

Science and Technology Committee

Oral evidence: [Setting up UK Research and Innovation: The Chief Executive role](#), HC 1047

Wednesday 15 March 2017

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Members present: Stephen Metcalfe (Chair); Victoria Borwick; Jim Dowd; Chris Green; Dr Tania Mathias; Carol Monaghan; Gareth Snell; Graham Stringer; Derek Thomas; Matt Warman.

Questions 1 - 68

Witnesses

I: Professor Sir Mark Walport, Chief Executive Designate, UK Research and Innovation; and Rebecca Endean, Director, Research and Innovation Reform, Department for Business, Energy and Industrial Strategy.



Examination of witnesses

Witnesses: Professor Sir Mark Walport and Rebecca Endean.

Q1 **Chair:** Good morning and welcome. Thank you for joining us. For the record, could you state who you are and in what capacity you are appearing before us this morning?

Rebecca Endean: My name is Rebecca Endean. I am director of research and innovation reform. I work in BEIS and I am here in this capacity at the moment.

Professor Sir Mark Walport: I am Mark Walport. I am here in my capacity as CEO-designate of UK Research and Innovation, subject to the passage of the Bill before Parliament at the moment. I also happen to be the Government's chief scientific adviser.

Q2 **Chair:** Thank you very much. Welcome to you both and congratulations on your appointment as CEO-designate of UKRI. Perhaps, Mark, you could set forward a timeline for us about how you think events are going to unfold now in setting up UKRI, assuming that the Bill receives Royal Assent.

Professor Sir Mark Walport: At the point of Royal Assent, in accordance with setting up non-departmental public bodies, UKRI will become a shadow body. The aim during the next year is to transition from that shadow body into UK Research and Innovation itself, which will start on 1 April 2018. In the year, roughly, that we have, we need to set up a going organisation. Will that mean that the transition is complete by 1 April 2018? The answer is no, because there are some things that can only happen once the new body is in existence. It will be a continuing process, but it should be largely complete about a year after that, I think.

Q3 **Chair:** In regard to you taking up your role full time, do you envisage that being 1 April 2018?

Professor Sir Mark Walport: It will probably be somewhat before that. I am managing a tapered transition. From 1 April this year, Chris Whitty, who is the chief scientific adviser at the Department of Health, will be spending two days a week in the Government Office for Science acting as deputy Government chief scientific adviser, which will give me approximately half of my time to devote to each of the roles. I will operate in that fashion until the autumn or until a successor to me is appointed as Government chief scientific adviser. Depending on how long that takes, there may be some negotiation around the autumn. That is the plan.

Q4 **Chair:** In terms of appointment of a board, will that start prior to April next year?

Professor Sir Mark Walport: Yes, that will start prior to April next year. The advert is out at the moment for the board of UKRI, with a closing date at the end of March.



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Q5 Chair: When Sir John Kingman came before us—I think it was in October last year—he had hoped that an announcement of the new chief executive would be made before Christmas. There was obviously some delay in your appointment, or the appointment to the role was keenly awaited. Was there any particular reason for that delay? Were you in two minds about taking the role?

Professor Sir Mark Walport: No. I am probably not the right person to answer that question, but I applied, there was an open competition, there were the Cabinet Office public appointment guidelines, and it was supervised by the Office of the Commissioner for Public Appointments.

Q6 Chair: Is the short delay between Christmas 2016 and your appointment going to have any impact on the setting up of UKRI?

Professor Sir Mark Walport: No, I do not believe so at all. After my appointment was announced in February, I started to get involved in the detail. There had been a process running for some time, and Rebecca can say a bit more about that. So, there had been a lot of activity and preparation already.

Rebecca Endean: We were very lucky to get Sir Mark, because he could start paying attention to it straight away. When we looked at the timeline, we had always assumed that whoever was appointed would have to have a period of notice and there would be a period of time before they took up the position. That small one-month delay, because we got Sir Mark—and we are very lucky to get him—has not had any impact on the timetable at all.

Q7 Chair: I realise that UKRI will not be in existence until April next year, but in the run-up to that—there is obviously a lot of planning—is the one day a week that Sir John Kingman is putting in, and are the two and a half days a week that you are putting in, enough commitment to this at this stage?

Professor Sir Mark Walport: My assessment is that it is. The one-day commitment that Sir John is putting in is spread over seven days of the week. He is very active in an extremely supportive way, from my point of view, and, equally, I am putting in the necessary time. I should also reassure you—wearing my Government chief scientific adviser hat—that the Government chief scientific advice is also being delivered in the normal way.

Q8 Chair: That is interesting. You are dual-hatted at the moment. You must be a very busy chap. Is there any conflict between those two roles?

Professor Sir Mark Walport: No, and I have two private offices, so there is a separation of function. We do think about whether there is a conflict of interest. In fact, that is extremely rarely the case. There is quite often a common interest, but it is not a conflict.

Q9 Chair: When this is fully up and running, will the Government's chief



scientific adviser be scrutinising any of the role of UKRI?

Professor Sir Mark Walport: Not in a formal sense. There is a separation, as you know, between the roles, which is that the job of the Government chief scientific adviser is mainly scientific advice for Government policy, whereas UK Research and Innovation operates in the policy-for-science space. But during the four years I have been in the role as Government chief scientist I have worked closely with Innovate UK and the research councils, and I am anticipating that there will be an ongoing, close relationship between our offices. Haldane said in his famous report of 1918 that he thought it was important that there was an interplay between Government and research funding agencies because there are important scientific questions that arise as a matter of public policy.

