Innovation: Roadmap to Adoption

Innovate Stage

Monday 11th September 2017

15:00 – 16:00

Speakers

- Ian Dodge, National Director: Strategy and Innovation, NHS England (Chair)
- Dr Nicole Mather, Deputy Director, Office for Life Sciences
- Dr Liz Mear, Chief Executive, The Innovation Agency
- Emily Hough, Director, Strategy Group, NHS England
- Francis White, NHS Innovation Accelerator Fellow and Vice President, AliveCor Ltd

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Ian:

Thank you very much. Good afternoon everyone. Yesterday morning I was swimming in the Aegean Sea, today I am in rainy Manchester. Great to be here, seriously, I don't think there is a more important question than the NHS faces right now: How we can get better at curating and spreading innovation because it is not just about whizzy bits of kit; it is about the underlying theme of how we can get better at spreading best practice at scale and pace whether that is med tech, pathway redesign, sorting out urgent care access or indeed better hospital discharge.

Today, on our Panel, we bring together 4 perspectives the government perspective Nicole, NHS England from Emily. The AHSN Liz and we also have our innovator, Francis from live core.

One quick opening observation from me, so innovation has got traditionally seen as having 3 parts the invention of the innovation; the initial adoption of it and then third

the spread of best innovations across England at pace.

Now in health and care, we have got no shortage of brilliant invention. Of course, we could and we should do more and we are very supportive of the work that the NIHR is doing to enhance research and now got the benefit of the proposal set out by industry published very recently. We also do reasonably well in testing and piloting new things, so there is that old joke that the NHS has more pilots than British Airways! Again, there is more to be done to provide clearer signals about what the NHS wants and needs and to improve partnerships with med-tech, digital and pharma, more to test things in participation and new world cost and not add things on top.

By far the biggest opportunity I think is for us to get serious about spread. That is where NHS England will be focusing its efforts. National initiatives like test beds, Clinical Entrepreneurs he says seeing Tony, the innovation and technology tariff, they all contribute different stages of the innovation pathway. But what is the key to managing that pathway and who will serve as the NHS distribution network for innovation? I think the answer is the AHSN's, as they enter their next phase and increasingly work together as a single national network of networks helping to destroy NHS not invented here syndrome.

Thank you. That is my introductory comment. I will now turn to Nicole to give the government view. Nicole.

Nicole:

Delighted to be here, sits across 2 government departments and health and business. I would like to talk about the future of the life sciences sector, we have ambition for us to be a global hub, to reaffirm the UK's position to be at the centre of medical innovation for the benefit of patients, we need to do commercialise more, we are not short of ideas in the UK, but we need to make sure that we can get the support companies to develop their innovations which are truly going to make the most difference to patients' lives but also that we use the advantages that we have in

the UK of the NHS to do that.

So, Professor, Sir John Bell from Oxford, helping us to do this, bringing together the industry in the UK and around the world, to develop a life sciences strategy, which he published last week on the 30th August. We look forward to working with John to bring industry together to agree a sector deal to the benefit of the UK economy and the patients in the UK, by bringing forward the innovations.

Sector deals with help bring forward collaboration in the NHS, to transform services and better use technologies. Also complement our response to the accelerated access review, expect to publish this before the end of October, building on the announcements of money in July.

We know how challenging it can be to get innovations from bench to bedside. How frustrating to -- need to work with the NHS and to gather evidence and defuse the product. We want to work to help the innovations to come through the system more quickly. We need to work together with all those represented on the Panel.

The test beds programme is showing us the way. Reflecting the core innovations, championing research and innovation and the use of technology to transform patients' lives, health and care services and deliver economic growth. It is also really important as demonstrated by the test beds that we can gather evidence, to make a difference to patients' lives as well as save money.

The accelerated access review, the importance of NHS in spreading innovation, not just the first trust but the second and third, where the evidence demonstrates we can make a difference and working together following the accelerated access review, to allow exchanges to be a vehicle for greater knowledge sharing, collaboration and sharing of innovations. The money announced for the accelerated access review, included £86 million to be spread across the AHSN's, £39 million to allow them to support assessments and pathway transformation to enable double running of services, to demonstrate the cost saving opportunity and funding for a digital health

catalyst to help support promising technologies.

So, we have challenging but exciting times ahead to help reinforce the UK's position as a global centre of excellence for life sciences, to drive economic growth and improve patients' lives. I am looking forward to working to transforming patient care.

Ian:
Liz what are our AHSN's going do for us?

