



Select Committee on Science and Technology

Corrected oral evidence: Life Sciences and the Industrial Strategy

Tuesday 23 January 2018

10.05 am

[Watch the meeting](#)

Members present: Lord Patel (Chairman); Lord Borwick; Lord Fox; Lord Griffiths of Fforestfach; Lord Hunt of Chesterton; Lord Mair; Lord Maxton; Baroness Morgan of Huyton; Baroness Neville-Jones; Lord Oxburgh; Lord Renfrew of Kaimsthorn; Lord Vallance of Tummel.

Evidence Session No. 26

Heard in Public

Questions 272 - 285

Witnesses

The Rt Hon the Lord Henley, Parliamentary Under-Secretary of State, Department for Business, Energy and Industrial Strategy (BEIS); The Lord O'Shaughnessy, Parliamentary Under-Secretary of State, Department of Health and Social Care.

USE OF THE TRANSCRIPT

This is a corrected transcript of evidence taken in public and webcast on www.parliamentlive.tv.

Examination of witnesses

Lord Henley and Lord O'Shaughnessy.

Q272 **The Chairman:** Good morning, Lord O'Shaughnessy and Lord Henley. We are live on the web, just to inform you. On behalf of the Committee, I welcome you and thank you very much for coming to give evidence. Of course, we would have preferred you to have brought your Secretaries of State with you, but we understand that they are busy.

We are now getting to the end of our inquiry into life sciences and the industrial strategy. I am sure your officials have informed you of the kind of evidence we have been hearing on different areas. This is an opportunity for us to explore with you some of the issues that have come up in order to nail down exactly what our report may say. It is very helpful of you to come today, and I hope that we will get to do that.

If you are happy to start, please introduce yourselves for the record. Of course, we all know who you are. Then, if you are happy, I will start the questions.

Lord O'Shaughnessy: I am the Parliamentary Under-Secretary for Health in the House of Lords, with responsibility for life sciences, among other things.

Lord Henley: I am the Parliamentary Under-Secretary for Business, Energy and Industrial Strategy, also with responsibility in the department for life sciences, among other things. I do not know whether you want me to say a little about the industrial strategy to begin with; I appreciate that a number of colleagues here spoke in our debate in the Lords a couple of weeks ago, but it might help.

The Chairman: We are very familiar with it, having taken so much evidence, both written and oral, but if you want to add anything briefly, please do so.

Lord Henley: I am not sure there is much that is additional. As I said, we had a debate on the industrial strategy. I just wanted to get over the fact that it is fundamentally about a partnership between government and industry. As members of the Committee, looking through the evidence, have realised, it is not about picking winners or something of that sort, which we might have done in the past. Partnership is the word I want to get over again and again.

The Chairman: Our questions might address that issue, and you might have an opportunity to say a bit more about it. If not, please come back to me again. Is that okay, Lord O'Shaughnessy?

Lord O'Shaughnessy: Absolutely.

Q273 **The Chairman:** So it is not about picking winners. What do you consider to be the key elements that the Government need to secure in their discussions and strategy to make sure that the life sciences industrial strategy will be a success?

Lord Henley: Again, I start by repeating what I said about partnership between government and industry, which is particularly true for what we are doing in life sciences. You could say that the Office for Life Sciences is a symbol of that. I appreciate that the Office for Life Sciences came into being some years ago, possibly back in 2009 or, on its current footing, in 2014, but the department is responsible both to Health, as represented by Lord O'Shaughnessy, and BEIS—I must get my pronunciation of that right—as represented by me.

In the industrial strategy, as I say, we want to get a partnership between business—

The Chairman: So it is an attempt to secure a partnership with industry.

Lord Henley: It is an attempt to secure that. I point to the work of Sir John Bell. I appreciate that you have taken evidence from him; I have been through a great deal of it. Initially, he produced his report, which he had been working on for some time, but following the Green Paper on the industrial strategy about a year ago, last January, he then, working with industry—it is very much an industry-led document—produced the life sciences industrial strategy. That is an industry, not a government, document. From that, with our publication of the industrial strategy—

The Chairman: But do the Government have some idea of what they need to make sure will happen?

Lord Henley: We want to build on our strengths and take it further.

Lord O'Shaughnessy: Lord Henley talked about partnership between government and industry. I think that takes on a slightly different dimension in the life sciences industrial strategy, at least from a health perspective, because it also includes the NHS and, indeed, the public sector health system. It is not just about government as a funder of activities, but about government as a purchaser of products, whether they are devices, treatments or diagnostics. So the NHS part is critical, as is the research and academic community. Some of that is university-based and more within my colleague's realm. Others are in the health system, such as practising clinicians, as you know all too well, who carry out research.

When that works well, as I think it generally does in this country, it makes the UK one of the top-tier places for life sciences. It is a nexus of at least four parts coming together.

The Chairman: If I were to summarise both answers, you hope to secure an NHS commitment to the life sciences strategy and a partnership with both industry and academia. Is there a plan for how that will be done?

Lord Henley: The plan was initially set forward in the industrial strategy. Prior to that, one had Sir John Bell's report, from which we had another government document—with government and industry working together—in the life sciences sector deal. As you know, the deal puts

forward a number of proposals: for government investment; for the Government to increase the amount of money that we can spend on R&D to get it up to a proper level, as announced in the Budget; and for building on that and producing further sector deals as we go along.

Lord Griffiths of Fforestfach: Lord O'Shaughnessy, you mentioned the NHS as the purchaser. Companies will therefore be interested in the price, but pricing at present is excluded from the industrial strategy. Companies will also be interested in the amount that the NHS will buy from them. How do you see that working out, particularly in relation to pricing and quantity?

Lord O'Shaughnessy: Before answering that question I would like to add a point on how to implement this strategy. The governance of it is critical. The Life Sciences Council, which is chaired by our two Secretaries of State, is an important element of bringing it all together.

Some pricing is excluded, such as that of innovative branded medicines, because we have a separate programme through the PPRS. That will come to an end at the end of this year, so negotiations with industry on the successor regime are taking place now. Although that is not part of the life sciences industrial strategy, I would not want you to think that nothing is happening. A lot is happening in parallel.

As you quite rightly say, issues on uptake are very much part of that discussion; industry is clearly asking for commitments on that. Indeed, the life sciences industrial strategy talks about uptake being in the upper quartile. We are discussing that in the negotiations on the successor scheme. I should point out that the innovation scorecard, which is one way in which we measure this—we are trying to improve the way we measure it—shows an increase in the use of branded medicines. So I think we have a better story to tell than is often presumed to be the case. As I say, we are discussing this, but I agree that we need to do better.

That is just on branded medicines. We could also get into the issue of devices and diagnostics and so on, where such pricing discussions take place through procurement routes. The key there is not to buy just on price, although we are always looking for a good price, but on value. That is where the partnership bit comes in, because you really do need combinations of industry and, say, hospital trusts working together to bring in new innovations.

Lord Griffiths of Fforestfach: So pricing and uptake are a key part of the industrial strategy.

Lord O'Shaughnessy: Getting the right price for medicines, a price that is fair for the NHS and for industry, is a broader element of our government strategy, and it obviously has a big impact on the life sciences. Clearly, uptake is part of that.

Lord Hunt of Chesterton: We have had evidence from international companies about UK operations. Some of that evidence commented

favourably, at first, that the UK is a tremendous place for innovation, but also that some other countries in Europe were better at implementation. You have made comparisons between how we are operating this strategy and what has been happening in, for example, Belgium—a country approved by industry. How is this affecting your strategy?

Lord O'Shaughnessy: If you were to characterise it, and I am sure you will have heard this from industry, one of the concerns about the UK is not that innovations cannot get a foothold but that they do not often get beyond that foothold. They might be trialled in a few trusts or departments, but then they are not spread.

Indeed, we looked recently at the whole innovation landscape. We spend quite a lot of money here; not including the National Institute for Health Research, we are probably spending £750 million a year on encouraging innovation. It seems to me more at the upstream end of ideation and the creation of piloting, rather than at the diffusion end. We are actively looking at that, because if a medicine or device has been approved by NICE, for example, as being cost-effective, and if under NICE guidelines it is clinically the right thing to do, that is the sort of thing that should be spread throughout the system.

The Chairman: We will explore that in greater detail under another question.

Q274 **Lord Renfrew of Kaimsthorn:** How do the Government plan to provide operational leadership for the success of the life sciences industrial strategy? Could you say a little about that, please?

Lord Henley: Is this about the governance of the whole process? There is a Cabinet Committee, as you will be aware from earlier evidence, which is chaired by the Prime Minister. We then have the Life Sciences Council, which will be chaired jointly by the Secretary of State for Health, the Secretary of State for BEIS and the chief executive of AstraZeneca, currently Pascal Soriot.

Underneath that are a number of other bodies: a medicines manufacturing and industry partnership, the health technology partnership, the EU relationship group, and the patient access partnership. There is a life sciences industrial strategy implementation board, which will be chaired by Sir John Bell, who you have heard evidence from, and me. There is also an innovation and clinical data group. That in effect provides the Government with the implementation, which is what Lord Renfrew is keen to find out about.

