed through a rather good policy to develop the pharmacogenetics service. This was based on the brilliant research coming particularly out of Cambridge. Linked to this is the fact that, as some of you will know, UC and UCL have just got the land north of Euston, north of the Wellcome Institute, to build the new MRC Science Centre. This will really power up science-based research that particularly will start to look at the pharmacogenetics and gene therapy services. Again, if you have a look at the strategy signed through by Mr Blair, it actually envisaged a specialised centre in each region, but actually ten hubs around it that were very much more local. We have to think about staffing these of course, but the issue here is that we have now got clinical convergence and overlaps driven by such technological changes. So where does a surgeon's job start and end compared to, for instance, an interventional radiologist. The issue arises because the technology developments create overlap between the roles which, in former days, were very clear and distinct. Therefore we have to have a look at this issue of technology and the driving to convergence because it affects what sorts of deployment models we might want in the future and where these practices might develop.

All of this supported by very sophisticated information technology, and the Health Service, like most of the public service, has had its teething troubles in terms of bringing in what is called the N3 technology, but BT Health have done a fantastic job. They have dug up virtually every road in England to lay the cables, and they are good to go, so we will now see the fruits of years of investment of basically digging up the country to install the infrastructure actually now bringing forward the sorts of imaging technology and the transfer of information.

Another example of this improvement of technology is the Electronic Transfer of Prescriptions (ETP), which will revolutionise how prescriptions are moved in the system, along with investments in robotics. Do not forget there are around 800 million prescriptions dispensed a year, so this is a very big system to deal with.

The robotics to support those sorts of dispensing efforts are now being pioneered in this country, in hospitals and by Boots.

All of this links through to the clinical notes, and we have also got the types of facilities that allow delegates at a conference in Taunton to view all the x-rays taken the day before of a patient in Blackpool. The consultant from Blackpool was down in Taunton speaking about this patient, and we were able to go live onto the server in Blackpool, pick out the x-rays, and rotate them and have a look at them, 3D technology, and have a discussion about the diagnosis. Such fabulous technology as this will really aid decision making and, critically, allow things that currently are only done in campuses and hospitals to be done much more locally. So technology and advanced informatics actually help decision making and make the system much safer.

There have also been fantastic developments in the pharmaceutical industry, where the great pharmaceutical companies are commissioning huge, mega-million research programmes. They are starting to look at the design of drugs for the future, asking such critical questions as how you bring the lethal dose and the effective dose, the LD50 and the ED50, together while keeping the thing safe. We now have much more sophisticated designs, with molecular chemistry, and we design safety into the system, and therefore the trialability of these things gets much faster. So we are looking at shifting from the broad blanket of giving you a set of tablets three times a day where it is still rather trial and error in the prescription, to a future situation where it will be much more targeted and based on your own personal chemistry. However, this makes it much more complicated because, in 1974 we went from about 300 drugs we dealt with, to about 30,000 in the 1990s. Therefore, you can see that we have got enormous complexities building year on year within this.

So, looking to the future of London's hospitals - what does it start to look like? We are starting to see the results of our econometric forecast modelling, which we have spent a year trying to build as we have had to look at what are the big calls on manpower in the future and what does London need. The first thing is that it is going to be fixed on care of the elderly. The sorts of things that my eighty-year-old mother put up with, I will certainly not have to face. I am not atypical of the baby boomer generation now coming and I will be the next generation of the elderly. It has been of great interest to me to look at the next twenty years, because I had to project forward to what I would want when I am 75. I expect to be physically well, in the main, mobile, socially engaged, and psychologically content. These are the big goals now. So we do not want is a long strung-out end of life, which is miserable in its last ten years. You want a good quality of life right up to the last moment, and then go quickly. So, we have to support people in the community with those sorts of goals. Care of the elderly is an extremely large proportion of the call on the design of the healthcare in the future.

Critically, if you think about it, oil is now standing at 120 a barrel and it is not going to get cheaper over time, it is just going to get more and more expensive, making it increasingly expensive to travel around. Plus, we are very conscious of our green agenda now, and therefore we want to reduce the amount of movement of populations and particularly of the elderly. It is not particularly easy, when you have got sore hips or aching knees, to bound up and down the flights of stairs in the tube, so this forces us much more to think about going local.

Also, as a result of living longer, a lot of us will have chronic diseases. Cancer is a very interesting example in this instance: when I first worked at Westminster Children's and Westminster Hospital in the oncology research area in the mid-1970s, when you were told of your diagnosis that you had cancer, it was a death knell. But now, for the vast majority of people, the prognosis is so good, therapeutics is fantastic, and it is increasingly a chronic disease. So you will have one bout, you will recover from it, be cared for, but you might get another one because you are going to live longer and longer. Therefore cancer becomes a different proposition, in that we are probably going to have two or three bouts of it and we will survive.

