

## Podcast – Jo Merrifield interviewing Juliet MacArthur

### Transcript

*Jo Merrifield* speaking with Juliet MacArthur

*Time*

*0:10: Hello, welcome to this episode of Clinical Research Career Conversations, brought to you by Edinburgh Clinical Research Facility. My name is Jo Merrifield, and today I've been speaking with Juliet MacArthur, the Chief Nurse for Research and Development in NHS Lothian. We discussed the benefits and the opportunities of academic careers for nurses, midwives and allied health professionals. I hope you enjoy.*

*0:37: Hi, I'm here with Juliet MacArthur. Welcome, thank you for joining me.*

*0:39: You're the Chief Nurse for R&D in NHS Lothian. What does that involve and what are your responsibilities within that role?*

*0:47: So I would say that my role has got three key elements. First of all, I'm the professional lead for our clinical research, nursing and midwifery workforce, and these are the nurses and midwives who are mainly working on clinical trials or other kinds of research studies and I think, as probably a lot of people would know, Lothian has got a really important international reputation for our clinical research. And so we've got a large workforce, there's about 180 research nurses and midwives and support staff who are working on this kind of research delivery.*

*1:22: Now my role is to be their professional lead. I line manage a team that extends to about 50 people, but actually I've got a wider leadership responsibility for everybody, and that includes the nurses that are employed by the university.*

*1:38: I'm also have a wider research responsibility, which is much more focused on research capacity building for our nursing, midwifery, allied health, to some degree pharmacy and healthcare science professionals. So this is about developing the individuals who are going to become the researchers themselves and lead on their own research.*

*2:00: And so to do that, we have developed a collaborative research strategy with six universities in Scotland, and I lead on all of that work, which involves a five year strategic plan, a whole range of ambitions and actions that we aim to really focus on, career opportunities, really about how we create the right opportunities, but also the right culture and conditions for these professions to become researchers.*

*2:33: I'm also a member of the NHS Lothian corporate nursing senior management team. So I'm one of the more senior nurses in the organisation, working directly with our executive nurse director and our nurse directors, and that's really focused on delivering the wider nursing and midwifery strategic plan, which covers every aspect of nursing and midwifery in NHS Lothian.*

*3:01: In addition to all of that, I'm also an honorary professor at Queen's University Belfast, which is a great joy and honour to be that, and they've asked me to take on that role to really focus on research capacity building in Northern Ireland, interestingly, but I also link in around some of my own research, which has been around care of people with a learning disability, accessing hospital services.*

- 3:27: Now I do get to be involved in research. I don't lead on research, but I actually am a co-investigator on quite a number of research studies. For example, we're just starting a study where we're looking at an expert nursing intervention in terms of how we better care for people with dementia who are in our acute hospitals who are experiencing stress and distress. So I'm doing that with Queen Margaret University.
- 3:53: I also supervise six PhD students in four different universities. They're all very different. One's a midwife, one's a mental health nurse, one's a learning disability nurse, three are adult nurses, so I get to be very involved in the amazing research they're doing and hopefully pass on my knowledge and expertise about how to do research in a supervisory capacity.
- 4:17: *Great, well, it sounds like you've got a very busy schedule and it must be fascinating being involved in all those different areas within your role. So thank you so much for sharing.*
- 4:28: *I think one of the things that would be quite useful if you could explain for us. There's sometimes a confusion between what a clinical research nurse does and what a nurse researcher does, and are they the same thing, or are there differences there. So could you clarify that for us?*
- 4:45: (Juliet) Yes, I can, and I think I'm in a very good position to clarify because my role kind of spans you know, both of those domains. So I would say there are a lot of differences, but there's also a lot of parallels.
- 4:57: So starting with a clinical research nurse and/or midwife, we would say that that role is very much about research delivery. It's about working on the clinical trials and the other types of research that have usually been devised by other people who are the principal investigators. So those will probably be doctors in the main, but it can also be commercial pharmaceutical companies who are running drug trials in the NHS.
- 5:24: So it's a really important role in terms of that international reputation and the absolute things that we all as the general population rely on other people doing this research, and these nurses are involved in that whole stage. They might be delivering the novel treatments, they'll be monitoring patients, they'll be collecting data, and they'll be ensuring the safety of those participants. They'll be ensuring the governance and the ethics and the consent for all those trial participants, but it's not necessarily their own research that they're actually delivering on, although for some of them, they may well be co-investigators, and actually I'm delighted to say we're seeing that becoming more normal.
- 6:08: But a nurse researcher will be somebody who actually designs the whole research process, from identifying the research question to coming up with the research methodology, applying for the funding, possibly employing people to be the research assistants. They will do the analysis, they'll write up the report, they'll write the publications.
- 6:30: Now as a minimum, they'll probably need to have a doctorate to do that, which is considered to be the basic research training to become an investigator. They might work in an academic institution. Or they might work in the NHS or they might have a