For those of you who took part in the debate, you will remember the comments from Lord Mandelson, with which I fully concur, that publishing the industrial strategy on its own is not enough; it is about how we maintain the momentum further on. We obviously intend to maintain that momentum in all aspects of the industrial strategy. That gives some indication of momentum as regards the life sciences. More or less at the same time, we also had the publication of the life sciences sector deal. I

do not know whether you want me to go into any further detail on that, but it has announced various bits of government investment and investment by other parts of industry. Through the Life Sciences Council and its subgroups, we hope to keep the momentum—if I am allowed to use that word at the moment. We like to keep up the pressure.

The Chairman: You put great emphasis on this Life Sciences Council. Who did you say will chair it?

Lord Henley: It will be chaired jointly by the two Secretaries of State and Pascal Soriot of AstraZeneca.

The Chairman: Who will the other members be?

Lord Henley: I do not have the names of the other members, but they come from pharma, medtech, digital and the NHS.

The Chairman: Who appoints these people?

Lord Henley: The appointments will be made by government on the advice of industry and others, to make sure that we get a broad range of people covering, as my colleague said, not only industry but the NHS, academe and other areas.

Baroness Morgan of Huyton: I am interested in when this apparatus will get going. This is, I have to say, the first time we have heard any detail in any evidence about the implementation package. Another thing we heard very clearly from Sir John Bell was that time is of the essence. He almost felt that we had only a year to get to grips with this and move it forward, because this is such a fast-moving sector. When will these names be announced? When will things get moving?

Lord Henley: There are quite a lot of names to announce.

Baroness Morgan of Huyton: Surely there is just one list.

Lord Henley: The independent Industrial Strategy Council has to be announced, too.

The Chairman: So there will be this Life Sciences Council and another, independent council.

Lord Henley: That is the much broader picture. The whole industrial strategy obviously goes a lot wider than industry itself. We hope that the first meeting will happen in April, subject to diaries.

Lord O'Shaughnessy: I should point out that this is not a totally new institution. It builds on MISG, the Ministerial Industry Strategy Group, which has been going for years and has a similar membership and remit. This broadens it out to the whole of the life sciences. Activity has been going on. This is not a completely novel structure. That is the point I am trying to make.

The Chairman: Would it therefore surprise you to know that when we

asked many of those who gave us evidence the same question, the answer was always, "We do not know how this is going to be implemented"?

Lord Henley: I am advised that we will get the names out in the next month. We will then have a meeting in April, and this body will replace MISG. We are moving at a reasonable speed.

Baroness Morgan of Huyton: May I push you a little? You are describing a lot of committees, with a first meeting in April. Lord Hunt mentioned Belgium, and pharma raised Belgium very strongly in their evidence. They were very clear that this will work only if it is not a meeting at which instructions are given and actions prescribed. You used the word "partnership", Lord Henley. It has to be a different way of working for it to take off. It is fair to say that I am not hearing in what you are describing anything other than a very traditional approach.

Lord Henley: You are saying in effect that you would like to see a bit more speed on this.

Baroness Morgan of Huyton: Speed and an understanding of how it is really going to work.

Lord Griffiths of Fforestfach: Output, not input. You have done a lot on inputs, but we are interested in implementation: how you get to the output, and what that will be. That is why I asked about uptake and pricing; that is output.

Lord O'Shaughnessy: The only thing I would say is that MISG, which has been operating for a number of years, was the forum under which these sorts of issues were discussed, including the life sciences industrial strategy and others such as pricing. I emphasise that this is therefore not a completely novel structure. Partnership work has been ongoing, and not just at six-monthly meetings where everyone turns up and does not know what has happened, but through working groups in different areas, working on different bits of the broad life sciences industrial strategy. This is attempting to give it more form. The Life Sciences Council will include broader industry groups than MISG. MISG was largely pharma, whereas the Life Sciences Council obviously ought to include medtech and others. It is meant to be a more comprehensive body to take on the work of MISG, which, as I say, has operated quite successfully, I think, for a number of years.

Lord Fox: Sorry to continue to press on implementation, but you should understand that in the huge body of evidence that we have heard there is mystification as to how this thing will be implemented. On the sector deal timeline, there was a life sciences oversight board. Am I right in saying that that is the council, or is another body also involved? You talked about work groups. My experience from the Automotive Council is that it takes a long time for work groups to start delivering anything, and they need support in the form of implementation people to do things. What is your timeline on work groups? How quickly do you expect them to

implement things effectively? When will we, the people who are not on the inside of these meetings, actually start to see things happening on the ground?

Lord Henley: I cannot make any guarantees on the latter point. I have said that the Life Sciences Council will meet in April. That, as Lord O'Shaughnessy and I have both made clear, will represent a wide range. It will represent not just pharma, as MISG did, but medtech and others. It must be for them then to decide how to push this forward. We notice the pressure that you are putting on. We want things to go forward. We are very grateful for the fact that things are moving at a reasonable speed at the moment, and for the speed at which we saw the life sciences sector deal emerge. Other sector deals are taking more time. We do not want to rush out sector deals when they are not ready.

With the work of Sir John Bell, we have a sector deal, which can be taken forward, and further sector deals in life sciences can be developed from that. So I think we are making progress, but, as I said, we will announce the names shortly, and we will have that council meeting.

Lord Fox: On the question on the life sciences oversight board, is that just a rebranding, or does that no longer exist?

Lord O'Shaughnessy: It is, yes. I take your point about outputs; it is a very reasonable one. If there is mystification about it, we obviously have a bit of a job to do to demystify it. I think there is a better story to tell than perhaps is being told, but I take your point on board.

It would be a mistake to think that implementation is waiting for all this infrastructure to be put in place. To give you one example, the life sciences industrial strategy called for the implementation of the accelerated access review. We have responded to that review and appointed Sir Andrew Witty to head up the collaborative, which will bring it about. It is meeting next week, I believe, ahead of anointing the first five treatments and therapies, which, from April, they will accelerate through.

So there are things going on that are not waiting for this infrastructure to be put in place.

Baroness Neville-Jones: I would like to pursue for a moment the role of the Life Sciences Council. All the evidence we have had suggests that people regard it as the key body. I have to say that I am not entirely reassured when I hear that this is building on an existing system. It makes it sound like business as usual. What will enable the Life Sciences Council to make this whole strategy a real leap forward in focus, speed and actual outcome and results? How often will it meet? How does it regard its role? Is it supervisory or is it a genuinely operational body? It seems to me that these are key questions. All our witnesses, and certainly the Committee, want to know.

The Chairman: Please be brief.

Lord Henley: I do not see it as an operational body. The work has been done in industry by John Bell. We have the sector deal, and we have co-operation there. We then have the Life Sciences Council, which can overlook these things. It will meet in April, as I said. Things are happening.

Baroness Neville-Jones: How often is it intended that it will meet?

Lord O'Shaughnessy: I do not know.

Lord Henley: I do not know. I presume quarterly, but I will have to take advice on that.

Lord Fox: Would it be right to characterise it as a co-ordinating committee?

Lord Henley: It has other groups underneath it. I ran through them earlier in my evidence, including a life sciences industrial strategy implementation board, which will be chaired by John Bell and me. We will decide how often it is necessary for it to meet, just to make sure that there is implementation of the sector deal and further sector deals coming from the life sciences sector. The council is above that.

The Chairman: Will there be more sector deals from the life sciences sector?

Lord Henley: That is likely. We are working on that. This is just the beginning.

The Chairman: What areas will that cover?

Lord Henley: It would be wrong for me to be prescriptive at this stage. It is for industry to come forward with the ideas. In this, we have announced some fairly key investments by government and by industry into certain sectors, particularly in research and development. Similarly, there were announcements in the Budget that affect this and in the original industrial strategy White Paper.

The Chairman: Lord Fox has a question.

Lord Fox: I think my question has been covered.

Lord Vallance of Tummel: I have a quick question. Sitting above the Life Sciences Council is what you described as the independent Industrial Strategy Council.

Lord Henley: Yes.

Lord Vallance of Tummel: The Life Sciences Council can deliver the life sciences strategy only if the independent Industrial Strategy Council delivers certain other prerequisites, such as skills, patient capital and so on. How do these two councils work together?

Lord Henley: Again, you will have to wait a little before we announce who is going to be on the independent Industrial Strategy Council and how often it will meet. As you will be aware, and I think I made this clear in debate, its role is to overlook the whole of what government is doing in the industry strategy, and, as you say, it is very important that at that point we start to look at the important areas where we have identified weaknesses; you mentioned skills in particular.

That is why the whole idea behind the industrial strategy is to make sure that it is seen not just as something coming out of BEIS but as something that affects our colleagues in the Department for Education, MHCLG, and, for that matter, in all other departments. They will have a role overseeing how we, the Department for Education, and others where it is relevant for government, are getting on with doing what is necessary. I take your point about skills.

The Chairman: If I can summarise, an implementation plan will be produced that identifies the responsibilities and accountability of these various bodies. Am I right?

Lord Henley: Overall, we have the Cabinet committee chaired by the Prime Minister.

The Chairman: Who, finally, will be accountable for the strategy being successful or not?

Lord Henley: I suppose the Government as a whole are responsible. The White Paper has come from the Secretary of State for Department for Business, Energy and Industrial Strategy. He is responsible for it, but it is a strategy, as we have made clear the whole way through, that covers the whole of government. We hope that the Department for Education will make sure that it deals with the concerns about skills, and the Treasury will be involved in other aspects.

Lord Fox: I think the Cabinet committee met once before Christmas. Perhaps you can confirm that. How often do you expect it to meet? When is the next meeting?

Lord Henley: I cannot give details. I do not know when it will next meet.

