in conversation with….
Episode 3: Patrick Mitchell

Julia Tybura: 00:28

Hello and welcome to the third episode of our 'in conversation with' series, a new program of monthly videos, podcasts and transcripts designed to give you an opportunity to hear directly from those influencing our NHS whilst you enjoy coffee, a walk, or just maybe some time away from your emails. My name is Julia Tybura and I'm a Non-Executive Director with Liaison Group as well as Managing Director of Zenon Consulting. Today, I'll be talking with Patrick Mitchell, Director of Innovation and Transformation at NHS Health Education England. The focus of our conversation today is about the use and role of data and informaticians, and the part they can play in transforming the NHS. I started by asking Patrick, why is the effective use of data so important for healthcare?

Patrick Mitchell: 01:22

We've got to make sure we've got effective data because that brings the ability to do good analysis and provide information, and that leads to effective decision making. And I'd break that into three parts. One – effective decision making of clinical care – of what we actually do to patients or service users, and how we will handle that and follow patients through. And obviously, the more accuracy you've got to that, then the more you can do for the patient upfront during their period of care. The second is actually following volumes of care in terms of how groups of patient flows are treated, so when you're looking at productivity, service, change, service transformation, you actually understand the widgets you're talking about in terms of how you care for people and what you might do to bring about change. And the third is around, if we really understand the workforce we've got and we can measure that from the skills and capabilities that workforce has, not just by the professional group the people come from, then you've got a greater chance when you're doing a service redesign to really then design your workforce around the needs of your patients, that really do try and match skills and capabilities rather than just the historic way of trying to match professions. So, if in doubt, let's put more doctors and nurses to the issue. Let's really match skills and capabilities. And that was clearly shown during Covid, particularly in critical care, where, with the shortage of critical care staff, we had to deploy other staff that have similar skills and capabilities around airways management, even though historically they'd probably not be working in a critical care environment.

Julia Tybura: 03:26

It's really interesting, isn't it? I think the way that the pandemic perhaps has affected how we look at data related to the workforce. I'm really interested in that. How does the increased use of data impact the workforce?

Patrick Mitchell: 03:40

Good question – it impacts in two ways. If we look at the current workforce and the workforce that's about to join the health service, then we've got to make sure that our undergraduates coming through, before they even get employed, really understand the importance of data and information and how it's going to be used for the future, and how it's going to be used to make better the way we care for people upfront. So when they hit the employment market, they're ready to join understanding what that need is. The second is then the current workforce. And although we've got people understanding GDPR and data protection and all those good things in terms of information, governance, people's understanding of why clean data is going to be used in the future, particularly when we're going to be using AI algorithms, is probably less well known and therefore an awareness to bring the current workforce up to speed with that, for them to understand how data might be used and therefore their responsibility to really make sure it is as clean as possible and as accurate as possible. So, when it is then used as information and the analytics is done, we know that our predictions are going to be as accurate as possible. The

second area is the digital workforce, the people of the data analytics, the data clerks, the informaticians, bioinformaticians, our AI specialists; those that are actually working with data alongside clinicians to show these trends and these predictive analyses. That workforce is currently around forty thousand in the NHS and the top has predicted that's probably going to double in the next 10 years or so. That is a massive increase in a changing workforce and really does show the volume and change in which data is going to be used within the NHS to make a difference. And it's going to make a difference in two ways, as I said right at the beginning. One is around how we care for patients in the first place. There's a lot of care that takes place because we're not sure of the genome and therefore we're not sure how people are going to react to certain drugs, etc, that can be refined to get far more accurate and therefore it will require even more accurate data to get that right. The second is going to be in terms of looking at the total volume of people going through that so that we can really understand and support our service transformation by understanding the service volumes of different patients, the different areas where we might go with that.

Julia Tybura: 06:22

I think that was very interesting, particularly when you're thinking about the shift to system thinking and looking at it from that perspective. And I mean, that's a huge gap, isn't it, in supply potentially a doubling from 40 to 80 (thousand) roughly. Where will that supply come from?

