**Realising Our Potential: Backing Talent and Strengthening UK Research Culture and Environment**

**Launch Event Transcript Tue, 4 May 2021**

Dr Tim Bradshaw  0:04

Well, good afternoon, everyone. I'm Tim Bradshaw, the Chief Executive of the Russell Group. And I'd like to welcome you to the online launch event for a new report on research culture, which we've called Realising Our Potential. The report was published earlier today and you can now download it along with a toolkit and case studies from the Russell Group website. To help launch the report today I'm going to be joined by our Science, Research and Innovation Minister, Amanda Solloway, and a fantastic lineup of speakers, who I will introduce to you as we go along.

Before we kick off with Amanda, I wanted to emphasise how important this piece of work is on research culture. For us as the Russell Group, we wanted to show how research culture is a shared responsibility across a wide range of actors, and how we won't make progress in improving research culture and the wider environment for research in UK unless we all work together in a determined fashion to address things.

But we're not starting from scratch. There's a lot of really, really good practice out there. We hope that universities, funders, publishers, and indeed everyone else who's involved in research in the UK can learn from the sort of examples we have put in our report today. While the UK does have a thriving research culture, that doesn't mean we should be complacent. We recognise there are problems and challenges to address. And we want to keep working to build the best possible culture we can, to make sure that we can deliver on on the science superpower ambitions that the Government has, and I think that we all have in the UK.

So today, in a few minutes, I'm going to invite Minister Solloway to say a few words to set the scene, and then invite Professor Collette Fagan, the Vice President for Research at University of Manchester to present some of the key issues highlighted in our report. We're then going to have a panel discussion with representatives from each of the stakeholder groups identified in our report: funders, universities and publishers, and then we'll be inviting questions from the audience too. I think we have about 300 of you.

If you'd like to, if you're using social media this afternoon, please use the hashtag #RGCulture when you're tweeting about us. Now, without any further ado, I am absolutely delighted to introduce Amanda Solloway. She is MP for Derby North and has been since the last general election. But much more importantly, Amanda is our Minister for Science, Research and Innovation. Amanda, over to you.

Amanda Solloway  2:41
It's a great pleasure to be here. Thank you so much, good afternoon, everybody. Thank you to the Russell Group for convening this event and for highlighting the importance of a positive research culture, not just for the UK research and development sector, but for wider society and the economy as well. For me, as many of you will know, improving research culture is such a priority, and I am delighted to be here to speak to you all today.

Publications such as this report by the Russell Group that identify good practice will be invaluable as we look to improve research culture within the UK. And its research makes a significant contribution to our society, to our culture, and to our economy. And it will be crucial to helping the UK build back a bolder and brighter future for everyone after the effects of the pandemic. And therefore, it's so important that those seeking rewarding careers working on the most important global challenges are able to do so right here in the United Kingdom. For me, a positive research culture is about making sure that research environments are attractive to anybody, irrespective of backgrounds, employing a diverse range of people to work in the R&D sector, and then ensuring they enjoy and feel secure in their jobs. It's just so crucial. And it's a crucial part of keeping Britain at the forefront of science and discovery.

One of the many highlights of my jobs is being able to meet the diverse and intelligent people that make up our fantastic R&D sector. I've had the great pleasure of meeting a variety of extraordinary people from the research sector, both on my visits across the United Kingdom, and also more recently through my online engagement, and I'm continuously blown away by their passion and knowledge.

However, despite the successes of the sector, I'm continuously told by many of these talented people that they're concerned about long term future prospects in the sector, and that issues around job security, bullying and harassment are likely to drive them away from pursuing their careers further. And I have to say to you, this just isn't acceptable. That's why the government has made R&D a key priority and part of our R&D roadmap. We're committed to developing a People and Culture Strategy that will look to ensure that the UK is the best place in the world for everyone who works in research and innovation to do what they do best. The strategy will set out the direction the R&D sector will need to take to ensure the scientists, researchers, and innovators feel secure in the longevity and flexibility of their careers, that they work within an environment that is inclusive and supportive, with a zero tolerance policy for harassment, bullying, and discrimination. The Government cannot do this alone. To drive our cultural change, we need to work with the entire sector.

It's great to see that the Russell Group's report chimes so well with what we've been hearing from the sector, whilst developing the R&D People and Culture Strategy, and it really gives me great hope. Together with the sector, we will be able to identify effective solutions to the challenges that have been identified. Working alongside such organisations as the Russell Group, that understand the value of positive research culture, and driving high-quality research and innovation, I am committed to making real, tangible change - change which looks to remove the anxieties felt by the research sector to ensure the UK fulfils its potential as one of the top places in the world for researchers to pioneer, innovate and live. Thank you for listening and really enjoy the rest of this event. Back to you, Tim.