Liz:
We have got this climate. Government putting money into innovation, a NHS system that has got a lot and not much money. That is an opportunity to spread innovations to help the patients and service users. So academic health science network, our role to find solutions to health and care challenges, there are 15 of us, work across local regions to build up local relationships with our industry partners, our NHS partners local government partners universities and businesses and we support those businesses to get their products into practice.

Now because there are 15 of us we actually work as a national network with local delivery arms, so we have got the great working relationships, people trust us, work with local employees of the NHS and local government on the ground so we have got innovation scouts and entrepreneurs to rollout products and disseminate right across the country.

So, the innovations we support, they improve lives, save money and we support economic growth because we work with businesses so that they can create jobs and support people to stay in work, which as we know, also helps health.

Set up in 2013 brought 200 innovations into the system and supported them into practice. They cover 11,000 locations which sounds like an awful lot. But we do cover care homes, GP surgeries and a lot of different segments that make up the health and care pathways, benefited about 10% of the population, through

disseminating great innovation out across health and care.

Where, there is funding to do that, open up opportunity and health systems to benefit greatly.

We know that ideas originate from different places, we offer a door way to people come to us with products, might not be fully formed, we might be able to support them by introducing them to a clinician or entrepreneur to support them. We have innovation pathway to work through, work through all the stages to make sure that the product is robust and give value to patients and service users.

So, there is a lot of people in the room, work with across the pathway and actively engaged with Nicole's team as the life sciences. That is part of our local work. We work nationally and run a number of national programmes. So, one is a coordination of the SBI health programme, where new innovations come through and they can make a real difference. There is a SBRI stand here. Look at that; spectacular and amazing.

We run the National NHS Innovation Accelerator Programme where our mature innovations come to us, a great entrepreneur attached and we do an assessment and people get on to the programme to receive mentor ship, support with the product, whatever they need to get the product into the NHS and benefit patients and service users. We also work with the clinician entrepreneur scheme...

We have a number of other schemes we work with, Ian mentioned the innovation and technology tariff, working to get the products into the service, work with people who actually work on the ground with patients and support them to not have the not invented around here syndrome, but think, gosh this is great, how I adopt the innovation to get it into practice for patients.

There is a talk about NIA at 5:00 p.m., so hear a bit more about that. So, I our work basely, working with people on a local relationship, help put relationships into

practice, fostering good relationships to make sure we are all working together, quality for ... bridge gaps and strengthen connections between research, life sciences industry and health care. Emily, do you want to tell us about your programme.

Emily:

The testbed programme was set up as an opportunity to focus on the testing and spread elements of the innovation pathway that Ian touched on. The testbed programme is focused on compensatorial innovation. For those of you who don't annoy what that means, it is about bringing together new innovation. We were focused on digital technologies, but we wanted to think about how we support pathway design and bring a combination of the digital solution together with a change in the way care is delivered in order to benefit patients. The programme that has been running since 2013 is with the academic health science networks, local sites, and innovators.

So, it is how we can all come together and make a difference. The programme is focused on addressing three standard challenges that we have previously seen in innovation, often where you might see an innovation implemented in isolation and therefore you don't benefit from supported changes, perhaps where we don't have enough robust evidence to support the wider roll out and spread of an innovation and the tact that often you'll test an innovation but won't see it sustained and don't take away the existing practice where something better is proven to work. Throughout our programme we have been thinking about how do we support effective delivery of the testing of innovations in real world settings with real patients and clinic lans on the ground. How do we evaluate an evaluation throughout the programme?

We've been thinking if an innovation or combination of innovations is successful in demonstrating improved outcomes for the same or less cost how do we spread it and take up the wider spread of that innovation. We have been working with seven sites for just over a year now. We have gone through an interesting process of collaboration with those sites bringing together partnerships from industry and the

NHS. I'm pleased to say we're now testing out these new combinations of innovations with over 4,000 patients.

We're working with over 40 innovators testing over 50 different innovations in those sites and it is fan task to see the examples of early benefit we're getting for patients and cliniclans. We haven't quite got the evidence to demonstrate whether or not they are improving outcomes at the same or less cost yet, but you can check out on U video to see what the early impacts for patients and clinic lans are. One example of that success is a live core inn care city.

There's a fantastic journey, from testing the live core in the pharmacies. Originally, they were referring patient who were demonstrating atrial fibrillation through those tests through their GPs. But now they are working with Bart's health. We are hoping that will change it to two weeks, which is a significant impact. So, to give you more information, I think we should have a video.

