

Written evidence submitted by Group 2 (ECS0039)

Transcript of roundtable event with cancer services clinicians and practitioners held on Tuesday 1st February 2022 for the Health and Social Care Committee Cancer Services Expert Panel.

Group 2

Stephen Packham: Hello everybody. Perhaps we'll start with another brief introduction so that you can remember who's who in the group. My name is Stephen Peckham and I'm a member of the panel.

Janet Brown: Hello. My name is Janet Brown and I'm a medical oncologist in Sheffield with experience of treating oncology and breast, with a specialist interest in bone cancer.

Stephen Packham: Thank you very much for your time. I am just going to ask you all to briefly introduce yourselves and then we'll start going through the questions.

Participant A: Hello. I'm a medical doctor and I'm also a researcher in the field of precision oncology.

Participant B: Hello everybody. I'm a consultant radiologist in the South West.

Participant C: Hello. I'm a clinical oncologist based in the East of England.

Participant D: Good afternoon. I'm a consultant physicist and the lead for radiotherapy physics.

Participant E: I'm an oesophagogastric cancer surgeon.

Stephen Packham: Thanks very much. I know that you've been sent the core areas of work with the things that we will cover this afternoon. We're very keen to get you insights into this and look forward to your input. We'll have about 20 minutes for each of the sessions. First, Participant F would you like to introduce yourself?

Participant F: I'm a policy and public affairs officer for one of the Royal Colleges concerned with surgery.

Stephen Peckham. Ok, thank you. We're going to cover four areas, and we'll try to keep it reasonably balanced. We'd like to start off by talking about workforce and getting your general views about the levels of staff in cancer care. Are there particular areas that are weak, or particular areas that are stronger? I'd be interested to here as well if there are particular geographical differences around staffing. So who would like to start on the subject of staffing levels?

Participant D: So, I'm speaking mainly from the radiotherapy treatment service point of view, which is where I operate, and which is three professional groups. We'll start with my own, which is health care science, and I'm talking here about physicists, engineers and something called dosimetrists. I think there's a national problem and I think it's well evidenced. I think the Institute of Physics and Engineering in Medicine- which is our professional body- have got this quite well documented and have made representations before to similar committees and government around what is required. Fundamentally, I think it comes down to money and funding. During my professional career I have seen a number of different vehicle, or inspirations, about how training should be delivered, and we never seem to get settled, as a country, on one methodology before the funding is removed and put into another one. The current state of affairs is that physicist training is reasonably well done and reasonably well funded, but technical training is not. People will have you believe that there are

commissioned higher educational providers that run appropriate courses, but there aren't. My experience is that there is one at Bristol for the entire country, and there is difficulty in getting funding in. The apprentice levy is often used, which means providers have to carry the salary component. So the situation in healthcare science isn't great. We have had better times with supernumerary externally funded posts through Health Education England. That's worked really well, but it's changed. Therapeutic radiographers, I feel I should mention those, used to have a bursary that was similar to nurses, and used to get lots of applicants but that is now struggling, and there are staffing issues with new staff. And for clinical oncologists again, we have a big problem with recruiting, particularly in Yorkshire and Humberside. Just thinking about the current workforce, we have got adverse age profiles with lots of people towards the later end of their career and we don't have a lot of people coming through at the younger end. So we don't have a supply of wonderfully qualified, bright-eyed people with new ideas. That just isn't there and recruitment is a big problem. In terms of actual staffing levels, I think there are concerns. My experience is that the three providers in Yorkshire and Humber that I'm aware of, none of them, in the speciality of radiotherapy physics are at the level outlined in the national agreed framework model. So we're all struggling. And nationally, I think that's a similar viewpoint. Just to signpost the IPEM Workforce Intelligence Unit, have recently done a census for healthcare scientists, and they will publish their report on radiotherapy workforce very shortly.

Participant C: I just want to go back a step and give some good news first, which is that I think we are getting more trainees in clinical oncology, so that's a positive on workforce levels. The challenge for us, particularly in the smaller centres, is having the bandwidth to train our new colleagues and making the smaller centres an attractive place to be. So there is kind of a plus and a minus. I'd absolutely echo Participant D's point about a pool. My biggest concern is not so much oncologists, but is actually about the non-patient facing staff, so people like pathologists and radiologists. As the unmet need becomes apparent, and as we get held to account more about cancer waiting times, the push on radiologists and pathologists to turn things around become incredible. We have some real problems in our region in terms of pathologists and radiologists. And just a last bit about CNSs, we have patchy plans to replace our CNSs who are going to retiring in the next five to ten years. Some trusts are bringing staff in at the band 6 to grow the band 7s, and some are still thinking about what the solution is. So what I'm trying to say is that there is some good news, but it's going to take a while for those staff to come through and my concern is how do we keep the ship afloat and ensure that we train up quality staff for the future. Those are my initial reflections.

Stephen Peckham: Thank you. I might come back to this idea of small centres that you mentioned.

Participant E: So I'll start with the here and now, and the move onto a year or two. The problems now, particularly in surgery and cancer surgery, is theatre and the staffing within theatre. It's 30% down. We've lost a lot of nurses from redeployment, and then leaving the NHS because of redeployment, during COVID-19. It's been catastrophic. Surgery, very much from trainees in surgery and in nursing, were probably the hardest hit during the pandemic because of course the craft specialties were hit hard as elective surgeries stopped. That meant that redeployment of theatre staff was rife, and they haven't enjoyed it, and a lot of them have left. We also had significant vacancies before COVID, as in many specialities and I don't think we're particularly unusual there. So it's a real, serious issue in the here and now. In terms of surgeons, that is not a problem at the moment, unlike oncologists which are very much down. They were down at the start of the pandemic, they're still down, and that is one of the rate determining steps in getting neoadjuvant therapies and so on sorted out, for us to be able to carry on with the surgery. So surgery is not a problem at the moment but it will become one, and that's because if you're not training surgeons

now then there are no surgeons tomorrow. We haven't trained surgeons, on and off, for two years and there is going to be a massive workforce crisis because in two years' time, because there will be no consultants coming in to replace those that are leaving. And you probably understand that there are quite a lot leaving the NHS at the moment, for lots of different reasons. So that is a crisis that is coming in a year or two; where we will not be able to fill the posts going forward. But the main crisis at the moment are health care workers, in particular nurses especially in theatre and on the surgical wards.

Stephen Peckham: Thank you, and it's very good to get this broad perspective. Janet, please interject when you want to.

Janet Brown: Yes, I just have a couple of points and I would be grateful for people's opinions. Just to give a medical oncologists perspective, there are some very big shortages of consultants, but it's also very geographically different and not necessarily by North and South; it's where the big, funded research centres are. For example, in medical oncology, and I think probably in clinical oncology, Christies has no shortages, whereas in Sheffield- even though I'm on the academic structure- we have less education and equipment and we've probably got 10 locums out of 40. And at the moment for three of the main cancer types, we're struggling on a weekly basis to actually put someone out there. Every single week. We've got one out at the moment on sick leave, who we're not replacing, so we have on Gynae for a population of 1.9million. That means that when they're on sick leave, there's nobody there. And that's not atypical. So it will be interesting to hear people's opinion, but I think there is a relationship between the investment in the machinery, such as complex radiotherapy machines, the academic institutions and actually having the numbers of staff. And HCPS- again I'd like to hear people's opinions seem to be in the middle because we try and get them to do consultants works, but they also get dragged back onto the wards because they're staffed, so they get pulled in both directions.