Dr Tim Bradshaw  6:18
That's brilliant. Thank you, Amanda. And obviously, we were very mindful of the Government's R&D roadmap, when we were working on this

project, and one of the core chapters in that was all about research culture. I, myself was a researcher a very long time ago, and I find that things have changed quite considerably since then. But there are still some of the niggles that were there even when I was doing my research around things like short term contracts, and repeatedly having to apply for grants and things. I think the more that we can work together on things like that, in terms of you representing this - you're the ultimate funder, I suppose, for a lot of the public research in the UK -  that gives me great hope for the future that we can really make a change now and make a change for the better. So thank you very much for joining us today and for saying those words. Brilliant.

I'd probably better go on to say a little bit in more detail about the report itself. What I'd like to do is to ask Professor Colette Fagan, the Vice President of Research at the University of Manchester, to do that for us. Absolutely delighted to introduce her this afternoon. To spare her blushes, Collette was one of the key people helping us to keep on track with the project, and was also a key contributor to the report itself, along with my colleague Steph Smith at the Russell Group, and Grace Gottlieb, who joined us on secondment from UCL last year.

Colette and her colleagues also in our Russell Group PVC Research Group spent a lot of time helping us with this, even whilst we were dealing with the challenges that the pandemic year threw up. So, a very great pleasure to hand over to Colette and to talk us through the report and some of the other key things that we've brought out today, because it's not just a report - there's a toolkit, and some really good case studies as well from our members that people can have a look at.

Prof Colette Fagan  8:12
Thanks very much, Tim. I'm going to share a few slides to support my introduction. Let's start with a couple of definitions so that we're all working with a similar language. From the Concordat to Support the Career Development of Researchers, the definition of research culture which we're using is a wide one. It encompasses the behaviours, values, expectations, incentives, attitudes, and norms of the research community. It determines the way that research was conducted, communicated, and can influence the researchers' career paths, and their mental wellbeing. Alongside culture, we need to think about the research environment. We've all done our REF Environment Statements

recently, but this refers to the policies, procedures, the rules and incentives which shape behaviour, performance and in turn, culture.

As Tim mentioned, what we've produced here is a set of three resources: a research report, a toolkit which gives some ideas for various stakeholders to consider, and some case study examples drawn from Russell Group universities, which in different ways seek to enhance the vibrancy, diversity and productivity of our research culture and environment. I will just emphasise that these case studies are by no means exhaustive. Behind every example drawn from one university, there are similar initiatives in many other Russell Group and non-Russell Group universities addressing similar issues, but this is just a taster of the various initiatives across the sector.

These resources have been based on a desk review of key reports and data, including both produced by research funders and other stakeholders, through extensive engagement in workshops and meetings of Russell Group members, and with conversations and interviews taken with close to 100 representatives of key stakeholders: researchers at all career stages, university leaders, and representatives from research funders and research publishers.

So it's not a sector wide-survey, but it's a detailed and in-depth exploration of the issues which has helped us to establish the key themes, which I'm now going to talk about.

What has come out of the report and the new information we've collected is three interlocking components that are shown on the left, and taken together these foster the research culture and environment which researchers experience. If they all go wrong, it's a negative environment. If they all go right, you create something really inspiring and enabling. And within each component, there are clear themes which emerge concerning what is needed to maintain and enhance a positive research culture and environment. These are summarised on the right.

Now, I'm not going to go through all the detail of the report. But if I can just draw together some of the key levers in terms of what we need to do to really enhance the research culture and environment.

A key lever is around employment conditions: employment conditions which promote career stability, development and progression, whether that's within the organisation, or it's progression into employment elsewhere in the sector, or indeed outside the sector into other areas of R&D.

Alongside employment conditions, it's creating an ecosystem which recognises, cultivates and rewards collegiality and team working, which recognises the contribution of all team members at different career stages, and in different specialist roles. How do we create such an ecosystem? It's enabled by a number of levers. It's enabled by:

- effective and fair leadership by the lead investigators setting clear and feasible expectations to deliver the project successfully, and adequate resources.

- building a community of support networks and mentoring for our researchers to run alongside the more structured career development and training opportunities which are offered.

- engaging and consulting our researchers in the institutional decision-making that we're all involved in.

Wrapped around that if we come to the purple zone at the bottom - it's about having effective policies and processes, which provide a framework for advancing equality, diversity and inclusion, and for preventing and addressing bullying and harassment.

Together the report, the toolkit and the case study examples provide a wealth of practical suggestions while also identifying the challenges, including resourcing for some issues, for how we might successfully implement the aspirations and examples presented in the report.

What the analysis also makes clear, as Tim has mentioned at the start, is that we need coordinated effort and aligned policies. It's a bit like a jigsaw; we've got to have all the pieces fitting together across universities, research funders, and research publishers.

