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Sano Genetics: A digital patient interface to accelerate the pace of precision medicine

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Abstract: Sano Genetics was founded in 2017 by three University of Cambridge post graduates on a mission to build the future of personalised medicine. The digital platform they have developed acts as a matchmaker between patients and researchers, aggregating and enriching data to accelerate the pace of precision medicine research. Integrating data from digital health companies, patient registries, and national biobanks through a partnership model, Sano has built a network of over 2 million individuals, delivering patient recruitment 10x faster than traditional industries. It aims to become the world leader in ethical data sourcing for precision medicine research.

Keywords: Genetics, Clinical trials, Research, Precision medicine, Personalised medicine, Data privacy

1. The success story

Sano's vision is to build a future of medicine that is patient-centric and data driven. We fundamentally believe that one size does not fit all when it comes to diagnosis and treatment and the key to achieving this goal is to put patients in the driving seat. We have built a virtual biobank that enables patients to push research forward and participate in clinical trials from their own homes and, crucially, to have full control over their data. This has enabled Sano to offer large-scale patient recruitment services for research into rare and/or chronic conditions at a much faster pace than alternatives and to advance cutting-edge research in the field of precision medicine.

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2. Where did it start

Sano's three co-founders, Patrick, Will & Charlotte, met during their PhDs at the University of Cambridge. All had experienced the logistical complexities in recruiting cohorts of patients for research and realised there was a lot of room for improvement. After winning the Cambridge University Entrepreneurs competition with a digital solution to the problem, they started working on the platform prototype and working with researchers and patients to test the product. They soon secured £500K in a pre-seed round of funding from Seedcamp, Cambridge Enterprise and Cambridge and London based angels which supported the development of a personalised patient interface, the core infrastructure and the capability to deploy at-home genetic testing. This opened the door for key partnerships with large-scale programmes such as Genomics England, and their first commercial contracts with pharma and biotechnology clients. In 2020, Sano raised a seed round of £2.5 million led by Episode 1 to go to market with a complete precision enrolment solution for clinical trials and a patient-facing platform that helps people find relevant research, advance science, and learn more about their condition.



Figure 1. Sano founders: William Jones - CTO (left), Charlotte Guzzo – COO and author of this article (middle), Patrick Short- CEO.

3. Why is it needed?

The average cost of recruitment per clinical trial is \$11 million. We know that medicines supported by genetics are three times more likely to succeed, yet over 80% of clinical trials are delayed due to failure to recruit eligible participants, with costs between \$600K to \$8

million per day. This is largely due to a fragmented and static health data infrastructure slowing progress. By building a personalised patient interface, we can improve the patient experience by providing relevant insights and access to custom content while helping researchers access hard to reach patients with rich medical and genetic data in a much shorter timeframe.

