UK Trade & Business Commission

The UK's healthcare sector - Requirements for a future trade deal

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Philippa Whitford MP

This morning's session is on looking at the impact of leaving the EU and the UK's new trading set-up on healthcare and health generally. I'd like to welcome all of our witnesses and I'll get them shortly to introduce themselves, if I can ask both witnesses and fellow Commissioners to be on mute if you're not speaking, just to avoid feedback. So, if I can now ask our witnesses if you can just introduce yourselves and just the organisation that you represent. If we start with Martha.

Martha McCarey

Hi, I'm Martha McCarey, I am a Researcher at the Nuffield Trust, this includes pretty significant amount of work on the impact of Brexit and changing international relations on healthcare in the UK.

Philippa Whitford MP

And Peter. Peter, do you want to introduce yourself?

Peter Ellingworth

Apologies Chair, I'm Peter Ellingworth, I'm the Chief Executive of the Association of British HealthTech Industries. We represent medical consumables, implanted devices, robots, AI, the whole suite of non-biopharma. Thank you.

Philippa Whitford MP

Thank you, and Tamara.

Tamara Hervey

Hello, I'm Tamara Hervey, most people call me Tammy, please do. I work at City University of London and I'm a Professor of European Union Law, been working on European Union health law for several decades.

Philippa Whitford MP

And Kate.

Kate Ling

Hello, my name is Kate Ling and I'm the Senior European Policy Manager at the NHS Confederation in our international team. I've been working for a long time on particularly issues relating to the impact of Brexit on the National Health Service and trade deals going forward of course.

Philippa Whitford MP

OK, which is a key topic this morning. And yourself Nick.

Dr Nick Mann

Hi, I'm Nick Mann, I'm a GP, been a doctor for 33 years. Really coming to this from a clinical perspective and with a long-term keen interest in health, the NHS function and policy and an NHS campaigner and member of Keep our NHS Public.

Philippa Whitford MP

OK that's lovely. Thank you very much and thank you all for your time. I'm going to kick off with the first couple of questions and you don't need to answer everything in one question because we will try to unpick the different themes as we go through. If I can ask you to keep your answers relatively succinct and you don't need to repeat what's already been said, so add to what colleagues have maybe said before you. If I can start with yourself Tammy, what would you say and again just the headlines here, are the key challenges to UK healthcare at the moment?

Tamara Hervey

I'm probably not the best person to answer that question because I'm not primarily a UK focused researcher, but off the top of my head from what I see from collaboration with colleagues who are, and for people to add to, I would say staffing is right at the top and then I would probably put finance after that and then supply chains after that, so there's a start and let's let people add to that.

Philippa Whitford MP

OK if we come to yourself then Martha, obviously Nuffield Trust have been doing quite a lot of work around the impact of leaving the EU on healthcare. You're muted.

Martha McCarey

I think, so I'd follow on from all the points that Tammy has raised and say that some of those I need to point out are fairly long-term and I'd say Brexit has probably exacerbated them more than anything else, but the points I'd want to add are probably poor capital funding, so things like building and IT being in a really poor state, really no numbers of diagnostic machines for instance for population in the UK, social care strikes me as being in a particularly poor state right now with a really big lack of clarity as to how the future capacity and funding is going to pan out and also I think it's more of a problem that the state of population health in itself and health outcomes we have obviously a growing population which is ageing but we've also got population which is ailing without

ageing in a sense and an increase in inequalities and how health will look in the long-term between the more deprived and the wealthier populations in the UK, which I think we can go onto in a little bit more detail later on.

Philippa Whitford MP

Yes, obviously the social determinants of health and we live longer but we're not yet living well unfortunately. Nick, over to you, you're actually on the frontline as a GP, I mean I'm sure you would agree with the headline comments we've had from Tammy and Martha, but are there any others that you think we haven't brought to the table already?

Dr Nick Mann

Well, the problem, pressures are both domestic and international yes, poor resourcing, staffing and infrastructure over 13 years is absolutely key and the Nuffield and the King's Fund and the Lord's Health Select Committee have all produced reports to that effect. And as regards trade deals, we are in a very precarious position and it depends who we're making those trade deals with, I think, that really affects the health sector. I would also mention privatisation, it's an extremely contentious issue but the evidence for it I think, it's not only right in front of your face but it goes back in policy documents to the late 70s and early 80s in the Tory policy documents, and actually if you revise those documents what's happening now is exactly what was in those documents, so I'd be happy to expand on that if anyone's interested.

Philippa Whitford MP

We'll unpack quite a lot of these things. Peter, if we can come to you next, obviously you're from a slightly different angle from others.

Peter Ellingworth

Yeah indeed, so recognise and agree with everything everyone has said thus far. One of the things that relates direct to health, the first thing is the slowness in the adoption of technology, and by technology, I mean anything under that HealthTech banner, whether it's implantable or at the far end of AI. So, the NHS remains slow in doing so and needs to bring a better structure to the collaboration between industry and health as partners. As Nick has said some of these things are very long-term. I think there is a bright spot in the future for that with some work that's going on with NHS England at the moment. Second big thing is regulatory, Brexit created a break with Europe and what we're seeing in Europe at the moment is that the UK medical device regulations system is in failure. It was newly introduced; it keeps getting postponed. Brexit provides us with an opportunity to do something that is unique for the UK around a resilience model. I'm very happy to come back to that later. The third thing I would say is we are in a period and you know Nick mentioned the 70s, of unprecedented inflation and right now the restrictions on buying products because they can't be increased in price is meaning that many of the international companies which provide a large bulk of the product into the UK are going elsewhere. I'll leave it there for now.

Philippa Whitford MP

OK thanks Peter and obviously unfortunately we don't have a representative of ABPI or the pharmaceutical industry, but I assume that some of their issues at least will be very similar to those of medical devices around early adoption, regulation, etc.

Peter Ellingworth

Yes, both are fundamental just to build on that, the life sciences vision, strategies, whatever you wish to call it, or the Government is currently calling it, are great documents and with terrific intent and unless we fix the collaboration between industry and the health system, and we fix the regulatory environment, it will unfortunately be just another great piece of paper.

Philippa Whitford MP

OK, and to yourself Kate, is there anything else that you would like to add to quite a depressing list?

Kate Ling

Yes, same as everyone else. Workforce supply has to be top of the list to cope with the ever-increasing demand, social care as well as health of an older and sicker population. Stubbornly persisting health inequalities and disparities. Long-term funding and sustainability of the current model and I'd like to pick up on what Peter just said about, I think one of the challenges we face is making the most of the opportunity from trade deals for the NHS and that includes doing our best to influence and if you like impact on the regulatory environment.

Philippa Whitford MP

OK, obviously we'll unpack some of that, some of my colleagues on the Commission will unpack some of those issues more specifically. If I can start with yourself Martha this time perhaps, looking obviously the UK has left the EU, we are both Peter and Kate have mentioned regulation, we have the Retained EU Law bill going through the Parliament at the moment which is going to change the regulatory landscape both from the point of view of healthcare delivery but also what has already been talked about, wider public health. So, what would you say are the changes or how have the changes in both the international position of the UK and its trading and its regulation, how is that affecting both the health and social care sector, or we could even just say the health sector in the sense of actually promoting better health? If we start with yourself and then I'll come round colleagues. You're muted Martha.

Martha McCarey

Sorry again, I'll start this by saying I think other colleagues on the call are probably better placed to go into this in more detail but if I had to kind of outline it, every aspect of the healthcare system is affected by trade relations and Brexit certainly, and so the way we originally looked at this when we were first sort of researching this area was look at WHO building blocks of healthcare system and they all are, so if you look at health service delivery it's affected, or workforces, we're going to go into more detail, exchanges of information and how we make sure that kind of crosses borders seamlessly, the way products sort of go from one country the next and what happens when trade

barriers come up and financing and leadership in governments. I think we could say for Brexit itself we avoided the worst impacts that we'd anticipated by avoiding a No Deal agreement in lots of ways, and the trade and cooperation agreement, however nothing in this comes close to the benefit of Single Market membership. But I'd like to pass onto Tammy more on the regulatory front.

Philippa Whitford MP

OK then if we come to yourself next Tammy, so both the impact of Brexit itself but also where we're going forward the shift from Europe to Asia if you like in trade and the change in the regulatory landscape. Colleagues will unpack some of those things specifically but how much do you think that is impacting health and social care in the UK?

Tamara Hervey

So, I think in order to come to a better answer to this we need to get into the more granular things, so it may be that we just do this question very quickly and then get into some more depth. So I don't have a lot to add to what Martha has said, that in terms of the things that we looked at, not being in the Single Market puts the UK in a worse position in a number of respects, but it also opens up potential possibilities in other respects, what I think is really missing is an honest public discussion about the pros and cons of different trade arrangements and different other types of arrangements, like human migration arrangements, with other parts of the world and the pros and cons of different regulatory positions. So you know we already heard from Peter a very strong call for a particular regulatory position, what we need to do I think is to have an all stakeholders included, honest public conversation about the pros and cons of different regulatory positions internally and what those mean for our external relations, in terms of markets that are global and in terms of a workforce for the healthcare system that for the time being and going forward the UK is not going to be self-sufficient in workforce.

There was one other preliminary comment if I may Chair, which is that I would like to remind colleagues that there is no 'the NHS' in the UK. There is NHS England and there are separate health systems in Scotland, Wales, and Northern Ireland. And I do think that sometimes public debates become focused on NHS England and forget the other nations or devolveds or administrations, whatever word you prefer colleagues, in the United Kingdom. So, from time-to-time Chair if I may I may remind us, and I'm sure other Commissioners will also do the same thing, that it's not all about NHS England.

