

BioBeat'21

Transforming medicine development
through digital innovation

A summit on optimising outcomes through digital innovation in clinical trials and beyond

For scientists, entrepreneurs and investors

14.00-16.30 GMT
Tuesday 9 November 2021

Streamed live from AstraZeneca's global R&D Centre
at the Cambridge Biomedical Campus, UK

Connecting humanity and technology to improve health

Live-streamed to over 600 delegates from AstraZeneca's new R&D Centre in Cambridge, UK, this year's BioBeat Summit focused on optimising outcomes through digital innovation in clinical trials and beyond. BioBeat founder Miranda Weston-Smith opened the event with the message that we are at our most impactful when technology and humanity converge, bringing new opportunities for creating progress and value.

As highlighted in the keynote talk from Cristina Durán, Chief Digital Health Officer R&D at AstraZeneca, we are living through the largest transformation in human history. The pandemic has been an accelerator of change and shown us what's possible, not only in the delivery of routine healthcare but also in clinical trials.

Technology continues to advance at pace and by 2050, \$1,000 will be sufficient to purchase the equivalent computational power of all the human brains on the planet. Innovations in digital technology, including clinically validated monitoring devices and wearables, have a lot to offer in terms of clinical research. For example, AstraZeneca's own research shows that 70% of trial data could be gathered remotely, presenting a significant opportunity to widen participation, reduce costs and make research more sustainable.

But this isn't just about the technology: humans are firmly at the heart of this revolution. It is essential that we listen to and learn from patients, carers and healthcare providers – as well as other user-centred industries such as banking and travel – to create healthcare that's personalised, empowered and proactive, and delivers better experiences and outcomes.

Building on this theme, our first expert panel discussed this new era in clinical trial design. Decentralised, digitally enabled trials have the potential to be more flexible and adaptable than traditional trial designs, with the added advantage of increased resilience in the face of challenging circumstances.

The growing use of AI can also bring new insights and efficiencies, freeing up researchers to focus on solving problems that will make a meaningful difference to health. Other innovations, such as the use of real-world data instead of conventional control arms, are enabling us to re-imagine what a 21st century clinical trial could be like.

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We have the opportunity to gather the very best we learned from responding to the challenges to clinical research during the pandemic and take it forward, while still being thoughtful about when and where we apply these technologies and tools. Building in interoperability is crucial so that software and devices can talk to each other effectively, to avoid creating a profusion of disconnected apps and data silos and ensure the patient experience is as seamless as possible.

At the same time, we should be mindful that the digital divide still exists, and even decentralised trials have the potential to be burdensome to patients if not considered properly. We must always clarify *why* people are being asked to do certain tasks within a trial, not just *what* they need to do, and keep them fully informed throughout the journey from recruitment to results.

Our second panel explored how the boom in digital health has attracted a surge of interest from investors across the biotech and tech sectors, highlighting the key areas that entrepreneurs should be focusing on in order to attract funding. A point that came through loud and clear was the importance of founders being embedded in a supportive entrepreneurial ecosystem, where they're able to draw on the experience and advice of those who have done it before and can introduce you to people who can help.

It's clear that the way to deliver value and raise investment is by solving the right problems for the right people. It's important to get innovative treatments and tools into the hands of patients, who are best placed to provide insights into what's working and what could be improved. It's also essential to engage with the regulatory environment and consider intellectual property early on, to make sure that great ideas actually make it to market.

Finally, we need to share our experiences about what works, to build on the valuable insights we've all gained over the past two years. There are still plenty of challenges to overcome but the future is bright. This year's Summit highlighted many opportunities for our community in digitally driven clinical research and healthcare.

With thanks to all the speakers and chairs:

- Amber Hill, CEO and Founder, R.Grid
- Catherine Priestley, Head of BioPharmaceuticals R&D Communications, AstraZeneca
- Cristina Durán, Chief Digital Health Officer R&D, AstraZeneca
- Isla Mackenzie, Professor of Cardiovascular Medicine and Honorary Consultant Physician, University of Dundee and Ninewells Hospital
- Jean Abraham, Professor in Precision Breast Cancer Medicine and Honorary Consultant in Medical Oncology, University of Cambridge
- Kristin-Anne Rutter, Executive Director, Cambridge University Health Partners
- Letizia Gionfrida, PhD Researcher, Imperial College London and Investment Associate, UK Innovation & Science Seed Fund
- Magdalena Jonikas, Partner, Syncona Investment Management
- Melissa Strange, CFO, Closed Loop Medicine
- Miranda Weston-Smith, BioBeat Founder
- Oriane Chausiaux, CSO and Founder, Heartfelt Technologies
- Wendy Stewart, Senior Vice President, Global Head Project Leadership, IQVIA

BioBeat21 gratefully acknowledges the support of Appleyard Lees, AstraZeneca, Cambridge Judge Entrepreneurship Centre, Covington, Innovation Forum, One Nucleus.

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