I can't go through the whole report here. But let me focus on research careers to illustrate what I mean by this. What can universities do to

support and improve research careers, progression, recognition and reward? Well, there's suddenly a consensus that the research environment and researchers' wellbeing is enhanced when we move away from short fixed-term contracts, especially those of less than one year, and progress to establishing longer norms around contracts where this is feasible, where we build opportunities to progress through internal career ladders from junior researcher to senior researcher for example, and where bridge funding is available, in some circumstances, to support researchers between the end of one award and the beginning of another.

Career progression is supported really quite well in the UK - without being complacent - through a number of initiatives driven by the Concordat for Career Development. Flexible pathways exist to help, especially for those with care responsibilities, but we need to develop and fully embed this across the sector. There's also growing recognition that we need an enhanced approach to capturing a researcher's skills and contribution to a project - such as, for example, the Royal society's Resumé for Researchers, which I know a number of funders are looking at.

In terms of recognition and reward, it's not just about rewarding the researcher, but we need to help our principal investigators (PIs), our leads for research, to be more effective in how they lead and foster collegiate team working. Many of the projects have got more complicated with larger teams and more specialisms than they were 20 or 30 years ago.  We really need to support the leadership to drive and set the standards for successful delivery of a supportive research culture, and successfully delivery of research excellence. We'd also put open research practices there as conducive to making visible the contribution of team members, and for helping to maintain and advance research integrity standards.

While universities have a major responsibility here, we will only succeed with a coordinated approach, drawing research funders, research publishers, and our policies together, underlined. I won't spend time going through all of the examples here. But on the research funders' side, it clearly involves some thinking about how we set the detail for funding models, how we design the duration of projects, how we appraise, provide feedback and take account of the CVs of the teams

coming forward. And how we get peer reviewers to play ball with the expectations of funders, because there can always be a bit of an implementation gap between guidelines and how these are used when shortlisting takes place.

I've not said much about publishers here in the short summary, but there are various items mentioned in the toolkit and report, and we'll no doubt come back to some of that in the panel. So: a coordinated approach, building on practical suggestions and ambitious vision.

Next steps: culture change or cultural change, research organisations or otherwise, show how much time is needed to really embed things so they really become rooted. And to recognise that coordinated effort across the sector stakeholders is required to deliver this change. We hope, and we believe that this toolkit, report and practical examples are designed, and will help to support, the dialogue and shared learning and innovation which is needed to help take the sector forward.

What the Russell Group have committed to do is to use this toolkit not just to launch it and put it on a shelf and forget about it, but to test, develop and extend the practice to share our learning. And alongside that to progress, collaborative dialogue with research funders and other stakeholders. And we will assess our progress in 12 months' time. Thank you very much for listening to me.

Dr Tim Bradshaw  18.25
Thank you very much Colette. I think that's a really good summary and one of the bits that struck me was when you mentioned just how complex research is nowadays, with multiple people involved, probably many projects coming together and often multi-disciplinary teams as well.

I think it is really important that we get the research culture and environment right, right across the research landscape to try and make sure that we get the best out of that for the UK. There's often talk about 'lone researchers' and I'm sure that does exist - another issue in its own right – but the complexity of the research landscape nowadays makes it even more important to get the culture right across that landscape if we can.

Prof Colette Fagan  19.07
Tim, I agree and I'm very conscious that in the presentation I used 'researchers' and actually within researchers we've got technicians, data scientists, data collectors... there's a whole range of sub-specialisms to produce many of our large projects these days.

Dr Tim Bradshaw  19.25
Ok that's brilliant, thanks Colette. I'm sure there'll be questions that come in now, because we're going to head in to the panel discussion session. As a reminder: the report and all the materials we've published today can be downloaded from the Russell Group website.

So let's now kick off with the panel discussion. Our panel today – you've already heard from Colette but now I'm absolutely delighted to introduce the rest of the panel. They represent the three key stakeholders that we've identified in our report.

First we have Dr Karen Salt who is Deputy Director of Culture and Environment at UKRI, representing one of our key funders for research the UK.

We then have Dr Leslie Thompson, Vice-President for Academic and Government Relations at Elsevier – welcome Leslie.

And last but not least, Professor Emma Flynn, who is the Pro Vice-Chancellor for Research and Enterprise at Queen's University Belfast.

Welcome to you all and thank you for joining us today on the panel discussion. I've been helpfully reminded by my team in the office to ask you to turn off your mute functions on your screen so that you can speak clearly during the panel session.

Let me kick off – using my position as Chair I get to ask you some opening questions while we gather further questions from our audience. I'd like to turn first to Karen if I may. Karen: UKRI describes itself as one of the 'stewards' of the UK research system, which is probably fair given the size of the investment UKRI makes every year. What role do you think you can play as a funder and as a steward in helping to address some of the issues and barriers that exist in the current system so that we can help improve the research culture and environment in the UK?