Philippa Whitford MP

Well, as a Scottish MP and a breast cancer surgeon for over 30 years in NHS Scotland I'm grateful for your comment. If we can go to Kate next. Obviously from the NHS Confederation point of view.

Kate Ling

Yes, I should point out in relation to what Tammy said that the NHS Confederation represents NHS organisations across England, Wales, and Northern Ireland. Curiously not Scotland though obviously we do talk to our Scottish colleagues, but just to make that clear that we don't just represent England. The question was about changes to the trading landscape and the UK's international relations, how that's affected the healthcare sector. Very briefly, the overall trading landscape, the obvious things are the global supply chain issues that have been painfully exposed for example

during Covid and the need to diversify and to future-proof our supply chain and all of that related to the rise of China, etc, etc. And the resulting impact on that closer to home, the rising inflation, cost of living crisis, increasing poverty, etc. The biggest change for international relations has to be the UK leaving the EU and I guess we'll be unpicking various aspects of this later on, but very briefly that's impacted supply, the import and export of medical products, it's impacted the composition of the healthcare and social care workforce. It's impacted on healthcare research and collaboration and also on the regulatory landscape in respect of licensing medicines and medical devices. So those are just some of the things that have been impacted, but I guess that has to be the biggest shift if you like away from regulatory alignment with the EU towards looking towards other jurisdictions.

Philippa Whitford MP

And particularly obviously all of you have raised workforce and that loss of freedom of movement and the impact, we saw that in the vast drop in EU nurses coming to the UK immediately after the referendum, almost 90% drop in EU nurses registering in the UK and yet they still could. So even that is just the impression that we are giving of people of whether they would feel welcome or not. Peter, if I can come to you next.

Peter Ellingworth

OK, a couple of [inaudible 0:17:18.3] forgot to mention, I do have a non-disclosure agreement with the Department now of Business and Trade because I'm an advisor on free trade agreements, but that shouldn't constrain unless there's very specific questions. Second is, Chair, I'm a global Scot, despite my accent, I was born in Glasgow and I'm a very proud global Scot. The EU, yeah fundamental change for trade was the fact that perhaps many people thought we would end up trading with the EU, that's a complete misnomer, we now trade with 27 different nations and what interrupted supply and continues to interrupt supply is the fact that the movement of product and componentry is not seamless because each of the EU members has its own particular trading arrangements. And from an exporting point of view there are many, we have something like 4,000 small companies in the UK and wider health technology, devices, diagnostics, they find it very, very difficult now to trade with EU countries and in particular some of those in the south of Europe where they've got some very odd restrictions, so trade for those companies are now looking elsewhere in the world which does inform what our trading policy should be and the CPTPP arrangement is actually good for a number of fronts, not least it opens up that part of Asia but also from a future regulatory.

The big thing that's interrupted us here has been around regulation and Northern Ireland agreement not really impacting devices at the moment, diagnostics, like it is the pharmaceutical industry. However, the important piece here is that whether you were a Remainer or a Brexiteer, we are now a sovereign nation and we need to act differently on regulation. That doesn't mean and we are engaged, I'm engaged in the Vallance Review on regulation and it's public knowledge the Life Science Council which I sit on has created a workstream with MHRA Office of Life Sciences, Department of Health and ourselves as industry to look at future models and the Chancellor made a statement during the Budget that the UK would look to work with a reliance model which is based on trusted jurisdictions. What does that mean? That means that places like Canada, Australia, Japan, the US with the FDA have very good regulatory systems and to be clear but brief, 80% plus of device regulation is common worldwide under the IMDRF or International Medical Device Regulators Forum principles. So that's good news because that's a positive sovereign choice that says you don't need to create your own regulations, why would you when you're only about 3-4% of the global market, that would be a significant barrier to trade inwards and export. But you can make choices as a sovereign

nation that you couldn't' when you were part of the EU, which is to say you know the 5-10k [ph 0:20:30.0] is actually a better process now than the EU. So, I'll leave it there and we can get into more detail Chair as you wish, thank you.

Philippa Whitford MP

Yes, it'll get picked up by colleagues as we go through in more detail. And finally, Nick for yourself on this question.

Dr Nick Mann

The domestic and international changes, we've had Health and Social Care Act 2012, we've had Brexit, we've had Covid. I agree, I mean in terms of trade, clearly the aim is to reduce barriers to trade and that involves ease of regulation and I'd raise a slight warning there really, because what I've been seeing over the last five to ten years is a significant reduction in the quality and standards breaks, checks and balances that are put on drugs and medical devices. I understand from what I've read that it's the UK's intention to basically rubber stamp the FDA and the EMA which would lighten our load in terms of regulation and sort of putting that on a slightly expanded MHRA may or may not be adequate. There is a couple of good examples, I see Peter shaking his head, but for instance you know what we're seeing is industry-led regulation increasingly, there is industry input into the MHRA and NICE, which is not wholly what I would say in keeping with medical peer, critical peer review where drugs and medical devices are licensed. I mean we have the example of the Babylon Chat Bot which was promoted by the Secretary of State and was proven, was inadequately tested, not peer reviewed, not critically peer reviewed, put on the market and shown to have life-threatening risks attached to use of the Chat Bot and that's not been dealt with, nor the regulation for that.

Another example from the FDA, they licensed, they passed Aducanumab, Aduhelm, so-called ground-breaking treatment for dementia which in fact is not ground-breaking at all, it's not a game-changer as was claimed and in fact in the FDA several members of the FDA resigned as a result of the FDA passing Ajucanamab for passing its licensing, and there is actually a subsequent drug which is now, again NICE hasn't yet approved that and there's another one which NICE is holding back on called Lecanemab which has 20% of the people who took that drug had brain bleeds, and that is, you know you don't have to be a doctor to know that a side effect of 20% of people having brain bleeds should give very big pause for thought. And what I'm saying is that that licensing was pushed through against the advice of the independent specialists to the FDA, the FDA for whatever reason chose to approve it and I suspect that was industry pressure, and then that resulted in resignation of a number of the FDA members. So, two examples and I've got more.

Philippa Whitford MP

We can go into more later, now we need to move on but obviously we get your key point which is your concern about a change in regulatory landscape which is going to happen, being industry led rather than balanced between industry, patient safety, and medical expertise. OK, as I said all of these issues will get unpacked by colleagues as we got forward and the first is our next Commission Mike Cohen, and over to you Mike.

Mike Cohen

Thank you, I'd like to pick on something that's already been raised and see if we can go into a little bit more detail. My question is about how international regulatory alignment affects trade and medical products, be that pharmaceuticals, consumables, technology, whatever it may be. And I'm interested to know if you see any conflict between free trade agreements and how we avoid the friction that that might create. Could I start with Kate because you've raised some of these issues already and then I'll just follow along the line as it appears on my screen.

Kate Ling

Thanks, yeah there's a lot to unpack there. I think when we're talking about regulation picking up on some of the things Nick was saying, I don't think it's true to say that the UK is thinking of rubber-stamping other jurisdictions' decisions. I think from the point of view of patients and access to safe and reliable medicines and medical devices that the more convergence there can be globally in international regulatory standards, the easier it will be for us to trade goods and services across borders and to speed up licensing and access to the products that we need in the UK. So, there's a very delicate balance there obviously, but I think that it's possible for different jurisdictions to recognise each other's standards as equivalent without them being identical, they can be different and achieve the same outcomes. And I know this is a complex area, but I think it's in the interests of patients to make sure that they have access quickly to the latest innovations, but also to make sure that those are safe of course.

So, I know that other witnesses will give details about the various, I mean Peter has mentioned the medical devices, the International Medical Device Regulators Forum and Medical Devices Single Audit Authorities programme and you know all these ways in which the regulatory authorities collaborate internationally and I think that's a good thing and the more we do of that the better. From the point of view, do the FTAs conflict with each other, how can trade frictions be avoided, I think in the free trade agreements that the UK is signing as far as possible the Government needs to seek to be consistent and to adopt a standardised approach across its free trade agreements to as far as possible avoid that happening. It makes life much easier for businesses if they have to follow as few as possible different sets of rules and Peter referred to having to deal with 27 different rules from different Member States in the EU instead of one single block. One of the advantages of course of being in the CPTPP will be that we'll be able to deal with those countries en block. So, I think that will make things, if it's easier for businesses then it's better for the NHS because it means that the products get to the patients more easily.

The main area I would say to watch out for is about the friction between the agreements between the UK and the EU and the UK's new agreements with countries in the rest of the World that if these free trade agreements contain provisions that diverge significantly from existing EU norms, you know there is the possibility that it could trigger retaliation under the level playing field provisions of the free trade agreement, of sorry the trade and cooperation agreement between the UK and the EU, I think that's an area that Tammy and Martha probably can elaborate on. There are however, I can expand on this a bit more if you like, there are built-in mechanisms in the trade and cooperation agreement between the UK and the EU to try to manage regulatory divergence through the Partnership Council and Joint Committee and indeed I, myself, represent the NHS on the Domestic Advisory Committee that, sorry Domestic Advisory Group that advises the Government, particularly on issues of regulatory divergence and mobility. The role of this group is to flag up concerns over divergence and propose solutions to problems with implementation, so there are built-in mechanisms, but I think that's an area to watch out for, it's more about conflict between what we do I think with the EU and what we do with countries in the rest of the World, than perhaps conflict between different trade agreements with different trading blocs and I think we need to move away from this binary idea of well you know either we align, you know either it's the EU or it's the Rest of

the World and to look towards much greater global convergence and regulatory standards, I think this is already happening, but I will pass over to other witnesses.