The other thing to say is that with the recent reformulation of the Council for Science and Technology, which is co-chaired by the Government scientific adviser and an external figure—currently Dame Nancy Rothwell—a member of that group comes from UK Research and Innovation, so there would need to be close links, and I believe there will be.

Q10 **Chair:** Thank you. I have one final question before I pass on, and I might come back to the Haldane report later if we have time. Sir Mark, you were involved in commissioning Sir Paul Nurse's report into the research councils, which established the framework for UKRI. What would you say to people who think that your appointment as CEO was determined way back then?

Professor Sir Mark Walport: The short answer is that I did not commission the Nurse review. The Nurse review was commissioned by Ministers.

Q11 **Chair:** Did you advise them on it?

Professor Sir Mark Walport: We talked about a variety of things around the 10-year science and innovation review—when Greg Clark was the Science Minister—but this was not me pushing for a review.

Q12 **Chair:** You would refute that as strongly as you could, and this is your opportunity to do that.

Professor Sir Mark Walport: Yes.

Q13 **Graham Stringer:** Last time you were here, I asked you about your successes and failures in your time as Government scientific adviser. Can I ask you a similar question as you move on to the new role? What legacy do you think you have left?

Professor Sir Mark Walport: Do you mean as the Government's chief scientific adviser?

Graham Stringer: Yes.



Professor Sir Mark Walport: The legacy has been the policy impacts that we have had, and it is the whole Government Office for Science throughout my time. You can look at it in the three areas in which the Government Office for Science functions. The first is science for resilience, and when I use the word “science” I am talking about science, engineering, technology and social sciences—so, all the knowledge, as it were, including history on occasions. That has been work around the national risk assessment, work on Zika and Ebola, work after the flooding—the national flood resilience review. I think we have left a significant legacy, which is ongoing in that space of national risk management. We have run a number of national contingency exercises.

In the second area, which is providing evidence for Government policy, we have provided advice on what I would characterise as dioxides. We have provided advice on carbon dioxide in relation to a carbon-reduction plan and climate science; we have advised on nitrogen dioxide in relation to diesel emissions; we have thought of sulphur dioxide in terms of emissions from effusive volcanoes. There is a large variety of areas where we have provided evidence for Government policy through our horizon scanning and foresight work—for example, on the future of skills, ageing and forensic science.

I suppose the third area of activity is science and the economy. There are Blakett reviews on subjects such as the internet of things, financial technology, distributed ledger technology, quantum technologies and now our work on modelling, which have all both had impact and left legacy. The work of the Council for Science and Technology has had a significant impact. For example, on the industrial strategy, the Council for Science and Technology advice, which was recently published, has had an impact on the industrial strategy. The letter that the Council for Science and Technology wrote on the importance of algorithms ultimately resulted in the Alan Turing Institute. That is probably enough.

Graham Stringer: I think that is the longest answer you have ever given to us.

Professor Sir Mark Walport: For a question I was not necessarily expecting in this session.

Q14 **Graham Stringer:** It is an impressive list. Is there anything that irks you, that you wish you had achieved, which you have not achieved?

Professor Sir Mark Walport: There is always more that one can do. My overall philosophy—and it is relevant to UK Research and Innovation—is that in any organisation with which you are involved you need to continuously raise the game, so it has been a process of continual improvement.

Is the work finished? It is absolutely not. None of this could happen without an extraordinary array of colleagues. So it is a good opportunity to pay tribute to my colleagues in the Government Office for Science but



also the chief scientific adviser network. We are working much more effectively, for example, with the national academies than maybe historically was the case, and the job is to act as a transmission mechanism, as you know. It is not that any one scientist can hold all this knowledge in his or her head; it is about acting as a transmission mechanism. There is always more, but do I have a single specific regret? No.

Q15 Graham Stringer: You have partially answered this in that answer. Do you think the role of your successor will be in any way different and will you be involved in advising on the appointment of your successor?

Professor Sir Mark Walport: No, for very good reasons, I am not involved in the process of appointing my successor. I am certainly working to try to identify names, together with a lot of other people, to provide suggestions of people who might be a candidate, but no more than as part of a search process where the search firm involved does due diligence and asks lots of people. But, no, I will not be involved in the process.

In terms of my successor, if you look at the history of Government chief scientists, each one has looked at the job and taken it on in a very slightly different way, and I would expect my successor to do the same. It is certainly not my job to act as some sort of Marley's ghost.

Q16 Graham Stringer: Did I understand you to say in your answer to the Chair that you will be finishing in this role on 1 April?

Professor Sir Mark Walport: No. I will finish when there is a successor. If it takes longer than hoped for to get the successor in place, we will need to find some arrangement to enable me to transfer a bit earlier.

Q17 Graham Stringer: Again, in answer to the Chair, you said there was no conflict of interest between the two positions that you have.

Professor Sir Mark Walport: The answer is that there is always the potential for conflict of interest. The important thing is to be transparent, to realise and think when there might be a conflict of interest, and, if such a conflict arises, to be absolutely clear which job I am doing at the time when that conflict arises.

Q18 Graham Stringer: Have you discussed that with the Cabinet Secretary?

Professor Sir Mark Walport: I have had extensive discussions with the Cabinet Secretary about that. I do not think we have had a specific conversation about conflict of interest, but it is clearly something that we are all aware of. The best way to manage a conflict of interest is to recuse yourself in the situation in which it arises.