Dr Karen Salt  21:25
Excellent question. And thank you for the invitation to join everyone today, for the launch of the report. I actually have a few things to add to what Colette presented, There can be some moments  - which is understandable - where funders or entities like UKRI are mostly thought of as a funding mechanism. Money comes in, money goes out, and people are wanting us to look at what that process should look like. And actually, being a steward of the system - and we're not the only ones -  there are multiple entities who find themselves in that role of helping to support, enable and encourage the system to thrive and to flourish -  means there's a lot of mechanisms involved. From incentivizing, influencing, convening, supporting, enabling, ...really doing a range of different things.

In addition, to some of the suggestions already within the report, things that UKRI can do, or other funders, or other people, is essentially think about the 'how' of all of this. I like to remind people that one of the significant things that we do as a sector is we research and innovate. So there should be a space for this type of work actually as research, and that we invest in it, so that we are actually innovating, we're working at scale, we're thinking about translational aspects of this - how do we translate really interesting ideas into complex systems that are quite complicated in terms of the different ways of working and the different processes?

We need to really start to think about how do we create the evidence base around culture and environment? How do we do that? How do we bring that work together? How do we stimulate the thinking around it? And ultimately, how do we think about the scalability and do the work that we know needs to happen: the rigorous testing, the trialling, the experimentation, the evaluation, the assessment.

Many people do this, but they do this at their scale, departmental unit, maybe at the university, but we're talking about transforming the entire system with all different sector players, from industry partners, to universities. So really, as funders, we can play a huge role in that – in helping us really start to crack this, so people aren't necessarily doing the same thing year after year in different segments or different regions, but we're actually able to grow the knowledge and to grow that

innovation. I'm really interested in that aspect of that testing and trialling model.

The other part we can do is start to think about how we get to some of the root issues here. It works well to think, okay, we'll invest in *that* thing, or we'll help *that* group, but we may be talking about a whole set of things that are sitting at the root of all of this. And I don't want us to get into the space where we're doing a series of different interventions about things that are that are later, that they're seeing as a result of.

That means we might need to do, again, some research, and collectively start to think about what is going on within our actual cultures that we need to start interrogating? Because we may be thinking about our purpose, or our values, or the way of working that isn't necessarily just about a contract, or isn't just about the length of time, but actually - why are we here? What's the work that we do that we can really start to investigate and maybe actually transform, and transform in incredible ways. Again, those are just a few examples of the ways that we can think about storying culture and environment that isn't necessarily just evolving into mechanism, but actually starts to lean into the brilliance that we have, I think, as a sector, in terms of trying to interrogate some of these issues.

Dr Tim Bradshaw 25.30

Thank you, Karen, that's really good. I really liked that bit about testing ideas at scale as well, because it's fine for something that works in a lab, in one place, but it's brilliant if we can get something which works across the system, across the networks that are required to make research function successfully.

There was another key takeaway I got from what you said, or implied anyway: a determination to not reinvent the wheel. That is also absolutely critical because the more we reinvent the wheel on some of these things, the more we create research bureaucracy, the more that then slows down the process.

Dr Karen Salt  26.08
Absolutely, and I would also add, the more we essentially delay work, because we're constantly having to restart again, adds more workload

onto various teams – so there's a huge bit here that the report can do with helping to proliferate case studies and examples. We need to continue that at a significant scale so that we can get to all of our sectors within the system.

Dr Tim Bradshaw  26.40
Brilliant, thanks Karen.
Let me turn now to Emma as a representative of one of our universities who has been doing this on the ground, trying to change and strengthen the culture and environment in her own institution. At Queen's University Belfast you've launched a research culture action plan. How did you go about creating that plan and how can universities in general ensure that when they make commitments, strategies and have good intentions, that these are actually translated into real impacts on the ground
that actually make a difference for researchers?

Prof Emma Flynn  27.15
Thanks Tim. First of all I just want to say, like Karen, thank you so much for inviting me. It's such a pertinent and important issue that we need to be reflecting on and there's an awful lot of learning in the sector at the moment, and good practice. I really like this report because it's about sharing – not starting from scratch and not reinventing the wheel. It's great to hear from Karen about transforming the whole ecosystem even though we're not going to do lots of new things – thinking about how everything integrates.

We started off from the premise that there are two really important reasons to be focussing on research culture. Number one – it's the right thing to do. Investing in your staff, investing in people, making them want to come into work, helping them flourish. 'Flourish' is a word I hear a lot when we're talking about research culture. The other thing is it's just more effective. A good research culture allows the best ideas to come through, allows teams to work in the best way, and allows the best impact with your partners, whether they are industrial, or other universities. That's the premise that we started from.

How did we then do this? We're slightly lucky because my research area is actually about cultural change, how you change norms, how you spread and diffuse innovations across groups and
systems. So I knew that it took time and effort. As Colette said, 'these

are not going to be easy quick fixes. There are going to be systematic changes that we're going to have to make.' It definitely comes from leadership – it comes from your executive board or executive committee deciding that this is absolutely essential to what you want to do and what you want to achieve. But another part that's really important is ownership.