Mike Cohen

Thank you very much for that. Next on my screen is Tammy, can I pass over to you please?

Tammy Hervey

Thank you, Mike. This is probably the question that I have the most to say about so please bear with me colleagues. So I think probably the most important thing to say here is that it's really essential to think at a granular and detailed level when we're thinking about regulatory alignment in medical products or the products that the NHS needs and sweeping or over-simplified or ideologically based statements at best don't help and at worst they obfuscate realities that are actually complex. So, I think it's important to disaggregate regulatory alignment of the research phase, the authorisation and approval phase, regulatory safety and compliance in the market and then purchasing and providing. And all of these areas of medical products regulation and here I mean medicines and devices and equipment and other things that the NHS needs, they are all covered by EU law to a greater or lesser extent. So, the UK leaving the EU means it or rather Great Britain, given the UK's obligations under the Ireland/Northern Ireland Protocol, even with the Windsor Framework, the UK is no longer obliged to remain aligned with the EU in these aspects of regulation of medical products.

Then the second thing that's really important when we're thinking and talking about regulatory alignment, it's important to differentiate between alignment in terms of regulatory content, the substance of laws or policies, where for many things but not all things there are global standards and alignment in terms of regulatory governance or processes where UK institutions make decisions which are or are not aligned with decisions made by institutions in other trade blocs, particularly in the EU or other countries. Then as has already been said by Kate, regulatory alignment or not matters because the current strategies pursued by the UK or GB policy makers limit the UK's future degrees of freedom, either because of trade or other agreements, or in practice, and that has an effect on the NHS.

And then thirdly, the UK's position in terms of regulatory alignment with the EU can be seen in one of three orientations, it's either parallel with the EU, where the UK makes deliberate policy choices to stay in step with the EU, because bear in mind that EU policy and legal approach for medical products has not stayed still since EU law ceased to apply in the UK, or it can be divergent from the EU where UK or GB policy makers make deliberately different choices from the EU's, or it can be drifting where the UK makes few or no deliberate choices, meaning we've got an initial alignment that then divergence when the EU changes regulatory content, institutional structures or practices.

So, if I may Chair to elaborate, to go to regulatory content, for some medical products like pharmaceuticals or vaccines or standard medical devices, underlying standards are internationally determined, we've heard that already. For others like data governance there are substantive differences between major global jurisdictions. On the one hand, on the other hand sorry regulatory governance, the process, the institutions and processes through which compliance for example with clinical trials rules or product safety and efficacy rules are shown, those aspects of alignment are already different, the EU does not recognise processes in countries other than the EEA states, as sufficient to secure access to the EU market. So, when the UK left the EU, it was immediately divergent in terms of regulatory governance, so the Medicines Agency, European Medicines Agency relocated to Amsterdam, no longer recognised, or worked with the MHRA and the MHRA took on

power to approve many medicines that were previously reserved to EU level marketing authorisations.

In the short term though the UK remained aligned in terms of regulatory content and that would remain the case until the EU's regulatory content rules changed unless the UK took active steps to remain aligned. And what our research with the Nuffield Trust has found is that there's a rhetoric of divergence in government circles, associated with sovereignty is good in its own right and so on, and with seeing reduced regulation as a strong determinant of improved economic performance, and that might be contrasted with what we heard from industry, from policy actors within the NHS and from civil society who are much more interested in alignment with the EU. But in fact, what we have is a much more complex picture in terms of legal and policy reality. So for both clinical trials of medicines and medical devices, the EU has, as we've already briefly heard, the EU has significantly changed its regulatory content since EU law ceased to apply in Great Britain, and further changes are in the pipeline, for example the European Union's Artificial Intelligence Act would categorise most uses of AI as a medical tool as high risk, so subject to significant risk assessment measures and human oversight.

We found about five areas where the UK has a parallel regulatory orientation at least in terms of regulatory content and the implications of being in parallel again which Kate has mentioned, include being part of a larger proximate market with all that flows from that in terms of business and trade decisions to contract with NHSs within the UK. The basis on which UK entities are able to procure a product from global or European markets, or decisions to locate clinical trials in the UK or to involve UK patients in clinical trials. So almost no aspects here have the benefits of alignment of regulatory process but a few do, so data adequacy, the UK is aligned in terms of both content and process at present.

The recognition of UK good manufacturing practice for medicines by the EU under the EU-UK trade and cooperation agreement is one of the very few specific examples of aligned content and process here. Clinical trials, short-term divergence, but what we see is that the new UK system seeks to realign in practice despite contrary rhetoric. Then in terms of medicines authorisations the UK currently recognises EU authorisations and tries to apply the same international standards and processes but more quickly where authorisations are sought from the MHRA. And then finally in terms of medical devices, the UK is going to recognise CE marks for at least another five years according to what we have discovered.

Then we found about three areas where the UK is choosing divergence, one of these is medicines licensing with the innovative licensing and access pathway which tries to link up MHRA and NICE requirements in a way that wouldn't be possible within the EU at this time, although the EU is moving in that direction. Secondly, we think procurement but there's insufficient details in terms of what is being proposed here at present, and then thirdly some aspects of medical devices regulation for example a proposed condensed trial process which we've heard a little bit about already, basing standards on international rather than EU standards, allowing cooperation with the MDSAP and with other trading powers, particularly the USA, also Australia, Canada, Japan and Brazil. So those are areas where the UK is actively choosing divergence and then we found a number of areas where the UK is drifting, and the drifting is the thing that's probably of the most concern. So clinical trials at the moment seems to be an area of drift, falsified medicines regulation is another area of drift, authorising or approving medical devices is a third area of drift, and funding streams is a fourth and very important area of drift until the point about collaboration in Horizon Europe is clarified, and the UK is still negotiating and has recently published a plan B for if that isn't, if Horizon Europe isn't part of it.

So, overall, then and apologies for the length of this answer but this is the one that I've got the most to say on. Coming to the bearing that regulatory alignment or not has on trade and consequently on

the NHS. So first of all, regulatory alignment is important because it significantly eases trade flows, as we've already said no free trade agreement gives better access to the EU market than EEA membership or EU membership, no free trade agreement replicates the benefits that flow from being part of the large EU market. UK non-alignment in terms of process, regulatory governance, has already had important effects, so the end of mutual recognition within EU membership of multiple aspects of medical products relations means higher costs and a greater burden on researchers, producers, and importers. The need to go through a different process for access to the UK market because different bodies are responsible makes the UK less attractive as a market and a smaller global player. Accepting EU approvals and processes keeps costs lower, but it makes the UK a passive rule taker and it also means a need to follow effects of changes in EU regulatory standards as they would be accepted in a changing UK regulatory space and market, so there's a need for a public conversation about whether that is the right thing to do at a granular level. Over time drift matters because it's likely to impact investment decisions, research focus and product availability within the NHS, and then we need to look at the interactions of alignment or non-alignment in different stages of the regulatory life cycle for medical products, and the following rational actions of relevant actors. So in the longer term, EMA authorisations give access to a market of 500 million or so, so they're attractive to the global industry, typically novel medicines launch in the EU and the USA around six months to a year later than say Canada or Australia because those are smaller markets, and GB is now one of those smaller markets.

Those new expensive medicines don't usually become generally available in the NHS for some time because of the cost, especially where medicines are protected by intellectual property rights, but once they are licensed they can be used by an individual patient with the oversight of a clinician or they can be part of a clinical trial taking that medicine forward and comparing it with something newer. So once the UK becomes a country where licenses are granted later than in the EU, the UK then is no longer a place where best current technology is available and that reduces the appeal of the UK as a place for a trial, because of course trials are best current versus new. So, then the more that appeal is reduced the more the UK drifts from being a place where global cutting-edge clinical research takes place.

We have some detailed research which I can possibly report separately on medicines authorisations, 18 months after the UK left the EU system, it's quite difficult to do this research but what we found aligns with analysis that Imperial College London shared with the Financial Times, which showed that in 2021 the EMA approved more new medicines in total than the MHRA and those divergences might illustrate the lesser appeal of the UK as a smaller market or they might illustrate the capacity constraints at MHRA.

Philippa Whitford MP

I think that would helpful Tamara because obviously we've a lot to get through and I would say that to any of the witnesses, if after the discussions today you feel there are aspects we didn't manage to get into and you have written submissions please feel free to put them in and the team will pull them together. Back to yourself Mike although we are a wee bit running behind now.

Mike Cohen

We are a little behind now so if I could just ask, the other witnesses haven't spoken yet, if there's anything you particularly want to raise under this heading now, maybe you could kind of volunteer, Peter, I thought you might well have something to chuck in here. If I go to Peter to be as brief as you possibly can because we are over-running now already and then other points could maybe come up

as we get to them later in the session, but if I could pass on to you to be as brief as you can Peter, thank you.