Ian:
We now have Francis to explain a little bit more, including how it felt from your perspective how we're answering that wider spread question.

Francis:
I think for an individual bringing a product with such transformational power to the market, it should be, in theory, very straightforward and very easy. You say: Here, it does this. Formerly you would have had all these wires, now you can check and document it on a cliniclan agreed ECG. What's not easy about that?

Actually, the system is, and I believe rightly so, adverse to change. That's because so much has been done to prove the pathways that we've got. We've done clinical research, we've done years of history and people have learned have do things in a safe clinical way. To bring forward innovation you need a large mixture of ingredients. You need clinical evidence that takes time to develop. You need real world evidence, which takes even more time to develop and you need connections

with lots and lots of individuals.

What I learned through this process is the human being is somewhat resistant to change. When you see something new, historically you would have gone: Is it going to eat me? Then maybe get used to it over time and gradually it becomes your pet dog or whatever. But that's an important journey that every individual, every clinician needs to go through. They need to see something for the first time, and go: Oh my God. They still have to go on a cognitive journey. To help people on that journey is completely impossible on my own. I remember saying to my team there's so many people, decision makers, GPs, I just don't know where to start. How do we do this? I was connected in quickly with the NHS network and innovation agency in particular and we've really been able to build out that collection of opinion and help people make this journey of:

Actually, we could fit it in here. Even today at this show, I've seen people come to our stand and say: Now, I could use it like this. One of the things I had to let go of as an innovator is: I know what this thing is for. I didn't know what this thing is for. And I don't know how it is going to fit into the clinician practice. Every team has a different perspective of how they will get the best from this innovation. Just because disruptive innovation is in vogue at the moment, it doesn't mean you are going to be welcome in all places.

Disruption means what it says: Disruption. As Ian said at the outset, a volcano, they're not welcome when they're in your back garden. I think that's the thing people need to realise, you need a safe place, the Test Beds to prove the pathway redesigns so they can be duplicated across the country. I'm grateful, and thankful and proud to be a citizen of this country doing this pioneering work. Live Corp. limited is based in the UK as the hub for all our European distribution. We ship from here to all of Europe, Middle East and Asia. That's because we have a welcome home here. I hope other companies like ours set up their base in this country, too, and follow the path, because of the welcome reception that we have. Thank you very much.

Ian:

Just before I throw the conversation open to the floor, I wonder, Liz, if you could complete the story on a live core around innovation and technology.

Liz:

So Francis has outlined being a fellow on the accelerator scheme. The next part of that story is life Corp. was picked to be one of the products on the innovation tariff which means he is funded by NHS England for a period of time. Why this is important is because one of the barriers for innovation is increasing costs for a short period of time. If you are in a situation where you want to do t but you have no money, that's a real barrier. So, NHS England are funding that. We're in the middle of procurement for that, it is almost finished, but what it has enabled us to do is to buy a life core for each GP surgery. You can have the life core on loan. They are available on Amazon.

If you are somebody that has some money you can buy a life core and test yourself. But the tariff enables us to roll it out at scale and get the benefits across the population. We have been doing that for the last four years. Buying the products and rolling them out. This tariff gives a real opportunity for us to roll something out nationally to a very receptive audience because we have been working with GPs, practice nurses and they are pulling this product in and want to use it as part of their clinical toolkit.

Ian:

We should have the evidence pretty soon as to how we will have done in terms of getting to an end state on adoption across the country because the AHN have said we'll drive this to completion, we'll work with the local communities to try to embed it. Can we speed up that from bench to bedside? I hope to point to the cost savings to the NHS and also the improvements in lives saved as a result of better prevention of AF. That's one of the 200 or so examples that you cited.

I'm really delighted that the network is looking to system ties how it can identify those best proven innovations and then agree between its let's try to drive this across the country more quickly than it has happened before. You heard a little bit about the national context. You heard a little bit about the distribution network. About how we're testing things in combination and the actual things that we're doing. I think we should have some questions, hopefully, that have been coming through on GLISSER. If they could flash back up again, that would be great.

I'm going to ask a couple of these first before going to the rest of the floor. Liz, can I pick up with this last question on the screen, the challenge of working with the one that has just disappeared! I don't know if you can bring it back up, the previous maybe not. There was a question about challenges working with SMEs on less successful innovation. What's your view on that.