Lord Fox: Did it meet before Christmas?

Lord Henley: I do not know.

Q275 **Lord Borwick:** What assessment have the Government made of the likely progress of the strategy in two, five and 10 years? What milestones can we see to show that this is being implemented properly?

Lord Henley: In the industrial strategy, we sought to set out what we saw as the strengths in the British economy, and there are a great many strengths, particularly in this area. Look at pharma and at universities; we have the four or five top universities of the top 20 in the world. So we have strengths. But we also identified some pretty serious weaknesses in

the British economy, particularly in productivity. We certainly want some of our problems in productivity to be solved; “solved” is probably the wrong word. We want to see great steps forward in productivity over the five, 10 or 15 years. I do not want to give specific figures, but I am prepared to be judged on that, and so is the department, in due course.

Addressing some of our skills shortages is also something that we want to do. We want to make sure that the right people can still come to this country, particularly in pharma and in our universities, where they know there is a need for the right people. So, again, we need to make sure that the Home Office can get its act together on issues of that sort.

Lord Borwick: Those are all generalised, and tremendously important, points, but they are not specific to life sciences.

Lord Henley: I am sorry. I thought you were asking me specifically about things generally.

Lord Borwick: Which milestones are connected directly with the life sciences industrial strategy?

Lord Henley: To start off with, I would like to see a great increase in research and development, of the sort that we talked about in the industrial strategy but particularly in life sciences—not just by government, obviously. We want to see industry play its part in research and development and we want to see that increase.

I would endorse some of Sir John Bell’s ambitions without saying that they are government targets, but it would be great if we could see—what was it?—at least four £1 billion-sized companies emerging; I cannot remember exactly. I cannot say that those are government targets—I do not like the idea of a target there—but it would be great if we could achieve it, as Sir John Bell put it.

Q276 **Baroness Neville-Jones:** My question follows on immediately from this conversation. It is about the metrics. One has to measure the extent to which one makes progress. I think the question that has just been asked really meant: are you going to plant a few flags, saying, “We’re going to achieve X. This is our goal in five years’ time, or 10 years’ time”? Then, the team is organised to try to meet that. At the moment, we hear “We hope this”, “We hope that”, and, “We hope that the various bits that flank the central strategy will come into play and achieve what is needed by them”.

What system are you going to set up to measure progress? How will you be able to assess whether the life sciences strategy is getting anywhere?

Lord Henley: Just one of the targets that we put in—I am wary of too many targets—is that we want to raise total research and development investment to 2.4% by 2027.

Baroness Neville-Jones: That is an input. What about the output?

Lord O'Shaughnessy: May I give a specific one for the NHS? Obviously, it purchases a lot of these products. As I have described, there is a lot of money in programmes engaged in improving the uptake of innovation in the NHS. I do not know whether noble Lords have seen the NHS research strategy, which was published recently. It talks about driving faster uptake of affordable, high-impact innovation—action 10. That is very tangible—

Baroness Neville-Jones: Absolutely.

Lord O'Shaughnessy: —and, as I say, we are improving the metrics by which we measure this. At the moment, we basically do it for innovative branded medicines but not for other technologies. That is a very specific target and you would expect the NHS to do its bit in taking it up. Of course, there is always a trade-off with price, as we know.

Baroness Neville-Jones: I take your last example, which is a good one. Have you identified a path that will get you from where we are now to that achievement, and over what timescale?

Lord O'Shaughnessy: There are a number of pathways into doing that. I can give a list of some of the actions that are taking place to drive that. We have an innovation and technology tariff, which rewards the uptake of innovation, and NICE now has a fast-track appraisal process for very good-value medicine. So we have a number of pathways in.

As I described earlier, I said that the team had looked at the innovation landscape, and we probably have too many pathways at the moment. There needs to be a simplification and rationalisation so that we can get those products not only started and piloted, but diffused. That is a structural weakness, which is what I am addressing. I am reluctant to give targets until we understand how to improve that pathway so that things can go from being used in a handful of hospitals to being used nationwide, if clinically that is the right thing to do. We are in the process of looking at that.

The Chairman: Will any of that have cost implications?

Lord O'Shaughnessy: That is the challenge, is it not? It has to be done in a way that is clinically effective and provides value for money. That is the argument. In a way, that is what we are trying to establish through the accelerated access pathway, which is trying to create win-wins: wins for industry, because it can then get its effective products on to the market—and their uptake—more quickly, but a win for the NHS because it can afford it. That will involve some pretty interesting conversations between the different bodies, I imagine, which is why it is important for us to have industry representation on the collaborative, but also Simon Stevens sitting on it, as head of NHS England.

Actually, in the room, individuals believe that those win-wins are possible. We will find out in the next few months whether we can establish some of them. I think we can, and that will start to break the

back of this idea that you cannot come up with agreements between the two sides.

Baroness Neville-Jones: Just to finish the question about how progress will be measured, who will be responsible for that? Who will say, "We got there"? Who will be responsible for the metrics, and how independent of those who are involved in trying to achieve it will the measurement be?

Lord Henley: That is one reason why we have the independent Industrial Strategy Council.

Baroness Neville-Jones: Yes. So it will do that?

Lord Henley: Obviously, the Cabinet committee is not independent, but the council, when we have announced the names—I hope that will happen in due course—will be there to provide that oversight.

Baroness Neville-Jones: And that will be one of its overt roles, and it will be equipped to do it and will have staff who enable it to do so.

Lord Henley: It will have the appropriate resources, yes.

The Chairman: So it will be an independent statutory authority, in statute, that will monitor whether this whole strategy is working.

Lord Henley: It will not be a statutory body—I do not think you would necessarily welcome further legislation going through to create one—but it will be an independent body, created by the Government to oversee the industrial strategy. That is the point behind it.

The Chairman: What powers will it have?

Lord Henley: It will have the power to make reports and recommendations and to tell us where we have got it wrong. I think that is quite sufficient.

Lord Fox: Very briefly, returning to something Lord Henley just said, you distanced yourself—the Government—from one of John Bell's targets in his report. I thought that the Government had accepted that report in full, so that confounds my expectations. Which other bits do you disagree with?

Lord Henley: I did not say that I distance myself from it.

Lord Fox: You said that the Government would not be bound by it.

Lord Henley: I said that that was his recommendation. I hope we can get there, but that is very much Sir John Bell's report and not the Government's.

Lord Fox: That sounds as though you are cherry-picking from the report, which I was not aware you would be doing.

Lord Henley: I am making clear that it is not a government report. It is Sir John Bell's report.

The Chairman: So what is the meaning of his sentence: "the Government have accepted the report in full"?

Lord Henley: I am trying to make clear that it is Sir John Bell's report. We hope we can get there, but it is not a government report.

Lord Fox: That sounds somewhat weasely in that when you do not get there, you can say, "Well, it wasn't our report. It was his report". In accepting it, I would suggest that you are telling us that you agree with the contents of that report and will therefore start accepting responsibility for the delivery of its contents.

Lord Henley: We have accepted his report. We then have to go on, with Sir John Bell and with industry—the Government were part of this—to produce the life sciences sector deal. That is what we are bound by at the moment. We think his report was great and we hope we can get there, but it is very much Sir John's report.

Lord Renfrew of Kaimsthorn: I want to go back to the Life Sciences Industrial Strategy Oversight Board, which is referred to in a letter from the Secretary of State. The expectation was that that would be set up this month. Has that been set up yet?

Lord Henley: It has not.

Lord Renfrew of Kaimsthorn: Do we know when it will be?

Lord Henley: I think I can say shortly, in the spring—words of that sort.

Q277 **Lord Oxburgh:** The industrial strategy and the life sciences strategy use the term "global competitiveness" quite frequently. How will any of the bodies we have been talking about assess global competitiveness in the life sciences as we go forward? What criteria will they use?

Lord Henley: You could say that we have a pretty good, thriving life sciences industry in this country as it is. It would be difficult to measure, but it is similar to what we have said in the past about doing pretty well in the universities sector. We cite various figures, depending on how different people measure them—and there are different ways of measuring different universities—to say that we have four or five out of the top 20.

Similarly, in life sciences, we have a highly profitable, highly successful industry that serves this country well, employs a large number of people and pays a large amount of tax. We want to see that continue to develop. I dare say that it could improve in those areas, even though its productivity is very good, unlike other parts of industry. It could even broaden its base in certain parts of the country. Again, however, as Sir John Bell made clear in his evidence, it covers the country pretty well as

it is. There is a whole range of ways in which we could measure its success. We want to see a thriving industry that benefits this country.

Lord Griffiths of Fforestfach: Could you clarify something? I am confused by the number of bodies here. What kind of person or persons will chair the independent industrial strategy oversight board?

Lord Henley: I cannot comment at the moment on who the Government and the Secretaries of State are looking for, but we want someone with a pretty broad background, obviously. I do not think it will necessarily be somebody from academia, but I do not want to say anything that might constrain any decisions that are taken. If Lord Griffiths is prepared to wait, in due course we will have a name. I can say only that it probably will not be either him or me.

Lord Griffiths of Fforestfach: I am delighted to wait, but there is a lot of work in progress and there must be some very busy people in the departments. You are doing an enormous amount, as has come out in our questioning.

Lord Henley: Certainly in BEIS we are busy, and I am sure that they are busy in health.

Lord O'Shaughnessy: Everything goes through the Office for Life Sciences, which spans both and is, in a way, the policy unit for the life sciences industrial strategy. It is doing most of the heavy lifting on the policy front.