Q19 Matt Warman: I am on the committee scrutinising the legislation that set up UKRI and it struck me that this is an organisation with unprecedented cumulative influence and power over the UK scientific establishment. Is that a view that you would agree with?



Professor Sir Mark Walport: No, it is not a view I would agree with. It has been set up in a way that made clear the autonomy of the nine individual organisations that will come together. The opportunity of UK Research and Innovation is to make the whole greater than the sum of the parts. That is a challenge that has been recognised for a very long time. I have quoted, and I will quote again now, from a review of the research councils, so please forgive me: “Whatever organisation is ultimately adopted to manage basic and strategic research it should be one that unifies rather than fragments scientific activity, one in which the determination of the scientific programmes is in the hands of scientists and one which retains a close association with the education and training of scientists in the future. In our view it is illogical on the one hand to assert the unity of science and the fluidity of its internal boundaries, and on the other hand to approve a system of completely independent Research Councils, each of which can only operate within relatively rigid boundaries set by its individual charter.” That was the Dainton review of 1971, and, essentially, the Nurse review, 44 years later approximately, came up with exactly the same conclusion.

I gave a talk to about 600 staff in the research councils in Innovate UK at Swindon earlier this week. It raises the point that a very important activity at the moment is that I engage very widely with staff, you and Parliament, with stakeholders in general, with the outside community and the research community, and so on. But what I said was that we are not starting from scratch; we are building on individually very good components where the whole is less than the sum of the parts, where important research proposals can sometimes fall into the cracks, where there is insufficient forward thinking, where from time to time too much imagination and ambition can be punished, and where there is too little understanding of the broad research and innovation landscape of the UK in the world. I said something similar when I wrote in the *Times Higher Education* supplement after my appointment. The job of UKRI is to fix all those problems.

Q20 **Matt Warman:** You are going to be presiding over that whole that is greater than the current sum of its parts. In that sense, does that make you, depending on your point of view, either the most powerful person in UK science or the person with the greatest responsibility?

Professor Sir Mark Walport: I have a very large responsibility that goes with the post. I am not sure it is a useful formulation to work out who is the most powerful—that sounds like a rather dodgy league table—but it is undoubtedly a highly influential post and it carries enormous responsibilities and accountabilities with it, which is why I am delighted that I am going to have a very strong board.

Q21 **Matt Warman:** Without suggesting that you are going to be emulating the United States President, do you think there are going to be executive orders or “A first 100 days,” or—



Professor Sir Mark Walport: No, I do not think there are going to be executive orders. Going back to the first 100 days, that is important. That is about culture.

Q22 **Matt Warman:** Everything you have talked about so far has been about culture change in some way. That is very hard to do and even harder to measure. When you appear before us again—no doubt you will—how are we going to measure your success?

Professor Sir Mark Walport: That is an extremely important and complicated question, but, as to the culture change, it is about aligning a community behind a very strong and clear vision of what it is that UKRI is going to achieve. I talked about that again at the meeting at Swindon earlier this week and I could read out what I said, but it would take up too much time. It is about having a very strong strategic vision.

As to the metrics, which is an extremely important question, this is a £6 billion-a-year organisation, rising to £8 billion a year by 2021; that is very good news. It is rather easier to provide leadership to an organisation that has a rising budget than to one with a falling budget. So, there is a huge opportunity there, but then there is a very high expectation from the Treasury, Ministers in BEIS, the Prime Minister, and indeed taxpayers at large, that that money will be spent to the benefit of the citizens of the United Kingdom. That is a sort of broad, value-for-money question.

I cannot give you any answers now, and it is something we thought about a great deal when I was at the Wellcome Trust, because any organisation that funds research and inquiry has to think quite hard how to evaluate it. I think it has to be fairly bespoke. In other words, when a grant is given to a scientist or a researcher who is exploring a scientific question that does not at the time appear to have immediate applicability, the question there is what has been discovered and how that finding has been communicated. There is no real alternative to peer review to assess whether the finding appears to be of important significance or not, and that is, in a sense, how the process of grant awarding is done.

When it comes to the work of Innovate UK, which is near to the marketplace, awards are made to businesses, and when it comes to the transfer of knowledge into societal benefit, the questions are much more around what the societal benefit was, how it was achieved and how it scaled up. In the case of business, it is whether the business has grown and what has happened. One needs to find a series of questions that are bespoke and relevant to the type of support.

Q23 **Matt Warman:** Part of your next phase of this transition is going to be working out what those best metrics might be.

Professor Sir Mark Walport: Yes. Again, a lot of work has been done on this; all the organisations think about this very deeply. But the



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question at the moment is whether that is integrated, and that is one thing that UK Research and Innovation will do.

The other area is mapping the landscape of research and innovation in the UK more effectively. That is where my experience as the Government's chief scientific adviser will prove very helpful, because part of the job has been that you see this extraordinary array of research and innovation in the public and private sector, in Government and also internationally. We are not functioning in isolation in the world. We are part of a global system, a highly competitive system, and we have to be able to collaborate effectively around the world.

Q24 **Matt Warman:** That is partly about how you are going to measure yourself. Have the Government indicated to you how they are going to measure your success yet?

Professor Sir Mark Walport: There is a performance element to my remuneration, which is being worked out in detail at the moment.

Q25 **Matt Warman:** Does that mean that, once they have worked out some metrics, they will work out how that affects how you are rewarded as well?

Professor Sir Mark Walport: Yes. The broad principles, I think, are established. My own evaluation will be at two levels: first, making sure that the organisation is up and running, is effective, that staff engagement is strong and that people are signed up to the vision; the second part of the evaluation relates to the performance of the organisation in terms of its mission, vision and strategy.