Participant B: Thanks very much and some of what I'm going to say has been picked up already. Just briefly, I have to take exception to the notion of radiologists being non-patient facing, because I think we do spend quite a lot of time with patients. My direct knowledge is of diagnostic specialities, particularly imaging, and as Participant E's alluded to already, our problems are not caused by COVID. Our problems are caused by decades of underinvestment, leading up to the pandemic, and the pandemic has just been the straw- I can see a lot of people nodding, so I think that applies across the healthcare workforce generally. In all of the imaging, and for that matter, pathology specialities we have shortages of people, and actually in physiological measurement it's even worse. So we are desperate short of people. By international comparisons, speaking about radiologists in particular, we have about a third of number per head of the population that other developed countries in Europe have. So we are way behind where other healthy economies are, and we're feeling the consequences of that at the moment. Now in radiography, if I could speak about that briefly, we have quite a good strategy developed for developing people, from very junior grades into radiographic advanced and even consultant practice. But unfortunately the development of these escalators, as coincided with a catastrophic fall in the number of people at band 2 and band 3 who want to come into healthcare. So we actually can't recruit people at the very lowest levels anymore, whereas we would have had dozens of applicants in years gone by. They actually find the idea of shelf stacking more appealing than the health service, which is pretty depressing, but that's where we are at the moment, in the wake of the pandemic. There are some reasons why we haven't been training enough radiologists, one of which- which I think we will come back to later- is an unrealistic expectation of what technology can deliver in the short term, particularly artificial intelligence.

Participant A: I work in a multidisciplinary team, but my practice is now much more towards the private sector, so I don't have too much to add to what's been said. But on the CNS shortage, I definitely hear about it from patients across the board. The person that patients spend most of their time with are CNSs, the CNS troubleshooters and hold their hands, and I think that that is going to be a tricky thing to manage going forward.

Stephen Packham: Thank you. You've all touched a bit on the different staff groups, and I'd be quite interested in comments about the multidisciplinary side, and the mix of staff involved in patient care. And where you think the pinch-point is, nursing is obviously one that has been mentioned. Janet also alluded to, some of the differences between different centres, both in terms of size and location being linked to research or academic facilities. Is that correct, Janet?

Janet Brown: Yeah. I think what Participant A was saying about private practice as well, and when there is a shortage the private practices are in demand. And it's maybe not the clinical end, but grade twos and threes tend to be more locally based, and as Participant B said they are choosing to work in supermarket. When people have more choices they tend to become more mobile and gravitate towards the areas with funding. This year, certainly with oncology, they've started to increase the numbers of trainees outside of London, but maybe it needs to be more broader than that and have them where there is a real shortage. The divide is not quite what you would expect it to be, it's not a North/South divide- it's a lot more subtle than that. I'm sure others would have reasons for that. It's important for the patient outcome, because if you haven't got the research equipment then that feeds into the wider thing. Certainly in oncology the numbers have slowly increased this year, but that will take at least five to six years to come through. I think that's what we're all saying, isn't it, that it takes time.

Participant E: I just wanted to agree of the regional variation. Certainly in the North East of England, and certain parts of Scotland, the oncology input is a problem. If you look at say Cumbria, there are issues there in oncology that Newcastle has to sort out. It is very difficult to attract people to go to Cumbria. Whereas, in Newcastle it's probably not quite so bad in terms of the recruitment of oncologists, but if you look at the figures we're still very much down on oncologists and it still causes us a significant waiting time to get patients seen prior to neoadjuvant therapies. So it's a problem, but not so bad in the Cumbria. But I'll just reiterate that I agree with the points made about that regional variation, certainly from an oncology point of view but it's not so relevant regarding surgery.

Participant C: You prompted me on the point about smaller centres. I'm in a merged smaller centre, so I guess you could say a semi-big centre now, but it's become about trying to change that mindset from being a small centre to a bigger centre. I think that Janet's hit the nail on the head, that you've got to do something special now to attract people because it's not just about being big, it's actually about what are the unique selling points. We're having this conversation in my region in terms of a new, academic cancer hospital. I think the challenge for us as oncologists, and I certainly see this in my day job, is that it's not just about providing that frontline care- and apologies for my clumsily worded patient-facing element. Actually, I'm seen as the expert adviser and sometimes the moderator. So, it's not just the obvious cancer work, there is a broader framework and I'm not sure that gets counted on our numbers in terms of saying to a physician, or a surgeon, don't operate and don't do this. In some smaller hospitals it comes down to us as consultants. Again, I want to put some positives on this. There is some light at the end of the tunnel in terms of radiotherapy in some networks, and through the network approach. It will take some time for this to bear fruit, but I think one of the joys of working in an IT rich environment- and it's the same for Participant B in radiology- is that you can share things out. But it's about giving people the bandwidth to take on that shared

work. And networks are great, but you've got to create time for people to take on that extra work. So there's a plus and minus to network delivered care, but I've just given some positives and negatives.

Stephen Packham: Thank you, and Participant B has made some comments in the chat about how staff shortages do not encourage other people to want to come and work there.

Participant D: I just wanted to pick up on the point that Participant D made about supermarket checkout work against support workers in radiology, and certainly this is a conversation that we've had with support workers in radiotherapy. There is a discrepancy in pay, and you can't get away from this. How can you attract someone into job where they can work for the same amount of money in a supermarket? And in our job, they could make a mistake and injure a patient or have an adverse impact, whereas in the supermarket a mistake could just be dropping eggs. And that is the problem that we're facing. There are people out there that want to step up to the plate and make a difference to patients, and everybody that works in healthcare fits that criteria, but you have to attract people. When I joined the NHS it was very prestigious to work for the NHS, everybody wanted to make people's lives better, and we've traded on that for years, but I think there is a generational shift that we haven't addressed. The younger people coming in, are very much I want it, and I want it now. I don't know how we address this, other than attract them with more money so that we get the cream of the crop and not just those that want to do whatever they can to earn money. We need to somehow rebuild the status of the profession, and I think that's been lost, I don't know if it's been lost because of what everybody like to call "skill mix", which basically means giving someone cheaper the job, or whether it's a different reason I'm not sure. I find myself becoming older than I care to admit with these comments.

Janet Brown: I just wanted to broaden it slightly, and one thing that I've noticed- I'm a medical oncologist, but I'm quoting a clinical oncologist- is that the retirement age has actually gone down rather than up, from 65 to 57. What I've observed, and it's been accelerated with COVID, is that it's getting worse. So we talked about attracting people, and people working, but if anyone has any reflections on retention that would be really helpful.