Liz:

So the first one things about innovation is we do know sometimes it will fail, that is why it is innovative and testing things out. Some things will fail and they will, we are trying to get innovation into practice, I think for us the most difficult thing, is when an SME, somebody from SME comes and says we have got a great product, re-mortgaged my house and I want you to help me get it into practice, we look at it and think, oh dear, this is not going to work in our setting.

So, there is a number of things we can do, we can politely say to the SME this is not going to work, tweak it, take it to another setting most of the time, we can match you with a clinician, help you with health economics, tweak it for a different context and the product might work. Sometimes we can support people to put things into practice it is the right thing to do.

Other times we may look at something and say, this we think will work, we will pump prime it gives it support and test it out with the local trust and work with innovation scouts or entrepreneurs or digital navigators to see if it can work across a pathway. If it doesn't, we will look at that and this is a pilot and the lessons, look at the

company to look at the next iteration or product, the lessons might be, too expensive, increase quality and improve cost.

It maybe that one part of the system has to be invest and another part of the system gets the benefits, so we find it difficult to sustain investment. The pathway transformation fund and double running is good news to us because it reduce it is barriers. We try to break down the barriers and work with them and if an SME, has a great idea -- not short of ideas but they will there be a germ of that. There is a product, a great person, we can work with them to get those into clinical pathways

Ian:

I will pick up one more from this list now. I thought I would pick up the question on involving patients and the public. In the co-production of innovations and I would really be interested in getting maybe Emily and then Francis your perspectives on this, it has been a theme of test beds and doing it in practice, Emily?

Emily:

Involving patients and the public is critical. There are a number of different reasons for that, once you have had a good idea, Francis suggested you don't always necessarily have the best use for it. There is the important thing about understanding how the patients want their care adjusted, whether or not an innovation is usable, I think it is patients public and clinicIans for us, we are encouraging the sites to use the stakeholders in doing the design work to understand usability and implementation.

Ian:

Can I press you a little bit more, give us a good example maybe from the test beds of where you think they have managed to really involve patients or clinicIans in the co-design of the combination of things being tested?

Emily:

I think you can probably go into any of the test beds and see situations where they

have kind of workshops where they have gone from taking a number of different innovations through to a partnership approach. Unfortunately, I haven't sat through them, Francis maybe able to give a better example of that. We have seen there is constant adjustment. Whether or not that is you know, the use of a gate system for example, where actually it is about the usability for the patient and how do they feel when it is being tested.

Or we had some really great examples this morning in our test bed session from Lancashire and Cumbria about the patient who is are receiving the technology and using the tablets and how they are then feeding back and improving the design of that.

Or perhaps in the digital diabetes coach where patients and users are at the heart of all of the design of the platform that is being built to bring together 4 or 5 innovations, they are the people who are going to use the platform, if it doesn't work for them. It doesn't work at all. So, Sandra I think is here over at the innovation Expo has been central to some of that design work and engaging a broader network of patients and cliniclans

Ian: Thank you.

Francis:
I think we have right from the get go worked with the arrhythmia alllance charities, defibrillation, when we brought an early form of the product to the UK, we got access to a quantity of their patients, quite a few, several hundred and said, try this, give us feedback, fill in the questionnaires that was invaluable for iterations of the product and the service behind it.

Then seeing that continue with our work with the test beds, we see the them involved with the grind of that and the voice of the patients in the work with the NIA and really, in the network, embracing again that voice of the patient through the channel of the age defibrillation, I think it is fantastic having the bridge between industry and the

patient voice.

Ian:

Great. Now can I just check, have we got some roving mics in the room? Great. Fantastic. So, over to the floor. If colleagues have got pressing questions, the lady here with the funky hat, introduce yourself and say where you are from.

Question: Hi, my name is Jennifer Lane, I work with the NHS on lived experience advice in the coproduction team. How are you bringing lived experience into these different innovations that you have talked about? I mean you have mentioned the patient voice, specific examples where co-production has been used to develop and refine ideas and maybe come up with innovations working alongside the people who are being treated or cared for?

Ian: I don't know if there is more you can pick up on a similar theme?

Francis:

I would point you to the health unlocked website, fantastic website full of patient communities. It is the age defibrillation have a subgroup on there, they talk about the cardiac mobile over and over, we have had no involvement there at all. Lovely to see patients discussing it. We are engineers in the US do take note of what is said and modify the product accordingly. So very much a live feedback and data collection service. Who else? Maybe pick up 2 or 3 questions? Gentleman over here

Question: Can you describe sorry, I am Lesh, deep science Winchester London, we are trying to (INAUDIBLE) to describe a pathway for SME's, I understand it is a pretty long pathway way trying to test and identify. How do we from a SME perspective? How we innovate without losing the technology innovation in it? The more time we spend on it. The technology becomes outdated how do we have the balance with SME's and technology within the NHS.