Q26 **Matt Warman:** You have talked a lot about that vision and strategy. Presumably, the research and innovation strategy is going to be that vision.

Professor Sir Mark Walport: The industrial strategy is very important. The first of the two pillars of the industrial strategy is about research and science; the second one is about skills. Those are both absolutely integral to what UK Research and Innovation is supposed to do. There are many other aspects of the industrial strategy that are absolutely relevant—for example, clean energy and growth. You look throughout the industrial strategy. I have made the comment on several occasions that you cannot really have an industrial strategy that does not build on science, engineering, technology, social sciences, the arts and humanities.

Q27 **Matt Warman:** In that sense, finally, when are we likely, reasonably, to expect to see UKRI's own strategy being published?

Professor Sir Mark Walport: That will take a little while. We need to do that properly. I am not sure I can give you a date now.

Q28 **Matt Warman:** Could you give us a ballpark date?



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Professor Sir Mark Walport: You should expect to see something around the formal creation in April next year. Rebecca?

Rebecca Endean: We have set Sir Mark a very initial job to do, which is part of the industrial strategy Green Paper. Ministers have asked him to provide advice to them on the allocation of the money from 2018-19 onwards. We achieved a total of £4.7 billion in the autumn statement, which is an extra £2 billion per year by 2020-21. We see this as the first test of what UKRI can do. A key function in the Bill is that it will provide strategic advice to Ministers on the allocation of funding across the piece to ensure that we do make the whole greater than the sum. We do not want to give Mark too much to do straightaway. We have given him quite a big job to do over this year, to provide that advice to Ministers, and that will be the first thing for you to have a look at.

Chair: Before I pass over to Chris Green, Tania Mathias has a question.

Q29 **Dr Mathias:** Mark, whether or not we call you the most powerful, your role is exciting, powerful and influential, and therefore it is very vulnerable to lobbyists and to personal unconscious bias. Who are you accountable to and how often?

Professor Sir Mark Walport: That is easy. I do not for a second deny that it is a nationally extremely important role and, indeed, a globally important role in science. The accountabilities are fairly straightforward. I am accountable to Sir John Kingman and the board of UK Research and Innovation. I am also the accounting officer for UK Research and Innovation, and through that I am accountable to the director general of BEIS and, ultimately, to the Secretary of State and Parliament as well.

Q30 **Dr Mathias:** How does that work?

Professor Sir Mark Walport: At the moment, because we are in the early ages of being a shadow organisation, there is not a full board. As you have heard, the board is being appointed and will become a shadow board, but I am accountable to John and speak to him several times a week at the moment. I speak to Ministers regularly, and I am very pleased to have the opportunity to come and speak to you. I take the accountability issue very seriously.

Dr Mathias: That is a good answer. Thank you.

Q31 **Chris Green:** Sir John Kingman told us that Deloitte was looking at the options for organisational structures for UKRI. Have you been involved in that work at all?

Professor Sir Mark Walport: I was not in any way involved in the Deloitte work and I have seen the report only relatively recently. It is about that thick. It contains some sound principles as to how UKRI might be structured.

Q32 **Chris Green:** You have not had any influence or any conversations.



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Professor Sir Mark Walport: I had no influence on that report because it was conducted before I had any conception that I would be involved in the role.

Q33 **Chris Green:** When you take over, once you are confirmed in position, you are going to be given structures and you have to work within them.

Professor Sir Mark Walport: No, I do not believe that is the case. We are going to work in a collegiate fashion to develop the structures that are absolutely fit for purpose. That involves working with the existing eight organisations and the creation of a ninth organisation, which is Research England. So, I am working extremely closely with colleagues in BEIS. Gareth Davies, who is the director general, is the senior responsible officer at the moment, and I will take over in due course. But, no, we are working with all our key stakeholders on the organisational design.

The fundamental principles are reasonably straightforward, which is that it is an organisation that has nine component parts. It has what has been called a strategic brain, and it brings together the corporate functions to get all the efficiencies that are going to be necessary to enable me to be the accounting officer for the organisation. It goes back to Dr Mathias's questions; it goes back to having proper governance. It is about having an audit committee, a nominations committee and the finance committee. It is about having all the committees and the structures that you would expect in a well-run organisation.

Q34 **Chris Green:** You might expect, from the outside, that the research councils and other organisations would be able to design the new structure, so why was Deloitte charged with this?

Professor Sir Mark Walport: That is not a question for me, I am afraid.

Rebecca Endean: We asked Deloitte to come in last summer. They stayed until October. It was a short piece of work and was very competitively priced. It was just to get an external view on how best to design the organisation and how to think about structuring it with nine component parts. We brought them in to help ensure that, when Sir Mark started, enough initial thinking had been done for him to make decisions, but we were very conscious that actual final decisions on the organisation design must be taken by UKRI, Sir Mark working with the board and Sir John saying, "This is how we want to do this." Having Deloitte in was very useful in helping us to draw in the experience from all the different research councils and Innovate UK about what sort of things we really needed to consider when working out how best to structure things.

Q35 **Chris Green:** We have heard about how you are held to account, but you also have to hold to account the research councils. How will that happen?

Professor Sir Mark Walport: Again, there are important lines of accountability and responsibility. I am the line manager for the nine heads of the organisation—the executive chairs of each of the



organisations—but their accountability is also that they will have their own councils, which they chair. Undoubtedly, the role of those is to provide advice, but it is also to provide challenge and support, and, ultimately, the board of UKRI itself acts as an accountability mechanism as well. I expect that my colleagues in the centre of UKRI will help in that process of holding to account.