We can see from this that a part of the concern for future health care is chronic disease management, but there is also the concern of mental health. It is too easy to dump people with mental health back into campuses set apart from the rest, but we are now talking about a much more mainstream model. This means that such instances as most of us in this room having periods of depression is seen as normal and within the normal service of health care, so we repatriate mental health care back to normal. Instead of being a mental health problem over there, actually it is repatriated as part of the mainstream.

This means that we need facilities. From this we can see just how good Rawlinson, Kelly and Whittlestone's research was about those aided living centres. They predicted the health maintenance centres, and maybe we should actually start to think about building them rather than lots of new hospitals.

We have also got the Minister, Lord Darzi, who I believe is absolutely fantastic. Having worked on the policy side for twenty years, it is so great having a Minister who is a doctor, a surgeon, and a research surgeon as well, particularly specialised in technological surgery. The sorts of things that they are researching in technological surgery at Imperial College London, with colleagues in Hong Kong and in India, is absolutely fantastic. It will change what is possible, and certain things will be able to be done by bloodless field, by keyhole, etc. So we have got all sorts of things where we can start to think about going local. In fact, day surgery now is the main feature. It is now upwards around 70-80% of surgical interventions.

Of course I have made mention of the new science - that will be a feature within my lifetime - pharmaco-therapeutics and genetics, molecular imaging and diagnostics.

Also, if we go to the architects, the building technologies are improving all the time. This means that we can build flexible design buildings which are underpinned with real time information - the Electronic Transfer of Prescriptions, digital x-ray, just in time training - all this coming in on an N3 highway, plumbed into modern buildings, which do not take ten years to build. In fact, increasingly, the small community-based units actually only take six months.

So, the future of London's hospitals, what does it look like? Well, I would hypothesise that we will have a multiplicity of hospitals working in a network system. There is something here that we must mention, which is the great British psyche. There are three words that cause great comfort to the great British public, and politicians are always very careful to not dent them in any way. The words are "nurse", "matron" and "hospital". So whatever we do, it will use those words, but actually, I think we have got to craft a much wider definition within the construct "hospital", and start to think about a network of buildings providing a service. But what actually are the clinical services that they should contain? When we start to think about this network, in London we are going to have our trauma and major specialist hospitals, but it is likely to be three or four major campuses. It is likely, I hypothesise, that it is the Imperial group, based in West London, UC in the North sector, King's/Guy's/Thomas' for the South-East, and possibly QM and the Royal London and Bart's. These give rise then to the concentration of specialists because this supports much more sophisticated critical mass research.

They need to be supported by a collection of smaller-sized hospitals which support them on a much more local basis. I could use the term 'district hospital', but I'm not sure that that is the correct term. We have also got local general hospitals, and I think the definition between those two, though very clear in the 1970s, was increasingly blurred in the 21stCentury. We have got to understand them as just facilities.

Then we have got our specialist hospitals, including the children's hospital such as Great Ormond Street and the lovely Evelina facility now at Thomas', and our day and elective specialist hospitals which these pepper London everywhere. Some of these are now run by the private sector, with great efficiency, on contract to the NHS. So we have got lots of facilities and different sorts of hospitals.

Another thing to thin about, of course, is the hospital at home. You bought your bed in Ikea, it is your bed, but once it is purloined by the state because you are being cared for at home, it as hospital at home. By this and the other examples, you can start to see that actually we must not be too obsessed with the word "hospital" - it is only a construct.

So, there are many other new providers of care, and there is the possibility of London piloting the polyclinic for the whole of England. I think most people do not like the word "polyclinic", and I am not sure why. It originally popped out in a piece of policy work in the late-1980s, and I am not sure we will keep the word "polyclinic". The service specification that is being mapped through at the moment shows that potentially 150 polyclinics will come into London over the next ten years. That makes thirty in each of the five planning sectors - three planning sectors on the North Bank and two on the South Bank.

The sorts of things that are being looked suggested as going into these local super-health centres, possibly clustering around three or four GP practices supporting them, include such things as: Mums & Babies Services, Child Health & Child Mental Health, Adult Mental Health with Long-Term Conditions, End of Life Management, Planned Care, and Diagnostic & Treatments. If you have a look at the full list, you will see that that is not dissimilar to the specification that was mapped out by the Rawlinson Group in 1989/1990. In fact, if you really have a look, you go back to the Beveridge Report of 1942 where you will see that specification.