Ian: Great question, can I take one other? Over here.

Question: Dave Talbot, I work for an NHS provider Trust in Exeter.My question is about the relationship with the university sector. You haven't mentioned that, I wondered how that relationship is developed where universities are obviously struggling already, many in innovation and where they have a medical school that maybe involved in innovation and research?

Ian: Great. Okay. If I can let's pick up the last question about the relationship with university first? Liz did you want to come in?

Liz:
One of the key partners is universities and we have a number of across the patches. We work with closely with universities to look at spin outs that maybe a good ideas, the results of research we think that would be great to put into practice and making an impact. Also work closely with universities to make sure that we are doing it right. In the middle of evaluation, we will work with universities to see, what can you see that would make it better, researcher in evidence to the programmes. Sorry I missed that out of the preamble, we do work closely with universities and value the expertise on a number of levels to innovation.

Ian:
If I add briefly to that, a number of the test beds very clearly university kind of co-led for example, in Guildford. The internet of things. Test bed there. I mean there is a wider I think debate about have we quite got the relationship right between the universities and the NHS? On innovation? Is there more that could be done to provide clearer demand signals from the NHS to the universities about what kind of research we would find most useful?

Then in turn if we get that right, there is a symbiosis of how the NHS can get better at spreading the research findings of the things that really work. We are working really closely with Chris and the NHIR team, nationally and the relationship between

the CRN's, the clerks and the AHSN's, it is an area that I think has a lot of potential, that hasn't been fully realised yet. Picking up on the question about SME's, and how we best support SME's in a sufficiently timely way. I wondered if I can maybe combine that with the question on screen around procurement. I don't know Nicole, it is one of the things that industry has often been saying to the office for life sciences, what more can we do to sort out the procurement issues from your perspective?

Nicole:

The ... buys a lot more than you think, true that a lot of the systems we have in place, do make it difficult and I think that we need to look at how we can improve that some people have suggested this maybe indeed one of the questions looking at, at Brexit here, it is something we are working closely with Liz and the NHS on to help soup port that, part of it to make sure to understand what it is that the system needs in terms of technologies, make sure they have designed it with clinicians and patients, if clinicians and patients believe in the technology and good evidence for the impact and good evidence for the cost effectiveness, then you begin to make the case yourself regardless of the complexity of the processes you have in place.

Ian:

Great, I don't know if Liz there is anything you want to add from a practical perspective?

Liz:

Working with local region with individual professionals that work in procurement, we have got an integral role in making sure we get value as well as reduce cost, we have schemes to work with them. Work with agencies who train with them, feel rewarded for being in that profession.

The point about SME's and technology becoming out of date. If you have got a great product and come to AHSN, we can put that into practice and support us, if we get products that are part formed and it takes a long time. But if it has the pull from the

service as well. We can support that quickly.

Ian:

That relates to the university point that you helpfully raising, to what extent the innovations most promising are they well evaluated for the clinical impact they have but also for the cost impact. So, what we really need in the NHS I think is to be able to show what the net effect is, so not just is something value for money an additive but to what extent to replace things and then reduce cost when operating at scale and the more that we can actually show that we can make a case not just to the cliniclans but the SDP lead essential, finance directors they can't not afford to implement it. Given it to help to the bottom line.

Nicole:

To add one of the recommendations of the accelerated access review, we give clearer demands to the system, to the technologies we need. It is possible to sit in university and develop a toy based on the technology you have around you. But that might not be the system most needed. That involvement of cliniclans and patients is critical in helping to say, this is where the gap is, in the market and this is what the burning patient need is for us as a system to be able to communicate that better to SME's, so we have the technologies needed and benefit to the impact, that will improve patients' lives.

Ian:

Very good, obviously we need to get faster doing all of this, given your point about innovations going out of date. If we are not careful by the time we have got around to assessing them.I think we have got time for a few more questions? If this gentleman and lady over there?

Question: Good afternoon. When we look at some of the barriers to adoption of innovation, clearly the ownership or co ownership or clarity around IP rights, how important do you think that is to be dealt with within the whole of this system?

Ian: Do you have a hypothesis behind that question?

