

Professor Peter Schmid and the Breast Cancer Centre's drive to improve breast cancer outcomes

Professor Peter Schmid is a world-leading Professor of Cancer Medicine, based at Barts Cancer Institute, Queen Mary University of London. He has recently become the Director of the Barts Health Breast Cancer Centre. Peter's research is changing the way that triple negative breast cancer is treated globally. He focuses on improving care for people with breast cancer through clinical trials, spanning early- to late-stage disease. Notably he has led major international studies that have helped establish new standards of care for triple negative breast cancer, including the IMpassion130 and KEYNOTE-522 trials.

Barts Charity support for Peter's work

Barts Charity previously awarded Peter and his team £499,000 to explore whether a simple blood test could help doctors better understand and monitor breast cancer.

Cancer can change over time, so a sample taken from a tumour when someone is first diagnosed may not give doctors an accurate picture of their cancer months or years later. Taking new tissue samples can help, but this involves repeated biopsies, which can be painful, invasive and unsuitable for some patients.

The researchers are developing a way to look for tell-tale changes in DNA in the blood that could indicate the presence of breast cancer. Early results indicate their approach is able to detect cancer in a high percentage of patients in the study group. The research is also laying important groundwork for future studies, helping make it possible for blood and other samples from people with breast cancer to be collected and studied as part of clinical trials. Ultimately, research like this could help doctors understand how a person's cancer is changing and how it is responding to treatment, without relying on repeated tumour biopsies.

Interview with Peter Schmid on the new Breast Cancer Centre

We spoke to Peter about what drives his research, advances in breast cancer treatment, his ambitions for the Barts Health Breast Cancer Centre, and why philanthropy can play such an important role.

What initially drew you to breast cancer research?

I started working in a breast cancer clinic, and that's where I did a lot of my training. We were a very research-active academic centre, and that's how I got into it step by step. I got fascinated by the chance and opportunity to develop new treatments.

So I started as a treating clinician, and my first step was working with patients. When you see patients who have limited treatment options and you develop new treatments

as part of trials, and you see it actually works, and you suddenly change the outcome for patients, that is one of the most rewarding things you can do.

And that fascinated me. And so I gradually got more and more into breast cancer research.

Why did you choose to work in East London?

St Bartholomew's Hospital is a fantastic place to work at. It's a unique place if you look at its 900-year history. This is very significant, but it also offers all the opportunities going forward.

We have world-class research. At the same time, we have a highly diverse patient population. And so, it's a fascinating place. Nothing is ever settled. Nothing is ever established. Everything is in flow. There are opportunities to really make a difference.

You've been involved in major research into triple-negative breast cancer. What have recent studies shown, and how could they transform care?

We have had a few big steps forward in the last few months and years in triple-negative breast cancer.

We just presented the final analysis of a pivotal study. That study established immunotherapy as a treatment for breast cancer, added to chemotherapy. And what we could show is that we reduce the risk of recurrences in this more aggressive subtype by about 40%.

We also just recently had a very interesting new study for patients who have advanced or incurable triple-negative breast cancer, where we worked with a new class of drugs called antibody drug conjugates, a very targeted form of chemotherapy.

And when we combine that with the immunotherapy, patients do much better. They decease is much longer controlled compared to standard chemotherapy with immunotherapy. And again, that's a big step forward.

What are the Breast Cancer Centre's research priorities going forward?

Our clinical research strategy for breast cancer is ultimately focused around the patient.

What we want to achieve is improved patient outcomes. And we can do this in various ways. We have a very strong track record for triple-negative breast cancer, because this is where I think we as a team made the biggest difference over recent years. We just had a trial for patients with hormone receptor positive breast cancer, where we reduced the risk of by about 30%.

How will bringing breast cancer services together strengthen research and help more patients take part?

One of the challenges we had at Barts Health is down to its historic development. It merged out of five different hospitals. Historically some of the services were really

spread out across East London. And it's a big catchment area. Now when you want to drive successful research, it's important to remove all possible barriers for patients.

For us as researchers, having everything in one place, from the diagnostic pathway to the surgical pathway to the oncology pathway and to research, is really critical. We also have really important co-location of the university laboratories, which are just across the street, which allows us to take samples, for example, blood samples or tumour samples, and analyse them in the lab.

Bringing everything together sets us up in the best position to be in a competitive landscape globally. This is what centres in the US or Germany or Korea do. And it brings us in a much better position to really help advance breast cancer research.

Why is collaboration between Barts Health, Queen Mary University of London and Barts Charity so important?