Lord Hunt of Chesterton: We have been talking about the assessment of progress, and we have done that in a rather technical, economic way. Sometimes the leaders of other countries, such as America, say that they want to do something about cancer in the next 10 years, for example, which comes under health. In the last year, apparently life expectancy in Britain has gone down, and that is a global statistic. What global health statistics are you using to communicate what you are doing? Are you talking about obesity or whatever? So far, the talk has been all about drugs and money and so on. Surely we should be trying to communicate something more.

Lord O'Shaughnessy: That is quite right. Again, I would come back to the life expectancy indicators: life expectancy is one, cancer survival rates another, and reductions in heart attacks and strokes. As you said, there is a tendency to focus on inputs and processes, but the life sciences industrial strategy does not change the health outcomes that we value as a society and a Government. It ought to enable us to do better at those outcomes and become more efficient and productive as a consequence.

A good example in both the life sciences industrial strategy and the sector deal is the use of digital pathology and machine learning in radiology, which we now understand can actually spot tumours better than highly trained individuals. The fact that the NHS is embracing that, which is quite a significant structural change, is precisely to deliver better

outcomes for cancer. You are quite right to caution us on it. You have to describe it to ordinary voters who want to know that, as a consequence of this whizzy stuff, something about their life will improve. I agree with you.

Lord Maxton: Who is looking at the broader political implications of all this? The aim of the strategy is presumably to ensure that everybody lives longer. If that is the aim, there are implications for social security, pensions and the burden on the NHS and everything else that goes along with that. Are you two involved in looking at that?

Lord O'Shaughnessy: That is the role of the Cabinet, I suppose.

Lord Maxton: There is a Cabinet committee looking at the strategy, but is the Cabinet as a whole looking at the broader political implications?

Lord Henley: There is a Cabinet committee, chaired by the Prime Minister, which consists of a number of Secretaries of State. Obviously all the Secretaries of State are responsible for the areas in their field. In the end, as Lord Maxton puts it, the political matters are matters for the Government and those who compose the Government; hence the Cabinet committee.

Lord Maxton: But there is no indication so far that the Government are actually considering any of the broader implications.

Lord O'Shaughnessy: I do not believe that is true. Look at the work of the OBR, for instance. Its forecasts are built on assumptions based on policy, demographic and other data, and set out scenarios that then go into the setting up of budgets and other things. I do not think that is a fair characterisation.

The Chairman: I cannot resist saying this: such an OBR-style body was suggested for the NHS, but no doubt you will respond in time to that recommendation.

Q278 **Baroness Morgan of Huyton:** I will start the questions on the NHS. We have heard a lot of evidence about the NHS being the crucial differentiator of the UK. Therefore, it is our big chance in life sciences. I think it is fair to say that we have been fairly underwhelmed by the clarity around who will deliver this and how, and who will be accountable for it. We have heard good stuff about the top, and you have just said that Simon Stevens will sit on the relevant body. When it got below that, it all got pretty murky and unclear as to how this will be driven into the NHS.

We also heard some interesting evidence from, I think, NHS Digital, that digital would never have moved forward if it had just been part of "business as usual" in the NHS. Can you help us to understand how this will be different? Who really will get hold of it, drive it and build the relationships that are going to move it forward?

Lord O'Shaughnessy: That is a really good challenge. Your point about the NHS being the differentiator is really important. I do not think that Nye Bevan would have intended this outcome when he set it up, but a single-payer health system has enormous benefits, particularly in the collection of data. It provides a complete longitudinal dataset on how the needs of patients have changed. No other health system across the world can provide that on the kind of scale that we can.

I will give one example of what that can mean. Look at how clinical trials are conducted. At the moment, there is a huge expense of billions of pounds per clinical trial. A lot of that is assembling real-world-style data, when the NHS has the ability to actually capture that data and therefore radically reduce the costs of clinical trials. It is of huge benefit, and you will hear about that all the time from industry. You also, of course, have to make sure that that is done in the right way, and that safety and security standards are mandated and all the rest of it. There are a lot of ethical and technical considerations involved, but it is definitely there as an opportunity.

I have been doing this job for a year. I hear stories of the past, when perhaps the NHS and industry did not always play as nicely together as they should have. I detect a big change in culture and in attitude. I mentioned the NHS research strategy, and I encourage the Committee to look at it. It sets out some very ambitious ideas and now has a dedicated director. Of course, in the end it has to come from NHS England, as the commissioning board. My job as a Minister and our job as a department is to make sure that each of the different bits of the system are playing their part. The NHS is the big one as the purchaser. It provides the sites for trials and gives the clinicians the time to engage in research activities. As I said—

Baroness Morgan of Huyton: Can I just stop you there? How does the NHS do that when there are lots and lots of different foundation trusts?

Lord O'Shaughnessy: It does it in a number of ways. It does it through funding programmes that provide clinicians with training or the time to start innovations. There is, for instance, a clinical entrepreneur programme, which has created 50 new start-ups. It does it by rewarding the uptake of innovation, which we are now doing through a tariff. We do that by counting it, by establishing clinical best practice, which NICE does for some devices and treatments, and so on. There are a number of different ways.

Of course, there are different bits of the system, such as the National Institute for Health Research, and obviously my job as Minister for this area is to ensure that each of those bits are contributing and, indeed, that the whole system adds up to more than the sum of its parts. We are looking at that at the moment to make sure that we are providing support all the way through from the lightbulb moment to diffusion across the NHS.

Baroness Morgan of Huyton: How will that diffusion be made to

happen?

Lord O'Shaughnessy: A lot of it happens; I do not want to underplay that. I mentioned the innovation scorecard showing that the uptake of innovative medicines is improving. I think diffusion is improving. It is a mixture of pushes and pulls and incentives, but more than anything it is about having a co-ordinated system that does not leave gaps. At the moment, there are gaps in that chain, which we are looking at now.

Lord Griffiths of Fforestfach: Because of the day-to-day pressures on the NHS, is it ever possible to get the right amount of funding for innovation without ultimately having the Treasury ring-fence that funding, and in effect having two budgets: one of the NHS day to day and one for innovation in the NHS?

Lord O'Shaughnessy: Innovation is becoming more complicated, because you are not just substituting one thing for another thing; you are often having to re-engineer someone's entire treatment pathway. It is definitely becoming more complicated.

On the funding, there is £1 billion in the NIHR for translational research, which is about taking ideas and putting them into practice. We reckon that there is about £750 million in various programmes to support innovation, which is something like 1.5% of the NHS budget. There is money going in. The key, as I said, is making sure that it is targeted and spent as effectively as it can be, and we are looking at that at the moment.

Q279 **The Chairman:** You will not be surprised to hear that we have heard in evidence that the NHS will have to be the key player if the life sciences industrial strategy is to be successful. Currently, it is a weak player and nobody has any idea how this will be implemented in the NHS, who will take the responsibility and provide the leadership, or whether there is a plan in the NHS that identifies this. Would you disagree with those comments?

Lord O'Shaughnessy: I would. I certainly would not call it a weak player. As I say, I think it is a willing player and that there is money in the system. It is also significant that the head of NHS England is taking part in the bodies that provide strategy and talk about its implementation.

I should point out a number of things that are happening and which the NHS is leading on to implement the sector deal. We have touched on a few of them. There is the digital pathology. We also have the 100,000 genomes project, which is now translating into the offer in the NHS of a national genomic medicine service and into genomic medicine becoming not just a research interest but integrated into everyday diagnosis.

These are really big moves on the part of the NHS. Of course we can always do more, but there is a cultural shift in taking forward these ideas which is being driving by the NHS itself.

The Chairman: There is certainly a shift in talking about it, but there is no tangible evidence that it is happening practically.

Lord O'Shaughnessy: I think that some of the examples I have given are tangible evidence. There are things that are up and running. Fifteen of the academic health science networks in the previous strategy in 2011 are up and running and proving very effective as the place to go for innovation in the NHS. The new NHS research strategy backs them as the place to be for both clinicians and entrepreneurs. That is just another example. I do think there is a lot going on.

The Chairman: One suggestion made to us in the evidence was that the NHS ought to be incentivised to take up innovations. On the other hand, another suggestion was that if it does not take them up it should be penalised.

Lord O'Shaughnessy: Carrot or stick. I mentioned some of the ways in which it is being incentivised, such as through the innovation and technology tariff. We always have to be careful about clinical opinion. We do not want to incentivise for the sake of it just because things are new; they have to be clinically valued. Committee members may or not be familiar with the Getting It Right First Time programme in the NHS, which is about establishing best practice. It has been done in orthopaedics and it is now being rolled out across 32 other specialities. We are looking at how we can use that methodology to encourage the uptake of clinically effective and valued treatments, devices and so on.

Baroness Morgan of Huyton: I am interested in how quickly you think you can do that. You described the translational research, which clearly is a big tick. It seems to us from the evidence that we have had so far that there is a gap. The translational research takes place, which is fine. How does that lead to uptake across the NHS, rather than just in hospital trusts where that translational research has been done? How quickly do you think we will develop a system by which we can drive through that wider uptake?

Lord O'Shaughnessy: I agree with your diagnosis. There is a broad recognition that that is true, including in the NHS itself. I cannot give you a timetable, but I can tell you that we are aware of the problem collectively and we are actively investigating it at the moment.

