

Keynote: Sir Bruce Keogh

Future NHS Stage

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15.00 - 16.00

Speakers:

- Richard Vize (Chair)
- Sir Bruce Keogh, National Medical Director, NHS England

Richard:

Hello again. So welcome to the first of this afternoon's two keynote speeches. It is great pleasure to introduce our next speaker, who as you all know has been one of the driving forces, not just of NHS expo, but one of the leading drivers of change across the whole of the National Health Service over the last decade and is a major figure nationally and internationally. Bruce is moving on to new roles in the NHS soon. But it gives me great pleasure to introduce Sir Bruce Keogh, the NHS Medical Director.

Bruce:

Thank you very much for that kind introduction, and thanks to those of you that have put time aside to come here this afternoon. In the mid-to second half of the mid-1960s there was a small boy in Africa, I think he was about 11, something of that order of magnitude and he was sitting on the grass underneath a tree listening to a green and white Phillips transistor radio, and there was a programme about the National Health Service in England and that little boy knew he wanted to be a doctor, but was still formulating ideas. He went in and spoke to his mum about what that meant, because he realised that he lived in a country that wasn't as modern as England and his mother explained the National Health Service and he said, I would like to work in that health service one day.

If you would have fast forwarded to now that was me at the age of about 11. It's one of the greatest privileges I think that I have ever had to just work in the health service and to fulfil the role that I have.

But from where I sit I see all healthcare systems in the world gripped in a kind of increasing demand, escalating cost, rising expectations, differential expectations between politicians, professionals and the public and the constrained financial environment.

And you might think that's peculiar to our NHS, but it isn't, the Americans quite clearly don't have enough money to deliver the kind of health service they want. There isn't enough money in Zimbabwe and European countries are struggling. So our role in our tax funded system is simply to provide the leadership the initiative and the creativity and innovation to enable us to meet the expectations of the public within the financial framework we are in.

There are frustrations that pop up from time to time in our healthcare systems, some similar to other healthcare systems and some which aren't. The first and probably the most prominent at the moment, is the uncertainty around Brexit, the implications that might have for our health service, work force, research and innovation and for the cost.

The second tension which pops up from time to time is the debate between the amount of money that's available and the ability to deliver quality. I'm reminded of something that David Nicholson said once, which was simply, if you are trying to maintain quality and if you are trying to increase productivity and you have to do that in a constrained financial environment, the thing that enables you to do it is innovation. That is what links the two. We also have debates from time to time which seem to be cyclical, between what should the NHS do centrally and what should it do locally. And we never really alight on a perfect solution to that.

The next tension that we see is perhaps it will emerge with STPs is the tension

between the way the NHS likes to do things and the way that local Government likes to do things, given that one has a clear national management structure and the other has a locally democratic locally accountable system.

Then there is the issue of giving people freedom. And the tension between freedom and regulation which essentially boils down to a tension between your ability to trust individuals and individual organisations to deliver the quality of care that is expected versus performance management. And I think that's quite an important tension, particularly if we're to give people the permission to make the changes that they need to make in order to deliver the quality of care that we expect.

There is also a tension and this is accentuated when money is tight about where you invest, whether in prevention or acute care, that will play out constantly, not just in our healthcare system but in any. One thing that is also a tension in our NHS is the relationship between competition and collaboration as drivers for change.

Another tension that we face is the fact that we have more older people than young people in this country, older people want continuity of care, close to home, younger generation brought up in the post-internet age want immediacy of information, and immediacy of access and they want knowledge, quickly, and so we have to run parallel and twin tracks to deliver both of those if we are going to cover the aspirations and expectations of the whole population.

Another tension which emerges from time to time is a tension between clinicians and the health service and managers in the health service, not because of any interprofessional tension, but simply because at different times those two groups work to different sets of goals and when those goals are aligned it is a very, very powerful combination. But when they aren't, it can at times be destructive locally.

And then the final issue that I wanted to raise in this is, is not really a tension, but

an unfinished debate about whether our NHS is simply a drain on tax-payers' money or whether it contributes to the economy. I think that debate is shifting quite quickly to the fact that investing in the NHS makes sense for the economy, because we employ well over a million people that spend money and pay taxes.