If you want to make a difference in research, you can't do it on your own. I think the days where you sit in your little back office and come up with a great idea and try to change the world are gone, at least in medical oncology. So this is all about collaboration. This is all about teamwork. This is all about bringing together the best people from all areas.

And we have a fantastic hospital and university. We have, with Barts Charity, a really a strong institution that supports development and research. Bringing all of that together allows us to create synergy that will put us in a position where we can actually make a difference.

What is your personal vision for breast cancer research?

My personal vision for breast cancer research is always focused around the patient. I am a treating doctor. I see a lot of patients every day.

My determination is that at early-stage breast cancer, we ideally could cure all patients. We know we can't achieve this at the moment. And this determination is that at an advanced breast cancer, where we can't cure patients, that we possibly get to cure in the future, but at the least we can improve their quality of life, maintain their quality of life, and improve survival.

This is always the starting point. And then we will bring in whatever is needed to improve those outcomes. And that of course includes a good understanding of cancer biology. What drives cancers includes a good understanding of new treatments. And how can we kill cancer cells essentially to improve outcomes and bringing all of that together.

How can philanthropy support breast cancer research?

Research unfortunately costs money.

There are some streams in research that are very well funded. But there are other streams that are much less well funded. And so philanthropy is essential to develop

ideas, to bring innovation, and to establish important first steps, but also to work on the infrastructure to set up and do the research we would like to.

What would you ultimately like the Centre's research to make possible?

I would like to be able to learn from every single patient that goes through our hospital, and that means we must have optimal data collection.

We have to collect what we call biomaterials: tumour samples, blood samples. Ideally, we'd need to incorporate this and integrate this into routine care, to give patients innovative therapies and monitor them closely in a holistic way. And that doesn't just include how the cancer responds, but also quality of life assessments, dietary assessments, checking the microbiome. We have an interesting project ongoing that looks, for example, at the microbiome, all the bacteria in a patient's bowels, to see how that may determine response and outcomes with therapy.

What are you here for?

Well, I would like to be able to say I'm here to make a difference. And I think that's the dream of every oncologist. And that's a dream of every researcher.

Now, as an oncologist, you can make a difference every day when you're there for patients, when you help them, when you help them to meet their dreams and help them on their journey.

As a researcher, you dream of being part of the development of a treatment that really makes a difference.

I've been very fortunate to have been in a position where we developed treatments that are now clearly curing more patient with triple-negative breast cancer, and I can say there's nothing in the world that's more rewarding and humbling than that.

What has been most rewarding moment in your career so far?

It's always difficult to say what one is proud of. What I find most rewarding and humbling is as being able to just say I was part of a team that made a difference.

For example, in native breast cancer, we doubled survival in patients with advanced triple-negative breast cancer. We are now working on a treatment for hormone driven cancers, where the data at the moment suggest we may reduce the risk of accounts by about 30%.

Now these are big studies. These are team efforts. But I'm proud that I was part of those teams and played a small part in steering it in the right direction.

What would you say to someone considering making a major donation to support Barts Charity and breast cancer research here?

I think essentially you can make a real difference here.

You can see this is a hospital that has history and legacy, but at the same time it's at the forefront of research. We bring this world-class research back to patients who really need it. We have a highly diverse and sometimes deprived catchment area. And so we have this dichotomy between world-class research, but then patients who sometimes struggle to pay the bus fare to come to our hospital.

We can make a difference here locally, but also globally.

What do you hope people feel when they walk through the doors of the Breast Cancer Centre?

So our vision is for anyone who walks through the door of our Breast Cancer Centre is that they're calm, that they feel safe, that they feel this is a place where they may get the help and the treatment they need. That we remove barriers.

Being diagnosed with cancer of any form is obviously a very decisive moment in most patients' lives. It's associated with fear, with anxiety, with worries. And we want to be a safe haven. We are here for you. We've got you. We've got you from a treatment point of view. So you don't have to spend the next weeks and years googling: 'where do you find better treatment?'

Because this is where you are. We have you.

What has bringing breast cancer services together already achieved, and what could further funding make possible?

We've come a long way in terms of breast cancer services at Barts Health, and I think we have pockets of really world-class care. And that starts with diagnosis, and comes through surgery. But also in research terms, we've really helped shape the current and future treatments for breast cancer, where there's need to improve.

Where we're making the first steps is by bringing all of that together, because I truly believe that by bringing everything together, we create more synergy.

And ultimately this will go back to the patient, improve their outcomes, improves the experience, but also improve care pathways for patients not just in London, but hopefully around the world.