Lord Fox: I assume that you can overcome the problems that Lord Griffiths outlined and can take this Balkanised data and turn it into a global dataset. It has great value, as you pointed out. You also pointed out that it is important to do it in the right way. I suspect that one area of that is that the people whom this data is describing, the patients, would want to feel that the NHS was getting full value back from industry for the value of that data. What work have you done on modelling how you will manage the use of that data, assuming that you can make it available? How will the NHS get its value, which you can then demonstrate to patients is benefitting the greater society in this country?

Lord O'Shaughnessy: If you poll people and ask about the use of their data, they obviously expect that it will all be available on hand to any clinician for their own direct care. We know that that does not happen everywhere yet. That is the first thing: direct care. If you ask people again about the use of their data for the sake of planning specialised services, for example, or for carrying out research, they are still very supportive, but they will also express concerns about making sure that there are proper data security standards and that the physical IT stuff is robust and can resist attack, and so on. A huge amount of reassurance needs to be given to provide people with the confidence that the NHS can hold their data and that it will be used appropriately.

We are actively engaging in that process. At the moment, I chair a data strategy board of the NHS and partners, which is looking at this. We have the General Data Protection Regulation coming in in May, so this is a big moment across government to get all this right. I am confident that we can get it right, but it is important that we do not get carried away, because the reassurance bit is the most important part. If we can reassure the public that they will be looked after properly, we will be in a position to have their confidence that it can be used for purposes beyond their direct care.

Then, of course, the benefits come in any number of ways, such as more treatments being developed more cost-effectively and clinical trials taking place in this country, which means people getting access for free or being the first in the world to get it. Huge benefits can come about, specifically for NHS patients, from that research activity.

Q280 **Lord Oxburgh:** Many of the points that I would have raised you have already covered. I want to pick up one aspect of the evidence that we have received. One got the impression that there was a fairly vigorous ecology of start-up companies with interests in the NHS providing new alternative treatments and devices and what have you. This echoes what Lord Henley was saying. But the message we got is that it is very difficult for these people to get decisions on the adoption of their technology or treatment.

Ultimately, it comes down to individual trusts deciding whether or not they want to proceed in a particular direction. Of course, when you get down to the trust level, you have people whose main priority, particularly today, is staying afloat. They have very little time or effort to direct to this. Even in better times, when we are out of winter, a lot of them feel very pressed indeed. That is not the frame of mind that leads you to experiment with new ways of doing things. It certainly seemed to us that incentives, facilitation and help at the trust level will be needed for the wider adoption of procedures or treatments. They have already gone through all the tests—verification, value for money and so on—but they will not be adopted unless trusts feel able to proceed. Have you seen this, and do you have an approach to it?

Lord O'Shaughnessy: You are echoing the words of Baroness Morgan. I have heard that message from both ends; I have heard it from trust

CEOs and from innovators. It is a challenge that we have to face head on. Things are taking place already. I mentioned that the AHSNs have extra funding to support uptake. We are providing particular help for SMEs, which perhaps do not have the R&D departments that the big companies do. I accept and recognise the challenge.

I do not have an answer today, but I would say that there are some incredible examples of partnership. When we launched our response to the accelerated access review, I went to visit a cardiology lab in Hammersmith hospital, which is my local hospital and part of the Imperial healthcare trust. I saw a partnership there between some of the world's best cardio surgeons and experts and Medtronic, which provided the catheters with which they do this amazing keyhole surgery. That is the sort of thing that we need to see more of. It is a true partnership between the best of the public sector and the best of the private sector. It is not just selling widgets from one to the other; it is a true partnership. There are other examples, but we need to see more of that. These things are becoming technically very complex, so just doing the kinds of transactions that we used to do is not good enough.

Lord Oxburgh: It is one thing to do it with the Imperial trust, where you have a research-based institution putting a lot into it. It is very different to do it in many other places. You said that you do not have a strategy here. Why not have a strategy through which the NHS identifies a number of procedures that have gone through all the tests and pays 95% of the uptake costs for the first five trusts to do it, and then a smaller fraction for the next five? There must be something to give some urgency and incentive.

Lord O'Shaughnessy: My colleague is just pointing out that you are the former rector of Imperial. I am embarrassed not to have known that, but delighted that I chose that example.

Lord Oxburgh: We have had dealings before.

Lord O'Shaughnessy: That is an excellent idea and one that I will take away. We come back to this point: we are a creative bunch of people in this country and there is no shortage of good ideas; it is about the diffusion of the best. Look at the Getting It Right First Time programme. We have a methodology that has been developed over four years in a particular speciality, which is about setting out what best practice looks like. I see no reason why, in theory, that could not start to incorporate not just surgical procedures, for example, but the use of devices, technologies, diagnostics and medicines. Then you have to think about how you pull that through.

Baroness Neville-Jones: My question is supplementary to this discussion. You rightly said, Lord O'Shaughnessy, that innovation becomes more difficult, because it very often involves not a transaction but a systems change, which has repercussions in all sorts of directions. What we understand from the evidence we have heard is that, on the whole, the partnerships that get going tend to be trust by trust. So you

end up with a good example here and another there.

I suggest that if the life sciences strategy proceeds at that speed, it will take a very, very long time. Do you have any plans to try to ensure that these innovations, as and when they are pioneered and emerge, are translated through to adoption by the system as a whole? It would mean that the whole way in which trusts budget, and their relationship with the centre, would have to change. Can you see a different way, or are the existing systems getting results with any speed that can make a real impact?

Lord O'Shaughnessy: I know there is a need for a different way. I do not know what that different way is yet. It is important to note that it is not just me saying that as the Minister. Go back to the NHS research strategy and its final three points, under the heading "Improve and simplify our adoption ecosystem". Point 10 states: "Use NHS England's specialised commissioning and commercial medicines clout", because it now has a commercial medicines unit, "combined with NICE appraisals, to drive faster uptake of affordable, high impact innovation". That is an NHS ambition. Point 12 is: "Review and simplify the number of different national innovation projects and programmes". The two go together.

Baroness Neville-Jones: I accept the what. I am really asking about the how.

Lord O'Shaughnessy: I do not know the answer to the how, but I can tell you that we all agree that it needs to happen. It is a piece of work that we are undertaking at the moment. We are just getting going.

The Chairman: Who developed that NHS research strategy?

Lord O'Shaughnessy: NHS England. It is my understanding that it has been through its board. It is certainly a public document.

The Chairman: So it developed the strategy, but not, as Lady Neville-Jones said, the how—the next stage.

Lord O'Shaughnessy: It is a start, but clearly the how is what comes next. We have dozens of innovation programmes. We need to do rationalise them into a system that makes sure that things are tested, but then finds those that offer the best value for money and are clinically effective, and sets a process for them to be adopted nationwide.

Q281 **Baroness Neville-Jones:** I want to ask you about the relationship between the life sciences strategy, NIHR and UKRI. UKRI is a new body that also has a strategic role. We have not have had a great deal of evidence to make clear to us what the working relationship between these two grant-making, strategic bodies will be.

Lord Henley: It is for UKRI to decide where to put the government money. As we have made clear in the strategy and the sector deal, we want to use that to lever further funds from the private sector.

Baroness Neville-Jones: My question was really directed at how these bodies are going to work together.

Lord Henley: I think it will come down to the two bodies wanting to work together, as part of the strategy, to make sure that the strategy works, and so that the funds that are available can be spent in the most appropriate way.

Baroness Neville-Jones: So the Government do not have a view on how they should work together.

Lord Henley: I think it should be a matter for them, but, again, this can all be overseen by the Life Sciences Council and others. If I may go back, it might be helpful if, later on, I send a diagram of the structure of the governance and implementation that makes it quite clear where the Life Sciences Council, and the bodies below it, will sit. That might bring a degree of clarity to the point you are making.

Baroness Neville-Jones: That is the question I am asking, so yes, I suppose it will.

Lord Fox: Very briefly, what, if any, work have the Government done to decide the areas that those two important bodies will play in—or are you merely sending them out on to the field and letting them sort it out among themselves?

Lord Henley: They are sorting out among themselves where they see a need for research.

Lord Fox: Conversely, if they decided that they did not need to co-operate, the Government would be happy with that?

Lord Henley: No, no, they need to co-operate—I am making that quite clear. They will co-operate, but I do not think it should be the Government directing them in how they do so. We have the Life Sciences Council above, to go back to the diagram we discussed earlier.

Lord O'Shaughnessy: The NIHR is part of that. It has been going for about 10 to 14 years. It obviously has its own strategy and direction.

Lord Fox: That is kind of what we are worried about. How does it fit into the UKRI scheme of things now that that is also there?

Baroness Morgan of Huyton: Do they have representatives on the Life Sciences Council?

Lord Henley: We have not announced who will be on the Life Sciences Council at this stage, but it will be fairly broad and will cover a whole range of people, from pharma and medtech to digital and academe, as well as being chaired jointly by the two Secretaries of State and Pascal Soriot, as I mentioned earlier. Below that, you have the various subgroups that will report to it.

The Chairman: You say that the two Secretaries of State will chair this,

but is it not worrying that there is no indication of how the continuity will be maintained and who will be responsible for that and at what level of government?

Lord Henley: I do not see precisely what your concern is. The Life Sciences Council is in effect taking over from MISG. As I said, it will consist of the two Secretaries of State, Pascal Soriot and representatives from across various sectors. Below the council, there are the various subgroups that I have mentioned, such as the implementation board. All those will report to the Life Sciences Council.