At another level organisations in our National Health Service buy products made by companies in this country who employ people who pay taxes, and there is some evidence that makes a significant contribution to our economy that far outweighs the cost of our health service.

Those are ten tensions or unfinished debates which I think are largely unique to our healthcare system, over and above the quadruple peninsula I referred to. Every day you look at the TV, the papers or social media. You see some criticisms of the NHS, sometimes driven to make party political points, sometimes to promote newspaper sales, sometimes to increase the counter on-line profiles and sometimes it is simply about competitive exhibitionism on social media. And that can be difficult and challenging for people working in the health service. But you know, it is simply a measure of how the NHS matters to people in this country, and it is an essential part in my view of the social debate that needs to take place to promote our health service, to develop our health service and to set aspirations for our health service.

But sometimes in the course of that debate some pretty inconvenient truths are exposed and we need to be honest about those and understand them and tackle them. So it can be quite daunting for those people who are trying to promote change in the health service, so let me just give you a bit of confidence, I want you to sit back, it is a kind of second-last session of this expo, and just imagine, imagine you lived in a country that had made a major contribution to the science of medicine. That had discovered the mosquito was a carrier of Malaria, that had discovered immunisation and a, particularly for smallpox which is said to have saved more lives than all the lives lost in all the wars that human kind has ever fought.

Imagine if that country had also postulated the theory of evolution, had discovered the double helix, had developed the intellectual property for decoding the double helix, if that country had invented or discovered the properties of antibiotics, if that country had developed in vitro fertilisation, in a district General Hospital which has transformed the lives of families around the world. If it had also developed the ability to stop and start the heart electively which is the basis of modern heart surgery you would think is they had made a significant contribution.

If they also were part of cloning the first mammal, in Dolly the Sheep, you would think they were getting to the bottom of science. And then if you thought that country had also developed the clinical thermometer, the intraocular lens, the laryngeal masks, the CT scanner, the MRI scanner, you would think that is pretty cool, then if you thought that country had four of the top ten universities, had 1% of the world's population, funded 3% of the world's research, produced 6% of the world's medical research papers and 16% of the highest cited scientific medical papers, you would think that's good.

But you might wonder until you know that country also had four of the top ten universities in the world, and per capita of population twice as many Nobel prizes for medicine and physiology than the United States and also if that country can be regularly rated number two or three in the global innovation index put together by the world intellectual property organisation and others, or even if that country had 5,000 life science companies employing 235,000 people with a £64 billion turnover, you would think there is some good innovation going on there.

Or if 10% of that country's exports were represented by the Medtech and pharma industries. So that country would have a real substrate for medical and healthcare innovation. Just imagine if it also had one of the world's greatest social innovations ever achieved. A semi integrated, free at the point of delivery, healthcare service which saw 440 million people a year in pharmacy, 360 million

people a year in general practice, 100 million people in outpatients and another 100 million people a year in community services, 23 million people a year in Accident & Emergency services, 9 million people in Ambulance Services. You would think if you could link the science that happened in that country with that population you would think it's pretty good and a good place to be.

Well, folks, we are in that country. And I think that should give us real confidence that we have the opportunity, in my view, to develop the best healthcare system in the world. It will be rocky, but I believe it's only a stone's throw away, there will be people all around the place who will argue A: about the weight of the stone and B: about the size of the stone and C: about who is going to throw it, but I think it is throwable and I think the goal of a really good health service that is internationally competitive is absolutely achievable.

So despite some of the tensions that I described and the quadruple pincer there is a paradox in my view and that is that it's never been as exciting in working in our health service as it is now. It's never been as difficult, but I will take you through some of the achievements and indicate to you where I think some of the solutions lie and how we might get there.

Over the ten years or so that I have been medical director of the health service we have tackled a number of problems. The first one was MRSA that I recall. This was before I became medical director. The Daily Mail were having a go about the number of MRSA cases that were prevalence within our health service on a daily basis. People in the health service didn't like it, John Reid who was the Secretary of State; he summoned in Christine Beasley, the Chief Nursing Officer, and said I want a 50% reduction in MRSA in the next three years. I was working as a cardiac surgeon and I remember hearing it from my secretary and I thought what are they smoking down there, if they walk on to my ITU they will see elderly people, immuno-suppressed people who have had transplants. It's the price they pay, don't they understand that. In my job it's really nice to be wrong and I was utterly wrong, because in 2003/2004 there was 7,700 cases of blood borne

MRSA in our country. By 2015/16 that was down to 800 and falling. A 90% reduction for something that I didn't think could be done, for something the methodology was known from the time of Semmelweis 150 years ago, but it took the Daily Mail and the Secretary of State for us to inject the ambition for us to know what we needed to do, but it was the right thing.