joint appointment. What we do see in NHS Lothian is actually that quite a number of our clinical research nurses have actually gone on to do their own PhDs and are now principal investigators.

7:00: *That must be really nice to see that kind of advancement of nurses.*

(Jo)

07:02: That's right, yes.

(Juliet)

07:03 *Obviously you're a huge advocate for nurse researchers and nurses leading that research, and other allied health professions and midwives. Why do you think that is so important? Why do we need to promote that academic side of nursing and midwifery?*

7:19: So I would say fundamentally it's about because the NHS and society absolutely depend on people doing research. We need new knowledge, we need to understand diseases, we need to develop new treatments. We need to find ways to improve how we deliver care that's going to make our very challenged NHS more effective and more efficient.

(Juliet)

7:45: There's a lot of research evidence to suggest that NHS organisations that are research-active have better outcomes for patients, regardless of whether those patients are taking part in research studies. So it's something about the culture that we create when we've got a really inquiring research-active community.

8:05: And I think we probably take it for granted that some doctors are going to do research and that those treatments that we all see that have revolutionised healthcare and life expectancy are probably going to be led by doctors or other scientists or pharmacists, and they mainly work on drug developments or device developments, statisticians, who are expert in analysing data or looking at epidemiology.

8:40: Increasingly, we also expect that there's going to be people who understand the role that artificial intelligence is going to play in our healthcare and that we need to have people who are developing research on that. But actually, we also need research to be done on all of the other aspects of healthcare.

8:59: And I think things like the pandemic actually have really brought research to the fore in terms of people now really understand that, without the researchers who were able to understand what COVID-19 was, that were able to work out what treatments worked and didn't work, but also develop those vaccine studies.

9:16: So we needed to understand how did that disease work and how did we treat it, but actually what we also now really understand is what are the long term consequences of that disease?

9:26: So if we think about long COVID, it's not really about what's going to cure long COVID. It's about how people are going to live with long COVID and how we're going to rehabilitate them and what kind of information do they need.

9:41: So if we think about our other professions, it's not so much about what medicines do we need for the future. We need to understand what are the healthcare needs that people have. What is it like to have a disease or a new novel treatment? How do you

live with that novel treatment? How, what are the side effects? How do you integrate that into your life? What information do we need to help us recover? How do we look after ourselves once we've had these new treatments? How do we help people live their best lives so that they stay out of hospital?

10:19: And really these are the kind of research that we need other professions to do - nurses, midwives, allied healthcare professions - as well as what are the new drugs and the new treatments.

10:32: In the medical world, about 4.6% of the medical workforce go on to become researchers. In the non-medical professions, there's this kind of notional ambition that we should aim for about 1% of that workforce to be equipped with the skills to do research. But the estimate is that only about 0.1% of that workforce actually are active researchers.

11:00: *Wow.*  
(Jo)

11:01: So as I always say to people, imagine if only 1% of the medical workforce were equipped to become researchers. Just imagine all the things that we wouldn't have, that we wouldn't know. So I kind of think it's, imagine if 1% of our non-medical workforce were active researchers, so probably about 10 times what we've already got. Imagine what we would know and about what ways of managing disease and rehabilitating people and assessing them properly and giving them the right information and equipping them to self-care for themselves. Imagine what the health service might look like.  
(Juliet)

11:45: And that's aside from giving people career opportunities. So it's not... my motivation is about giving people career opportunities and that's what I devote my working life to actually, but it's not about that. It's about imagine what we would know and how much better the health service could be and probably more effective and more efficient.