It's not about 'my' research culture or 'my boss's' research culture. It's a community's endeavour. What was absolutely critical when we were developing our plan was that we did really wide consultation, and ownership and iteration.

We spoke to lots of different types of individuals within the universities: technicians, research support staff, postgraduate students, postdoctoral researchers, academics, non-academics. We did a lot of open forums, small forum groups, and lots of workshops. We also – especially during Covid times – had a virtual suggestion box, so people could post anonymously what they wanted to change. The questions that we were asking were:

- What works well? Let's build on the successes.

- What doesn't work well? What do we need to change? And…

- What are the opportunities or solutions to what's not working well?

A lot of what we came up with is exactly what Colette has been talking about and exactly what's in the report. There weren't lots and lots of secret things that we discovered that nobody else new. It was lots of the same sorts of things – but what we did was coproduce and co-own the solutions to those problems with our community. And we had an iterative process – we came up with a plan, we then sent it back to everybody and said 'does this make sense?' and we also co-ordinated across the best practice of all the other initiatives that there are – Athena SWAN, the Technicians' Commitment – all these other action plans that we had. How do we consolidate these together but also work out where the gaps are? How do we also have a dialogue with our other stakeholders, whether they're funders, industrial partners, about what we would like to see change and how we can produce that change together?

It's absolutely about effort, time, but mostly co-ownership and co-production of the solutions.

We'll do – as Karen was saying - an audit. We'll look at our staff surveys, retention, people and culture issues, and if they're not working, we'll come up with new solutions. It's definitely a team effort – that's the way that we've approached it.

Dr Tim Bradshaw  31.10
Thank you Emma. I think the other thing that strikes me there is that it's not a fire-and-forget activity. This is a dynamic process, isn't it? This is something which – as everyone is committing to in the Russell Group – reviewing what we've done over the year and looking again, and if that's not worked, do the next thing. Or if you've picked up other good ideas from other universities, borrow those. I'm quite happy to steal good ideas from other people if it makes the whole system better. But keeping an open mind is a crucial thing there.

I like the fact that yours was very much solutions focussed as well. You can have a virtual suggestions box that always ends up being full of the odd whingers - that's inevitable – but if we focus on the solutions I think that's how we manage to progress things.

Turning to Leslie. You're in an interesting position because we all operate within the UK; Elsevier is a global company. The whole environment for researchers in terms of where and how they publish, what they publish – those are key drivers for the research system around the world, not just in the UK, so you've got really quite an important role in terms of creating that healthy research environment for the globe. What do you think you could do from Elsevier's point of view in terms of publishers making a really big difference and helping to drive research culture?

Emma mentioned at the end of her introductory remarks there that she was working with other stakeholders like industry so there's a chance we might actually progress some of the good findings from universities into business. What is Elsevier doing? Are you engaging with other publishers for example?

Dr Leslie Thompson  32.59

Thanks Tim, that has set me up very nicely. Firstly, I'd like to thank the Russell Group for this invitation and actually to congratulate you all for a thoughtful and constructive report and action plan. It's a very powerful approach which is 'ideas others can explore' so it's collaborative by design. That is a step forward and something I've not seen before in previous work, so that's great.

Let me turn first to what publishers are doing on research culture and let me illustrate it with diversity and inclusion. Two and a half years ago the Royal Society of Chemistry took the lead and gathered together 37 publishers to collaborate on this issue. We all acknowledged that bias exists in scientific publishing, and committed to scrutinise our own processes and minimise the impact and to accelerate culture change. We identified four steps that were committed to:

- Firstly, understanding the research community. While that might be easy with some protected characteristics, it's not easy across the board.

- Reflect on the diversity of the research community.

- Share success to achieve impact and promote culture change.

- Set minimal standards on which we build.

In Elsevier that means improving representation and participation first but not least, for women in the research ecosystem. Using our considerable data and analytics to provide data on diversity and inclusion, in 2016-19 we produced global gender reports for the whole community providing insights and to foster discussion. I'm still puzzled that Portugal, across the European countries, comes out most equitable for diversity under the gender lens. There's more on that to come shortly.

We set up an inclusion and diversity board to guide our actions both internally and externally and that is co-chaired by our CEO and by Richard Horton of the Lancet. We committed to improve representation and participation of women across our research ecosystem. The Lancet's editorial board is now 50-50 male-female. The Cell Editorial Press is now 30% women, and we've launched a gender dashboard. 600

of our journals, and by 2021 close, all of our journals will have this to help report on progress on gender parity.