Similarly with trauma, we knew that we weren't delivering trauma services as well as we could. Keith Willets who was our clinical director for trauma was constantly pointing that out, but he came up with good solutions. We ended up with 22 trauma networks and 27 major trauma centres. That meant that some ambulances would have to drive past your local A&E with someone pretty sick in the back to get to a major trauma centre. People cried foul, they said people would die in the back of the ambulance; it was a scandal and a cost-saving exercise. Well in the first year of operation the odds ratio for very ill patient, the odds ratio for survival went up 15%. In the second year of operation it went up 30% and in the third year of operation the odds ratio for survival for the most severely injured people improved by 50%. When we put our minds to things, when there is a professional consensus and when we have a plan we can save lives and do real good things for our citizens.

Similarly with stroke, when Roger Boyle was the National Clinical Director for Cardiac Services he had done a fantastic job on organising cardiac services and he was asked to bring the same expertise to stroke. An example of how good this was is in London, there were 32 hospitals that were receiving people with strokes. That made no sense because at the time the emerging therapies were suggesting that if you got the right patients and you gave them clot-busting drugs you could dissolve the clots and improve the outcome from stroke, the snag is if you give clot-busting drugs to people whose stroke is due to bleeding you make matters worse. So we needed to get people to get to a place where they could get a quick CT scan and determine the right treatment. The end result was an agreement to reduce the number of receiving centres from 32 to 8, again people cried foul, it was cost-saving and people would die in the ambulance, but in short

order it became clear that the average time from someone making a telephone call to someone arriving in a hyper acute stroke unit was only 55 minutes in London and that 40% of people went home within three days and we had an increased number of people going back to independent living and a reduced mortality and what is more the end result of that was tens of millions of pounds saved for reinvestment in health services in London, again where there is common clinical consensus on how best to treat people and where there is a solid plan something good can be achieved.

Similarly with the treatment of major heart attacks, it's a real credit, again to Roger Boyle, to Huon Grey our National Clinical Director for this particular area of heart disease that 99% of people in this country, wherever you are will get primary angioplasty for a major heart attack. That is absolutely incredible by international standards, but it gets better because 77% of people will get that within 150 minutes, their artery will be opened after having made the telephone call. Our hospitals are better organised now at dealing with heart attacks. The median time from arrival at the front door to having your artery opened again is 41 minutes. I see people advertising with slower times than that in the United States. It's something we should be really proud of and then the treatment to prevent people having subsequent heart attack I think beats nearly all international standards, 98% of people get anti-platelet agents, 94 get angiotensin converting enzyme inhibitors to assist with their blood pressure and 97% of people get statins, something we need to be proud of.

There is much more to do, what I have illustrated to do is we know how to treat stroke and heart attacks but you will have seen today that we have launched a new initiative which focuses on prevention being better than cure and that has been led by our National Clinical Director for Prevention in Cardiac Disease, Matt Kearney. But Public Health England have estimated if we could control blood pressure, cholesterol and atrial fibrillation where we know there are a lot of people who don't know their blood pressures and cholesterol we could probably reduce the number of heart attacks by 9,000 and save £270 million plus a year or the

number of strokes by 14,000 and saving an additional 240,000 a year.

So there are significant gains to be made by prevention rather than cure and that comes back to one of the tensions that I raised right at the beginning about where we invest our money, but let me be absolutely clear that the prize in this is not saving the money, it's saving the lives, but most importantly saving the human suffering that attends these very difficult vascular instances.

One of the things I am absolutely keen to get embedded before I leave at the end of the year is a new approach and a solid approach to stroke. We are working closely with The Stroke Association to further develop the prevention agenda that Matt Kearney is leading but also to focus on new treatments and rehabilitation.