Participant A: I wanted to speak more about attracting people. One interesting thing that I read recently, was about a pilot study on mammographic screening and the opportunity for health interventions and health coaching with that, and actually changing people's behaviours as a result of the screening programme. When thinking about the push for preventative care, and some of the broader long-term plans that we have, one of the things that we should be thinking about when recruiting people and how we give them more job satisfaction, is thinking about expanding the skills sets and anything else that we can bring to the job that will help us with our broader health prevention strategy as well.

Participant B: Just to pick up Participant A's point, and something that Participant D said as well, there is a temptation at the moment to try and fragment jobs and train relatively cheap people to do small components of jobs, rather than quite expensive people doing a whole job. And I think that is fine in certain situations, but you have to recognise that it demands a huge number of extra people to do that kind of thing. And if you are going to break healthcare tasks down into multiple little pieces, you need a very big increase in the number of people involved, and training, supervising and maintaining the skills of those people is not a trivial task.

Stephen Peckham: Are there any other issues about the skill mix, I suppose that we are putting in place. Are there bits that you feel might be missing from the skill mix.

Participant B: Only to say, that the risk is that we fall back on skill mix initiatives when we've lost the capacity to provide a decent services. Therefore, inevitably, the people we're putting into that situation haven't got the support that that might otherwise want or need. We're leaving them a bit high and dry in some cases.

Stephen Peckham: Thank you, Yohanna did you want to come in there?

Yohanna Sallberg: Sorry, I just have a quick follow up on what you said there Participant B, because looking at how the Government assesses the success towards this commitment, and towards this target, a lot of what they assess is the number of people recruited overall. So looking at that commitment, would you say that that would be an inappropriate target, in terms of just counting numbers because, as you say, we tend to then hire more people to do the same job at a cheaper rate, rather than having one person doing several tasks but at a higher price.

Participant B: Yes, I think that is what I'm saying. I think I'm pointing out that there is a problem with that metric because if, rather than one radiographer, you train an assistant practitioner to do the breast screening and then another one to do the lung screening, then you actually need a lot more people.

Participant A: I think we'll probably come to it later on when we talk about personalised care plans, but I think, and it's about the point I made earlier, that expanding skill sets is going to be needed to deliver some of the other broader interventions within the personalised care plans.

Janet Brown: It's something that we may pick up later when we talk about innovation, but the number of staff that we need isn't staying static because there are more treatments all the time, like immunotherapy, that are more complete and so we need more staff, even as we go, in quite a lot of areas. We've also got an ageing population, and some of the elderly cancer patients take quite a long time to see because they've got complex needs, and so that all adds to the workforce. I'm sure it will come out in the innovation, but whilst the advances are great it actually takes more people to deliver them.

Participant E: I've got to go unfortunately, I've had a call, but if I can't come back then Participant F is here to talk about the views of surgeons. But one point before I go, I was in front of the Health and Social Care Committee in November, and I was the only person from surgery, who has ever presented in front of the committee on cancer surgery and I would just emphasise that over 80% of cancer cures are done in conjunction with surgery, and surgeons do get forgotten about. If you look around the screen it's all oncologists, with one radiologist. Surgery is not represented appropriately and I just wanted to make that point. I've made the point about theatre nurses and surgical ward nurses which are hugely important, and if we don't have them then the treatments aren't going to happen. So I just wanted to make that point before I go, it's a bit of a hobby horse, but a lot of the time it is forgotten about in these cancer groups. Thank you very much.

Participant C: Just to pick up on Participant E' point, in terms of Calman-Hine and surgical centralisation, that has resulted in a loss of skill in the smaller hospital. So there is plus in that patients are being operated on by the best surgeons, but there is a minus in terms of losing that local expertise. Just a health warning in terms of metrics, whilst I can't state the exact percentage, a significant proportion of trainees in oncology are presently, or planning to, work less than full time. So it's not just head count, it's the actual reality of what they're working. There needs to be a proportion growth beyond just looking at numbers.

Stephen Peckham: Thank you to everyone for contributing to discussions on workforce. I am going to move us on to the second area, which is looking at living well with and beyond cancer. To start, there is a commitment towards care plans following diagnosis, and we want to know what people's experiences are of these in practise.

Janet Brown: We talked about this during the patient roundtables. First of all it what is a care plan, and who writes it, because we use it interchangeably, but what do we actually mean? Is it something that you give to them? So there is a lot around what it is. Most people in the patient groups felt that earlier on in their illness that was good, but as they developed a more advanced cancer they felt it was something that should have been revisited and going through it with them. When you've had cancer for a long time, and you've been waiting, they felt that things were less and planned and they were less aware of what was going on. That was some of the discussions that we had.

Participant C: Yes, it's interesting that Janet brought up about defining care plans. I've been very much involved in our 'living with and beyond' agenda in my ICS, and I think that the honest answer is that it's patchy. There are some specialities where it is absolutely embedded, my own radiotherapy service is absolutely embedded. But I think that, again, it comes down to what are we measuring? Whilst I can say that there may be 90% care plans for one area, and maybe 90% for another area, I can't say if that's a meaningful document or a meaningful process. It's not just about handing them a document, it's about actually having a conversation with the patients and agreeing a true personalised plan. Just another note, my concern is that whilst some MDTs may be seen as exemplars, I'm not sure that they are as comprehensive, robust and patient centred as they should be.

Participant A: We spoke to some of our patient groups, and we mainly look after breast and gynae, but we certainly find that the care plans are not, to echo Janet, being adapted. At the beginning you're diagnosed as a clear path and then it disintegrates, and understandably people feel quite lost as a part of that process. I think the other thing on the personalised care plan, is that we've got to remember that it needs to be dynamic and adaptable and does require the conversation and time, which is where the CNS issue really comes in, because quite often they are the people who do the holistic needs assessments. It's the CNSs who are, quite often, going to be tailoring some of the plan, who are going to be potentially putting in some supportive care. But they don't have the time, they don't have the capacity and there aren't enough of them to be able to deliver it in any meaningful way, instead it is often a tick box exercise and away you go.

Janet Brown: Just two further things to talk about. When talking to the patients, they identified that the biggest gap in the care plan, and the thing that they would most like to see, was more emotional and psychological support. So it would be useful to hear what people's gaps are. The other thing, as you mentioned about HCPs, and I will use prostate cancer as an example, is even in organisations where they may be support early in the disease the HCPs haven't necessarily moved to the more advanced stage as more treatment becomes available. So even when there are HCPs, it's where they are in the pathway, whether they move or whether they sit in a hospital because they work in that bit and have always worked in that bit. So just to get people's opinions on that.

Participant A: It's just about the gaps again. Psycho-emotional wellbeing comes out very strongly in all the research that we've done. The other thing that we see come up was personalised lifestyle advice; talking about nutrition and physical activity. We know that there are complex patient groups with bone mets, and there are now existing guidelines from some of the international groups on supporting this, but these don't always make it down to the coalface in term of us implementing those. And thinking about the beyond bit, the recurrence prevention bit, we've seen massive gaps

where people have been discharged from primary cancer care and are put on patient directed follow-up, and that is where a lot of patients struggle in terms of their emotional wellbeing, and how well they do in terms of understanding what they need to do to keep themselves well and out of hospital.

Stephen Peckham: Thank you. I'd like to come back to some of those points, but first Participant C.