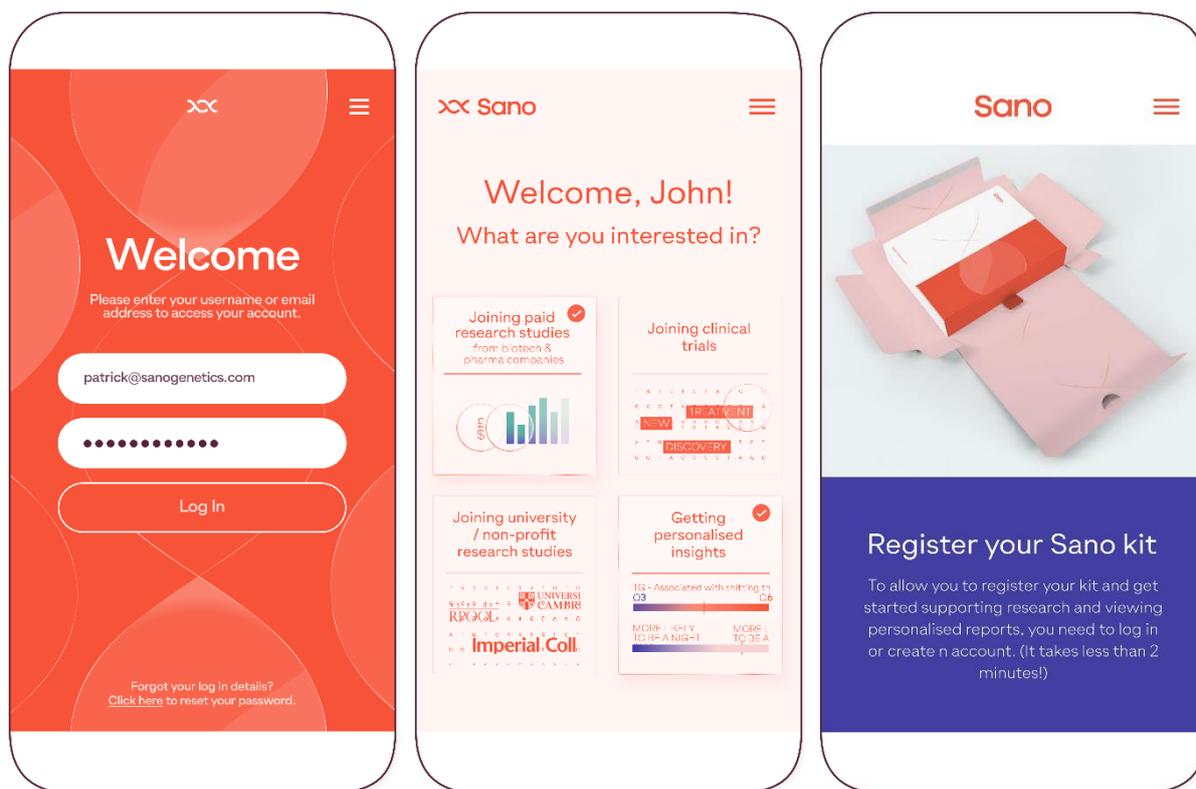


Figure 2. Sano offers clear and intuitive user interface.

4. Who is involved?

The three co-founders met at the Sanger Institute while pursuing their PhDs in various areas of genomics.

Patrick Short, CEO, studied biology and mathematics at the University of North Carolina prior to doing his PhD at the University of Cambridge. At the Sanger Institute, he specialised in rare developmental disorders. His experience working with large datasets of rare disease patients made him particularly aware of the limitations encountered with static data, even with large cohort sizes (>10,000 families with whole exome or genome sequences).

William Jones, CTO, studied mathematics and computer science at UCL and the University of Cambridge and has a background in data science and machine learning. He oversees the technical strategy at Sano.

Charlotte Guzzo, COO, has a background in business and originally worked as a risk analyst in an investment bank. After a career change, she graduated in neuroscience from the

University of Cambridge and started a PhD in genomics at the Sanger Institute, looking at the origins of childhood cancer. She oversees operations at Sano.

Sano has grown from three to a team of 22, with backgrounds in bioinformatics, artificial intelligence, academia, pharma and health tech. We are supported by strategic investors with strong experience in life science and marketplace ventures, as well by key advisors including former VP of Innovation at PatientsLikeMe Paul Wicks, former CEO of Indeed Paul Forster and former CEO of HelixNano, Carina Namih.

5. Looking to the future

Sano aims to be the largest provider of ethically sourced human data for precision medicine research. With over 2 million patients in our network and key partnerships with national-scale research initiatives, we are now looking to expand on the scope of data we can support and to develop key product features to support an engaging patient experience. The long-term vision for Sano is to span the entire treatment development life cycle, from molecule discovery to measuring real-world efficacy.

References

[1] Will Genome Sequencing Bring Precision Medicine for All?, The Guardian, Guardian News and Media, Sep. 2019, www.theguardian.com/science/2019/sep/28/genome-sequencing-precision-medicine-bespoke-healthcare-nhs/.

[2] Scialom, Mike, Cambridge Firm Bakes Ethics into Its Genomic Platform, Cambridge Independent, Cambridge Independent, May 2019, www.cambridgeindependent.co.uk/business/cambridge-firm-bakes-ethics-into-its-genomic-platform-9069057/.

[3] Brackley, Paul, #21toWatch Shortlist of People, Companies and 'Things' Revealed, Cambridge Independent, Cambridge Independent, Feb. 2020, www.cambridgeindependent.co.uk/business/21towatch-shortlist-of-people-companies-and-things-revealed-9099373/.

[4] Lytton, Natasha. Sano Genetics Raises £500,000 to Make Personalised Medicine a Reality, Seedcamp, Apr. 2019, seedcamp.com/sano-raises-500000-to-make-personalised-medicine-a-reality/.

[5] Sano Genetics, Forbes Magazine, www.forbes.com/profile/sano-genetics/.

[6] A Genetic Data Matchmaking Service for Researchers, Illumina, Mar. 2020, emea.illumina.com/science/customer-stories/icommunity-customer-interviews-case-studies/short-sano-genetics.html/.

[7] UK Leading on Patient-Centric Precision Medicine Research, Genomics England, May 2020, www.genomicsengland.co.uk/patient-centric-precision-medicine-research-sano-genetics-zetta-genomics/.

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Charlotte Guzzo is the COO and co-founder of Sano Genetics. She is experienced in single-cell genomics research specialising in the embryonic origins of childhood cancer, and she has worked at the Wellcome Trust Sanger Institute and the University of Cambridge, having started her career in a very different sector, as a risk analyst at JPMorgan.



She co-founded Sano Genetics in 2017 with two friends from university, William Jones (COO) and Patrick Short (CEO) to solve historic problems in the field of precision medicine research.

Charlotte is driven by the need to make an impact, and to improve the world she leaves behind for her child and for future generations.