Q36 Chris Green: You wrote recently that “the centre of UKRI should be small and strategic.” What does that mean in practice?

Professor Sir Mark Walport: It means that the centre of UKRI is not the delivery body. The grants, the awards, the contracts and the loans will be made by each of the nine organisations within it, but we will work collectively to set strategy in the case of joint pots to make sure that they are delivered in a way that crosses seamlessly between the different organisations. We are not going to set up a delivery organisation at the centre that will duplicate what should be done in the individual organisations.

Q37 Chris Green: What carrots or sticks would you have at your disposal to influence their decisions?

Professor Sir Mark Walport: The carrot is that we share a joint vision and there is no conflict of interest between the centre and the components in terms of what we are trying to deliver. The carrot is that it is an extraordinary privilege to have public funds to use in creative ways to support the citizens of the UK in discovery, innovation and application. The stick is ultimately that the line responsibility of the executive chairs will go through me as the CEO of the organisation, but, when there are decisions involving senior members of staff, you always refer to the board as well. The board of UKRI will be very important in that role as well.

Q38 Dr Mathias: We have mentioned the Green Paper. The industrial strategy Green Paper said that UKRI would be managing the industrial strategy challenge fund initiative. Does that mean that the Government and not UKRI are managing the challenge fund winners?

Professor Sir Mark Walport: UKRI will be managing the challenge fund, but these will be large grants. The point I am making when I talk about the industrial strategy challenge fund is that the two key words in it are “industrial” and “challenge.” These are not multiple small grants. Innovate UK and EPSRC have been working extensively over the last few months in consulting the outside community on what those challenges may be, but, when it comes to the actual agreement, Ministers will identify the large challenges, but then the delivery will be done through the organisations that will in due course comprise UK Research and Innovation.

Q39 Dr Mathias: You are giving us the idea that UKRI, even though it is not operational, has had an impact in deciding who those winners are.



Professor Sir Mark Walport: It is not really UKRI because it has happened before, but there is already some level of shadow functioning and increasing the level of join-up. Research UK has had an important role and Innovate UK has been working with the research councils on this. It is a transitional process.

Rebecca Endean: For this year, obviously, UKRI has no legal identity and in effect is still subject to Parliament, so for this year, for the three challenges that were announced at Budget, we have seen very close collaborative working between RUK and the various research councils to come up with those. For this year, the money will be disbursed through the existing entities. The difference has been that, because UKRI is on the horizon, this has generated a way of working between the different councils that results in better collaboration to solve some of the big challenges that the Government have posed. UKRI is not running anything at the moment and it cannot, but it is a forerunner of what we would hope to see as collaborative behaviour going forward.

Q40 **Dr Mathias:** The Government were kind of doing the UKRI role.

Rebecca Endean: It is a bit of a chicken-and-egg situation. The fact that UKRI is likely to happen has in itself encouraged the sort of behaviour that Ministers and the Government would always have wanted to see.

Q41 **Dr Mathias:** Do you approve of the money allocated while the Green Paper is still being consulted on?

Rebecca Endean: When we secured the money in the autumn statement, it was a four-year settlement. It starts in 2017-18 and runs through to 2020-21. In order to have impact, we need to spend the money in 2017-18, and, if you are going to do that, you need to decide how to do that before 1 April 2017. By necessity, some of the money had to be decided on and allocated before UKRI could come into existence. We wanted to do that because the industrial strategy is such a high priority for Ministers that we wanted to start having an impact before UKRI came into existence.

Q42 **Dr Mathias:** The Government are very much leading.

Rebecca Endean: I would say it is a very closely worked, joint piece of work. Ministers will always make decisions about big strategic priorities, but they welcome advice. Ministers can take advice from whoever they feel like. In relation to some of the industrial strategy areas, in particular the work on batteries, they asked Sir Mark for his advice as GCSA and he gave it, so it is a quite close, collaborative piece of work.

Q43 **Dr Mathias:** How will UKRI play a role in delivering the strategy?

Professor Sir Mark Walport: There, the funding will be allocated through the delivery organisations within UKRI. It will be a job for Innovate UK working with the relevant research councils, depending on the area of the challenge, and it may be more than one council. The point



is that the geometry will be variable for each one, depending on the subject area. That is where UKRI comes into its own, because at the moment the vires make it quite difficult for research councils to work and innovate through a collective pot.

Q44 Dr Mathias: With UKRI, the science budget is ring-fenced, but the innovation budget is not. Do you see whether that would be a problem in the future, both of you—one part of the budget being ring-fenced or not? Do you see it changing?

Professor Sir Mark Walport: There needs to be discussion about it. I do not think there are any firm policy decisions about this, and I do not think this is something that we should immediately rush into. I do not see this as a day one issue.

Q45 Dr Mathias: There is no threat to one budget over another.

Professor Sir Mark Walport: No, because there is a clear framework set out until 2021 of funding, with a rising trajectory in relation to the announcements in the autumn statement last year, but we all have to recognise that taxpayers' money is something that is under continuous review. Even the existence of a ring fence does not completely guarantee that Government will not change their mind at some point.

Q46 Dr Mathias: Part of UKRI's function includes boosting commercialisation. In your amazing background, what experience do you have in that field?

