

ABCD rising star award 2024

Dr Charlotte Boughton

Clinical Lecturer at the University of Cambridge

Charlotte's research applies diabetes technology, particularly automated insulin delivery systems to improve outcomes for people living with diabetes. She is currently Chief Investigator of an NIHR EME funded multicentre randomised clinical trial of closed-loop insulin delivery in cystic fibrosis related diabetes (CL4P-CF study). She has recently been awarded the European Foundation for the Study of Diabetes (EFSD) / Novo Nordisk Foundation Future Leaders Award Programme, a five-year Fellowship.

During her clinical training she has conducted several multicentre, multinational clinical trials applying closed-loop technology in different populations which have led to first author publications in high-impact journals including New England Journal of Medicine (CLOuD study investigating closed-loop from onset of type 1 diabetes in children and adolescents), Nature Medicine (fully closed-loop in adults with type 2 diabetes), Lancet Diabetes & Endocrinology (inpatient closed-loop for adults requiring nutrition support in hospital), Lancet Digital Health (hybrid closed-loop for children and adolescents with type 1 diabetes) and Lancet Healthy Longevity (hybrid closed-loop for older adults with type 1 diabetes).

This research has led to changes in national and international clinical practice guidelines and has provided key evidence to support improved access to life-changing technology. This includes the recent NICE Technology appraisal on hybrid closed-loop and successful implementation of fully closed-loop therapy into routine clinical care for inpatients with diabetes at Addenbrooke's Hospital.

She co-developed a series of webinars on closed-loop systems for users and healthcare professionals to improve access to this technology; to facilitate adoption and successful implementation she was involved in creation of online competency-based training on hybrid closed-loop and inpatient fully closed-loop hosted by Cambridge Diabetes Education Platform (CDEP).

She has presented her research at National and International meetings and has been an invited speaker at numerous International conferences including American Diabetes Association, Advanced Technologies and Treatments of Diabetes, International Diabetes Federation. Her research is also of public interest and has generated significant media interest, featuring on BBC news, international media outlets and discussed in depth on a Guardian 'Today in Focus' podcast.

Charlotte has been involved in the writing of National and International diabetes guidelines (2024 International Society for Paediatric and Adolescent Diabetes (ISPAD) Clinical Practice Consensus Guidelines: Diabetes Technologies: Insulin Delivery; 2021 Advanced Technologies & Treatments for Diabetes Consensus Recommendations for the Use of Automated Insulin Delivery (AID) Technologies in Clinical Practice; 2020 Association of British Clinical Diabetologists' Renal Group and Association of British Clinical Diabetologists' Diabetes Technology Networks and

Renal Association Glycaemic Assessment in People with Diabetes on Haemodialysis). She is currently an Associate Editor at Diabetologia Journal.

Charlotte was awarded a place on the prestigious Innovators in Diabetes (IDia) 3-year programme run by Diabetes UK which aims to support and develop future leaders in Diabetes research. She has also been selected for the NIHR Future-Focused Leadership Programme for Emerging Research Leaders in the health and social care sector. She is a member of the Diabetes UK Research Steering Group for Diabetes Acute Care.

A rapidly rising star in the inpatient and outpatient diabetes worlds.

Nominated by Dr Omar Mustafa, King's