Patrick Mitchell: 06:45

Good question. I think part of the supply in terms of the need might come from existing clinicians doing modular training, and therefore you may find yourself as a cardiologist, but actually, you're doing a couple of sessions as an informatician because you really want to get into the data of your patient group on who you're caring for. The same could be for nursing. Some nurses may decide to go to do some informatics and therefore half time on the ward, half the time doing informatics, that impacts on the way nursing care is delivered. So some of this comes from that. Some of it comes from just the fact we might retrain part of the current workforce where the digital technologies mean we might need less of people, such as in accounting, medical, coders, some medical secretaries perhaps, all of those people who could, with a little bit of retraining, move into these other roles. And then we've got a big supply of graduates coming through the system, apprenticeships and the like, who may want to come into the health service recognising that they'd never thought of the health service before as a place that they can go and manage data and do informatics. And therefore, it's really about promoting the careers that we have for these people in the digital workforce and really promoting the ways in which you can get to them. We've recently established a Federation of Informatics Professionals, FEDIP, which brings together the six professional groups that these people all belong to. One of the first things they're going to be looking at is how do we make the career pathways? How do we do profiles and personas so that people can see the opportunities the health service have? And actually what are the education and training routes that people might take within service to move into some of these routes? So it's quite exciting because it's new. It's quite refreshing, the fact that AI really is using data in a very different way. And I'm hopeful that this really is going to excite people who would have never thought of coming into the health service, into these type of roles and actually excite them into coming because of them, because of the nature of the health service, because of the nature of the NHS constitution. But also it's a massive database when you think about it, with the volume of people that we treat on an annual basis, that's an absolutely fantastic opportunity for people that really want to come and work and work with databases and work with these algorithms. There aren't many organisations with that opportunity and that variety to work in. So quite exciting times.

Julia Tybura: 09:48

It is very exciting. So can you tell me about the new-ish role of bioinformaticians?

Patrick Mitchell: 09:57

These are scientists that go through specialist training. HEE is currently commissioning 30 a year through the University of Manchester, and they're scientists that go through quite a detailed set of training around the use of informatics, but including the use of biology. So, most of them have come through a biological science graduate background already and then go into postgraduate training using that with informatics alongside. And these people are working alongside clinicians. Just to give you an example, one I met in Manchester who had been working with a group of GPs; mapped out a group across a practice of GPs, 1,400 patients who were known to have osteoporosis and fissures in their back and did a whole trend of what they were, all the demographics and everything else, vital sounds, and everything those patients were presenting with. Once they'd got a simple algorithm, having gone through 1,400 patients worth of data, they then presented that trend across another database using exactly the same trend and actually found over 1,000 patients with osteoporosis who didn't know they had osteoporosis. So, what they did was call those people in to say we want to do a screening, and actually, there was a very, very high, statistically, finding of those people who didn't know they had fissures in their back, actually having them or being at risk of having them, which meant that obviously, their practitioners could put them through the right assessments, etc, to make sure that they were treated before damage was done.

Patrick Mitchell 12:00

And the same is happening in cancer, looking at people who may be in danger of having lung cancer or breast cancer, where actually by using an understanding of the genome and understanding the trends in which those people come forward, they can use those same trends against another database to then bring other people in who are most likely to be at risk based on that trend analysis. And I think this is really powerful in terms of, if we get clean data, if we've got these informaticians working alongside clinicians, I can foresee in five to ten years' time, most clinical directors having a bioinformatician as part of their clinical team, because why would you want to bring people into outpatients, or even see, them if you knew that the prediction was going to be that they didn't need to be seen or didn't need to be treated in that way. So, it's quite exciting and quite a great opportunity for the NHS. And I think probably one of the bigger opportunities for the NHS in terms of productivity over the next decade.

Julia Tybura 13:07

That's fascinating, Patrick, and I think that links directly with looking at our workforce because we then think about what the different roles are that we need. But more importantly, as you've just said, we've also got the situation where we're looking at prevention rather than cure, or some cure, yes, but early diagnosis and early management of the condition be it cancer through genomics or through the Manchester example you've given. And that could really change the shape of the workforce going forward, not just by clinical directors, having colleagues, as you've described, but also looking at how we look at our pathways and the workforce within those pathways in a very different way. And as you say, finally, the productivity gains that we could potentially get from that. But that actually ultimately, it's about the patient experience. If we are flagging things up earlier because of AI or algorithms or because of different skilled technicians and professionals, that can only help the patient or the citizen. Thank you, Patrick.

You've talked about the Federation for Informatics Professionals, and that's really good that there's an umbrella body that can help these disparate groups if you like. And there is such a gap, as you say, from 40,000 to 80,000. So, what else do you think needs to happen to support this data lead workforce?

Patrick Mitchell: 14:44

We clearly have to get it right at a board level, and we're currently running board leadership development programs so that boards really understand that a lot of this is about change management. It's not about the technology. It's sort of 80-20 really, in terms of really setting the culture for a digital-first NHS, that really then designs the NHS around the patient. If you think about how the service industries – the banks, the retail, the travel industries have designed their businesses by bringing services into the home, and in return, we've taken on the data entry as the customer and people get in return the service. The NHS could do the same thing, but we've really got to get into different thinking around transformation and really making sure that we think digitally in all the service transformation we do. And in fact, interestingly, the new advert for the new chief executive for NHS England, the top four priorities and there is all about transformation, service transformation and introducing agile transformation with digital connectivity. So it clearly is the place for the next five years plus that the NHS is going to put a lot of focus on. And we've clearly got to then make sure that we've got the skills to be able to deliver that agile transformation. That boards understand it and set aside a culture to allow that to happen. The other place, of course, is making sure that we've got clinical chief information officers and chief information officers who have the leadership skills to lead this agenda. We established the Digital Academy three years ago, we're just taking in the fourth cohort of 100 people, which is really about producing a cadre of very senior people that can lead on this agenda and can act as alumni for one another to support how we may take this forward. The other areas we're setting up are informatic skills development networks in each of the seven regions of the NHS. These will be, in effect, the education and training hubs for people in the digital community to work together, to share across the provider landscape what they're doing, how they're doing it, things that have gone well and not so well. And more and more, if you think about the integration of health and care, you'll probably see more integration of a supporting the social care home environment in terms of digital skills, so that we all start to speak the same language when it comes to digital and also, we can help everyone with their skills acquisition at the same time.