Rehabilitation of stroke is not good in our health service, we know what to do, we need to get on and do it. But one of the things that is going to be driving further changes in stroke care is new science and technology because I have already mentioned that you can treat some strokes with clot-busting drugs, but now there is technology to put little grabbers into the artery, up through blood vessels in the groin and grab a clot and pull it down, because some clots are so solid that even clot-busting drugs won't deal with them. Now that's going to require a different workforce, a different disposition of services and it will require some difficult discussions with some people delivering stroke services who will have to acknowledge that people will be better treated somewhere else.

Dementia we have made big progress on. Again it wasn't an entirely straightforward journey; we have reduced the number of anti-psychotic drugs given to dementia patients by 50%. But we have increased the diagnosis rate in populations from something in the order of 40% to around about 70%. You might say why would you do that when you can't yet treat dementia? The really important reason for doing this and I say it as someone who watched it in my own family is that we can give people structured support and their family structured support on how to deal with the impending consequences of dementia. We have

given that support to an additional 150,000 people as a consequence of that initiative.

Perhaps one of the most important changes we made and it's important to me personally rather than necessarily the health service was around venous thromboembolism, there was an all-party parliamentary group that had conducted research to indicate that something like 38,000 people were getting venous thromboembolism in our hospitals. It was estimated then that 25,000 of those were dying in our hospitals. It's probably not that much, but we put a number of systems in place to ensure that people were assessed for it when they came into hospital and they got the appropriate treatment if they were at a high risk. But I learnt something really important from that, one against like John Reid and MRSA, much was driven from political colleagues, but the second thing was when it came to delivering it there was an interesting discussion where the President of the Royal College of Surgeons stood up and said to me why don't you mandate venous thromboembolism assessment when people come into hospital. He said I did my research 40 years ago and nothing has changed. I gave the answer that I kind of alluded to at the beginning of this talk, I believed in clinical freedom, I believed in local control over the way you delivered your services and so forth. It was a bit waffley, frankly, the answer.

Then the President of the Royal College of Physicians stood up and said why don't you mandate it! And I kind of repeated the answer in a slightly different way, and as I walked back to my office I thought, what's going on in our NHS where leaders of the medical profession are turning to me and saying force us to do what we know we need to do. And then suddenly the penny dropped, that wasn't what they were asking, they were saying we know what we need to do but make the system help us do what we need to do. This is the fundamental basis of safety, is how we make it difficult for people to do the wrong thing and easy to do the right thing.

And so we learnt a lot about change there, that if we did the change through the

colleges and the specialist associations and clinical groups who knew about venous thromboembolism, coupled with patient and parliamentary groups that understood some of those issues then we in the Department of Health put the appropriate financial and other incentives into the system we could do great things. In just under a year the assessment rate for thromboembolism went from 40% to 90%, one of the fastest clinical changes I have seen in the NHS.

Something else that I'm very keen to have firmly embedded before I leave is our response to sepsis. Now sepsis for those of you that haven't seen it regularly is the body's response to a severe infection. It can be absolutely catastrophic. It is tricky because it masquerades as many things so it can be difficult to diagnose. The catch is if you don't diagnose it and treat it quickly then bad things happen. So in 2015, under the leadership of Celia Ingham Clarke we published a tragedy for helping organisations help clinicians diagnose and treat sepsis early. That plan has been very effective, we have seen in Accident and Emergency departments a proportion of people who are assessed for sepsis going up from 50% to 87%. We have seen the timely administration of antibiotics going up from just under 50% to 62%. More recently we have introduced the same incentives into the hospital and we have started to see similar improvements. Pretty well everything that we put into that plan has now been done and I'm sure you will be hearing over the next 24 hours of a new set of things that we propose to do in order to tackle sepsis, where there is common cause among the clinical professions and patient groups that there is a serious condition that we can treat easily if we know set ourselves the task. Now there are a number of new things on the horizon, firstly we have new drugs, secondly we have mobile technology, thirdly, we have artificial intelligence, fourthly, we have genomics and fifthly we have general purpose technologies being developed in other industries which will have an impact on the NHS but we don't quite see it yet.