Peter Ellingworth

Firstly, thank you to Tammy, a lot of sense in what she said there and to Kate. Fundamentally free trade agreements, there are no or very low tariffs on medical devices in trade agreements, therefore trade agreements that seek to look at minimising tariffs have no impact because it's not there. Regulation for any company coming to the UK with a product or exporting, number one is regulation, the first thing any small company looks at is what's the regulatory environment. So, that's fundamental in here. The other big thing in here Mike about regulation is the more alignment, and this is not giving away our sovereign authority, we've always recommended and as far as I'm aware the work that's going on with MHRA we need a strong and we've just advocated and got additional funding for MHRA, strong and independent regulator, they have the right to make decisions, no question about that, but alignment gives you, think of Covid, it gives you access to product during the pandemic when otherwise if the product didn't have some commonality of regulation you wouldn't be able to get access, and security of supply chain. Products are made all over the World now, forget about the issues around China or whatever, they're made all over the World, componentry comes from around the World, if you have some forms of regulatory alignment that allows things to operate. Look at airline regulation, coming out of the EU meant we would have to sign 200 different agreements with airports around the World, it's not really helpful, wasn't part of a public debate. So, security of supply and access for patients I can't talk about pharmaceuticals, but devices and diagnostics are incredibly complicated, there are over half a million products on the market. Thank you, Mike.

Mike Cohen

Thank you very much for that Peter, and I'm going to pass back to the Chair now to introduce our next question.

Philippa Whitford MP

OK thanks very much Mike and I'm sure other witnesses there will be aspects that are picked up again, if I can give over to our Commissioner Tamara for the next two questions.

Tamara Cincik

Thank you Chair. In what ways have the changes in the trading environment impacted the availability of healthcare workers in the UK and what steps can be taken to alleviate labour shortages in the healthcare sector? I'd like to start with Martha please.

Martha McCarey

I'm helpfully unmuting myself for this one. So again I think it's worth going back to existing long-term trends and think of sort of changing a trading environment and Brexit having exacerbated them more than anything else, so historically the UK's health system extensively requires migration of healthcare staff and health and social care staff and has done so at times where it required surge capacity or it was facing shortages. It's also true that the UK has and has in the long-term had fairly small number

of doctors and EU nurses per population than say its peers in the OECD and sort of very significant issues linked to pay and progression and retention and staffing for doctors, for nursing we've seen estimates that we're still going to look at shortages of around 35-40k by 2030 by the Health Foundation and obviously in general practice and in adult social care where we've actually seen the level of vacancies increasing over the pandemic and sort of an actual decrease in access to social care by older people requiring it.

So, Covid has obviously accentuated all of this, there was an absolute sort of cliff drop of input from international healthcare workers leading to what's looked like essentially a missed year of recruitment. If we look at sort of the direct effects of leaving the EU, those would look like a significant increase in paperwork and costs and that's not just for individual applicants trying to join, so bureaucracies and visa costs, but also for the institutions managing those costs, and I would say that is particularly significant for adult social care where there's a really high number of small and medium enterprises who will increasingly find it difficult to deal with those costs. On top of that you look at a problem of, well evidence and/or perceived discrimination, a feeling of just feeling unwelcome, what can be referred to as a hostile environment now, extended to new staff, that's something that's been raised through participants in our study but can also kind of be seen through NHS surveys in the last few years.

Indirectly, what that looks like is a decrease in the attractiveness and also the salarial [ph 0:47:54.9] attractiveness on the UK partly as a knock-on of what I've just mentioned. We've also known this in separate studies if I can link you to from Nuffield Trust as a quite important effect of professional networks coming from specific countries and specific professions or medical specialities from those countries, so once that disruption starts it's a bit like the reverse effect on that profession network would have done.

I mean the effect of this is essentially an even more massive shift towards international recruitment from overseas and not from the EU, including from lower income countries and I think that's something we'll go onto in other questions. I think the steps that can be taken, it's really complicated, I mean essentially there's no short-term fix, that international recruitment is gonna happen in the shorter term and there needs to be honest conversation, long-term planning to understand what pay and retention is going to look like in the next five, 10, 15 years and crucially that planning needs to include surge capacity and it needs to build in the notion that international recruitment is a short-term fix, you just can't continue that way. But I think I'm happy to pass on.

Tamara Cincik

Thank you, Martha. Kate, I wonder what your thoughts are.

Kate Ling

Yeah, Martha has just given a brilliant summary, you know setting the historical context that the UK has historically been dependent on you know large amounts of overseas staffing that we've always had a lower doctor/patient ratio for example than the European norm, all of that, so I agree with everything that she's said. The most obvious change really since Brexit has been the change in the composition of the healthcare workforce that Philippa mentioned, the massive reduction in nurses coming from the European economic area, though curiously not doctors, a very interesting difference between the professions there. But compensated by the enormous rise in the numbers of international nurses coming from beyond the EU and that's a continuation of a trend I think that started before Brexit but has become incredibly marked since then. And of course now you know the current economic climate, the availability of other less onerous jobs at a similar level of pay for

example in retail hospitality for people at the lower echelons of the healthcare and particularly social care sector is you know a really, really big problem and we see that being played out at the moment of course in the industrial action in the NHS.

So, I think we're pretty clear and you know Nuffield has done a huge amount of work which Martha has explained about we know what the figures are showing and what the situation is and understanding some of the motivation and if you like the push and pull factors behind why people decide to come and work in the UK or not, so that's about the international side of things. I don't know whether now or a later question is the best time to talk about retention because actually the biggest problem that the NHS has got with its workforce at the moment is the rate at which people, are leaving. Nurses in particular are leaving and people going early, early retirement, burnout, leaving for other as I said perhaps less emotionally and physically draining jobs and retention is a really big, really, really big issue.

Tamara Cincik

Yes, I've been supporting some work being done by the Royal Free on retention of staff because there's an epidemic of people leaving because they're burnt out, stressed, they've come out of Covid and overworked and I think all of these things are compounding, what makes it attractive to the employed and then to stay in that job once you've got it if there are other options that are more lucrative or sustainable for your wellbeing.

Kate Ling

I don't know whether now or one of the later questions is the place to talk about what NHS Employers are trying to do to stem the outflow of what could be done either by Government or by employers themselves, that from the Government point of view there is as Martha said no short-term fix, there's the long-term workforce plan that's been commissioned from NHS England by the Government and we're awaiting its recommendations.

Philippa Whitford MP

We do come to that Kate in more detail, Paul Blomfield will be picking that up in a bit more detail.

Tamara Cincik

Save that for Paul, Kate.

Kate Ling

Yes I can talk about things that NHS Employers are doing to try to retain, to attract and retain staff, so domestic initiatives on recruiting people and then things they can do to make a better working environment to retain them, but if you like I can hang onto those and say them later.

Tamara Cincik

Hang on for Paul for that, but I mean it comes I think to what you were talking about, those who are less well paid it's the same with childcare you know the pay scales for childcare versus retail are very similar and if you're being asked to look after more children with less support inevitably you're going to look at alternatives. I'm really conscious of time so unless other evidence givers have any points, Peter if you could just come in quickly.

Peter Ellingworth

Very quickly, it's a global issue, I've talked a few weeks ago with health leaders in the US, health system leaders and they mentioned two things, availability of staff and burn-out, so we aren't alone on this one.

Tamara Cincik

Thank you, right I'm going straight to my next question before I go back to the Chair. What is the likely effect of demographic changes in the coming years going to be, that reads funny, going to be on the NHS is there any way that international agreements can be used to ease pressures on the UK's health sector. And I would like to start with Kate again please.

Kate Ling

Demographic changes, I think we covered that really in the first question about basically lots of older, sicker people and of course the workforce are getting older as well. But it's the second half of the question really, in what way can international agreements help to ease pressures on the NHS, staffing, I mean there is no quick fix absolutely, but certainly there are elements in trade agreements that could be used to encourage inward mobility, particularly for example Government to Government agreements regarding visas or training schemes that would help to encourage international recruitment. Cost of, well the cost of medicines and supplies that we can keep costs down by reducing not so much tariff as Peter said but non-tariff barriers, so regulatory barriers that increase the cost of imports and that therefore you know the availability and the costs to the NHS of medicines and medical devices. And diversifying supply chains by accessing new markets, I think that's something that we can definitely achieve and the CPTPP may be a good thing from that point of view. Also boosting the UK's economy and exports that there's this argument that if we improve the economy overall, the nation's wealth, that will also improve people's health. This is a bit controversial because there'll be a differential impact, there'll be winners and losers, so there'll be some sectors and industries and regions that could benefit enormously from trade agreements with other countries because they've got new and expanding industries and you know there'll be job creation, regeneration all of that, and trade agreements can promote the UK as an attractive destination for investment, so there can be really big pluses. But of course, there's also the downside that there will be some sectors and there has been speculation for example like the agricultural sector could lose out and that affects not only jobs but also the social fabric in the areas that are dependent on those industries. So we could see improvements in terms of longer-term public health because of wealth and regeneration and general economic uplift, or we could see it having a really bad effect in some areas and in some sectors, so yeah, I think that's probably most of what I wanted to say but there are opportunities, there are upsides and downsides, put it that way. But there are things that could help to ease the pressures, yeah.

Tamara Cincik

I just want to go to Nick please if that's OK, same question.