12:10: *I really like your use of the COVID pandemic to explain why we need the medical advances in research, but also how that then shows that we need those other professionals to support with the care of those patients as well. So I think that's a really nice example that you've given there.*  
(Jo)

12:27: *So you've spoken about COVID and also in your introduction you said how you support quite a lot of research. Through your career you must have seen some quite impactful nursing and allied health professional research happening. Could you give a couple of examples of some impactful research that you've seen colleagues do?*

12:45: So one example is somebody called Linda Sherwood. She's a clinical nurse specialist in colorectal cancer here in the Western General Hospital where we're sitting today. And Linda did a PhD a number of years ago. I don't think she ever imagined in her life she was going to do a PhD, but she was really worried about patients who have colorectal cancer. A lot of people go on to get liver metastasis, so they get cancer in their liver.  
(Juliet)

13:14: Now some people can go on and have surgery on their liver and that might help them a lot, but some people can't.

- 13:22: And so what Linda really wanted to understand is, for those people who might go on to have a liver surgery, but they've got to go through chemotherapy and radiotherapy already, but knowing that they've got cancer in their liver, what are their needs? What can we do to support them while they're having their other treatment, but they know that they've got this ahead of them?
- 13:45: So she did a PhD that looked at this very issue, and she interviewed lots of people, but she also interviewed staff. And from that, even while she was doing her PhD, they actually changed their cancer pathway because of the information that she was finding and they set up a completely new nurse-led clinic for people who were in this position to meet their information needs, manage their anxiety, and actually to optimise their health while they were waiting for that liver surgery. And that just didn't exist before.
- 14:22: Another example is another one of our nurses, Daisy Sandeman, who's a clinical nurse manager who works in cardiothoracic surgery. Now at the time she was an advanced nurse practitioner looking after people having really major heart surgery. Now what Daisy noticed was that there's a lot of people in that post-operative period developed something called delirium.
- 14:44: It's usually something that's time limited, but it causes lots of confusion. It's very frightening for the person, it's frightening for their families, and it means that they end up staying in hospital a lot longer and can have lots of complications.
- 14:57: And so Daisy set out to do a PhD, which she funded herself initially, and was doing all in her own time, but she was curious about it. And she actually collected loads of data that allowed her and her medical colleagues to actually identify what are the real risk factors for people that developed a postoperative delirium, but also what was it like to develop a postoperative delirium. And actually, she was also interested in post-traumatic stress disorder associated with getting that delirium.
- 15:29: So she did this over eight years of her life, doing this PhD, but from that, again, she was able to identify what are the real risk factors for people. And what can they do to try and prevent that delirium happening in the first place? And so through her work, they've set up new pre-operative preparation, something called prehabilitation. They've set up a new frailty clinic for people before an operation to try and optimise their condition before they have this, and through this they've really reduced the incidence of postoperative delirium, which means that people are able to get home quicker. They're not having these frightening experiences, their families are not having these frightening experiences, and it makes the health service much more efficient and active. And that's largely been down to Daisy's curiosity.
- 16:28: *Yeah.*  
(Jo)
- 16:29: Something that is a much, much longer standing, was actually one of our critical care research nurses, somebody called Pam Ramsey, who was in a research nurse role working on lots of other people's research. But she was really curious about what happens to people who've had prolonged ventilation in critical care, what happens to them once they go home?  
(Juliet)