I'll just deal with that first. I'm told from reliable sources that changes in superconductor technology mean that handheld MRI scanners will be less than a decade away. I was told that two years ago a. I don't know anything about

superconducting technologies, but it illustrates we need to be really aware of what's going on in the world around us. Secondly we have seen a lot about the potential for 3-D printing which is being used in other industries, when you couple that with the internet of things you can see how it can bring some distributive solutions to some of the problems that are facing healthcare around the world. And today at the Teva stand I saw 2D printing, I thought what's new about that, because isn't that what we have been doing for years, well 2D printing of drugs on to very thin strips of plastic where the drug can be peeled off and stuck on your tongue. That is a novel development and we will have to see how that gets taken up.

Now new drugs are really exciting. I was speaking to someone in major pharmaceutical company, who used to be a Professor of Medicine in this country. He said at the moment we only have three groups of drugs which cure people. He said the first is antibiotics, the second is a collection of drugs for treating childhood leukaemia, and the third is a new set of drugs for treating hepatitis C, you can argue about the detail of that, but the principle is quite clear, that most drugs we give alleviate symptoms and make people feel better, but only a limited number of drugs we give actually cure people. But there is a whole bunch of new drugs coming over the horizon now that do cure people. But they are very focused, they need to be given to exactly the right person, which means the cohorts of patients will be relatively small. Which means the recovery of R&D costs will be tricky, which means the cost of these drugs will be very high. So one of the things we have to do, I believe for the degree of urgency over the course of the next couple of years engage the pharmaceutical industry in new ways of paying for drugs. Rather than simply a click counter where we pay per tablet, we are going to have to be quite imaginative in this and it will take us into very interesting territory I think.

Now mobile technology, we use in every other part of our lives, our social lives, financial lives, our retail lives, on-line. But have you tried booking a hospital appointment on-line, getting a GP appointment on-line, getting your blood results

on-line, seeing your X-rays on-line or on your mobile phone? We are not really there yet are we. And we should be, and frankly it is coming, whether we like it or not. So I think we need to welcome potential change, but we need to recognise that it brings with it some particular challenges, it also seems to me that there are two particular areas we need to think about when we are thinking about mobile technology.

The first is digital therapy. Particularly in the area of mental health and talking therapies, there will be things that you can do on your phone that will make you better. So that you don't have to visit a psychologist or a psychiatrist or your GP, we need to work out how we assess those, but importantly we also need to work out the payment mechanisms behind them so they are available for people on the National Health Service.

The second area that this whole mobile technology will open for us is that as the internet shrinks the world, as we become far more interconnected, we have to ask what the impact on our society and our NHS is going to be when people can get advice and treatment from people outside normal geographical boundaries, at the moment the way our health service is structured you visit your GP and that is determined by where you live. But people are already visiting GPs outside the area where they live. What happens as they increasingly start to access healthcare, not just beyond their local area, but beyond their regional area and possibly internationally. We need to work out what the compact is with the citizen under those kinds of circumstances, with particular respect for the NHS. Who pays for what. What the duties of Government and arm's length bodies are with respect to ensuring the safety of those transactions, what are the legal implications and how do we make this part of the NHS rather than create a two-tier, pay for it if you can service that will take us into some very interesting transactional and regulatory territory. We shouldn't shy away from it because the opportunities I think are absolutely huge.

Now when you think of mobile technology that is one thing, but when you think of

the potential of coupling it with artificial intelligence, it takes us into a whole new arena. We know from a number of studies that have been done in certain circumstances, artificial intelligence is better than doctors at diagnosing certain conditions, that is the first point, the second point is that it is possible that certain types, and there are many different types of artificial intelligence will be able to read X-rays, I have been told by reliable people developing this sort of stuff that is within a four-year time frame. We also know that this kind of this kind of approach can be used for reading histopathology slides. So all of this takes us into very new territory and it is not a long way over there, it is actually here, now. And as a group, as a society, as people intimately involved in the National Health Service, we really need to think about the implications of that. And I will come back to it in a minute.