Looking forward, we're also looking at how we support career progression of women inside Elsevier but also in academia. And we're working on gender today, but we're now extending that to look at race and ethnicity globally, career stage, and geography. It's quite interesting when you look at the makeup of editorial boards how the developed or northern world dominate on editorial boards. We need to be conscious of all those parameters in terms of thinking about what we can do to promote a more open research culture going forward.

Just to reflect on your action plan, we are working on equality and diversity representation and on training for our editorial boards, but that's something we could do in partnership with universities because universities are also working on training people as are funders. Can we not find a more simplistic way for everybody to just make sure that everyone's aware of these issues? There's nothing more annoying to a researcher than to have to go to six different training courses on unconscious bias. We're now very effectively monitoring our equality and diversity and commit to publishing that data.

We're also experimenting with peer review – so things in common with UKRI and Karen. How can we together ensure peer review processes are more equal? I think that's a collected effort of what we're doing as a publishing sector but also what we're doing at Elsevier, and I think looking forward there is scope for us to work collaboratively to try and improve the working culture. We're not doing that badly in the UK when I look at some of the other research cultures in the world I come across, but we're British so we like a stick to hit ourselves upon – but we should celebrate what's working and I think the case studies are a brilliant example. Certainly, Elsevier and I fully anticipate the rest of the publishing sector, will stand fully behind this, thinking how can we play our part in helping improve the research culture going forward – because working together must benefit us all.

Thank you.

Dr Tim Bradshaw  37.47

That's brilliant Leslie thank you for that. You're absolutely right. We must be able to join up on things such as the training that's required so that we don't all have to go on three or four different training courses all telling us exactly the same thing. It's a waste of money and time more than anything else. I'm sure there are ways that we can try and link up what the funders are asking, what the universities want to do anyway and what you think is good on your side. There must be ways that we can join to make that work.

You mentioned EDI quite a lot. One of the questions that has just come in from the audience is asking about how EDI fits into all of this. There is a whole section in our toolkit which can be downloaded from the website so do look at that. And I guess also have a look at your reports Leslie – those are on the Elsevier website as well aren't they?

We have some questions in from the audience so I will try and allocate these in a sensible way – but feel free if I've given them to the wrong person or someone else wants to chip in please do that.

The first is from Mark Spearing who's the PVC for Research at Southampton University and asks, I think particularly to Karen, 'would you like to comment on how research culture issues intersect with the issue of sustainability of research funding?' And I guess that's quite a telling question in these times when funding is very tight for universities and for research funders, and often universities are drawn into competing on price in terms of winning projects and getting grants. But if you do that, then of course you leave yourself with less money for investing in training and for bridging contracts with developing people's research careers. So how does this whole ambition to have a fantastic research culture and environment intersect Karen with the necessary constraints that funders and others are under in terms of the money that's available?

Dr Karen Salt  39.48
These are huge issues and challenges for the system more broadly. We have teams within UKRI working on this actually thinking about financial sustainability. We've got parts of Government thinking about different funding models and what those models might ultimately look like moving forward. And obviously UKRI has tested various different models from the Industrial Challenge Fund or other sets of things. This

is a moment that has brought to bear quite a lot of the fragility of our financial sustainable models. I'm specficially referencing Covid-19 and the pandemic. While everyone might have known how funding might have been set up and what those models might look like, or what the finances of the system might look like, I think Covid has exposed the challenges for the charitable sector and their abliity to participate within research and innovation funding. It has exposed the challenges for our cultural organisations, public sector research enterprises, for SMEs, for universities and for the Government in terms of ways to support and build back.

I don't have a magic answer to this other than saying probably two things: One is, going back to the point that Emma raised. We can't necessarily just have a positive research and innovation culture and environment when we are flush with cash. If that's the only time that we can have a positive one, we have failed. Every part of our world has failed if that is the only approach to take. The reality is, we need to be able demonstrate a positive culture in times of crisis. We need to be able to demonstrate a positive culture in times of constraint. And not necessarily think that those mean that we can take those things off the table and just say 'oh well, these are challenges to offset what we might need to do.'

We will need to find a way forward and I think if there's anything right now that the pandemic is making really clear, it's that we will actually have to work together. Every single part of the system – in terms of thinking about any time of model in terms of sustainability moving forward, it's not that one entity will plug it and that it's all fine and everyone can just go for it business as usual, and it's not the fact that ultimately that we just need to give more to everybody – more of everything! – and we don't actually think about what it is that we're actually wanting to build. What do we want to sustain? How do we want that place to be, as Emma said, 'flourishing?' To be exciting. Because I'd like to be in a place where we're not dependent on where the money flows to determine ultimately how beautiful the creations we have or how really creative the outputs of those challenges might be. That's lots of work, right? I think all of you realise that. It takes a lot of work. The reactionary aspects to some of this, the various forms of incentives that drive the system – so we'll need to be transparent where we can. I think we'll need to hold some lines. But I also think we're going

to need to support each other. Especially as we get back into this next probably year or two, really thinking about what the impacts are going to be across the system.