- 16:46: And so she did a funded PhD that wasn't in her own time. She actually went and interviewed people about a month after they'd gone home from ITU. And what she found out was that they were still having loads and loads of problems and issues and their quality of life was really very poor.
- 17:04: And this has actually led to a big programme of research, not just done by Pam, that have actually identified this whole post-critical care recovery is actually such an important thing and, partly through Pam's work and another programme of research, we now have this whole thing that's called post-operative recovery. We now have therapists who work on rehabilitation, but also on things around nutrition, around anxiety and depression, and Pam's work has now progressed into looking at having digital platforms, websites for people around this post-critical care recovery, which Pam co-designed with patients and their families who've been through this. And now her research is focused on what kind of digital interventions and post-op solutions actually work the best.
- 18:00: So again, it came from her curiosity, and she's probably ten years down the line now in terms of being a leading researcher in this area.
- 18:12: *And it sounds like that research is just evolving and changing as the knowledge increases.*  
(Jo)
- 18:15: That's right. Absolutely.  
(Juliet)
- 18:18: And I've just got one final example, another one of our nurses, so Kath Williamson, who was a district nurse in Edinburgh, who had become increasingly concerned about the growing number of people that she was seeing who were so severely obese that they were actually housebound, if not bedbound. And actually, I remember Kath saying to me, she came out of somebody's house one day and said surely we can do this better.
- 18:46: And so she again went on a very long term journey, did a PhD at the University of Glasgow, where first of all, part of her PhD sought to quantify what is the size of the problem, for want of a better word, in terms of how many people in Edinburgh are severely obese who are housebound, and what resource from health and social care goes into actually caring for them. So she was actually able to do an economic evaluation as well as a service evaluation.
- 19:23: But beyond that, she also wanted to understand what is it like being that person who has become so severely obese that they can't leave the house anymore, when you've got all the stigma around severe obesity.
- 19:36: So Kath did this amazing research study, which now has led to her setting up something called the Bariatric Care Forum in Lothian, where she's become a real expert in this field. : She doesn't just work with healthcare professionals, but with the fire service, with the ambulance service, with housing, and she's brought those professionals together.
- 19:59: She's building an international reputation around this work and I'm delighted to say that she's become the first nurse in Scotland who's got one of the prestigious Chief Scientist's Office Early Career Postdoctoral Fellowships. So she's taking forward that



research now to try and develop a weight management intervention for the housebound population.

- 20:22: So she's a real role model, she's an inspiration and I'm delighted to say that we managed to find funding from our R&D office to help her become that researcher.
- 20:33: That's great, what an achievement. And I think it's really evident that nurses, allied health professionals are really in the position to know what questions to ask, know what is actually affecting individuals, build their research around that. So that's really interesting. Thank you for those excellent examples.
- 20:50: If someone is interested in pursuing an academic career, what opportunities do you think are available?
- 20:57: So I have to be really honest that the options in Scotland are a lot more limited than they are in the other UK countries, particularly compared to England, where there's a well-established funding pathway. But there are some funding opportunities in Scotland that hopefully allow people to do this not on top of their job. So the Chief Scientist's Office, which is our major funding body in Scotland, are creating some more opportunities, but they are limited and they're very competitive. And we need to have a much better strategic plan in Scotland, in terms of how we're going to make this a priority and make it happen. And people like me spend a lot of our time lobbying for that and trying to show what is possible and I hope that in years to come, the situation in Scotland will be different.
- 21:52: But there are some opportunities, but I would say that people need to be tenacious, they need to be determined and they need to be really committed to want to do it. But if they do, and if they are, then people like me are around to support them, and I get a great deal of satisfaction about seeing people achieve this and create that difference that we so desperately need.
- 22:19: Now in Lothian, we do have some additional opportunities that are perhaps not open to other people in Scotland. Things that we've got at the moment are something called the Clinical Academic Research Gateway Awards, which we funded by our NHS Lothian charity, and we've been running those for about two years. And we've got five different types of awards within the Gateway Awards, including something called "First Steps into Research", which is like an internship which allows people to have 12 days to work with an established research team, like our clinical trials teams or academic partners for them to understand is research something that they want to get into? It'll help have something on their CVs.
- 23:06: But we also at the end of that scale, we have something called a Postdoctoral Bridging Gateway Award, which allows the people who've done the PhDs to actually get their next steps on the ladder. So some of the people I've just talked about, they all got Postdoctoral Gateway Awards and it allowed them to take that next step.
- 23:21: So we need to make things like the Gateway Awards more normal. And again, I kind of lobbied for that. And we're hoping that the evidence that we're collating about the difference that the Gateway Awards make will actually help make the case as to why other health boards need to make this investment.