Over the years I have been watching the progress of molecular biology and genomics and there have been many false storms, I have sat on various committees over the last 20+ years. Where people have said it is here, it is going to completely transform medicine, be ready, it is coming tomorrow. It never did. But now I'm in that position of saying to you I think it is here. And the reason I say it is here, is that some years ago, took a couple of years, took the best part of a decade and cost a couple of billion dollars to sequence the human genome, that cost has plummeted to well under \$1,000 it takes less than three or four hours, it opens up the whole vista and promise of understanding a human genome. This country leads in that technology it leads in the ability to read the human genome it reads in many areas, it leads in many areas of genomics, but one of the reasons it leads is because we have a 100,000 genome project which aims to sequence 100,000 genomes in relatively short order, we have done very well on that with rare diseases, we found it far more difficult in cancer because of the heterogeneous nature of cancer samples and making sure you are getting the right sample. We will crack that and continue to lead the world.

It has led to some pretty interesting developments in the dispositions in our laboratory services which we are currently reorganising and re-procuring, but

genomics offers to us not just the ability to treat individuals with greater precision, it offers us public health opportunities. As we increasingly understand the impact of genetics on the inheritance of disease and the predisposition to disease, and the relationship between your genetic make-up and your environment, we will increasingly be able to predict those patients that might suffer from particular conditions. In time we might be able to pick that up very early on in life. Which means we will be able to prevent or delay certain conditions happening. So prediction, prevention and precision treatment are the prize, I think, that genomics offers us.

Now all of these are very transformative technologies. They will mean that we will have to reimagine the way we design our services, the way we staff our services, and wait we train our staff. This is true in other industries and it is going to be true in health and we have been quite good at that over the years but I think the necessity for these changes will be accelerated by the advent and uptake of technology. In a sense that is why we are all at expo, you will have been around Expo and you will see we have the infrastructure for tackling some of these problems. We have our academic health science networks which promote innovation and economic growth which are broadly speaking around fairly cohesive groups of patients of about five million.

The opportunities that patient groups that size offer to providers, commissioners, people interested in healthcare and other industries to innovate is absolutely huge. Now I won't go through the benefits that the Academic Health Science Networks have bought over the last three years or so but I would suggest you visit the stand, because some of the things which have been achieved are pretty impressive.

Similarly we have the Small Business Research Initiative which through funding of about 20 million a year promotes new and emerging companies and helps them tackle some of the IP issues that some new companies have to deal with and route to market and helps them to expand. And we have seen some

innovative developments in that space. We also, more recently, have developed something called The National Innovation Accelerator which has about 25 fellows at the moment working on new products and innovations. The result of that programme which helps them expose their innovations to the NHS is that over 700 NHS organisations have taken on their innovations and they have won 20 awards and 12 of them are selling internationally and a conservative estimate is that those innovations have bought over £12 million worth of savings to our health and social care system.

Another example of the power of innovation in helping us tackle the particular difficulties which we face in terms of maintaining quality in the face of constrained finances. Similarly, under Tony Young our Clinical Director for Innovation we now have a new training system for young doctors which will be expanded into other professions. I was quite frankly a couple of years ago shocked to hear a story about two young surgeons who had tried to develop a system which would enable you on a tablet to practise surgery. It seemed to me I never had the benefit of that when I was trying to learn surgery and they increasingly got investment, their idea got traction and they were taken aside by the dean responsible for their training and said "you can't work for the NHS and pursue this endeavour which involves running a company." Yet they were doing it in their own time. I think that was really short-sighted, actually it was wrong. So all credit to Tony Young and Jackie Hayden another post graduate dean who developed a new training system which will enable other young doctors, nurses and others who want to pursue an innovative entrepreneurial career at the same time as doing their training.

Now we have now have 103 clinical entrepreneurs who get extra help from people who are established entrepreneurs themselves. They cover over 110 innovations and we have evidence that 34 junior doctors who had left the NHS or were planning to leave the NHS are back in the NHS and I think that is a very strong achievement, Tony, well done. On top of that they have attracted over £50 million worth of private funding.

We also have agents for change. One of the things that has exercised me is that in our NHS over the years we have not used, we have not exploited the creative spirit, the altruism, the energy of our young junior doctors and nurses. I found myself asking what other industry will take people between the mid-20s and the late 30s and tell them to get on with stuff, but not suck them dry for their ideas? People who are at their most creative time of life. So the other bit that worried me about this is nurses move from ward-to-ward in institutions, they know which are the good wards and which aren't, they know where the good things are and where the bad things lurk. Why don't we use them in our organisations as agents for spreading change and similarly with young doctors they see stuff but they move from institution to institution. We should be using these young people as our biggest agents for change in the health service because not only do they see where good things are and bad things are, they are also creative and innovative.