Participant C: I think it's just clarifying Stephen what the purpose is of that document. I think it has multiple layers: it's a handover document from one healthcare professional to another, it's a resume for the patients in terms of what they've experienced and where they need to go there, and it's CNS time. Apart from the variation amongst MDTs, I think the other areas that isn't done as well is almost a concluding care plan. We've obviously heard that as a narrative progresses, but I'm taking it one step back, which is if somebody has multi-modality therapy. We heard mention earlier about neoadjuvant chemotherapy and if somebody has neoadjuvant chemotherapy they should have a care plan, if they have surgery, they should have a care plan and they may then have adjuvant radiotherapy. Somebody needs to sit down and discuss the whole package, and I find that we tend to deliver the care plan in bite sized chunks, rather than step back and reflect on the whole journey. Again, I always like to put a positive, in the East of England we have identified a massive hole in psychological services. If I wasn't in this meeting, I would have been in a workshop today to workshop how we are going to grow a psychological service that is bespoke hub in the East of England. That's going to take courage, it's going to take courage to get on commissioners' desks to invest in and to keep it on track. We probably won't have the Tier 4 staff that we want for a few years. So I think part of this, if it is done properly, is recognising that there will be gaps, and looking at how we as a service can fill those gaps for the future. I think it's multifactorial; dealing with the patient in front of you, but also providing a resource for the unmet need.

Janet Brown: Just adding a little bit to that for others, the other people who often need to be included are the GP surgery when follow ups are longer. I guess in the future we've got a chance to do that with digital stuff, but they should be included in the care plan so that they knew what they went to do when, and when to do things like cardiovascular checks and things like that, so if anybody has anything to add on that. But for our patient group, it wasn't just about having a care plan, but some people had a very good experience with one consultant all the way through, whilst others might have had 8 locums and they didn't see anyone consistently. So maybe, somebody may have some quick comments on that.

Participant F: So just to clarify I'm PhD not MD, so I'm going to add what was talked about in the discussion with our cancer surgeons this morning. The feeling within the groups was that the care plans are standard practise, but the issue is the level of quality within them. So some of them are very very good, Harrogate was praised as a particularly good example, but in others it is treated as a tick box exercise. It can vary from individual clinician to individual clinician sometimes as to what level of input goes into care plans and how well they are updated, as others have said, as the patients go through the journey. I think Janet's point is accurate, where if you have one consultant all the way through, you're able to update the plan, and the patient, as you go then that's fine, and it works quite well. But if you have multiple ones it's going to depend on how much time each individual locum will then have to spend on it with you, as to whether it's treated as a tick-box exercise or whether it's more what it should be. So those were the issues that came up this morning.

Stephen Peckham: Thank you, Participant F. I've got Participant E next, and perhaps you could pick up the point in relation to care plans and those wider staffing groups that aren't necessarily cancer specialists, and how that might fit together.

Participant A: I run a multi-disciplinary clinic, so I guess that's my personal experience. But before I get into that, I just wanted to quickly pick up Janet's point about that continuity of care, and how destabilising that feels to patients when they're seeing multiple faces during the time when they're already feeling pretty shaky emotionally. Again, I do feel like consistent other staff, like a CNS, is so important because you might see a different oncologist or a locum coming in, but if you have a port of call who understands you, and has an idea of what your needs are, who dynamically can move through it with you, I think that can stabilise the situation. The reality is, we know that we can't guarantee that they're going to see the same consultant, we know that's not going to happen, as there are training needs and we need registrars and locums, but I think that we need to think hard about how we use other healthcare professionals to provide that speciality. Talking about that skill sets in multi-disciplinary teams, is about involving multiple people in the process and instead of parcelling out the jobs, as Participant B was saying where multiple people do bits of the job, we should think differently. We've got staff, we want to provide them with more job satisfaction and more motivation to do their jobs, and to deliver excellent personalised care, so we need to think about how we resource them and how we train them. So for CNSs they've been doing training, for example in managing menopausal symptoms with brief interventions, so we should be very effective in helping women with breast cancer. I think we just need to take a little bit of a broader view of the workforce, and think about resourcing our existing people and cultivating them in a different way, to enable them have really good job satisfaction. They would be able to deliver the personalised care, do the holistic needs assessments properly and consistently, and foster that persons experience.

Janet Brown: One other point to add in is who has access to the care plan. So in some regions, for example, the palliative care team haven't automatically got access in the community to the medical records. Are there any other things where, in your local experience, that is an issue? It's one thing to have a plan, but does everyone have access to it? Do they have to ring that doctor at night? How does it work?

Participant C: I'm not sure that I'm going to answer Janet's question, but I was just reflecting on some of the conversation about the purpose of the care plan. We are being asked to embrace patient centred follow up, which is basically PIFU- patient initiated follow up- with personalised care. As far as I'm concerned, this is an important document- which is variably delivered- because this is giving patients the knowledge and the skills to look after themselves. If it's done well, it's a great product, but if it's half-hearted it's actually counter-productive and creates more work, because you have worried patients that probably didn't need to worry. I know that doesn't answer Janet's point but it's just a reflection.

Stephen Peckham: Participant D, is there anything here in terms of the way that therapists and scientists are drawn into supporting cancer care or being involved in care plans.

Participant D: I'm probably not qualified as an expert in care plans in the way that they are being discussed. I know that locally, we've been looking at ways of getting patients to be able to access their care plan using, for want of a better description, patient portals. Just on what Participant C was saying, about poorly delivered care plans being more problematic, I think that's really clear and that is probably what is causing a lot of slowdown in that project rollout. It seemed to have massive inertia when it first started locally, and then it's completely petered out. From my speciality of radiotherapy physics we were hoping to leverage the technology that was going to be implemented to have better communication and empowerment of patients, within what is part of a much wider personalised care plan. I deal with radiotherapy delivery, that's quite technical and patients have lots of questions and it's certainly a phase in their overall cancer care pathway. But I don't think nationally we've got it together where that information is shared. I don't think GPs understand what

radiotherapy is, or what the side effects of radiotherapy can be. There are instances where the care plan would be better shared with multi-professional groups, so that when a patient turns up at A&E, or at a different trust, or with the GP with side effects of radiotherapy, it could be better managed. And that probably speaks into the aftercare and 'living well and beyond' as well, because some of the things we do to patients with radiotherapy does impact them further down the line. That's probably the limit of that I can impart, I'm afraid.

Stephen Peckham: Yes, but quite important points about issues of sharing information.

Participant A: I think Participant D makes a very valid point. I think those long-term affects is something that needs to be part of a well-executed plan to reduce those unnecessary follow ups and not create extra work, but also to manage people's quality of life really well. We need to look quite broadly at some of the techniques, as well as some of the specialist experience. I know there are some expert centres dealing with the long-term side effects of treatment and we need to disseminate that. I think it's one of those things where we've got pockets of excellence in various places, and they just don't reach far enough. So we need to be able to bring all of that expertise in and disseminate it down to the GP level, at the level that they need to engaged with it in terms of understanding what someone's long-terms affects are, how to refer properly and appropriately at the right time to the right pathway. And I think it's going to be really crucial.