Dr Tim Bradshaw  44.00
So, 'better rather than more' comes out as a phrase that we should be thinking about. How can we do things better? How can we improve? Rather than necessarily always thinking it's going to cost us more to do something – there may be other ways we can approach this if and when funding isn't available. Does that ring true, Colette, Emma, with the sort of approaches you're taking in Manchester and Belfast?

Prof Colette Fagan  44.28
I think some things are easier to do better within a financial envelope than others. So there are some things we can do in universities but some of them are much harder. We can't set up a wonderful all-encompassing bridging fund for everybody without taking the money away from someone else. We can look at various career development and training opportunities and think 'are they still fit for purpose? Are they hitting the right group? Which bits are maybe redundant and we could stop doing?'

So there are some cheaper things to do but that's only one element and part of the solution but it's not going to transform it on its own – some of these things do cost money.

Prof Emma Flynn  45.17
Just to add that some of them don't cost money. There are things that we can do and there are changes that we can make. A lot of it is just about respect, promotion and recognition. And I mean promotion not in terms of going up the scale although that is important but it's just promotional activities: holding the technicians' showcases and our postdoctorals' showcases, having an event where they stand up and they say, 'look at the wonderful things that we've been working on,' and people acknowledging and showing appreciation for that. It doesn't cost very much money but it does have significant impact in terms of their place and their voice, and the value which they're held within the system.

If we're honest with ourselves we maybe haven't always been as appreciative or at least shown our appreciation as explicitly as potentially we would like to do now.

Dr Tim Bradshaw  46.08
Emma that's a good point, and I was thinking about the situation we've seen over the last year with the pandemic and research has absolutely been front and centre of vaccine development, testing out novel equipment like ventilators, testing existing drugs to see what efficacy they might have in helping patients. Surly this is is a great time to enthuse and attract more people into potential research careers or to consider them in the future. Is there a role to play, do you think, for us in terms of mentoring students – showing them what's on offer a little bit more this time and perhaps building on that successes that science has shown over the last year?

Prof Emma Flynn  46.51
Yes, it's a really exciting space to be in, from something that's been absolutely tragic, to see the role of science and research as a whole. Not just medical science, but behavioural science, the role of arts and the value of arts, and how we've missed the arts, I think it's been exceptionally exciting but I don't know if it's inspired people more - I've always seen amazing people coming into the system and wanting to do fantastic research. I think there is an opportunity do that, but I think we've always had that. Part of our responsibility is about providing them with a realistic understanding of what the research ecosystem is like and what value there is outside the academic setting as well.

I think universities are going to change over the next few decades and we're going to have much more porous interfaces with industry, with public sectors and charities, about what employment looks like and what we expect students to go on to do and what research looks like, and how that is done in an ecosystem and not just in a university lab.

I think it's about helping individuals through mentoring, understanding what the opportunities are – and I know that in the report there are a number of really great examples of the different avenues in training. One of the things that we've done at Queen's is to give all of our postdoc researchers 10 days' development. I know this is beginning to be very common across the sector - but not just for academic careers. It can be

for academic careers but it might be that they want to go and put a foot into industry and think about that interface, or to go off and do something completely different. And it's our responsibility to take what they want to do, where those skills lie, and help them develop those skills.

It makes us stronger because it provides links into other areas that there are within society. Success is not just staying on a career track, especially for some individuals where they just know that's not the right thing to be doing.

Dr Tim Bradshaw  49.00
Thanks Emma, and just to carry that theme a bit forward, a question for Colette. This has come in from John Binner from the University of Birmingham. He asks essentially, 'how do we make sure that academics take the careers of their postdocs and PhD students really seriously, and help them progress whilst they're studying at university?'

Prof Colette Fagan  49.25
We did some examples in the report but it's about creating incentives and recognition, in the same way as if we think of how we encouraged academics to take the research impact agenda seriously, going back a few years. It's about building capacity – how do you lead a large complex team? How do you mentor successfully? How do you create effective leadership? We all know these skills are in short supply in all sectors - and rewarding that and recognising that in promotion and so forth. So instead of it being simply about what you've done for yourself, what have you done for your team? Or how you've brought your team forward.

These are actually some examples – as Emma and I were alluding to previously – these are adjustments to our existing practices which shift behaviour, which don't come with a big financial ticket attached to them, but can be really transformative for at least some parts of the research culture we're all trying to cultivate.

Dr Tim Bradshaw  50.32
That's good and I think just picking up on what Emma said there as well about the flow between academia and other sectors - Lesley, we have you here as a good example of another sector. One of our audience

members has asked how can we bring all of the different players into the system here? You deal a lot with business as well, not just with universities. You'll be dealing with businesses, research institutes, and other sorts of major research bodies around the globe be they in the public or private sectors – how can we help bring all of them together to make this system better?