Dr Nick Mann

Thank you. So, the increasing ageing population, the UN did some work on this, and I don't think it's quite as bleak as we've been told for the last ten years. The population is increasing probably till about 2100, it'll level off at 11 billion, so going up from seven to 11 billion. And in the time between now and 2100 which is another lifetime for the NHS there'll be an increase of two billion people aged 30 to 60 and two billion people over 60. So, we are going to see an increased productive workforce which is there to support our older people. In terms of healthy life expectancy which is actually the key for individuals and populations within the UK, we're very much looking at the upstream stuff that you know Michael Marmot has done lots and lots of work on, in terms of public health and the determinants for public health which are simple things like having a healthy working population, childcare, adequate food, adequate housing, education, etc. And those are going to be as impactful I think in terms of our future health. Economic growth is an obvious one but that's complicated, that is complicated and beyond my remit. I think in terms of international agreements being used to ease pressures on the NHS, I think there are two ways to look at that. If we are looking at US-UK trade deal and in my mind that is the thing that looms largest in this context, we need to be extremely careful about their access to our drug pricing, I mean the lobbyists from the US have been very, very active for the last more than ten years, the Alliance for Healthcare Competitiveness which was pretty much led, steered and introduced by Simon Stephens explicitly talks about repeatedly and explicitly talks about breaking open the NHS market and worldwide exporting their I would say failing health system to … and breaking up state-owned enterprises, that's their key and they're aimed at the UK. And they want, we get drugs much cheaper than the States, you know we'll pay £15 for a bottle of Insulin, they'll pay over £100. They want that inequality as they see it redressed. So we could lose a lot in terms of finance in a US-UK trade deal and I think that's something that we need to go in armed and ready for, indeed you know the Cato Institute along with Daniel Hannan produced a blueprint for the ideal US-UK trade agreement and indeed the NHS was specifically mentioned as being included, and that might contrast with the CPTPP conclusions which had a little paragraph specifically excluding the NHS, although actually you need lawyers to look at the detail of that to see what that really means.

Tamara Cincik

I mean I think for me Nick, not as someone from the medical profession but looking at this from a policy perspective, that is a headline point that you've just raised there about not only our identity as a country or four nations with an NHS, but also when we're going into trade deals as the smaller partner what's on the table and what are we going to be forced into outside of our relationship now we're outside of the EU and going into a trading relationship with the US which for me, having met with civil servants before we'd left that was their ambition was to get that deal, to get that over the table, what's at cost. Yeah, it's a massive issue.

Dr Nick Mann

Indeed, and I think we're in the most vulnerable position possible as regards the NHS and nationally, I feel, to go into that kind of deal with the US. In terms of what international agreements to ease our pressures, well we should be lobbying for the EU staff return, half of the new NMC, Nursing and Midwifery Council new applicants over the last year and half of the new GMC applicants for the last year were born overseas and in terms of the nurses, this is total for the health service, only 663 out

of 22,700 were from the EU. So, you know, the EU should be our primary market actually for trade in staff and skills.

Tamara Cincik

Thank you, I'm aware of time and that we've run over. Tamara from a Tamara, hello, do you have a point, I see your hand up.

Philippa Whitford MP

You've another couple of minutes, so that's fine.

Tamara Cincik

I'm always worried about running over.

Tamara Hervey

I'm conscious that I've spoken a lot already, quick addition to what Nick said, of course the health and social care workforce on the island of Ireland is basically one workforce, so closer alignment with the EU would definitely assist in that regard, there is concern about drift of recognition of qualifications and training routes because we are diverging from the EU standards which apply to Ireland. And then the other thing is just to add to what Kate said, in terms of trade agreements being a route for economic development, that isn't going to help the NHS or public health without active policies of redistribution.

Tamara Cincik

I mean in many ways this seems to be about our identity as a nation and the NHS seems to be the pawn in a lot of this story, it's what's coming across. Do our other evidence givers have any points, yes.

Peter Ellingworth

Just a quick one, or a quick two. I agree with Nick, the NHS shouldn't be on the table here and that's something we'd have completely agreement on, it's a jewel in the crown in the UK, it's socially funded, it's part of our DNA as a country. I think that there are a couple of things that could help, and they don't necessarily need trade agreements per se but more cooperation. If you look at dementia in Japan, if you look at muscular-skeletal in the US, just as two examples, potentially there are ways to learn and share best practice and use technology and innovation in technology as we have done since the inception of the NHS to improve efficiency of care to continue to do that and find ways of reducing operating times, reducing you know hospital stays, remote managing of patients. You know and notwithstanding again Nick what you said about you know we need to regulate AI and data enabled technologies really well, we do, they can play a good role, but we have to do that carefully, patient safety being first. Thank you, Tamara.

Tamara Cincik

Thank you, Martha hasn't put her hand up, so I take it you don't have a point to add. No, OK. I mean just from my point although you're saying that it's not on the table, social housing has been on the table for the last 30 years so unless we fight for these causes you know they are easily lost, but on that point, I'll defer back to the Chair. Thank you.

Philippa Whitford MP

Thank you very much Tamara, and we now come to Paul Blomfield.

Paul Blomfield

Thanks very much Philippa, and to the question that Kate wants to answer. So returning to the staffing crisis, Kate earlier you mentioned the obvious problems and others did too of retention, I think the other, there's obviously a problem at the other end as well in terms of recruitment, I was talking to the Vice Chancellor of our local university on the non-medic health education programmes and applications this year are down across the country by 20%, so not only are we losing people in the service, we're failing to recruit those we need, so the crisis clearly is very deep. You and Martha have both said that there's no short-term fix without international recruitment, but you were indicating that there's perhaps some mitigation that you wanted to share with us in terms of what could be done. But I also wondered, in terms of the kind of longer-term Martha talked about the history of the NHS, there is a kind of ethical consideration isn't there about the UK mopping up talent from around the world where it's also desperately needed. So, I wondered if you could perhaps explore both of those issues Kate.

Kate Ling

Right, there's a lot there, so I'll try to be brief. No, there isn't a short-term fix but there are things that are happening. So, there's three strands really, there's domestic recruitment, domestic retention and if you like ethical international recruitment, so taking them in order. There are a lot of domestic initiatives going on, you've just mentioned a fall in numbers of people applying for a lot of courses, but there certainly has been a very big increase in the number of training places, not only for doctors and nurses but also for allied health professionals, so there are more places available, more training being offered I think than ever before. So there's certainly a big push to try to get people into healthcare professions and healthcare careers and I'm aware of a great deal, our members in the NHS Confederation who are the NHS Trusts effectively, there's huge amounts of collaborations going on locally between for example healthcare trusts and their local universities and training colleges in trying to encourage not only young people, also older people into healthcare education courses. So we're not just talking about doctors and nurses, we're talking about things like growing your own partnerships, apprenticeships, encouraging people in at every level really and a lot of emphasis on, how shall I put it, sort of incremental progression I suppose, in other words bringing people in at the bottom, possibly at an entry level and then encouraging them, there are a lot of schemes to do with you know training and career pathways. So, for example you could come in as a healthcare assistant, progress to be a nursing assistant, there's now these if you like new professions such as being a nurse associate or a physician associate. You can gradually work your way up the ladder while you're earning, because in the past obviously one of the things that's put people off has been, you know you can't afford to give up your job to go back to college to start at the bottom again or to start studying. So, it's now possible for people to continue to work and earn a salary in a healthcare job

whilst at the same time being supported in training and getting more qualifications and getting higher up the ladder, and I think there has been quite a bit of success from that.

There's also various schemes for example involving recruiting people from the Armed Forces, the Step into Health scheme and you know targeting particular populations, so there are certainly examples, NHS Employers with a capital E, which is the organisation that represents all of the NHS employers with a small E, certainly across England, they've got various good examples and case studies where there have been very successful local partnerships. Obviously, that is not true in every part of the country and every Trust but there certainly are good things that are going on at a local level.

In terms of retention, you know hanging onto the staff that you've got, pay obviously is a really huge issue at the moment and the employers' hands are clearly tied by the amount of money that's available from central government so I probably don't need to say anymore about that. So they're having to look at ways of improving working conditions and by that I don't just mean perks, such as things like you know gyms or parking or help with childcare, but the whole package of having a, if you like a non-toxic and supportive working culture which particularly post-Covid is really important to people. And people will often stay in a job which is perhaps not the best paid job they could get, but because it's an environment where they feel valued and where they feel they're doing a worthwhile job and they're enjoying it. And a lot of people are not enjoying working in the health service at the moment because of the pressures and you know the difficulties, so Trusts are trying to do as much as they can locally to support staff who are feeling demoralised. You know there's this idea of if you like moral injury, staff feel awful because they can't provide the quality of care that they would like to provide and that is psychologically depressing, so anything that Trusts can do to try to create a better working environment, many of them are trying to do.

I would like to say, I'm sorry I'll try and speed up a bit and get onto the international bit. I have to say that longer-term it can't just be about more and more and more staff, you can't end up with half the population working in health and social care, there has to be a way of looking at delivering services differently, more preventative services, services closer to home and out of hospital, more digital service provision where that's appropriate and simply ways of doing things differently because you can't just keep on throwing more and more and more staff I think at the health and social care sector. But as far as ethical international recruitment is concerned, yes there are a lot of concerns about the ethics of recruiting staff from countries that could do with the healthcare staff themselves, there is a list of countries that the NHS is not allowed to proactively recruit from, so not allowed to actually go out fishing. Having said that it's extremely, I mean if you look at the people who've registered with the GMC and NMC for example recently, there are a lot of people coming from those countries, but they come on an individual basis because there's nothing to stop them doing so. So, there's a difference between proactively fishing and accepting people who apply to register in the UK.