Professor Sir Mark Walport: At the Wellcome Trust I gained a great deal of experience in that field because the Wellcome Trust not only funded the basic research but considered how to turn it into innovation. We had an Innovate UK-like function within the Wellcome Trust and, because of the endowment, I was involved in investment and growth decisions, setting up funds like Syncona, which were involved in providing long-term capital to the industrial sector.

The short answer is that I had a fair bit of experience from my previous roles. During the last four years, where, as I have said, an important part of the role of the Government chief scientist is around science—and I am using it in that broad sense—in the economy, I have had a lot of dealings with the industrial sector.

Q47 Carol Monaghan: Sir Mark, we have been told time and again that the Government are committed to "dual support" research funding. Are you committed to it?

Professor Sir Mark Walport: Absolutely. It is a system that I grew up with during my university career. It is a system that provides flexibility because it enables vice-chancellors and leaders of universities to provide the infrastructure for the research that is needed. It is a model that has served the UK well.

Q48 Carol Monaghan: Would you have any flexibility with that commitment? For example, could the balance between the two funding streams be



flexible?

Professor Sir Mark Walport: It is clearly a matter for Government to consider whether that should be reviewed from time to time, but the question is whether it is varied on a willy-nilly basis or on the basis of a careful review from time to time. I believe the Government—although I cannot quote you chapter and verse—have reviewed it over the years and it is a sensible thing to do from time to time.

Rebecca Endean: The Bill is quite clear about this in terms of having the balanced funding principle and it states that it expects UKRI to provide advice on the balance of funding for different disciplines and on the dual-funding theme. We would see this as something on which UKRI could provide advice to Ministers in the future, which is the right balance, as part of a careful study.

Q49 **Carol Monaghan:** I will come back to different councils in a second, but could I ask this specifically? We have HEFCE sitting under the umbrella of UKRI. If the balance of funding changes, is there a difficulty that devolved Administrations will end up being short-changed in terms of research funding?

Professor Sir Mark Walport: No is the answer to that, and I think it raises a much broader question. Let there be no doubt that the research councils and Innovate UK are reserved. They cover the whole of the United Kingdom. Research England effectively is that bit of HEFCE that was England only and it is absolutely clear that Research England will work very closely with its counterparts in Scotland, Wales and the Northern Ireland Executive. That will continue as it has before, so there is no fundamental change in the principle here.

Q50 **Carol Monaghan:** I am not questioning the principle. The question is really, with HEFCE sitting within there, could a change of balance of funding disproportionately affect devolved Administrations?

Professor Sir Mark Walport: The intention is that it should not do so, and I am clear on that.

Q51 **Carol Monaghan:** That is the intention, okay. I will move on and talk about the individual research councils. What circumstances may cause you to change the balance of funding within the individual research councils and how might you make such a decision?

Professor Sir Mark Walport: Ultimately, a decision of that sort would be made by Ministers on the basis of the recommendation of the UKRI board, so this is not something that is under the sole control of UKRI itself. It might be interesting to look at it slightly from the other direction, which is that for approximately 30 years or so there has been no very substantive change in the balance of funding between the seven research councils. That raises its own questions. It makes sense from time to time to review the balance of funding across the disciplines and look at the health of the disciplines. That is something that we will think about. It is



a very careful, analytical piece of work and is not something that can be done overnight, but it surely makes sense to look at the strength and disciplines, look at where there are opportunities, where there are unfilled needs and, if it is appropriate, recommend a slight change in the balance of funding between the research councils. Again, I can assure you that there is no intention to go in flailing around changing the allocations overnight. That is not something that will happen.

Q52 Carol Monaghan: What sort of dialogue could take place in that scenario? I have concerns that, on the whim of a particular Minister who has an interest in a particular area, we could see a balance change that is detrimental to other areas.

Professor Sir Mark Walport: It is an important question, but the model is UKRI will provide the advice to Ministers on this, on the basis of scrutinising the evidence very carefully. There would need to be consultation and the UKRI board—

Q53 Carol Monaghan: Is that consultation with the research councils?

Professor Sir Mark Walport: It would be much broader than the research councils—consultation with the academic community and the innovation community. One would not do this without a lot of external work on where the balance of opportunity lay, where there was unmet need. I would argue that it cannot make sense to have a completely fossilised system that does not take account of the current state of disciplines and the balance of opportunity and activity, but that could only be done with a proper, transparent review process.

Rebecca Endean: It is worth noting that the scenario you described could happen at the moment. Ministers make decisions on the balance of allocation between fundings. The difference that we hope UKRI would bring would be exactly the process Sir Mark has talked about—that it is considered, and based on evidence and scientific need as well as the Minister's overall strategic priorities, which will always be important.

Q54 Graham Stringer: I understand what you are saying; it has always disturbed me when we have had the chief executives or chairs of the different research councils here that they have been satisfied for a long time with exactly the same balance in the funding. It is very conservative, if not Panglossian. Can you give us a deeper insight into how you will approach a situation that, on the face of it, needs to be changed? How will you approach looking at those priorities in order that you can give Ministers the advice so that they will—

Professor Sir Mark Walport: At the end of the day, all these decisions are decisions of judgment. In other words, there is no absolute right answer as to the aliquot of money that should be devoted to medical research, research into cosmology or whatever. There is not a simple right answer. One has to review the strength of the disciplines, the quality of the work that is carried out in them and the extent to which they address questions that are important ultimately for the citizens of



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the United Kingdom, recognising that both fundamental discovery and application are both important, actually.