Stephen Peckham: That does speak to the care plan and the link between patients and the team.

Participant B: I don't have a lot to say on care plans from a radiology point of view. I just wanted to say something quickly about follow up imaging, which is quite a big industry, and it's relatively evidence light as I'm sure oncologists would agree- we have some evidence for some cancer sites about how often it should be used, and what modality and so on, but a lot of it is pretty arbitrary as to what patients actually get. My particular bugbear is the experience that they get from it; there is this ghastly model whereby they have to come one week for the scan, and then the next week for the clinic appointment, and divorcing the two is completely unfair for the patient particularly in a rural area. A patient might have to take an hour and a half journey, each way, for the scan and then back again for the appointment a week later by which time the thing probably hasn't been reported anyway. The patient experience aspect of that is horrendous. There is definitely, in the constrained system of imaging that we have at the moment, a feeling that follow-up cancer patients are somewhere near the bottom of the pecking order, because everyone else seems to be more urgent or acute, of needs things to be done quicker. Hands up, I feel incredibly guilty about the experience that patients get from follow-up cancer imaging, and I think there's a lot we could do to improve that. But it's based around needing more capacity.

Janet Brown: Do you think that's because there are no targets at that end in the same way that there are at the beginning of the pathway. Quite often, patients who are about to be discharged are seen by more junior members of staff, and there is not that incentive that there is at the beginning of the pathway. You still see things that say 'if well can be discharged in a year, back to the GP.'

Participant B: I think there are a lot of points in there Janet, but one of them is that when patients are seen by relatively junior members of staff, it's often the easiest option to say 'we'll just get another scan in six months' time and make sure that everything is ok' rather than bring the episode of care to an end.

Participant C: I just wanted to pick up Participant D's point, and I think they're being very modest, because as a physicist, I rely on you for expert scientific knowledge and experience. For example, if I have given somebody repeat radiation to their spine, and therefore there's a risk of spinal cord

damage, the knowledge that you've given me will come into their care plan. But you never get recognised for it. A good care plan will say that this patient has had re-irradiation and are at risk of spinal cord damage. So if they are paralysed in years to come, God forbid, then actually it may well be my treatment rather than due to their disease. I think it comes back to the fact that care plans, how they are derived, are multi-professionally constructed, and how they are delivered is down to one person, often their CNS, and so that quality is variable. It will be variable depending on how that multi-disciplinary team is working, and sometimes it's a given and sometimes it's not. Ultimately, that quality is actually in that interaction, and ensuring that that interaction is two-way engagement, not just handing them their document. So I don't feel assured, I suppose is the honest answer, that it's being delivered as it could be.

Stephen Peckham: Thank you. You talked there about a good care plan, but I suppose the question is what does a good care plan look like? There's been some discussion about continuity maybe being more critical sometimes than the actual care plan or is it the person who the patient has most contact with who they can relate to. What makes a good care plan?

Participant C: I think it has multiple levels. I think from the perspective of primary care, I think it needs to work with the GP to allow them to know what to do and when to refer back to the specialist. I think from the patient's perspective, they need to not feel abandoned. Now, how you measure that I think is very difficult, but that's how I see it.

Participant A: I think that it needs to be detailed enough to be useful to multiple members of the clinical team. It needs to be just as useful to someone in a hospital setting as it is to the GP, and to palliative care if they need to engage with that. It needs to assess the patients needs, and be tailored to the patient needs, and engage the patient in being able to do some of that self-management. So it needs to be in and of itself somewhat educational, particularly if we are relying on those patient initiated follow ups, so they need to know when to engage. And it needs to be dynamic, to me that is the important thing, that dynamic assessment of need wherever you are in the journey, whether you're dealing with primary cancer and that primary diagnosis, or metastatic end of life. That to me is the crucial point. It needs to be a living thing rather than a tick box exercise which they often end up being. Everybody is under-resourced, but I think if we are throwing our hat in the ring of what a good care plan is, I think that would be it. And I think it needs to involve that self-management and agency from the person on the other end, particularly if we are dealing with people being discharged into the follow up pathway and/or dealing with complex long-term side effects, which a non-specialist might not know about. So if somebody has had pelvic radiotherapy, the non-specialist understand what is different about them when they turn up to have another care episode. That's my opinion.

Participant D: I agree with everything that's been said about what a good care plan should be, but with my nerdy scientist hat on, it should also be accessible after the fact and auditable. The one thing that has frustrated me throughout my career is evidence-based medicine, because if it was standardised and accessible for everybody, we could actually determine what we did for yesterday's patients to benefit tomorrow's. If we were design a care plan from the ground up, I think we should have an eye on that; making the best care plan for the individual which could also benefit the whole health economy and everything that we do.

Stephen Peckham: Thank you. As a researcher, I quite agree that we need to design things so we can actually do more good beyond the immediate use of some of these things, so great. We're going to move on now to diagnostics, which is the third area. Particularly, we're looking at the two key policy targets that the Government have set. One is the 28 day target from screening to diagnosis, and the

other is to try and diagnose a higher percentage of patients at stage one or two. There is a question around is this target being met, but is it also too blunt a target? Anybody want to come in on this point?

Participant B: To talk about your second question Stephen, and this is another bee in my bonnet, but I'm acutely aware of this issue of over diagnosis and placing the emphasis on detecting early stage cancers, I think, is the wrong way round. I think that what we should be trying to do is reduce late stage presentation of cancer, which requires slightly different strategies I think. I could talk about this for hours, but I won't. I think we could find lots of early stage cancers by setting up a prostate screening and thyroid screening, and you could meet your targets, but no one would be better off for it- apart from the politicians who can claim success in meeting the target. What we really need to do is reduce the number of people arriving late with cancer, and that's tricky, but that's where the effort should go.

Stephen Peckham: Just as for the sake of a lay person on this, I'd just like to get a little bit more of a fine grain distinction between more people at stage one and two is bad, but less people at stage three and four is good. Can you open that up a little more?

Participant B: Yes, but Lots of people on the call know at least as much, or a lot more about this than I do. Loads of us are walking around with cells in our bodies, and if we put them under a microscope a pathologist would say this is cancer. Most notably in our thyroids and prostates, and to some extent in breasts in women. Although it sounds so appealing to find early stage cancer, you may not necessarily be doing people a favour. I diagnosed lung cancer in a 95 year old lady, in whom the cancer was visible on a scan she had when she was 75. It's an incredibly slow growing process. Thank God, we didn't find it when she was 75 because we probably would have killed her by treating, or at least shortened her life by treating it. Early-stage cancer is not the right goal, I don't think.

Participant A: I agree completely. It's about the outcomes, does it actually change people's outcomes. That's what we're here for; we're changing clinical outcomes and we're not here to say 'I found something, I'm going to cut it out and see what happens.' I'm going to jump into a slightly different perspective, because my interest is in precision oncology, and of course that is where the GRAIL pilot comes in, so we need to start thinking about some of the advanced molecular diagnostic techniques. I think it's going to come beyond the imaging centres, it's going to come much more into the primary care settings and the screening program set up using more of the advanced new techniques and the innovation out there. With lung cancer- and Participant B gave an incredible example- we know that most lung cancer patients will present at a very late stage, they've got one of the worst survival rates of the common cancers at 10 years. So we can pick those guys up at Stage 2 rather than stage 4, that will make a huge clinical difference, but if we pick up a thyroid case at stage 2, and then do a thyroidectomy nobody is better off. I agree that it's not quite the right goal.