So, in terms of ethical recruitment, the NHS has a Code of Practice on ethical international recruitment and a list of agencies who abide by it, who are the agencies, organisations that NHS employers are required to use if they're going down that route and there are sanctions for organisations who don't meet the standards. I mean agencies do get thrown off the list. I attend something called the Cavendish Coalition which is a coalition of healthcare employers and trade unions and we do hear horror stories from trade unions about sort of abuse and exploitation for example from overseas workers, largely I have to say in the private small social care sector, but we're very conscious that that does happen and the aim of the Code of Practice is to stop that happening, so it's not just about recruiting from countries that aren't on the so-called red list, but also things like treating people decently once they arrive in the UK, providing pastoral care and support, not insisting on exploitative … what do you call it, when people break their contracts early and trying to make them pay back the money basically, we've come across very bad instances of that. So, you know the code of practice has recently been strengthened and I think it does have some teeth. I think it is

reasonably effective and on a more positive note there are long-standing partnerships between certain NHS Trusts and other countries often because of personal relationships for example between clinical and managerial staff. I think some of the most successful schemes have been where there are state to state agreements, so for example the UK has agreements with countries like India or the Philippines which deliberately train and export their surplus nurses and there are things like there has been in the past the Earn, Learn and Return scheme, where there's an agreement that staff are recruited en masse from another country but there's something in it, it's not just a benefit for the UK because we get the staff, but they get the opportunity to study for a qualification to improve their skills and to return to their home country with something positive that they can offer. So, I think that's a good example of something that's mutually beneficial. So yes, there are certainly some shocking examples of unethical international recruitment going on, though hopefully mostly not, or I would like to think not at all in the NHS, but we know that these things do happen, but I think there are quite strong sanctions and safeguards with the Code of Practice and there are certainly, I would say that the, we're talking about trade agreements, I think the future there is to have good country to country agreements, it doesn't have to be in the context of a trade agreement, it could be a free standing agreement on international mobility of healthcare staff.

Sorry, I've gone on an awful lot, but I suppose it's my specialist topic really.

Paul Blomfield

No, don't apologise, that was a hugely helpful answer and particularly in relation to some of your last points about how you frame country to country agreements in a way which is mutually beneficial because I can certainly recognise a potential for that. There's a lot more I would like to unpick but can I just push on one point which was you were talking in your opening comment and perhaps in response to mine about recruitment, about the additional places that are available in some of the health professions, but what's the point of additional places if applications are falling and what can be done by local health providers to work with universities to address that, because I guess that's almost like the pay issue, outside your control because people are looking into the NHS and thinking that's not where I want to work.

Kate Ling

I mentioned sort of case studies and examples of where this is working locally, so I guess it's worth looking at those to see why is it that in some areas that they do get applications and they're able to fill places and people do filter through and in other areas that people don't, and I imagine that it boils down to a very strong local relationship between the employing organisations, i.e. the NHS trusts or community employers, and their local schools and universities and how involved they are in their local community. I think that makes a really, really big difference.

Paul Blomfield

I am perhaps seeing this as a member of the Health and Care Select Committee, I'd be really interested in examples where that's working well if you could share those perhaps offline?

Kate Ling

Yes, I think we could definitely, well certainly from NHS Employers with a capital E, that they do an awful lot of work on this. There is also the issue I would say of placements, that it's one thing to

recruit people onto training courses for healthcare professions, there's then having the capacity in the hospitals and community settings to actually offer people supervised placements which is very difficult in the current staffing and funding situation. You know people need to have the practical experience as well as the theoretical training.

Paul Blomfield

Thanks very much. I'm conscious I'm almost out of my time. Martha you've done a lot of work on this, is there any quick points you'd like to make?

Martha McCarey

Yeah, I mean I think Kate has really covered this quite a lot. On the ethical front is it's a slightly tricky one, I mean I take the point of applications sort of what's called passive recruitment ultimately from these red list countries, and red list is the name that's given in the UK, it's a safeguarding list in WHO. Normally being the result of individual applications, what we've looked at the data however is that we've seen is on a Trust basis you can see some quite significant increases and this is in the public sector in recruitment from those countries and that's even excluding sort of major London trusts and training hospitals where you'd sort of expect those network effects to happen. And I'm happy to hear and I think Kate has more detail on essentially improvements and enforcement of this Code of Conduct because we are quite concerned that essentially there's a problem with enforcement perhaps and a little bit of complacency happening on that front and sometimes these recruitment drives from those countries sort of we currently think sort of Ghana, Pakistan, Nigeria actually ongoing and quite heavily publicised.

Another thing that Kate has raised was sort of the possibility of transitioning from for example sort of transition within the NHS of training the opportunities, I think what we've seen happening and think was worrying us particularly is the situation in social care which has obviously recently been added to the shortage occupation list, you'd think that's an opportunity obviously to increase the workforce, what interviewees raised with us is the possibility that that actually increases these slightly scary practices in the private sector and that is primarily because social care is seen as a route into the NHS by applicants who for example are trying to sort of sit their equivalences in that period of time. So, I think that interface needs to be looked at a little bit more carefully in the future. I really do think otherwise this has been very much covered by Kate, so I don't have more to add in the interests of time.

Paul Blomfield

OK, many thanks for that and I'd better return to the Chair now.

Philippa Whitford MP

Thanks very much Paul and just illustrating Kate's point about placements, we had an issue last year with the increase in medical students in both domestic and coming into the UK in the difficulty in getting foundation posts and unless they go through their two foundation years they simply cannot practice as doctors, so you know it's not just a matter of getting people into university, we need to

look at that whole supply chain as Peter might call it. OK if we can now pass onto Commissioner Hilary Benn for the next question.

Hilary Benn MP

Thanks very much indeed Philippa. I want to turn to, the subject has been raised already which is the NHS and trade deals but before I do that can I just put one very quick question to you Tamara, given what you said in your very interesting answer about divergence and relations with the EU, what do you think are the prospects for some kind of mutual recognition agreement with the EU when it comes to medicines?

Tamara Hervey

Which aspects of medicines do you mean, do you mean regulatory content or process?

Hilary Benn MP

I think being prepared to accept each other's medicines having tested them in our own jurisdiction.

Tamara Hervey

So, you mean the batch testing?

Hilary Benn MP

I mean the batch testing, yes.

Tamara Hervey

The specific batch testing, but as you will be aware Commissioner that that is something that the UK wanted to negotiate in the free trade agreement and was unable to do so. I can only answer in the most impressionistic way at present because I don't have any research on this question, but certainly when I talk with people in Brussels, the UK is not high on their priority list. So, they have other bigger fish to fry, they are trying to recover from the pandemic, you know there's all sorts of things going on in terms of the EU's global health arrangements, they have the new regulation for AI and so on going on, the UK is low on their priority list. So I think unless there is a major … and this is very impressionistic, I can't substantiate it in any way, unless there's a major change in orientation so that there's a desire to be much closer to the single market, I can't imagine that batch testing is going to be treated the same way as good manufacturing practice under a future EU-UK TCA.

Hilary Benn MP

That's really helpful, thank you very much. Can I start with you Nick, how worried are you that when the Government says well the NHS is not up for sale in trade negotiations and you touched on this briefly already, how worried are you about this and what actually are you worried about?

Dr Nick Mann

Thanks. I am worried, I am worried that the Government speaks with a forked tongue, I'm worried because I was actively involved in the campaign around TTIP, and I was very aware that there were things being said by the Government about the NHS being off the table which weren't true. I mean there were assurances from Ignacio Bezares [ph 1:24:15.3] who said that the Government had every right to exclude the NHS, but in fact it appeared under the rules themselves the Government hadn't excluded the NHS and there were all sorts of issues about negative listing. There are future issues to consider about subsidiaries of companies operating in the country which bypass those restrictions. And it's no coincidence that we have an enormous number of US healthcare corporations and their subsidiaries already operating general practice, operating hospital services, potentially operating our data through Palantir and it seems very US-focused. So, the NHS being off the table I'm not sure is a believable phrase actually. It's repeated in the CPTPP, and it probably is true in the case of the CPTPP because actually there's not a lot at risk for us in that agreement, but in the US-UK …

Hilary Benn MP

What are you worried about will happen? What is the consequence that you're concerned about?

Dr Nick Mann

Oh, the consequences are massive. I mean in terms of the exposure of our medicines market to US pricing for instance, we'd see enormous hikes in the increase in the costs of our medicines and costs for us to buy them. Making laxer regulations around holding patents, extending patents, increasing prices while patents are extent. The workforce, so with the absolutely parlous state of the workforce and an almost wilful neglect of planning for that workforce over the last 13 years, what we have seen is an expansion of the under-skilled, what Kate was referring to, sort of layers of under-skilled staff, nursing associates, physician associates, GP assistants, who are in fact, they're prevalent in the US, it's a US model, it's part of the US model they use kind of under-skilled staffing. And the problem is that they are being used to replace nurses and doctors and I think there's probably a link there, the fact that staffing, qualified staff, have not been expanded whilst the assistants, the subsidiary staff have been vastly expanded and I can tell you absolutely in general practice that the so-called kind of wraparound preventative care and offloading GPs via the ARRS roles in general practice hasn't worked, it hasn't reduced our workload, it hasn't really benefited patients and a lot of these things there's nothing at the end of them. There's an awful lot of signposting with these under-skilled roles, but very little resolution and I'm afraid there is no substitute for doctors and nurses.

Hilary Benn MP

Right, but those are matters for domestic regulation, they're not a function of international trade agreements and certainly as far as America is concerned and I think you raise an important point about what they might seek in relation to drug prices, there is no prospect of a trade deal with the United States on the horizon, as has become very evidence because they're not interested in having

one with the United Kingdom. Can I put the same question to others, what is it that you're worried about? I don't now who would like to come in? Kate?