At the end of the day one has to do a rigorous and careful review. One has to bring in external expertise. Then it is for the judgment of the UKRI board—I am confident that we will have an extremely strong board—and ultimately for Ministers to decide. It would be wrong of me to say that it is a trivial and easy decision and that there is a magic right answer. If you look around the world, you will find many countries that have struggled with this issue, but, equally, I agree with your starting position that it cannot make sense to say that it is all too difficult so we are going to leave it exactly as it is for ever. It is a difficult question and we will tackle it in a thoughtful and careful way; we will take advice and provide advice to Ministers, who I am sure will also be thoughtful about it.

Q55 **Graham Stringer:** Before you do your careful consideration and make recommendations, will you be looking for a steer from a Minister, because there are Government priorities in areas of science? Will you be taking that into account in your careful considerations?

Professor Sir Mark Walport: Yes is the answer, because we need to take into account the whole variety of views. It comes back to that Haldane point—that research endeavour to some extent has to be influenced by the needs of Government. It is worth commenting that, when Haldane did his review in 1918, the entire scientific effort of the nation had been devoted to the problems of the first world war, and that was acknowledged. There is a somewhat futile debate sometimes between top down and bottom up as though these were utterly different things. The so-called top-down questions develop because expert communities recognise that there are important questions that need addressing and those then get formulated as challenges or research programmes, and that has always been the way of science. It is actually a mixture of the top down and the bottom up all the time.

Scientific ideas rarely arise in a complete vacuum; they arise from what is already known and what is unknown. You can see at the moment that, when an Ebola or Zika epidemic comes along, that sets its own priorities for research and development. Clean energy is one of the big grand challenges that face the planet at large, and it is why it is also important that there is an international element to it as well, which is that many of these problems require tackling on an international—sometimes global—scale. One area, for example, is fusion research.

Q56 **Gareth Snell:** Thank you, Sir Mark. That has been very interesting so far. To tease out something you mentioned in your previous answer about the academic community and the innovating community, higher education and academics are at the coalface of research and innovation. With the creation of the Office for Students and the separation of the funding streams between research and teaching, do you believe it could make it more difficult for universities to co-ordinate their research and their teaching, and, if so, what sort of risk do you think that poses?



Professor Sir Mark Walport: There clearly would be a risk if there were not effective communication and transmission mechanisms between the Office for Students and UK Research and Innovation. It is laid out very clearly that there will be that communication, and it goes back to the question I was asked earlier about the devolved Administrations. This is a UK-wide issue and it is extremely important that there is proper discussion across the whole of the United Kingdom. These are important issues. Degree-awarding and higher-degree awarding powers are something where again there will be close consultation between the Office for Students and UK Research and Innovation.

I suppose it is a slight truism that bad people can wreck good organisational structures and vice versa, so at the end of the day the success and failure of all of this is about the people who are involved and the effectiveness with which we, as a community, work together.

Q57 **Gareth Snell:** What do you think could go wrong if that management is not correct; if you get bad people ruining a good organisation?

Professor Sir Mark Walport: It goes back to an answer Rebecca gave. The system at the moment contains those dangers as well. If there is a complete disconnection between the process of education and the process of research and innovation, that clearly has harmful consequences, but it raises a broader question, which goes to skills all together, which is that you have to take a whole life-course look at this. When we come to STEM and STEAM skills—science, technology, engineering, arts and mathematics—we have to look at the whole educational pipeline. A separation between the school interface, higher education and further education and apprenticeships is a problem as well, so we have to make sure that the transmission mechanism almost starts at birth and ends up at the other end of life.

Q58 **Gareth Snell:** You mentioned about that communication working not just between the Office for Students and UKRI but with devolved Administrations. How would you see that working in practice, and what would you, as the CEO-designate, like to see those processes or mechanisms look like? Also, if you were to come back to us in six months' time, what would you tell us that failure looked like if those processes were not put in place?

Professor Sir Mark Walport: In six months' time, we will be very much still in the shadow form.

Gareth Snell: I will say 12 months then.

Professor Sir Mark Walport: Even in 12 months we will only be at day one of the organisation. I am ambitious and in a hurry, but I do not want to hit the ground running so fast that we fall over. At the end of the day, the proof is going to be in the operation, so the test will be whether the system is working as an effective joined-up ecosystem or not.

Q59 **Gareth Snell:** Do you have any views on what, practically, it will look



like?

Professor Sir Mark Walport: Practically, it will involve a great deal of communication. At the end of the day, this is going to work if we engage effectively internally and with many external stakeholders. We are all committed to doing that.

Q60 **Derek Thomas:** Sir Mark, when you were appointed as the CEO-designate you wrote that the UKRI would “deliver a system that is more agile, flexible and able to respond strategically to future challenges.” How does the creation of UKRI facilitate that objective?

Professor Sir Mark Walport: It is partly cultural. It is embedding a culture of agility. It is about the efficiencies of process that come when you do not have organisations each operating according to completely different rulebooks and having effectively to make two applications when one would do. It will hide the wiring so that it will be easier for applicants. Part of that culture change is how we look at the whole process of making sure that we award grants, contracts, or whatever, in the most efficient and effective way. I sometimes think that less is more. In other words, we need to have the opportunity for people to express what they want to do very clearly, but we need to look at all our processes to make sure they are fit for purpose.

Q61 **Derek Thomas:** You may have partly answered the second question, but I will ask it to see if you want to add anything. One stated benefit of UKRI is the ease of managing multidisciplinary research. Do you have any examples of how the current set-up has inhibited that?

Professor Sir Mark Walport: It has simply been the process whereby each of the accounting officers functions independently. It provides a significant barrier because, effectively, even if it is not terribly visible to the excellent participants, it complicates the financial process quite significantly.