There's tool kits we establish, how you should register injured person, at what stage you should think about it, why protection gives particular benefits to the innovators in terms of prop debating further systems. But my real question, is there any other steps we could be considering as the providers of those IP rights to try and improve the system even further?

Ian:
I think that's a direct opportunity for Liz to say if you could wave a magic wand, what would you like the IP office to do.

Liz:
There is a section around IP, but within our own agency we don't deal with that. It is so complicated. We would signpost out to somebody like you to support an entrepreneur or SME to know how to deal with that properly. So, we offer a signposting service. Some have it in house. We would rather signpost out to a business that's a real expert than try to deal with it ourselves. It is a real problem. That's probably a poor answer, but it is complicated.

We like to outsource to the experts on that. In this case in this case I think it is important that the NHS develops the capability to make sure it gets the returns from invasions and as that IP is shared between the commercial organisations and the NHS, that there's a fair share and the Department of Health is looking carefully at how it can support different parts of the NHS now to have the capability to work with commercial organisations so that there's a fair share.

So, for example, in the life sciences industrial strategy that was published recently they were talking about the idea of a golden chair being held by the NHS. So, if an algorithm is developed, some of the money should be retained. That model has been developed working with the Oxford Trust.

Ian:

This is a question I pose, should we contemplate different versions of the model? Going back to the exchange around the northwest, I think what this partly points to is not that each AHSN necessarily has the in-house capabilities because they are small organisations with finite budgets, but that they can ensure that a service is provided. So that wherever you are around the country, whether it's through the in-house northeast team that do have an injured person lawyer, or whether it is another arrangement, that all 15AHSN is can offer the same quality of service.

It is that kind of approach that we want to develop in the second phase of re-licencing. Turning now to the lady over there.

Question: I run an SME and I understand that you need the product to suit the need, and then you have to prove the efficiency, the efficacy, the economics. I don't think so you make that particularly easy. I've spent quite a few years trying to get the trials done appeared it is quite a tortious route, to get the data you require before you can then say, "right, I believe in this." Is it something you are looking at improving?

Ian:

I would say that's part of the whole rationale of what AHSNs were set up to try to do, to provide that interface with industry to give some signals about what we are most interested in and then to make sure there are boots on the ground that can help with the connections through. Now, it is still early days. AHSNs have only been in existence for years.

I think the data on the number of contacts shows that there is a better picture, green shoots, compared to where we were a few years ago, but clearly there's a bit more to be done. If you've got within your SME, I don't know what you feel the quality of support is, whether you have the connections with your AHSNs right and whether there's a practical thing that comes out of this conversation where you can connect with the right person. I don't know. Are you in contact with your AHSN? Which part of the country are you working or are you a national organisation?

Just in the east of England.

Ian:

So an action arising from this conversation is the NHS England will try to link you up to make sure you can be invited to one of their industry sessions. Okay. The gentleman here in the middle block.

Question: Hi. I'm a junior doctor and one of the clinical entrepreneurs. I think outcomes can arise from organisations outside the NHS as well. The innovation I've been working on, we're trying to deliver it to schools, to children, to help with their mental health. I wonder if the AHSNs are looking to develop the network to bring on board organisations outside the NHS where there might still be a shared interest in improving healthcare?

Liz:

I think we have two great clinician entrepreneurs in our region. We have been supporting them. And it is around schoolchildren's diet. If there's something we think will have an impact over the long term, we will get involved in that as well. The answer is yes, but it runs alongside some of the other streams of the business as well. So, we do do that.

Ian:

I had the pleasure of visiting the East Midlands AHSN not that long ago in Nottingham. One of their innovations was a new app which was a service being run through schools, a kind of virtual school nurse service, and they developed competence in connecting with the education system. Again, that may be something that can be shared across the AHSN network more widely. In terms of the connections, at a national level we are mindful of the nature of public services.

If we are going to deliver the best possible service to the citizens of this country and value to taxpayers, we need to increasingly think about how we join up with DWP in relation to treatment of people with mild to moderate muscular skeletal problems,

connections with education. I guess, Nicole on one level that is the job for life sciences, to attempt to break down those cross-government stove pipes? In this case

Nicole:

We work closely with cross government units. So, for example, for skills for the life sciences strategy we're working with DFE to think about digital skills and more clinical pharmacologists so the whole integration of the system and particularly mental health is an increasing priority that I think you're going to hear more and more about over the next period.

Ian:

Fantastic. Do we have time for one more question? The answer is apparently we don't have time for one last question. We will need to wrap up. Can I ask you to thank the parents on the Panel in the customary way?