- 23:39: You asked me about commitment that people perhaps need to make, and I think I already said, yeah, you do need to be really committed to become a researcher. We know that in Lothian, where we've got about 40 non-medics who are doing doctoral studies at the moment - and that's quite a lot - but 86% of them are doing it part-time on top of their jobs, often with very limited study leave.
- 24:06: To be honest, that's how I did mine. I was pretty late on in my career. I had two children. I had a full-time job. It took me about seven years to actually do it. And so that's one of the reasons why I'm so motivated to try and help other people have a different pathway.
- 24:25: But even for me who didn't get her PhD until I was nearly 50, it still made a big difference to my career. How I saw myself, how other people saw me, other opportunities that it opened up to me. So it was worthwhile for me, even at my late stage. But as I always say, imagine if people had that research training by the time they were 30, 35, when you've still got 30 years of a career to make a difference.
- 24:55: But you don't have to have a PhD to be involved in research. I think to lead on research, to do your own research, I think you do.
- 25:04: But our clinical research nurses and midwives, they don't need to have a PhD to do the job. People who are working in practice all need to be interested and motivated to support research happening around them and as well as to use research. They don't need to do a PhD.
- 25:28  
(Jo) *Definitely. And I think from other podcasts we've done, we've heard about stories of how satisfying a delivery research nurse role is as well.*
- 25:34  
(Juliet) Absolutely.
- 25:35:  
(Jo) *So what words of encouragement would you give someone who is interested in pursuing an academic career?*
- 25:40:  
(Juliet) So I think I would say you need to get a lot of support. You know, it's not something that you can just do by yourself. I think you need to find role models, you know, that whole thing about you can't be what you can't see. So you need to see somebody who's actually done what you're aspiring to be. Find people who are going to inspire you. I would say get involved in what's going on in research around you. Be curious, find out about your clinical research team. There'll be a clinical research team somewhere around you. Find out what they're doing. Think about the questions that might sit alongside those drug trials that your patients are participating in. Find out about the funding options and how do you access them, and how are you going to be competitive? How can you build up things on your CV?
- 26:33: There's lots of things that go on in the health service: audits, service developments, supporting other people's research. There's lots of training courses out there. Obviously, Jo, the work that you do in the Edinburgh Clinical Research Facility, I'm signposting people, not just to your in-person courses, but to all of that stuff that you're now signposting online.



- 26:50: *Thank you!*  
(Jo)
- 26:55: Do some of those things, get that on your CV. Show a future funder that you've been building up to this. So those are the kind of things that I would do. It's likely that you'll need to do a Masters degree. Lots of nurses and midwives and AHPs do Masters degrees. So what did you do for your dissertation? Be ambitious with that, present it at a conference, write it up for publication. You're going to have to compete with other people who are doing things.  
(Juliet)
- 27:18: So, you know, go for it and actually look at how can I build my CV? I think we've got a lot to learn from our medical colleagues who actually encourage people from their student days to be actually doing this. Again, it's a minority of the medics who do it, but if they're going to do it, they really invest in them and they support them.
- 27:48: So a lot of it's about the professional culture and that expectation. And I think in nursing, there's still something about our culture that is a bit suspicious about people who want to do research. We see them as a bit academic, about a bit different, and we really need to change that culture. So my clinical research nurse colleagues are really actively trying to change that culture by creating opportunities for practice learning, so people who are student nurses don't just see research as those papers that you've got to critique, that boring research methods module that you never really understood. But they might actually come and spend a day or so with a clinical research nurse and go, oh, actually this is something real. This is something that we need to do. So we're slowly looking at how can we kind of change that culture.
- 28:43: *And those student placements, I think, get really good feedback as well, don't they?*  
(Jo)
- 28:46: They get really good feedback.  
(Juliet)
- 28:48: *So finally, have you got any top tips to give people?*  
(Jo)
- 28:52: I think being curious is about one of the most important qualities about being a healthcare professional. What is the best care? What do people need? What do they understand? How can we do things better and differently?  
(Juliet)
- 29:05: So I think my top tip is never lose that curiosity. Show other people that it's really good to be curious, but actually you've got to get that support. You've got to find the people that are going to help you because you're not going to be able to do this on your own.
- 29:22: And it might be somebody like me, it might be your tutor that you had in the university, it might be your clinical research nurse, it might be the doctor. But actually, be ambitious. Why couldn't it be you that could be the next person that actually gets that national funding to become a researcher?
- 29:46: *What a wonderful way to end our conversation. Thank you so much. That was really insightful and it's been a pleasure to talk to you today.*  
(Jo)
- 29:50: Thank you very much for giving me the opportunity.  
(Juliet)

29:54: *I hope you have enjoyed listening to our conversation today. Thanks so much to Juliet, (Jo) who gave some really valuable insights and some inspirational examples of how academic careers can not only benefit professionals, but also the huge impact investing in these can have on patients, the health service, and society as a whole. Thank you for listening. Until next time, bye.*