Baroness Neville-Jones: It would be very helpful if the department could write to us on this point about the relationship between the life sciences strategy machinery and the other, very important body that has emerged, which has a strategic role in granting funding for research, which includes this area. A short explanation would be very helpful.

Lord Henley: I am more than happy to provide a diagram and a letter setting that out.

The Chairman: In that, you might also mention how OSCHR fits into this.

Lord Griffiths of Fforestfach: You might find our questioning relentlessly aggressive and negative—

Lord Henley: Not at all.

Lord Griffiths of Fforestfach: I think the general concern is the following: the industrial strategy is laid out in quite a high-level and frankly fairly general way. We are conscious of previous industrial strategies, especially “Neddy” in 1962, which was set up and failed precisely because it never translated the high-level narrative that it talked about then, which the Government are talking about now and which we all agree with. In the debate, there was all-party agreement about that, but how do you translate that into something that is very specific, with targets and accountability and metrics—something that makes it clearly effective?

To me, the whole of our questioning is a facet of this issue. At present, we are being left in the dark. On the one hand, the narrative has been told, sold and accepted, but on the other we feel that there is a real gap in the way the Government are explaining what they are doing in implementation. I think that is a cross-party point of view. That is why we may appear rather negative.

Lord Henley: I can only apologise if the message is not getting through. Above all, as I mentioned, in terms of the wider industrial strategy, which as I made clear goes across government, there will be the independent advisory Industrial Strategy Council. That will not be a statutory body, which the Chairman asked about, because I do not think there is any relish for any further legislation at this stage. That will be an independent body, set up by the Secretary of State.

Below that, for life sciences there will be the Life Sciences Council, which will be chaired by the two Secretaries of State and Pascal Soriot. That is a continuation, as Lord O'Shaughnessy put it, of MISG, which used to exist.

Below that, there will be further groups, including a life sciences industrial strategy implementation board. That is the one that will want to follow what we are doing and what is happening as a result of the first sector deal to have come out of the life sciences area. That will be chaired by me, as long as I am here—let us hope that I am—and Sir John Bell, who presumably will be there for considerably longer, as he has been involved in this field for some time.

That is the structure in place. It will help if I put this in the form of a diagram, attached to a letter, to set out how it will work and explain how we want to maintain the momentum on the industrial strategy to make sure that what has been promised, whether by government or other partners, continues to take place and that we are making progress in those areas.

Some of those ambitions are very broad, some are more specific. I talked about a broad ambition to get R&D up to 2.4% by 2027 and beyond that, by a later date, to match what other countries are doing. Some ambitions will be more specific, but we have all those bodies in tiers working on them.

The Chairman: Thank you. A letter, plus an accompanying diagram of how the whole thing would be implemented—an implementation plan in a diagram—would be helpful.

Lord Henley: I might even be able to give some clearer dates.

Lord O'Shaughnessy: The sector deal itself has some very specific, tangible targets. Some of those are input targets, some of them are output targets. That is what we will be held to account for, rather than general desires to do X or Y, as you say.

Lord Fox: You said a couple of times that you did not think there was legislative appetite for a statutory body. My evidence, from the debates we have had, is that bringing forward some short legislation to make the independent Industrial Strategy Council, or whatever it is called, a statutory body would be widely welcomed. I am not sure where the lack of enthusiasm comes from. I think that parliamentary-wise it would be widely welcomed.

Lord Henley: I have noticed on many occasions that individual Members of both Houses are keen on legislation and assure me that it will go through without any trouble. As a former member of the usual channels, albeit many years ago, I can vouch for the fact that that is not the case. All legislation is tricky, and it is often rather difficult to get the parliamentary time to do these things, given the competing interests.

Q282 **Lord Hunt of Chesterton:** What plans do the Government have to drive excellence in science innovation UK-wide? I read a report by Ernst &

Young recently on the catapult centres, which is one aspect of the government programme. It was not very complimentary. It has been noticeable that, in our evidence from various groups, people have very seldom mentioned catapult centres. We have asked about them, and they have given us a slightly lukewarm reply.

On this point, in terms of innovation, among various scientific groups, as I understand it, there is a feeling that the Government will maintain their participation in the European Horizon 2020 programme, which is accepted as being an extremely effective vehicle for innovation. Would you like to reaffirm that it looks as if we now are going to have the 2020 programme for at least the next four years? That would be helpful.

Lord Henley: Very broadly, going back to the life sciences industrial strategy, as you are fully aware we want to sustain and increase the funding for basic science and to match the international competition. As a great many Committee members will be aware, we start from a very strong position; we have a productive and world-class science base in our universities. We want to sustain that. We want to further improve the United Kingdom's clinical trials environment; perhaps Lord O'Shaughnessy wants to say more about that. There is also the creation of HARP, which Sir John Bell spoke about.

As regards the specific question about continued involvement up to 2020, we are on track for that.

Lord O'Shaughnessy: It is certainly desired.

Lord Hunt of Chesterton: It has to be negotiated.

Lord O'Shaughnessy: Yes, it is subject to negotiation.

Lord Hunt of Chesterton: What about catapults?

Lord O'Shaughnessy: It is difficult to speak more broadly, but one of the requests for the sector deal was further investment in the gene and cell therapy centre. That reflects the fact that that catapult centre is working well, but I am not in a position to comment on any of the others.

Lord Hunt of Chesterton: Have you read the Ernst & Young report?

Lord O'Shaughnessy: I have not seen it.

Lord Hunt of Chesterton: It does not make very happy reading.

Lord O'Shaughnessy: I should read it then.

Lord Hunt of Chesterton: Quite so.

Baroness Neville-Jones: Can I follow on from Lord Hunt's question about a plan to drive excellence UK-wide? I have two points. One is that the word "place" has not been mentioned in our discussion so far. What view do you take of the importance of trying to seed research in parts of the country where it is not particularly active at the moment but where it

could be the source of wealth creation? Is that an active, determining part of the strategy?

The second point is this: life sciences are very important and the strategy is very biomedical. Do you have a view on the need for flanking strategies in plant and animal sciences? They do relate, frankly, to the question of place.

Lord Henley: As regards place, we are not that badly off. We always focus on the golden triangle of Oxford, Cambridge and London, but an awful lot is going on in the north. I recently saw a Manchester-based—

Baroness Neville-Jones: Manchester is one of the places in the north where things happen, but there is an awful lot of the north where things do not.

Lord Henley: In Wales, there are strengths. In Newcastle, there are strengths.

Baroness Neville-Jones: So you do not think there is a problem.

Lord Henley: I do not think it is as bad as you imply or that there is an overconcentration in the south-east.

Baroness Neville-Jones: I come from the north, and people think there is.

Lord Henley: I also come from the north, and I appreciate that there are problems in the extreme north-west and other areas. We have excellence in our universities and health research in other parts of the country. I mentioned Manchester, but I could have mentioned Newcastle as well.

Lord O'Shaughnessy: If you look at the statistics on the life sciences sector, you will see that 22% is in the south-east of England but 21% is in the north of England. There is quite a geographical spread. Obviously different bits are concentrated in different places.

One of the welcome parts of the sector deal is investment. We had Seqirus investing £40 million in Liverpool in a manufacturing facility, and a big investment going to Leeds, which is a medtech centre. I completely agree that place is important. That is one of the areas that we have sought to address: not to try to force a specialism on areas that do not have one just for the sake of spreading them out, but to try to build on expertise that exists.

Again, coming back to Leeds, there are good examples of the kinds of partnerships I talked about, for example between Johnson & Johnson and hospitals in Leeds. It is a real centre for medtech.

Baroness Neville-Jones: I take your point, but take Leeds as an example. It has a huge NHS establishment and is an obvious place. That is where the data sits. I am asking whether it will be a conscious effort on the part of the department not so much to try to get places to do things

they are incapable of but to have enough grainy knowledge to know that there is a small seed of excellence in a place that is not otherwise particularly prosperous and which they can build on. You can do something in that area.

I asked a second question about the related sciences. We have a strategy for biomedicines. Life sciences is, after all, both animal and plant, and we have other important industries such as agriculture. It is not your area, but what is your view of the way this should be linked up so that you get a national spread?

Lord Henley: Going back, I think that John Bell dealt with this in his evidence. It is just a matter of keeping the focus where it should be. One could, as you say, have broadened life sciences to include agriculture and a whole host of other things—

Baroness Neville-Jones: But you do not intend to.

Lord Henley: There will be other sector deals in that area that might be relevant, such as in the food and drinks industry and others. It was right to have that focus in life sciences, and, as I recall it, that is the evidence that John Bell gave.

Baroness Neville-Jones: I think it is a great pity, I have to say.

Lord Henley: You might have had an even bigger row of Ministers sitting here, had you broadened it to research in those areas, but that is another matter.

To go back to what you said about place, I want to add one other thing, although it is not so much about research and centres of excellence. Big pharma and manufacturing has certainly spread all around the country. The statistic I like, because it is an easy one to remember, is that there is a factory—I forget which one—making some form of pharmaceuticals in Cheshire and which provides 1% of all our exports by value. There are things happening all round the country. It is not just a concentration in the south-east, despite, when we come back to research and universities, the excellence of the golden triangle of Oxford, Cambridge and London.