On top of that we have some really quite dramatic innovative changes happening in our health service, Malcolm Grant is leading a new towns initiative, there are ten new towns being developed in England which give us an opportunity, as Simon Stevens has said on many occasions, to put health right into the centre of our new towns. Urban planning was originally about promoting public health and the wellbeing of our citizens, we kind of drop the ball on that from time to time particularly when you look at some of these high-rise places that are being pulled down. Our opportunity to put some of the technology we see in this hall into the walls and buildings of our new towns to help people live more healthy lives would be absolutely fantastic and I think this is a programme really worth watching.

Similarly we have 7 areas of the country where through competition we have asked industry to help us solve specific problems which are not unique to those particular communities but actually prevail across the NHS and some of those companies are household names and we are starting to see some very real and tangible benefits, both in terms of improving the quality of care in those communities and also reducing cost.

Similarly with our new models of care programme, particularly in the Vanguards we have seen that we have been able to stimulate the desire for people to change the way services are delivered, to help them do that and where appropriate we are looking at reducing the regulatory treacle that so many people are familiar with which seems to be invisible. Now in that context, I have found myself asking and you now might think I am smoking something, but what would Nye Bevan do if he came back?

I think he would look at our health service and he would think when the health service was set up in 1948 it was very different. We didn't have anti-hypertensive drug, antibiotics, anti-cancer agents, the therapies available were limited and the life expectancy of an average male was about 65 years so half the population didn't reach retiring age and yet now he would see an array of treatments which is growing, he would see a population with a male life expectancy of over 80 years, so an additional 15 years of life that people have to fill compared with the advent of the NHS and he would see that those people live on a normal physiological spectrum. At one end of the spectrum there are people who require quite intensive medical therapy, at the other end of the spectrum there are 80-year-olds who cycle around, walk their dogs and don't need any help, but most people in that kind of age spectrum sit somewhere in the middle. They need a bit of treatment or they need a bit of support and yet the way we deliver that treatment and provide that support there is a massive financial bureaucratic, administrative and philosophical fracture right in the middle of a normal human physiological spectrum in the sense we have the NHS over here, which treats sick people and we have the local authorities that provide preventive activities and social services over here.

The funding mechanisms are different, the philosophies are different and yet the people are on a normal spectrum. So, what is the solution? The solution to bring all parties together, put them in a room, I put it to you that STPs are exactly the mechanism for doing that. They are here to ensure that the people responsible

for prevention of disease, the people responsible for the treatment of disease and the people responsible for providing support for people who don't need hospitalisation are all in the same room talking about how to deliver joined up services, about how to find economies of scale and about how to deliver the best services. That, in my view, is *raison d'être* for STPs. Healthcare is two people in a room in a private consultation where one person is frightened, anxious, in pain and worried and the other person is offering them help. Now that is a metaphor, because I have just told you it might not be a room, it could be a mobile phone. But everything we do, whether it's the way we design our real estates or run our HR processes, whether it's our contracting arrangements all of those processes are simply there to ensure that the person seeking help in that room has an encounter that is safe, effective and as decent as possible. Everything else that we do should be subservient to that objective.

So I have indicated to you that I think we have great opportunity, people outside the health service can comment on it, but only people in the health service can actually change it. The intellectual property of the people that work in the health service is where the solutions to our problems lie and we need to, we need to expose that and give people freedom to make the changes that they need to. Those changes need to be fuelled by enthusiasm, we need to be absolutely clear that we get the balance between performance management regulation and top down stuff right so we don't stifle innovation but we allow it to flourish from the bottom up. I was at a hospital in Worthing with Lauren Hughes from my team where we saw an enthusiastic ward manager called Pete, who every day goes into work and does a safety huddle and a quality huddle on the ward with all the staff, just focussed on how in that ward they can improve the quality of care that they offer. And it's that sort of commitment, that sort of enthusiasm that really drives the quality of care and keeps the compassion in our health service.

So, I guess my final message is that we have to trust the people who deliver the services, we need to set some expectations that we expect them to pursue quality and not be frightened of change but we need to give them the permission and the

space to innovate. Thanks very much.