Participant C: On the faster diagnosis 28 day standard, I welcome it, because I think the two week wait system is outdated. I think we need to refresh this and, stating the obvious, to simply give an assurance to the majority of patients that they haven't got cancer and, for those that do, to have a quality conversation about how we're going to make them better, hopefully. But that will not deal with Participant B's point about diagnosing in early stages, it will simply diagnose patients at the time they present more quickly- so that will not achieve the stage one or two targets. It will hopefully improve the patient experience, so I'd see some positives. The negative about faster diagnosis, and it touches on Participant B's point, is that there's so much effort being focused on the front end diagnostics, whether it's radiology, pathology or endoscopy, whilst the whole surveillance element is increasingly compromised. Just to pick up on Participant A's point about lung cancer, our

system is supporting the targeted lung health program- we had a meeting just before this- and again I welcome it because I think this will embed case finding for lung cancer. If it plays out, and that investment carries on, and we build in our sustainability program and we sort out the radiology cover- because where the radiology is going to come from is a real challenge, and I clarified Participant B that it has to be the same quality as breast screening and be conducted by a consultant radiologist- then we will see targeted local checks address lung cancer. The other thing to add is that we need to clarify where a patient goes to when they have symptoms. Do we encourage direct access to a specialist? Do we have the Danish model? Do we try to encourage GPs to go back to their old style of seeing patients, taking history and examination, but we are in a slightly delicate position at the moment in terms of primary care's involvement in the cancer journey. I think we need to clarify who the first healthcare professional is that a patient should go to when they have had their first symptoms. If we can crack that, and we can use the diagnostic tools, then I think we could probably pick up patients slightly earlier. But I think the real ground-breaking thing is going to be in lung cancer screening or lung case finding.

Stephen Peckham: You talked about the Danish model. Can you just say what that is?

Participant C: Correct me if I'm wrong, but the Danish model is essentially that you can go straight to a specialist. You can self-refer to a cancer specialist and be investigated. There is some conversation, amongst English systems, about patients having direct access and we are exploring this. It has some positives in that you actually see somebody who has that expert knowledge, but the minus is that they'll be a lot of people who don't need to see a specialist. So that's my summary: it's going straight to specialists and bypassing primary care.

Participant B: The Danish model that I'm familiar with is the multi-disciplinary diagnostics centre. So, as you say, a patient can either walk in or be sent in by a GP and have a load of tests in one go, in one facility, and they can hopefully get some sort of consultation and outcome at the end of that process. It's a sort of streamlined diagnostic process. The last I heard the Danes were struggling to staff these, because they've got workforce issues too. But that's my understanding of the Danish model.

Janet Brown: Just two points to add into the mix. The first one was about access to diagnostic equipment, and whether there were regional differences, or differences locally. The second point is how do we think COVID has affected the stage one and two diagnostics that we're talking about and has it that affect on a particular subgroup of the population.

Participant B: On the equipment point Janet, you will know, and I'm sure that the Committee and the Panel will know, that Mike Richards produced a report in late 2020 on diagnostic services in the NHS and England which showed the gaps and deficiencies that we've got. For example, he said that we need to double CT capacity in five years, which is a great idea but it's going to be a struggle. Our scanners, as opposed to those in some of our other European neighbours, are all pretty much based in acute hospitals and that's because they're there to service patients who've had strokes and trauma. This means that the cancer work is shoehorned in around those acutely presenting patients with abdominal pain and all of that. Until we have an uplift in numbers of scanners which allows us to put them in community settings- which to be fair seems to be the direction we're going with community diagnostic centres- it's going to be difficult to get the level of access that people actually deserve to, A. diagnose, and B. follow up patients with cancer.

Stephen Peckham: And are we going to have the staff to facilitate that, or are we going to have the Danish problem?

Participant B: Yes, we are going to have the problems. I've got my RCR hat on here, but unfortunately one of the potential problems of this is that if we create a lot of nice new shiny community diagnostic centres, which are opened from say 8 till 8 in rural areas, with plenty of car parking, then there's a risk that all of our staff will up-sticks from the acute centre and we will have no one left to scan the patients with strokes and heart attacks and traumas. We've seen this happened before with MRI about 15 years ago when they commissioned vans for the, so called fast-track MRI programme, and we lost our entire workforce of MRI radiographers from the NHS overnight to go and work on the vans, because it was a better deal, a better job and better pay and we had no one left to run the acute services. We're actually still struggling to recover from that blow, in the sense that most hospitals still can't provide a 24/7 MRI service.

Participant D: I just wanted to speak about some of the earlier points that Participant B made about the target of higher diagnosis of stage two and stage one, and non over diagnosing, and I think what we're alluding to there is that it's a surrogate for outcome. I think that the political aim is easy to measure, what percentage are diagnosed at stage one or two, but the difficult real outcome is the patient outcomes that we're trying to achieve, and I think that is what Participant B was talking about. It leads me back to the 28 day target, I'm not familiar with this particular target, but 31 day and 62 day from decision to treat and GP referral I am more familiar with. And for all of those targets, what does it matter? If it's 29 days or 27 days, does it affect the outcome? And I think politically we get really hung up on clocks because they're easy to measure, but actually it doesn't make any difference, and what it does is put a huge resource skew into the service that's trying to deliver that target. Because you'll suddenly get this pressure of somebody saying we've got this patient coming through at 30 days, is there any chance of getting them through quicker so that we don't breach the 28-day target? I really think that the time is now, with all the technology development, to look at outcomes correctly. Realistically the target should be set on outcomes, and those outcomes should be based on the best evidence available of what those outcomes should be from clinical trial cohorts or something similar, where we've treated patients in a more controlled, selected, reduced cohort environment.

Stephen Peckham: Thank you, some very good points.

Participant C: I just wanted to come back to Participant D's point, I think you make a very valid point, and I think it comes back to patient experience. Our Chief Executive got very cross with our trust three years ago because patients were left waiting over Christmas, not knowing whether or not they had cancer. So I agree that for most cancers it probably doesn't improve outcome, the hard outcome in terms of survival, but it's about experience and knowing that they haven't got cancer, and I think we've got to be mindful of the vast majority of patients who are referred that don't have cancer. My personal perspective about the whole waiting time journey is that I would love to be able to measure the first interaction with a health care professional, whatever badge they are, because the clock starts when the patient is first referred from the GP, but not when the encounters began. Because the journey we're on, but we can't measure it yet, is about educating patients and educating more GPs and making access to CDCs more accessible so that we can get investigations done. Through this, patients will hopefully be reassured that they don't have cancer, or if they do have cancer, move on quickly. So there is a huge education bit that needs to go on behind the scenes, and part of the education would be, rather perversely, less diagnostics in some cases. We need to grow diagnostics, but we need to be artful about how we actually use that precious resources rather than refer and refer and refer. And that's a big journey that we're on.