Lord Fox: Sorry to labour this point, but place was a major plank of the strategy that you introduced to the House of Lords. It is not us who introduced this subject, it was the Government. I remind the Minister that contained in that strategy is a need to develop local industrial strategies. You seem to have ruled out life sciences from local industrial strategies for places that do not currently fit into the places of excellence. Is that the case?

Lord Henley: No, that is not it at all. Obviously we want to develop local industrial strategies, and we want those local industrial strategies to cover life sciences, but there will be some cases where that is simply not appropriate. If you look at the part of the world I live in—the extreme north-west; Cumbria—there are no centres of excellence.

Lord Fox: Which takes us back to Baroness Neville-Jones' point about where other life sciences businesses are.

Lord Henley: I think it was right to keep the life sciences industrial strategy focused as it was. There might be other things—there will be other sector deals that might be relevant—that can help in such areas.

Going back to the broader industrial strategy, place is crucial, save productivity, which in many areas, particularly in the south-east, ain't too bad, although it is not great in certain industries, particularly in certain areas. I think again of my own part of the world in the north-west.

Lord Oxburgh: Do you agree that some of this discussion might have been unnecessary had the report been described as, or called itself, a medical sciences strategy, rather than a life sciences strategy?

Lord Henley: Now we are getting on to words. Words are very important. I think it was right to have a focus. As I said, the broader industrial strategy can take us into other areas. This life sciences strategy is about what we made clear it is about, so it has been focused, to some extent.

Q283 **Lord Mair:** Lord Henley, you referred earlier to the importance of skills. Indeed, the industrial strategy very much emphasises skills. Earlier, you talked about the importance of getting the right people to come to this country. We have heard evidence from a number of experts. Sir Paul Nurse, director of the Francis Crick Institute, said that "our image is suffering terribly at this moment. We need to simplify the immigration system". We heard from Sir Robert Lechler, president of the Academy of Medical Sciences, who said that "recruiting talent in my university has definitely become more difficult". What discussions have taken place between the various departments—I am thinking particularly of the Home Office, but also other departments—to get the right skills to get the industrial strategy to work in the long term in the light of Brexit?

Lord Henley: I can give you an assurance that discussions have taken place with the Home Office and will continue to do so. That is why we have already doubled the number of visas that will be available under tier 1, which is for exceptional talent. Obviously, it is important to attract those people from around the world. We need to do that; it will become even more important after Brexit.

Changing the Immigration Rules is important. We want to make sure that that will happen quicker. We want to do what we can to reduce red tape in hiring international researchers, members of established research teams and so on. I know that the Home Office does not have the best reputation. I have worked there in the past; it is not that bad. The only assurance I can give you is that we will continue our discussions with them and try to make sure that we can continue to let in the talent that will want to come here because we are leaders in the field. This is true of other industries as well. That is why, just to start off with, we doubled the number of tier 1 visas.

Baroness Neville-Jones: How many are available?

Lord Mair: Sorry. Sir Paul Nurse is a great authority and the Francis Crick Institute is fundamental to the UK's success in the life sciences. He is saying that our image is suffering terribly. What is your view? How will that image be improved?

Lord Henley: I agree that our image suffered a bit as a result of Brexit, but we can still attract the people. When you have a sector such as this that is so good, you will be able to attract people. The important thing is to make sure that we can let them in and that the Home Office can have the right procedures so that we can, as I said, double the number of available visas. I am sure Lady Neville-Jones would say that it is still not enough.

Lord Hunt of Chesterton: Would you use the word "welcome", rather than "let them in"?

Lord Henley: Sorry. I apologise for my words. We will welcome them in.

Lord Hunt of Chesterton: Thank you.

Lord Henley: They will want to come here because we are leaders. The same is true of other industries. Before I came back into the Government, I chaired the Communications Committee as we began an inquiry into the advertising industry. What did we find? Vast numbers of people wanting to work in advertising in the UK because it is so successful and it is the world leader in that area. You could say that the life sciences industry and universities that we have here in the UK will similarly attract people. The important thing is to make sure that our procedures are such that they can be welcomed here. That is why discussions with the Home Office must continue.

The Chairman: I do not wish to put words in his mouth, but Lord Mair was referring to the fact that we heard from leaders in the life sciences, such as Sir Paul Nurse, that they are already noticing issues. For instance, the Wellcome Sanger Institute has seen a drop of 50% in post-doc applications. You keep talking about visas, but these people currently come here without having to apply for a visa.

You also talk about leaders. That is one thing, but the life sciences industry needs more than just leading scientists. It needs technicians, and others. How will we address the skills shortage? If it is that we will grow our own, what conversations are we having with education departments and others as to how we will grow our own, and on what timescale?

Lord Henley: There is a great deal that we want to do when it comes to our own training. That is why in the life sciences industrial strategy we looked at a group of six recommendations on developing a reinforced skills action plan, creating a new apprenticeship scheme, focusing on data sciences and establishing institutes of technology that will provide opportunities for technical training and support for entrepreneur training

at all levels. These all come straight from the life sciences sector deal and are what the Government should be pursuing: a fund being established to support convergent science activities and high-quality STEM education being provided for all.

Again, Lord Chairman, you will remember the announcements in the Budget for further monies for training in Maths and other vital subjects. Those will take time. I do not know whether you want me to go back to the immigration issues as well.

The Chairman: I think Baroness Neville-Jones has a supplementary.

Baroness Neville-Jones: My impression, Lord Henley, is that there is a lot of preliminary work going on. Do you have some goals set in the department that you can talk to the Home Office about? It seems to me that the Home Office has to respond to your identified needs. To put it the other way round, it is not for the Home Office to say what you can have. You need to identify to the Home Office the needs that are derived from this strategy, so that it has a base from which to work, of a kind that has some meaning.

Lord Henley: That is why, following discussions, the tier 1 numbers have been doubled. I forget the precise figures.

Baroness Neville-Jones: They were doubled on the basis of a proposition that you put to the Home Office?

Lord Henley: They were doubled on the basis of an assessment by government as to what the need might be.

Baroness Neville-Jones: Are you then going to go through all the other areas? How do you get your information about the skills needs for this strategy and how do you translate that through to both home training and immigration quotas?

Lord Henley: One has to look at the numbers that are already working here; the numbers are seen by industry, universities and others that we need to come in. That is why, after discussions with the Home Office, we were able to agree on a doubling of the tier 1 visas. That is important.

Also, as I think Lord Hunt made clear, there are others in the universities who need to come in but who can come in as research students or whatever, where it is easier to bring in international researchers and members of established teams. That is where there is a certain amount of red tape that we can reduce. Certainly, discussions with the Home Office will continue, just to make sure that we can attract the right people, post Brexit.

Baroness Neville-Jones: It seems, if I might say so, that you need your own assessment of the needs.

Lord Vallance of Tummel: On the issue of skills, one critical factor that I think we came across in evidence earlier is that a key differentiator

between, say, the US and the UK is the ability of scientists in some areas to speak business, and vice versa; in other words, businessmen who can understand the science, and science people who can understand business. The US gets economic growth largely because of that ability to procure both. In looking at skills, will you also look at that? How do you train scientists in business and businesspeople in science?

Lord Henley: When you talk about whether they can speak the language, the same could be said about finance. All three of them need to speak to one another. One of the advantages that we might have in this country—I go back to the golden triangle—is that people can speak to each other. They do, in places such as Oxford and Cambridge, and we all benefit from the result. Access to the City also comes into it; it helps people to understand and, as you put it, speak the same language.

To go back to Imperial, that great institution that Lord Oxburgh was formerly rector of, I visited what it was doing in White City and saw some of the start-ups there. I talked to researchers turning to business and to academe, and they were learning to talk the same language. One remembers that their proximity to money also helps in that respect. From that, great things can follow.

Lord Vallance of Tummel: We will come to money in a moment. Putting people in the same room is not the same as training people. My question is about actually training people. It is like putting scientists into a business school, and vice versa. If you miss this, you will miss a key cog in the machine.

Lord Henley: This, again, is something that the life sciences industrial strategy and the sector deal recognised. I went through the six important recommendations that they made. The fourth, which I read out, was that there should be support for entrepreneur training at all levels, incentivising varied careers and the migration of academic scientists into industry and back into academia. When they are co-located, as I saw at White City, an awful lot of that becomes much easier.

Lord Oxburgh: Just a quick point on immigration and getting people. Getting the bureaucracy right is important, but the message is even more so. I would love BEIS to say, "The UK welcomes excellence".

Lord O'Shaughnessy: The Prime Minister has said exactly that every time she has spoken about our desire as a country to continue to attract the brightest and the best. Lord Henley has given examples of specific actions that were taken.

We talk about this issue in relation to NHS staff all the time. Of course, some of those are scientifically orientated, but the vast majority are not. The agreement of phase 1 of the Brexit negotiations and the reassurances that we can provide to people have been, I sense, extremely welcome. It is encouraging. If you look at the figures, there seem to be more EU citizens working in the NHS now than there were in June 2016. Hopefully, that message is getting across. We always need to

be in the position of growing our own, to use Lord Patel's phrase. How do we make sure we have more of our own nationally grown staff? From that point of view, the NHS is taking steps.

Lord Oxburgh: Perhaps we need the message to come from the Home Office. Perhaps that would help.

Lord O'Shaughnessy: Right. I think the Home Secretary does put out that message, actually.

Lord Hunt of Chesterton: Further down the chain is where we want some politeness.

Lord O'Shaughnessy: Politeness is always welcome.