Kate Ling

Yes, I would agree with you that a lot of, I mean a lot of Nick's concerns are legitimate, but I don't think that they relate directly to our trade agreements with other countries and certainly not specifically to the CPTPP. The deals that the UK has signed so far don't commit health services in their government procurement commitments for example and they don't go beyond what is already permissible in the NHS internal market in England, and you know as other people have pointed out, well Nick himself just said that you know there's a long history in successive governments of issues like allowing a degree of privatisation in the NHS. So, this has been happening for a long time and UK and international companies have for a long time been able to bid to provide NHS services and do so. The devil is in the detail, somebody mentioned sort of legal fudging, yeah the text that the CPTPP and indeed the other agreements that the UK has signed specifies you know, says effectively that the NHS isn't on the table, that it specifies the right to regulate in the public interest and protection for legitimate public welfare objectives and there's always this sort of little grey area about how exactly how that would be interpreted in a particular case. I suppose the two things that might be grey areas, there's been a lot of concern about the investor state dispute parts of, well aspect of the CPTPP. Certainly, in theory it means that a company, an investor could decide to challenge some decision around standards of public health for example, some decision that was made by a future UK government, and they could decide to try and challenge that through the investor state dispute mechanism. I think it's a remote possibility, I don't think there is actually any instance of the UK ever having lost such a case, I think the bar, the standard is pretty high though there are concerns about how much it would cost to defend such a case and the so-called chilling effect. Whether or not in fact Governments might think twice about introducing certain public health measures just in case a company were to challenge them. It's very hard to tell because it's speculative, it's all hypothetical, we don't really know whether this is actually likely to happen. And whether it's if you like a relatively unfounded fear or something that's a genuine concern, but it's certainly something that's possible under the text of the agreement.

The other … there are sort of issues, some of them are very remote, things like if the United States were ever to rejoin the CPTPP that could change things significantly, as things stand at the moment, so for example the UK already has existing ISDS provisions in agreements with seven out of the CPTPP member countries, we've got existing agreements with seven of them, not with the rest, so that may be a bit of a red herring to be honest.

The other issues I suppose would be medicines, again I don't think there is anything explicitly in the agreements that, nothing explicit that would impact the UK medicines pricing system, which is very effective, as Nick said. I mean the amount that people, the United States healthcare system pays for medicines is unbelievable compared with what we have in the UK, we have a very good system.

Hilary Benn MP

We do indeed.

Kate Ling

But there is this concern about the possibility of patent extensions that could possibly lead to some delay in generic medicines. If the branded medicine is extended for longer then it means that the NHS might end up paying a bit more for slightly longer for the branded medicine. But not huge.

Hilary Benn MP

Thank you very much. Tamara.

Tamara Hervey

So I think I can summarise my concern in that I don't think the phrase, the NHS being on the table in a trade negotiation is at all helpful and I think what is much more helpful is a much more granular public debate about the specific elements that we're talking about, so we're talking about the English NHS for certain things, we're talking about tiny elements in Scotland, we are talking about intellectual property, we're talking about medicines pricing and we're talking about investors state dispute settlement. So I just think that the public debate in terms of the NHS being on the table is woefully inadequate, I think we need to have a much more honest and detailed conversation that's not in these kind of ideological terms, but that practically recognises that in some regards the NHS is on the table, and that's because of domestic decisions, it's nothing to do with our trade relations, and in some regards there are things that are a worry and that can be looked at in terms of specific detailed wording in trade agreements, which as Kate has outlined are often there and they are in the text. I suspect that Nick may not agree with me, but that would be how I would answer that question.

Hilary Benn MP

Nick, I could see that you wanted to come back, and would you like to do so?

Dr Nick Mann

Thank you. Yes, no I don't substantially disagree with you Tamara, I think granular detail is actually helpful and I'd include in that data is an awfully big one. I did, the reason I wanted to come back was just about the ISDS and what's actually already happened and although it's a theoretical risk it's a very real risk, for instance Slovakia decided to make its health insurance system non-profit and they were sued. Germany were sued for I think it was about €7 billion for deciding to shut its nuclear power stations by the Vattenfall Swedish firm and they won, the Swedish firm won. And Australia of course was sued by Philip Morris for bringing in plain packaging on its cigarettes. So, these are very real examples of governments being sued for very large sums by industry for implementing public health measures in the public interest and we need to be wary of that and the detail and what the lawyers make of it is most important there, I think.

Hilary Benn MP

OK, thank you very much indeed, back to you Philippa.

Philippa Whitford MP

Thanks very much Hilary and while it wasn't through an ISDS, obviously the minimum unit pricing of alcohol in Scotland was held up for five years by being challenged in Court, so you know industry has often a vested interest in not seeing either environment or public health measures go ahead, so I think it is looking at the detail. We come now to Commissioner Geoff Mackey who is going to cover the next two questions.

Geoff Mackey

Thanks very much Chair. Could I pick up quickly two or three of the themes we've just talked about with CPTPP, we've talked a lot about the challenges, could I just ask about any opportunities people can see within the healthcare sector? Kate, any opportunities in that accession?

Kate Ling

Yeah, I think I've already referred to some of these, you know CPTPP is a big market, I think that …

Geoff Mackey

Does it outweigh the challenges?

Kate Ling

I don't think I could commit myself either way on that. But the opportunities are that I think we could promote the UK as an attractive destination for inward investment, particularly in research, innovation, life sciences, particularly if the CPTPP results in reducing barriers for exporters, for UK exporters, that could be a big win, I think. There's the data elements, you know encouraging data flow and digital trade, speeding up licensing of new products, I think there are all sorts of possibilities there, but the UK is already a major recipient of foreign direct investment in pharma and medical devices and it's the global centre for research in life sciences, so I think this is the lynchpin of the government's economic life sciences strategy. I think I would say that those are the main opportunities, it's an opportunity to reduce regulatory barriers, to speed up access to and cost of some of the things that we want to improve our supply chains and also an opportunity for exporting. I imagine that Peter might have something to say about that.

Geoff Mackey

Yes, I was just moving onto Peter. Peter, I acknowledge your remark about your DBT NDA, would you like to share your views with us please?

Peter Ellingworth

Sure, I think it's good to have more markets to access for companies, it's back to an economically active country is better for its citizens, for their health. And you know accessing these markets is strong. I think the other thing that's important about it is it forms the backbone of the countries that are involved in the MDSAT [ph 1:38:35.2] programme which is a regulatory alignment programme and that's good for trade, as I said right at the head of this session, regulatory is one of the major barriers and that to be clear is not about lower regulatory standards, it's about alignment on

regulatory standards where we can. So, I think that's good, nothing wrong with that. The US isn't in it, should the US enter it of course it's going to change the nature of it, but I think you come back to the US, they issued their own edict just as China has done about reshoring technology and taking everything back within their own borders, so there is a tension there. But yes, CPTPP, good.

Geoff Mackey

Thank you. Tammy.

Tamara Hervey

Just super quickly, others may have better information sources than we do, but we struggled to answer this kind of question because of the lack of transparency of available information in terms of granular negotiating texts.

Geoff Mackey

OK thank you for that. I'm going to leave that there unless anybody else wants to chip in anything, I'd like to move on. Given the conversation we've got about trading decisions on public health, are there any likely effects in the future we need to be concerned about, can we actually use any conversations in and around the trade deals to improve public health as part of this conversation? Martha, could we start with you please?

Martha McCarey

Yes, so I think we've actually touched on a few of these previously but so to sort of resummarise it, so part of it is around the ability to legislate progressively around public health which does have a devolved aspect to it, so others have raised the possibility of sort of disputing internationally through ISDS any measures on public health and they did rightly raise for example anti-tobacco measures where the Australian government actually won, but obviously that can have a chilling effect on governments considering their costs when negotiating these measures. The other one is actually remaining uncertainty through the Internal Markets Act on what happens for example if the Scottish or Welsh Government as they have previously, or Northern Irish Government decide to legislate on alcohol or tobacco. There's been sort of poor engagement on that. Some other things sort of relate to public health on a population basis, so for example funding that came from the EU and went directly to the UK devolved nations on things like life sciences and cancer hospitals, we heard from people we interviewed on our project that there's a very, very poor engagement, we know that that funding is going to be essentially repatriated to Westminster and then redistributed from there to individual countries. The engagement has been pretty woeful from central Government, we still don't understand what the sums are and how they're going to be redistributed and that could have a fairly significant impact. Kate has already mentioned distributional inequalities from potential trade deals, there's been very interesting work done by the IFS on essentially the impact of Brexit and that would be considering Brexit almost as an anti-trade deal with trade barriers going up and the effect is ultimately that blue collar areas in manufacturing are particularly badly hit, and obviously we've got the example of US trade deals such as NAFTA [ph 1:42:43.3] and China having similar effects and that's something that we'd want to look at, sort of to counter the narrative of you know all-round uplift in economic sort of job creation and through trade deals.

Also, there's a slight concern that by opening up your markets through trade deals you'd open access on an equal level to a certain amount of food products with standards that might be more concerning, so other have raised for example you know Australian meat and pesticides. So yes, that ultimately would be, we'd sort of be locking in that access and compromising our own standards for this. I've sort of summarise, but I want to leave others the time to discuss them.

Geoff Mackey

Thank you, the challenge across the sectors to look for the positives. That's part of the challenge. Nick, within the health sector and public health how can we use these conversations?