Julia Tybura: 17:35

That's really interesting, Patrick. We were talking recently and have done over the last few years about place, profession and pathway. And for me it's the connectivity between workforce estates and digital from a system perspective through a system lens, looking at it from a very much a place-based focus. And I think it's really interesting about how you're looking at developing and supporting this data led workforce, which I think is of paramount importance to go right back to the beginning of the conversation around providing fabulous health care to our citizens now, population growth across England.

So, Sir Simon Stevens is leaving as the top leader of the NHS. Let's look through a crystal ball, Patrick, and let's say that you get the big job and you become the new Sir Simon Stevens. What would you prioritise in health and social care?

Patrick Mitchell: 18:49

Well, first of all, I'm not applying. I could just say that now for the public record – it's not a job I'm interested in or looking to go into, but I think we've got to stay on course in terms of board development. We've got to make sure that boards really we need to help boards really understand this agenda. We're working with NHS providers on the board workshops and various guides, podcasts etc that go with that, and bringing board members together with others from around the country to share experiences on this OD change agenda, that that has to be number one. The second is the more we can do to support the chief clinical information officers and chief information officers in their leadership style and their leadership skills, to support clinicians in their organisations to lead on this agenda is massively important. The next one would be around looking at what do the different professional groups need in this space to move their own professions forward; doctors, nurses, AHPs, whatever it might be and how we may support them. A big one is around all of the NHS staff being digitally literate, and being digitally literate not from the use of their iPhones or iPad and everything else in terms of email and social media or buying

holidays and retail, but actually being able to work, educate and thrive in a work environment – that's a very different issue. We've produced a self-assessment tool, which is going to be released later this summer, which will allow any member of NHS staff to go on. It's a very quick survey of about 30 questions and allows people to self-assess what they think their current confidence and competence is for each of the individual questions against their current job description, and then they have to then say what they think it should be for their current job, so it's a self-assessment. And then through the Digital Learning Solutions, which will show the individuals the eLearning they might like to do based on how they answered the questionnaire, which then takes them to helping them upskill themselves to get more confident and competent in the particular skills they marked themselves down on. So, it's a very large repository of digital skills training for people to do. And we're adding to this all of the time because as this agenda moves forward, the training will need to get more and more sophisticated as some of the things that we need to do get more sophisticated. But it's a great little tool. It's easy to use. And all the learning materials are there free of charge people to just go online and use, so quite exciting. The final piece of this jigsaw is we've got to stop doing service transformation, workforce transformation and digital transformation in silos. To do service transformation well, you've got to do the digital upfront. You've got to be agile and put the patient at the centre of the service transformation you're doing and think of the digital infrastructure you might put around them, and can put around them, with the current technologies available, to bring the best service pathway. Once you've done that, you can put a redesign of the workforce, again with a focus on skills and capabilities, not on the profession. So that would be my bucket list of where I think the priorities are.

Julia Tybura: 22:53

Well Patrick thank you very much. Sometimes it's good to dream, isn't it? Well, I don't know whether I would dream to be Sir Simon Steven's successor. It's not an easy job, obviously. I almost totally agree with everything that you've said. I think I'd just add one other thing. You talk about skills and knowledge, I think, and I would add to those attitudes and behaviours as well. There's something there about the whole model of looking at the behaviour of how we act in our organizations and with our patients and with our colleagues and citizens and population. And I think we need to look at as well. Well, Patrick, thank you so much for joining me today. It's been a real pleasure hearing about the issues that you talk to us about. It's very exciting, some of the things that we've discussed in our conversations today. So, thank you so much for your time.

Patrick Mitchell: 23:50

You're very welcome. Good to see you and to be able to speak about this and if anyone interested, more information is available on the Health Education England website. Thank you very much and see you soon.

Julia Tybura: 24:04

On behalf of everyone at Liaison Workforce, I would like to thank Patrick for giving his time to our 'in conversation with' series. If you'd like to continue the conversation, please do get in touch with us using the website and email address currently on screen. We'd love to hear if you think that there was anything we missed or what questions you'd like to put to health and social care leaders in relation to data and transformation. If you would like to take part in a future edition of the series, please do get in touch. Thank you for joining us.