Baroness Morgan of Huyton: I know that you need to write to us about this, but I am intrigued to know how the skills strategy is being implemented. Lord Henley, you said earlier on that you hope that our DfE colleagues will help with this, not that the DfE is part of this. Take something like the huge gap in technicians. That is not the top of the ladder that we hear about, but we already have a big gap in technicians. We know that we have a lot of people from eastern Europe already filling that gap. We know that we need to grow our own, yet at the moment there is almost a disincentive for pupils who have done maths at GCSE and not got an A to take maths in the sixth form. Yet you need that to feed the route through for technicians. It is that joined-up stuff that a series of headings and bodies looking at stuff will not solve. You might be able to give us an assurance today, but it would be very helpful to know how the whole skills piece is being examined.

Lord Henley: My form of words has obviously not been satisfactory. I was trying to make clear right at the beginning that the industrial strategy is a joined-up message by all of government. That is the point that my Secretary of State made right at the start: that this did not belong just to him, but to the whole of government.

There are a number of recommendations in the life sciences sector deal, for example. The third was that the Government should establish institutes of technology that will provide the opportunity for technical training, which is exactly what you are talking about. They will be answerable to Parliament, which no doubt you can pursue yourself. It is something that Education can pursue and that our overarching independent Industrial Strategy Council will want to keep an eye on, whether it is technical training in this area or in others.

It is for the whole of government. I hope I can make clear, even though every so often I say "I hope they will do this", that this is joined-up government and that it is what they will do.

Q284 **Lord Griffiths of Fforestfach:** I come on to finance. We have heard about a great deal of creativity in the nations that make up the UK. However, there are two issues. One is the supply of capital in funding, particularly to small companies and particularly to scale-ups in their

becoming larger. The second is the issue of tax incentives.

On the first, I would like to ask the following. I was very impressed by the Treasury's patient capital review, which came up with some very interesting proposals. I want to ask, for example, whether the pension regulator should redefine what prudent investment means for a pension fund, in order possibly to allow more funding to be put into alternative investments that are higher risk but which in a balanced portfolio do not jeopardise the risk management of the portfolio itself.

Secondly, the evidence from America in 1979 and France in 2008, when they changed the rules relating to what a prudent investor would do, is that they have seen an enormous increase in capital that has gone into these areas. First, what do you think of that? Secondly, if you think that the Treasury's review was good, what do you plan to do to make it effective?

Lord Henley: Obviously, I always think that everything the Treasury does is good. I think their patient review was good, and I think the evidence that Sir John gave to you about what he thought might result from it is very encouraging. I thought that Sir John was very excited by the prospect of what the pension funds could do just by giving them the chance, as I understand it—I really do not understand the rules on this—to invest relatively small parts of their portfolio but seriously big sums of money into more diverse things in this sector. The benefits to all concerned are prospectively enormous. I understand that this has been the case in the United States for some time. That is why Sir John was so excited.

On that aspect, I think the Treasury is doing a very fine job and I hope that great things will come of that. On the Budget, you will remember the announcement on increasing the rate of R&D expenditure credit from 11% to 12% with effect from 1 January this year. Again, those were important parts of the life sciences industrial strategy.

The last thing I want to mention is the fact that we still have a pretty low rate of corporation tax compared to other members of the G20 and G7. Again, that can only be of benefit to investments in this area. I cannot remember whether Trump has taken his corporation tax even lower, but there are certain advantages to this proposal. As I said, the Treasury often gets things right.

Lord Griffiths of Fforestfach: I am delighted with that response, but it seems to me that for this to happen it has to be managed and pushed, I think at a ministerial level. I cannot see it happening of its own accord. I can see it getting sold, and it being said, "Look what happened with BHS and Carillion. We have to be very careful", and so on.

My question to you as Ministers is: what are you doing to advance this cause? I think we will get, not from the Treasury review but from Treasury Ministers, a good degree of caution. Unless, therefore, there is real pressure from you and your departments to get the Treasury to do it—to force them, almost, which is not impossible—I wonder how you see

your task in that context.

Lord O'Shaughnessy: From a health perspective, the message of this funding valley of death, as they call it, which the patient capital review was meant to investigate, is absolutely recognised. One has always looked at the suggestion that there ought to be public money going into seed investment with the fear that it will be crowded out. I spoke to a person involved in the health side who sat on the patient capital review and said quite the opposite—that they expect it to crowd in, because at the moment there is an absence of an anchor investor in some of these businesses.

It is absolutely the right analysis. A number of initiatives have already come out and, as you have heard from Sir John and others, they are essential to kicking this sector on and avoiding what is happening at the moment, which is that lots of these companies get to a certain size and then sell up. That is why we have not been growing our own billion-dollar companies.

It is critical from our point of view, through the mechanisms we have described, that we keep the pressure on. Everyone agrees that it is important, particularly if we want to get those healthcare benefits out of it.

Lord Vallance of Tummel: I just want to underscore what Lord Griffiths has said. If you look at the strategy, its outputs are big commercial ones. If you do not get these big new companies, the rest is relatively hot air. You will not get those big new companies unless you can unlock that capital and the multi-skills that I am talking about. You need the two things. If you do not have these two things, you will not develop companies of this kind, which is why I asked at the very beginning about the relationship between the top-level Industrial Strategy Council and your council that is looking at life sciences. There has to be something where you can really get a grip on the top one, because that will drive everything, not you. Will there be Treasury people on your group as well as on the top one? How will it work? This is fundamental. If you do not get this right, it will drift into the sand in a few years.

Lord Henley: I think we can say that we note what you say. When we announce the membership of the independent Industrial Strategy Council, I hope that it will take note of that.

The Chairman: Will that also apply to the Life Sciences Council representation from the Treasury?

Lord Henley: I cannot promise at the moment precisely who will be on it, but if you are prepared to wait, Lord Chairman, we will give you the names in due course.

Lord Maxton: By the way, to most of us, the extreme north-west means Cape Wrath.

Lord Henley: Right. I apologise. Clearly, I was speaking from an English

point of view.

Lord Maxton: I know that one of Lord O'Shaughnessy's listed areas is co-operation with the devolved Administrations. The NHS in Scotland is, of course, separate from the NHS that you represent. What discussions have you had with the devolved Administrations?

Lord O'Shaughnessy: I have not personally had discussions with the devolved Administrations about the life sciences strategy.

Lord Maxton: But that also involves universities. Of course, they are equally a devolved matter.

Lord O'Shaughnessy: I do not want to get into buck-passing territory, but universities are not one of my areas. Being, as you say, in the NHS in England department, I have tried to focus on that and make sure that the NHS in England is responding to the life sciences challenges. It is for national and devolved Administrations and their NHSs to look at that.

Lord Maxton: There are four NHSs in the United Kingdom.

Lord O'Shaughnessy: Indeed there are.

Lord Henley: I can give you assurances. I was in Glasgow only last weekend and I will be in Edinburgh in about two weeks' time. I do not forget about the existence of my neighbours.

Q285 **The Chairman:** Thank you. Can I go back to our discussion earlier that this life sciences strategy, although called a life sciences strategy, is built on medical sciences? Comments were made, including from Sir John Bell, as to why and how that happened. That being so, what assessment have the Government made of the global competitiveness of other life sciences, such as agri, plant and animal sciences and their potential role in contributing to economic growth?

Lord Henley: There was mention earlier of agritech and other things that could have gone into this. I made it clear that we thought at the time that it was better to have an appropriate focus. Yes, there are a lot of other nature parts of life sciences. As I have made quite clear, we are looking for changes and developments there. The broader industrial strategy will include sector deals for other sectors. I mentioned, in relation to agriculture, the whole food and drink sector possibly coming together. There will be others.

Yes, they are important, but we thought it was right to focus the life sciences industrial strategy as we did and not take it wider, as I think you are suggesting.

The Chairman: We are coming to the end of the session, and I want to give you both an opportunity to cover some of the areas that you might like to say something about if you have not done so. If you want to make a brief comment, please do so.

Lord Henley: I will write to the Committee about governance and structure, if I can. I do not know your timescale for taking evidence, or, indeed, whether we are the last.

The Chairman: You are the last important one, anyway.

Lord Henley: That cannot be the case. I hope to provide further detail on the governance structure, including a diagram. Sometimes diagrams makes things clear and sometimes they do not, but I want to make things clear.

I will also offer some dates when we hope to announce who will sit on the independent council, so that you have some idea. I apologise for the fact that the independent council, despite your own desires and those of Lord Fox, will not be set up by statute. As I said, I do not think there is a desire for a statutory route.

Lord Vallance of Tummel: Just one little question. Will there be any publication of an implementation plan?

Lord Henley: The implementation plan—and, I suppose you could say, each sector deal as it comes through—is implementing what we are proposing in each sector. This is the beginning for the life sciences, but there will be further life sciences sector deals in due course.

The Chairman: In conclusion, I thank you both on behalf of the committee for taking the time to come and help us with this inquiry. If our questions seemed a bit aggressive, as Lord Griffiths said, we did not intend that. We were merely exploring with you, perhaps more robustly than we could have, all the evidence that we have heard. Our intention is quite clear: it is to contribute to making a success of the life sciences industrial strategy. Whatever comments we come out with in the report will be to that effect. Our intention is not merely to criticise it. We do not intend to do that; we intend to contribute to the success of the strategy. Thank you both very much indeed.

Lord O'Shaughnessy: Thank you.

Lord Henley: Thank you.