Dr Nick Mann

It's probably not my area of expertise in terms of trade. I see public as a clinician, or someone from the NHS, I see the public health is very much an upstream, people talk about prevention but that largely doesn't happen in medicine, it happens in housing and food standards and economic growth and education and I see that we've lost a lot of those benefits of Brexit, we've lost a lot of benefits on all of those things. Aside from sort of funding and research cooperation, things that will generally improve our healthy life expectancy which is where I see public health fundamentally. So it's not so much in the medicines and what we can do in terms of health policy, it's very much more about public health and that lies with having a strong public health discipline faculty in the UK which has been completely disassembled really since, well first the Health and Social Care Act 2012 and then during Covid with the abolition of the Public Health Agency. So I think we're very weak in terms of public health and I'd be looking to people like Michael Marmot to get a much better idea of the domestic situation and then translate that into what that might mean for our agriculture, farming, those things are all at risk here at the moment, I feel those sectors are suffering and that impacts up the line on public health.

Geoff Mackey

Yes, I think one of the questions of teasing some of these topics apart is part of the challenge in public health analysis. Tammy.

Tamara Hervey

Thank you. I mean just to build on that a little bit, it depends on how you assess the European Union's contribution globally to public health standards, you know there's no doubt that the European Union has gone further than any other trade bloc in terms of tobacco regulation for example, that's definitely public health protecting. Air and water quality is another example that's often associated with the EU, but then also the EU's approach to farming is not particularly public health protecting, so from what I understand from people who work in this sector, actually the UK has been able to move further in terms of habitat protection than it could within the EU. But for the bits of public health that are affected by trade agreements, I do think that we should be discussing greater alignment with the EU as a global power that does protect public health in the context of not only its internal trade agreement but also its trade agreements with the rest of the world, and I don't think discussion of alignment with the EU or deeper trade agreements with the EU should be off the table, I think we should be realistic about this rather than ideological about this.

Geoff Mackey

Thank you, Martha you wanted to come back in.

Martha McCarey

Yes, sorry sort of looking to the first part of the question and maybe slightly answering Nick's question about public health as a non-public health thing as a wider economy problem, I'm afraid it's an impact rather than a solution but what we were looking at effects of Brexit on health outcomes and if we look at it in terms of economic downturn obviously the OBR has been confirmed in its estimate of 4% loss of GDP following Brexit in the next ten to 20 years, what that ultimately means is a decrease in real income, a decrease in ability to afford food and decent housing and we know that that sort of has a downstream impact on health and health outcomes, so yes, that's just to really add a little bit more detail.

Geoff Mackey

Thank you. Peter?

Peter Ellingworth

So not in a trade agreement, but from a duty for our trade department to encourage cities in the UK, a wider city level to actually get out and look and collaborate with others around the world who are having the same problems, in both public health you know whether that's around obesity, childhood issues, homelessness etc, you know I go to places regularly like Austin, Memphis, places in Florida, they've all got similar problems. What they do do locally through their Chambers of Commerce often is come together and collaborate industry, health leadership and the city. In Austin there is a healthcare council which brings together all the competing healthcare providers and the city and they're doing work that looks at how do we make this a good place for citizens. So sometimes it doesn't have to be written down as what's the deal, but it needs to be providing, encouraging, stimulating you know maybe even give cities grants to do it, but get out and learn from others and build collaboration.

Geoff Mackey

Thank you, that's useful. And as the last word on this one, Kate.

Kate Ling

I just wanted to make a factual point really which is there are more questions than answers when it comes to public health because as I've said earlier about something else, it's hypothetical, you know until the … it depends on decisions made by whatever the UK Government is at the time as to what we want to do domestically and you know what legislative changes we might want to make for example when it comes to food standards or pollution, whatever. But just a factual point about CPTPP that I mean in the text of the agreement that members must recognise each other's, I can never remember this, sanitary and phytosanitary SPS rules, they have to recognise each other's measures as equivalent where they achieve the same objectives and there is this issue about this clearly is moving away from the precautionary principle that the EU employers which is I think

different from most other global standards to what is generally referred to as a scientific of evidence based approach. And it's very controversial because it may not result in as to whether this simply means different standards that achieve the same outcomes, not necessarily lower standards, but you know that is something that is definitely there in the CPTPP agreement and where there is obviously a difference between what we've seen in the past when we've adhered to EU norms and what we may be moving to in the future. But other people, particularly perhaps Tammy may want to comment on that.

Geoff Mackey

Thanks very much Kate, I think one of the conversations strategically about both the precautionary principle and the innovation principle and the balance between them is one of the challenges for all these conversations. Chair, handing back to you if I may please.

Philippa Whitford MP

Thanks very much Geoff and obviously we've got in there to the difference between healthcare which is about illness and health which is almost about everything else and obviously the language we're beginning to see in recent years more around wellbeing economy actually investing in the wellbeing and health and wellbeing of citizens, actually bringing about economic growth. So, a lot of what we're talking about today one hand washes the other, but it is exactly that difference between an illness service and what generates genuine health and of course trade deals and government decisions affect both. OK, for our final question over to Commissioner Charles Rose.

Charles Rose

Thanks Philippa. This has been an extremely wide-ranging discussion this morning and I think extraordinarily informative, but I want to now narrow it down and ask each of the witnesses today, what three key policy recommendations would they have for the UK Government when it comes to the UK health sector. I'd like to start that with Martha if you don't mind?

Martha McCarey

I mean I think that a really, really important one that's come through in our work again is the need for transparency and openness and scrutiny and a proper public conversation about what our options are, seems pretty basic but it makes our work easier, it makes the benefits and the risks clearer, and I mean if that were one I'd have to pick that one. Another one that comes up specifically in my work a lot more is long-term planning for workforce, I think I'd like to leave it to those two to be honest.

Charles Rose

A bit motherhood and apple pie.

Martha McCarey

Simple but very necessary.

Charles Rose

Nonetheless. Can I move us onto you Peter?

Peter Ellingworth

Sure. Charles, frankly on trade we need to be better at specific advisors for the sector and funding for individual sectors, this one being life sciences. We are behind the game compared to places like Germany, the Netherlands, Sweden, the US who provide companies with a lot of support. Our support in I would say the last 15 years has taken an incredible downward turn, so we need to get trade back to helping companies to export, frankly. And then internally it's doing what we can to get regulatory alignment that will help those early-stage companies to export and others to come in here and inward invest. I chair a small business in health and I can tell you if I didn't have to do a CE mark historically to prepare a product and I could've done another jurisdiction I would have done, it would have been no less rigorous but it would've been done in a timely, more cost efficient manner and would've allowed us to attract investment because it would have made us market ready to go elsewhere. So, invest in our trade department, make sure it's sector specific aligned and think about regulation. Charles, thank you.

Charles Rose

Thank you. And Nick, from a clinician's perspective?

Dr Nick Mann

Well, not specifically to do with … well yes, to do with trade deals or not, I mean we need the health sector beefed up and made functional, we need some strength to be negotiating from. Personally, I would renationalise the NHS and social care and in terms of trade deals that would ensure it's a non-economic service of general interest and therefore exempt without further ado. I'd fund and resource the NHS specifically at least to the OECD average and that's beds, that's MRI scanners and CT scanners, that's doctor/nurse/patient ratios, and all of those that have been lacking and lagging for the last 13 years to actually, you know they're simple things and actually what's wrong with the health service is fairly simple and with an over-arching umbrella of neglect this is what happens. And the third thing would be regular Wanless reviews, Derek Wanless was employed to do biannual reviews of workforce situation and if that was done absolutely rigorously and properly, we wouldn't be in this situation now. As far as trade deals go, I would certainly ensure that the NHS is negatively listed if that's what it takes, or as I say protected as a state-owned enterprise. I would want to set up an NHS owned, state-owned generic pharma company in this country, I think it would be an enormous asset to the country for us a) to be able to produce generics and b) how that would link into our life sciences, our research and our education and training of our future doctors and nurses, etc. And the third thing would be very tight eye on regulation and standards as regards medicines costs and their production and avoid, it was a Minister I think who actually said that basically if the FDA and the EMA approve something what problem have we got, we should just be rubber stamping it, so I'd be looking very, very carefully at how we take our regulatory benchmarks.

Charles Rose

Thanks very much Nick, I think that's a list of slightly more than three but it's a big set of issues. Can I move quickly onto Kate and then to Tammy?

Kate Ling

Yes, I'm going to cheat horribly and point out that I sent written evidence with 11 recommendations not three to the Secretariat which I would recommend that you, well ask you all to go away and read because that gives me 11 goes instead of just three points to make because there were too many to fit into three.

Charles Rose

Great answer!

Kate Ling

But I would say if I'm being asked for three points, what are we looking for from future trade deals, I think do everything possible to position the UK to influence international regulatory standards that impact in any way on the NHS and that's one point and the second point would be to use whatever leverage we have in trade deals to benefit patients in the NHS by making it easier to get the supplies and the staff that we need.

Charles Rose

Thank you, and do we have time for a last word from Tammy.

Tamara Hervey

I'll only say one thing, which is that I would like us to have an honest national conversation about the trade-offs here and about it on the basis of the UK being a small player in global industries and also on the basis of not a narrative of the NHS being the best in the world, but actually comparing our performance in our four healthcare systems with other healthcare systems in similar countries or even not similar countries in terms of levels of development, so I think an honest conversation about the pros and cons of different decisions in terms of our trading position and what they would mean for the NHS, that would be the one thing that I would ask for. No more slogans.

Charles Rose

Thank you very much, and Philippa back to you.

Philippa Whitford MP

Thank you very much. I'd like to thank my fellow Commissioners and also our five witnesses for what has been a very interesting and wide ranging session and as always I would like to thank the

Secretariat Best for Britain for all their work they've done in the background to set this witness session up today, so my thanks to all of you, goodbye.