So we have an eclectic mix of service providers. We could look at a hospital campus, a high street campus, low-tech, high-tech, and there are a myriad of different sorts of services now invested in, particularly over the last ten years, that actually service this complex healthcare agenda of London's health service.

Critically, the vast majority of the investments and the development of care in the community does not involve a hospital. But we have the concentration now of the major trauma specialist centres in the Academic Health Science Research Centres, and possibly a re-crafting of some definition around local general hospital, district general hospital, and the polyclinics, whatever that comes to be. Personally, I think that the policy on polyclinics is very plastic. It will be moulded according to what is required very locally, which is why we have local planning systems now through the Primary Care Trusts in London, and of course, do not forget, the protected and caring environment for the mentally ill, some of whom are prisoners, and we are starting to look at what a community prison is - 80% of prisoners have mental health problems, and they have to be incorporated into this analysis.

I have basically tried to summarise some sort of integrated foundation trust here. So if we look at the big successful foundation trusts in London, as a model in the future University College Hospital, UC would be the one to look at. Obviously it is concentrated on the campus at Euston, but the question is of whether they could house many of the specialists that are community-based, but basically have them working on outreach, working in the polyclinics, which might end up being owned by Boots or by Richard Branson. But essentially those teams would be coming out from UC and from the other great research centres.

Actually, there was a very nice policy developed by Alan Milburn a number of years ago, called Going Local. This was really trying to get a grip of what are we trying to do in asking such questions as what our goal is in terms of policy. The findings pointed towards support with the proactive care, with reactive care, first responder systems, rapid reaction teams, that they are all ready to support people in the community, that are networked into specialist service centres for renal, cancer, rheumatology, etc., which themselves are networked into these new, emerging Academic Health Science Research Centres, where we get critical mass of research. Instead of having one or two Professors of Cardiology, you are talking about a firm of at least ten Professors in Cardiology, if that is the specialist area. With that kind of research and infrastructure, you will get extremely good research, and it will allow us to compete on a world level.

To conclude, looking to the future, London's population needs are complex and they are changing, so we must continually move with the times. As I mentioned through my own story of hospitals, much of what were hospitals in the 1970s and 1980s are now housing estates, and this is because we do not need those estates. Through our changing needs we need something else, and so the old hospitals have been replaced by other things.

If we look to the future, we a massive growth in the population in the East London Corridor, but it is a very complex population - 50% are Bangladeshis, and they have very different healthcare needs compared to, for instance, the majority population of Wimbledon. So we have got to be extremely local in our diagnosis and build a system that fits the problem in hand.

London hospitals have always been on the leading edge of research and practice developments. Just look at the fine history of research from the 1700s and 1800s, coming out of Guy's, King's and Thomas'. That will only get better with the development of these big Academic Health Science Research Centres. We have always been at the leading edge and we have to support that. Therefore you can see that we have got to go very local, but also complement that and support that with these concentrated research centres.

Research and practice are coming together to create powerful research institutes. I think you should have a look at the Imperial, Hammersmith and Charing Cross Group. We are still very much in the very early days, but Professor Smith, the new Chief Executive, is one of the top scientists in the country and the institution looks set to have very interesting results. There is a very interesting new campus development going on there which is soon to be replicated at King's, Guy's and Thomas', with the IOP and Maudsley merging with King's College to form the second big research centre in London.

In terms of how we will staff this is we will have care networks facilitated by very strong clinical leadership. The Department of Health are about to announce some extremely exciting developments, where we can actually develop clinical leadership, and indeed, many of the chief executives in the future and senior officers of these clinical systems will be doctors by background. Indeed, that is the goal, as expressed by the Director General for Workforce, Clare Chapman, a brilliant HR Director.

The emphasis is on technology and team-based working as nothing happens in isolation these days. The image one sees in the movies, of the Head of Surgery, the Chief of Staff, and the physicians barking orders, just does not happen now. Increasingly, it is much more about integrating teams and actually understanding everyone's role and fitting together into a matrix. A very fine example is North London's Cancer Network. This is Chaired by Professor Tony Goldstone, a haematologist at UC, and it is a brilliant system that covers the whole of North London. In it, quality assures all the work systems, and they have twelve tumour boards, each specialising in one tumour area, which makes it very good for research and for quality assurance, and they give excellent patient care. In fact, the research shows, consistently, that the best outcomes for clinical problems are derived from when you are treated by teams who are based in research systems. Hence this is the underpinning thinking to this, very much demonstrated in North London Cancer Network under Professor Goldstone.

Then local care and support underpins all of the technology. We are all getting older, and there is a lot of basic care, so it is not all just science. There is an awful lot of basic care that has to be done, but it is going to be done very locally.