Dr Leslie Thompson 51.10
I'm just going to pick one thing out that I didn't agree with in the report. I'm sorry be the downer! But one of the things that's really important is that people do research in universities, and we need people to do research in universities and then go out into lots of other spheres. That's not a loss from the system, that's a gain from the system.

Throughout 30 years of working in various roles from being a university researcher to what I do now via the funders, sometimes there's a lack of honesty in the opportunities for ECRs. I do quite a lot of mentoring and talking at ECR events, and none of think they can have a life if they leave research. It's absolutely wrong. There's a testament to it here with Tim – that actually you can have a good life if you leave research and I think honesty about that is really important.

It's really important to the UK that we get great people out into lots of other roles around the world and the more that we can celebrate that as well as just celebrating those that make it to professorship, the stronger we will be as a nation and the more impactful our research will be. I just encourage everyone to think about all of those great alumni that have been through labs that are now doing really great jobs elsewhere. We should celebrate those people, bring them back and get them to show ECRs what great opportunities there are.

Dr Tim Bradshaw  52.42
That's a very fair criticism Leslie and I absolutely agree with you. It is not a loss from the system if people with research skills go into industry, go into policy formulation, heavens maybe even become MPs and help to underpin the political system in the UK. All of those are really good outcomes.

And you're absolutely right – we should do more to celebrate those different career paths that people may take when they've done some research at university.

Dr Karen Salt  53.12
If I can just quickly add to that, I'm in complete agreement with Leslie's points but one of the things that we also need to do is to recognise that our system already has all these roles. It has loads of them! We don't necessarily always recognise and acknowledge them. We should be celebrating the plant operator, our data statisticians, the greenhouse grower, the archivist – we have a whole set of people who are researchers or research adjacent. We have professional services who are playing such a crucial role and I think in some ways we do a disservice to all of them when we think of our research culture and environment being about postgraduate researchers – who are fabulous folks – postdocs – who are fabulous people – and people going on an academic track going up to professor. Those are all brilliant people, but they need that ecosystem around them to be able to flourish, from the SMEs to the other groups. And the more we continue to talk about all of this as part of our system, I think we will end up being able to create a system where it's not an improvement for one select part of it, but for everyone.

Dr Tim Bradshaw  54.23
I think that's very true, Karen. A relevant question came in from the audience just then. It may be the last one we get to ask. This came in from Joanna Thorn at University of Bristol who is co-chair of the research staff reps committee, and asks: How do you facilitate change fairly across very different disciplines, very different cultures, within a single institution?

I wonder, Karen, if you had any thoughts on that?

Dr Karen Salt  54.49
There's a nod in your report to this, but I think other who have been working on research culture and environment have also picked this up, which is that we're talking about cultures. It's important to have that 's' there – that it's not a singular view or a singular type of culture and then everything else is trying to be narrowly squeezed into that.

It's really important especially within a university space, which is really more or less a giant village with lots of different neighbourhoods and things happening, to really start to recognise what are those cultures that are there, and how do they interface. With regards to transforming – if we transform it into a very narrow image of what it could be, then we really are not being fair to the multiplicity that is there. That's different than saying 'how do we constantly create a cycle of transformation for these cultures that are always trying to go towards something that is about that flourishing space and making it an exciting space to be' but that may not be one size fits all for the entire institution.

That's a harder thing to balance out when you might have some places where the cultures are entrenched, rigid and hierarchical, and others where there's a lot of agility and those teams move in a particular way. But you want all of them to try to move forward. I think those different ways of working – the question for me would be how to do that, how to really impact those different ways of working in a way that is respectful of the different approaches.

Prof Colette Fagan  56.29
We've done that as a sector over time. A good example of how you change cultures is around how you change the environment, standards and expectations. If we think of postgraduate research training – go back 30 years and then spring forward – there are common standards across DTPs whether they're in science and engineering or arts and history.

The nature of the training, of these events of celebration and so forth – all these things take on a different flavour but we can set principles and standards. That's how you shift culture – by changing practices and resourcing practices.

Dr Tim Bradshaw  57.13
I think that's brilliant, thanks Colette. That has to be the last word because we're running out of time and we need to let people get onto, probably their next Zoom meetings for the rest of the afternoon.

Can I just say thank you very much indeed to the Minister for joining us earlier, to Colette, Karen, Emma and Leslie for joining me on the panel today. That was a really good discussion. I'm really sorry to everybody

who's asked questions that we haven't managed to answer, but there's a wealth of material in the report, case studies and toolkit so please do take a look at that.

I'd like to wrap up with one thought that came from Karen during the discussion. I paraphrase but – we should aim for a research culture which works no matter what the funding constraints are. We've been through a really difficult year over the last year and I really hope that we learn a lot from that and strengthen the UK research culture and environment going forward.

Thank you very much everybody for joining us today and please do go and read the report.

[ends]