Participant B: I just want to make the point, because I don't think we've made it yet, and that's that a lot of people with cancer don't come through a suspected cancer pathway. So any target which, if

you like, preferentially advances the cause of one group of patients is automatically demoting other people in the constrained service that we have. A lot of those people who are not in the urgent fast track process will actually turn out to have cancer, and a lot of the patients who do have cancer will come through a non-urgent pathway. So my preference is always for a target that applies to everybody, not just a certain specific group. I just thought that point should be made.

Stephen Peckham: That's a useful point. Janet, is there anything that you want to add here?

Janet Brown: I think we also discussed that it might depend on the cancer, because with things like head and neck cancer it can be quite quick growing, but maybe for an indolent prostate cancer the difference between 28 days and 40 days is not significant. So, it may also depend on that factor as well. It's quite a blunt measure really, isn't it? It sort of treats all tumours the same.

Participant A: I just wanted to echo Participant C's point about patient experience. I think we are all obviously talking about hard stuff like clinical outcomes, and making sure that we are accounting for the nature and the biology of the cancer, but I do think that it is an important point given the fact that we want to be patient focused in how we deliver care. The hardest thing that people go through is the limbo, right? Once they have the diagnosis and we are able to tell them what we are going to do about it, that is less hard than sitting there for weeks wondering whether or not you have cancer-whether it's Christmas or not. That's always been what patients tell me has been the hardest part of all of it. So I do think that we need to be mindful of the fact that there is a human element to this target that probably needs to be brought into this conversation.

Participant C: Just to pick up Participant B's point, firstly to endorse it, but to talk about patients whose cancer relapses. These targets are very much front loaded, which is the newly diagnosed, and as we embed patient centred follow-up I do worry about the seamless return back into the system. Those patients deserve the same timeline and same delivery, and I hear stories about patients being bounced around because they're not quite sure whether they are still under the same MDT. I think the danger with the target culture is that it loses sight of the fact that there is a patient with emotions and feelings, and that they have a life. The culture at the moment is focused on the front end, and there's a huge metastatic cohort of patients who I don't think get the same quality of care.

Stephen Peckham: Thank you everyone. We've got 20 minutes left, and I'm going to move us onto the final section, and it's been mentioned already, but it's on technology and innovation. One of the core questions is about investment; are we investing equally across the patch? Are we investing in the right things? Are we using innovative technologies across the country and how is that information shared? So we're interested to know about your experiences of some of these new innovative therapies and technologies. I just wonder, picking up on some of the earlier questions, whether the focus should be on diagnostics or treatment, because I think that goes back to the point about whether we focus on treating later cancer well, or focus on the early diagnostics.

Participant A: I'm going to talk about care, rather than treatment and diagnosis, because to me that's all encompassing. What I think we are under-investing in in the NHS is group care, and I think that's a really good, cost-effective way of doing some of that patient education, some of that engagement with patient agencies and reducing some of that unnecessary patient initiated follow up. Where we can, we should run group education programmes staffed by CNSs, or other associated health care professionals, about how to take care of yourself after your cancer diagnosis and troubleshooting some of the problems in living well with cancer. I think that getting those group programmes set up, that are well evidenced, and that bring out some of the research that we currently have on anything from lifestyle to psycho-emotional well-being to the community in a cost-

effective way, is going to be really helpful. They will also make those personalised care plans that we talked about earlier come to life, because that will really make the detail jump out of the page, or if that CNS didn't have time that particular day because they've been rushed off their feet, then attending a group session on that particular topic can be a good way to fill that gap. And of course it can be delivered online. We've don't a lot of online programmes since COVID, and it's something that people can engage with, though obviously we need to make sure that we do not marginalise populations who don't have good digital skills. But I do think that I something that we need to be looking at.

Janet Brown: We've got a few minutes left, and we would like to cover specialist type radiotherapy and immunotherapy, and so do people think that there is equal access to precision therapy or is it postcode dependent? And then we'll may talk about immunotherapy as well.

Participant C: I think that the SABR implementation programme is quite smart. It has actually been quite tight to deliver, but there is a training programme, and it is being delivered. I think, to pick up your point Janet, we have assurance that it's being delivered in all regions, but whether it's offered equitably- because somebody has got to travel- remains to be seen. We've got an agreement in our alliance that HBB SABR will be delivered in a specialist centre and the local oncologist can go with the patient, so that we can maintain that continuity. So I think we've got the best of both worlds, and I'm quite encouraged, but that's my own ODN. It's taken a lot of blood and guts to get to where we are now. We implemented IMRT 15 years ago, it's a standard of care. There was an expectation by the PM for SABR, and I think we are probably delivering it, and we are all being upskilled, so I'm quite encouraged by it. And the IT, because we're an IT rich culture- a bit like Participant B in radiology- means that we are able to network without having to necessarily travel.

Janet Brown: Do you think that's addressing some of the geography, but maybe increasing the health inequalities. Because we have patients for whom travelling 20-30 miles is a big deal. And to go beyond that, do we have any data about whether it picks out groups? So, for example, PSMA PET we used to have to go down to London and we you would have people who couldn't afford to go down there and make that journey- and that wasn't that long ago. So maybe we should just think about some of those things coming in, and whether it adds to the inequalities. Also, consider if the trials are being done more remotely from the patients.

Participant D: I tend to agree with some of the comments on SABR from both sides, and I think that there are some issues with the way it's been approached, and the issues are around the equity of commissioning. Nobody would ever want to commission an unsafe service, so you have to have the minimum activity level to maintain everybody's competence. However, in trying to achieve that- and I'm very interested in the clinicians following the patient, I've haven't come across that before- and trying to maintain that equity of service, are we selecting patients out, which is the travelling question. I don't have the answer to that, but I am concerned about that. My other concern is around innovative technologies. Participant C mentioned IMRT, and not that long ago I was in a meeting with accusations were thrown at providers by NHS England that we haven't adopted IMRT quickly enough in the UK, America was ahead of us and that it was our fault as providers. And my response to that is that America is ahead of us because they got the reimbursement sorted so that you could actually pay for the machines that you needed to deliver the technology with. Now, that is relevant because I think the next game-changing step is likely to be towards adaptive radiotherapy, and by that I mean what's called O-ART, so on table adaptive radiotherapy, that may or may not involve and MR Linac. Currently there is not tariff agreed to do adaptive radiotherapy, and it will be resource intensive whether you do Standard Linac based, or MR Linac based. From every conversation that I've had with NHS England, there's no appetite to look at adapting the tariff, so I

could see a possible future in 5-10 years, where once again I'll be sat in meeting and accused as a provider of not adopting on-table adaptive radiotherapy. But when the cost of the equipment is at least double, if not four or five times, and you've got the staffing overhead, how do you provide that next-level, game changing step to technological radiotherapy when you're not going to be reimbursed? I think it was Theresa May who said that there's no magic money tree, but we don't have one either, so if you're not going to get the income how do you deliver that. It's a very difficult problem because the NHS has got a bottom that it has to hit, but if we want those innovative technologies, I think the tariff has to be ahead of them so that the providers can actually deliver them, and not the other way round. And that seems to be what we already end up doing in radiotherapy, and it is very frustrating for every professional working in the field.