Q62 **Derek Thomas:** Finally, in a letter to the UKRI partner bodies on your appointment you wrote that you wanted UKRI to act with “a single voice.” That would be welcome, but will the voices of individual research councils be quieter under the new set-up, and have the councils conveyed any concerns about their role within UKRI?

Professor Sir Mark Walport: No. There is here an enormous communications task. It begs some quite important strategic questions for UKRI around its role in public engagement as well, which is that explaining the importance of £6 billion of precious taxpayers’ money, rising to £8 billion, is a task that has never been more important. I do not think anyone here will doubt the importance of all the subject areas we are talking about to the future prosperity of citizens of the United Kingdom, but we have to be able to communicate that even better than has been done in the past. There is loads of communication work for all of us. The component parts of UKRI will have plenty to say; the centre



will have plenty to say; but we need to speak with a much more joined-up voice.

Q63 **Derek Thomas:** You have an enormous task ahead of you to achieve that, so how are you going to organise it in such a way that you can keep these different councils onside, because managing that would be a pretty full-time job, I would think?

Professor Sir Mark Walport: At the end of the day, it is all about the quality of the team, and I am delighted to have Rebecca on board sitting alongside me; I do not think it will be the last time, Rebecca. It is all about appointing an extremely strong team of people. Any large organisation depends on the quality of its staff. It is going to be a critical issue to me to make sure we have the right people. A point I have made on several occasions is that some people have questioned whether the job of being an executive chair of a council within UKRI would be less attractive because this ghastly ogre Walport was sitting there. I believe it should be the contrary—that the jobs should be in many ways much better because the councils will be freed to focus on their job, which is to be absolutely on top of their disciplinary area, to be working seamlessly with the others. It will take away some of the managerial burden and let them focus on the things that matter. I hope—and I am using this as an opportunity to say it—that in the fullness of time we will make sure that vacancies for executive chairs will be attractive to the very best people.

Q64 **Chair:** Following on from that, do you envisage the individual councils keeping their independent branding—their particular style that has built up? They have a reputation.

Professor Sir Mark Walport: Yes.

Q65 **Chair:** They are not going to become UKRI and then something.

Professor Sir Mark Walport: No. The Medical Research Council has over a century of history. It is an extremely well-known brand here and around the world and will retain that.

Q66 **Chair:** I said I might want to come back to discussions about the Haldane principle briefly. It is 100 years next year since Haldane's report. I have two questions. One, is it still fit for purpose? It has come up twice, if not three times, this morning; it is the touchstone that people rush to, saying that the Haldane principle must be protected at all costs. Is it time, 100 years on, for a new report—perhaps the Walport report—that looks at that top-down, bottom-up approach and maybe re-evaluates it?

Professor Sir Mark Walport: No. It is in the formulation made by Lord Willets, and I have it here, that "the Government recognises the importance of autonomy in discipline-specific decision making within UKRI, and remains committed to the Haldane Principle—namely, that decisions on individual research proposals are best taken following an evaluation of the quality and likely impact of the proposals (e.g. a peer review process). Subject to Parliament, the amendment that we have



tabled will, for the first time in history, enshrine the Haldane principle in law.”

Whether Viscount Haldane reincarnated would recognise that as precisely what he said in 1918 or not—I think he would—we have to recognise that it is an extremely important principle that, when you are deciding to allocate money for inquiry to a group of people, it should be experts who assess whether they are the right group to do that. But there were other principles that Viscount Haldane set out, the first of which was that he thought that Government—and this was written in 1918—would operate much better if they considered evidence as part of their process of policy making.

Chair: What a novel thought.

Professor Sir Mark Walport: That was his main principle, actually. It is a great report, and I recommend it. His other principles were that he thought that experts should make these decisions, but he also thought it was extremely important that there was this dialogue between those making the grants and Government as to what the important questions were. It is the point that Rebecca made just a few minutes ago, which is that the Haldane principle does not prevent Ministers making decisions, for example, about large areas of research to support and what are the key industrial challenges for the nation. I think it sits alongside a series of principles, which Haldane very cleverly set out in his report, which was on the whole machinery of government.

Q67 **Graham Stringer:** I agree with you about Haldane, but the biggest top-down decision is how much money goes into science, by far.

Professor Sir Mark Walport: Yes, absolutely.

Q68 **Graham Stringer:** Whether you have the most powerful position in science or it is just an influential position, do you think that will help change the balance of funding for science within the UK budget? Will you be an effective lobbyist on behalf of increasing the science budget so that we get to the same levels as some of our competitor countries?

Professor Sir Mark Walport: I do not like the word “lobbyist,” but I think it is part of the job—

Graham Stringer: Advocate.

Professor Sir Mark Walport: Thank you. That was the word I was about to use. I think a key part of the role of UK Research and Innovation is to make the strongest possible case for the importance of research and innovation to the health of the nation as a whole. That was recognised in the industrial strategy Green Paper, and it goes back to the points I was making earlier about the importance of a really deep, analytical capability to provide the best possible evidence that we can present to Parliament—to Government—to persuade Ministers that this is a useful investment for the taxpayer to make. It is a key part of the job and it is one area where



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UKRI, by having a single voice, will be able to do better than the current fragmented parts of the system. It is extremely good news that there is this £4.7 billion of additional funding, but that brings with it a very high expectation.

Chair: Thank you very much indeed for your attendance this morning and for your insightful answers as always. Thank you.