Stephen Peckham: I think there are some good points there, and I'm going to come back to you Participant C.

Participant C: I just want to pick up on Janet's points about inequality, because it's so important. It's just to remind myself that radiotherapy has always been a centralised service, and we are obviously trying to make it more accessible through satellite centres. Fortunately, with the service spec we didn't super centralise it, we said we wanted to deliver as much care as possible locally, so I think that was a positive commissioning move. To pick up Participant D's point, it's imperfect at the moment, so I think that the challenge then is for the local specialist, and we brought this up in prostate cancer for brachytherapy. How do you market something to a patient that you can't offer in your hospital, but they can get in a hospital 60 miles away? I don't know how we address that, but I think it's about having an honest conversation. Because of the nature of radiography, unlike medical oncology which is a bit more distributed, I think there will always be an inequality issue. I think the challenge for the health service is how we minimise that, and that's of course offering other ways, whether it's family or transport to take patients from A to B. And we know that does happen, but again, that's variable.

Janet Brown: The other thing was maybe moving on to immunotherapy and delivering immunotherapy in DGHs, and whether they get equal access, and the more extreme immunotherapy, the CAR-T cells and other things. It would be useful to have people's view on that end.

Stephen Peckham: Participant B, would you like to come in.

Participant B: I did, but it wasn't on immunotherapy.

Stephen Peckham: That's fine, but you come in with what you want to come in with.

Participant B: I thought at some point we ought to talk about AI. I just wanted to make the slightly cynical point, that I think that it's the Wild West out there with AI at the moment. And there are tech companies making outrageous claims, we went through this with the pharmaceutical industry about 30 or 40 years ago and we managed to reign it in. At the moment we're in the ultra-hype phase of AI. It holds enormous promise, in so many different ways, but some of what is being sold to the NHS at the moment is frankly not fit for purpose.

Stephen Peckham: Having sat on a research funding committee where we had a 60% biomarker projects, I kind of see that.

Participant A: I would definitely agree on the AI front, and I think half the time people don't understand the difference between AI and machine learning, and that's a whole other ballgame. I'll pick up in immuno-therapy, because I don't get involved in radiotherapy very much, but from the

immuno-therapy perspective I think there is a lot less familiarity with some of the more advanced and newer immunotherapy drugs in DGHs and local hospitals. I think there is a lot more nervousness around it from what I have seen. I also think that, outside of major hospitals, we are not great at select patients appropriately for immunotherapy and offering it to the right person, at the right time. I think that is mainly an education issue, but also about simple things like training people to look properly at biomarkers like NLRs- very simple things that you can get from full blood count on the NHS- and actually looking at whether it is the right time for someone as well as accessing the usual fitness. I think that is something that needs to be brought into practice at some point.

Participant C: Just to pick up Participant A's point because it's so, so interesting. The way that we rolled out immunotherapy, in a relatively modest sized hospital, was starting with only two of us, until we grew confident until we all took up the role of doing immunotherapy. But I can say that in one of the associated hospitals in my integrated care system, the immunotherapy is managed by the acute oncology team because of the safety issues. So I think the onus is on the local hospital to try and deliver local care, where appropriate, and have an infrastructure that ensures safe oversight, and we can't mandate the model, but we can mandate the framework. I think there are some areas of good practice to ensure equity of access. Just to pick up on Participant B's point about AI, I completely agree about it in the diagnostics end, in terms of radiology for example, but I think pathology is probably a bit further forward. I think, and this is really to give a plug for digital histopathology, that there is huge amount of money coming through that needs to be invested for digital histopathology, because some of it seems to be quite good, such as Gleason grading in prostate cancer. And if we can nail that one, then the interobserver variation that we currently have between pathologists will reduce. I think the challenge is that it's huge investment in both time and money to get those projects underway. And the last plug, in terms of AI, is at the front end. C the Signs is a type of AI tool, a decision-making tool- and there are others, I'm not here to promote C the Signs- and it helps the initial healthcare professionals. So I cannot overemphasize the value of AI in terms of helping clinicians, who don't necessarily have expert knowledge, to try and make some of that decision making. And then the rest of the journey, we can sort out, and we can understand the role of AI as the technology improves.

Stephen Peckham: Thank you. Is there an issue of equality here? Different centres are offering different levels of treatment, or different types of treatments, so there was a question in terms of the patients wanting to do to different centres to receive a specific treatment. The other equality question was, are we investing in the right areas? I think AI is sucking up a lots of investors and are there other areas that are under-invested in, in terms of developing innovation and technology? Have we got the investment strategy right?

Participant D: One point I want to make on investment is that I completely agree with what Participant B said, in that there are AI companies tripping over themselves in the radiotherapy space as well. What concerns me is that a lot of them, I get commercialism and the shareholders to benefit, but the amounts of money involved are massive. And at the same time there is a consortium of three, I think Ipswich might be in that actually, that's are developing and AI product on the back of an NHSX Digital grant, which is being done within the specialism, the expert knowledge and the framework of the NHS. And I fully applaud that because it keeps the money within our own system, and there is a space for the commercial partners but the commercial partners are not setting up such a robust investigation with an evidence base. They seem to think that they can wheel in a box, plug it and that we're all going to trust it and we're going to start using it. No. We hold accountability to our patients to make sure that the things work properly. And I think that in terms of investment, we should act more as one, big organisation and do similar things. Again, seed funding and big

projects set up. We've got the expertise within the NHS, and that group are going to prove that. It's really exciting to see where they're going, and it should be one that we keep an eye on.

Participant A: I'm going to completely agree with the plug for digital pathology, I think that's definitely an areas that we need to be investing in. Personally, I'd like to see what the GRAIL trial comes up with. I think we should be exploring that molecular earlier diagnosis of meaningful cancers that we need to be looking at, but we'll see what the trial comes up with.

Participant C: I think we need to be clear what our cancer model is at the front end. So what is the role of primary care? Are they acting as the gatekeeper or direct access? I think if we can clarify that model, then actually we can really put our investment where it needs to be, because at the moment there is a lack of clarity about what the role of primary care is.

Participant A: Equitable access to trials is a really important potin, and I think that ultimately academic institutions are interested in staffing their own trials. One thing that I find quite interesting in terms of access is say that somebody, for example, goes to the Marsden and they have access to trials X,Y and Z, but if they go to Imperial they'll have access to A,B,C. So looking at it from an outsiders perspective, access to trials is a bit of potluck, and of course if you don't have access to either the Marsden or Imperial, and you're somewhere completely different then you might not have access to any of those.

Stephen Peckham: A lot of the things have actually related to whether we have all the things that we need lined up in the right way; whether it's in terms of investment or whether we're doing the right things at the right time, and getting the investments in line- whether it's staffing, diagnostics etc. I certainly picked that up over the last 90 minutes. Thank you to everyone for your contributions. It's been really interesting and very informative, especially for a lay person.

Janet Brown: Thank you everybody it's been very informative.

Feb 2022