



From the desk of the Chairman, Dipesh Patel

As I write this update it appears, at long last, as if we are making the start of a return to normal life, with face-to-face meetings and conferences resuming and staff being able to take long overdue and most welcome holidays. The pandemic has left a deep scar that will take a long time to heal, of course; with many of our colleagues and friends continuing to be burdened by illness, the impact of the pandemic on their mental health and workforce shortages. There is continued need within our service to deliver compassionate leadership and support for all our colleagues and ancillary staff. I would like to extend my heartfelt thanks to all members and colleagues for all your hard work supporting patients. There are uncertain times ahead, brought about by war, inflation and perturbed energy markets, which remind us to be mindful and grateful for what we have and charitable towards people who are suffering.

One clear silver lining of the pandemic has been the far greater acceptance of digital delivery of learning programmes. Here at ABCD our widely respected programme of webinars will continue as part of our core programme of services. To date this year, we have delivered four webinars and our extensive library of digital learning is accessible for all members to support their continued professional development. You can access the library at <https://abcd.care/abcd-webinars-series>.

We are delighted that our full programme of face-to-face events has now resumed. The first event, the ABCD DTN Educators Day, took place on 24th May, 2022. We are all extremely excited to be celebrating the centenary of the first administration of insulin with an absolutely extraordinary event on 4th and 5th July, 2022 at the RCPL. We've got a fantastic programme and, with more than 200 attendees booked to attend so far, we know that this is going to be a unique and exciting event. Both the ABCD and DTN annual meetings will be making a strong return to in-person events this year. They take place on 7th and 8th September, 2022 – register now for special anniversary rates.

Our Association reaches a quarter of a

century this year and is going from strength to strength. Some of this history, and indeed the future, will be showcased at our conference on 8th September, so I urge you to join us and be a part of this. This also marks a great time to listen to our members to help shape the Association and its activities for the next decade and beyond.

There is a whole range of other events being planned throughout the year, with several regional meetings and more partnerships with other organisations to help bring you top-quality diabetes-related learning from a network of national and international experts.

ABCD, as a National Nominating Organisation for the new National Clinical Impact Awards (formerly ACCEA) will be able to support a small number of applications this year. The application process closed on 25th May, 2022, I hope your applications were submitted. Find out more at <https://abcd.care/announcement/national-clinical-impact-awards-open-applications>.

Research and audit are at the heart of what we do to help inform and challenge practice. We were delighted to launch the ABCD audit for the Omnipod insulin pump earlier in the year. You can find out about all the audits being delivered by ABCD directly through our website. We encourage all members to participate.

Last year, we introduced a new clinical grant offering in partnership with Diabetes Care Trust. We are delighted to announce that we are once again offering grants of up to £50,000 for high-quality clinically based studies relating to the management and care of people with diabetes. We particularly welcome applications from those at an early stage of their clinical and academic training. Find out more at <https://abcd.care/research-grants>. The deadline for applications is 1st July, 2022. Thanks to the academic subcommittee for their work in supporting this.

I'm pleased to report that our membership continues to grow and thrive and we have a strong voice and presence with policymakers and stakeholders in the diabetes community. We have been considering increasing our international footprint via collaboration with a number of partner organisations.

At home we are keen to encourage and

support Specialist Registrar (SpR) membership. We are in the process of developing new programmes to support SpR members, with specific reference to the diabetes curriculum. We continue to work with and provide input to other organisations, including the RCP, NICE, NHS and JBDS, and to the NHS. Our participation with these organisations helps us to ensure that the voice of the specialist diabetes physician is heard and considered in new guidance and reports.

Our flagship journal, the *British Journal of Diabetes*, continues to grow and mature. As part of our preparations for PubMed application we have updated the *BJD* website so that at Online First you can read articles ahead of print. You can also read there our journal policies and information on how to submit your work. Do consider sending us your original research, audits and case studies to help support our society journal, which has a healthy readership. Credit to the editorial team for the ongoing groundwork.

There is an excellent collection of resources available via the ABCD Diabetes Technology Network (DTN) web pages. These include educational resources from a virtual showroom demonstrating devices and their use, expert views on devices, educational resources for patients, a virtual academy and a series of videos on virtual consulting. The committee met recently to consider new and innovative programmes and we look forward to seeing plans this year. The DTN have an in-person conference on 7th September for which you will be able to register soon. Our thanks go to Pratik Choudhary and Alistair Lumb for their vision and enthusiasm about this important and thriving network which involves the whole MDT.

We hope you continue to enjoy our fortnightly newsletters which help keep you abreast of new developments, news, events and other diabetes-related information. If you have news to share with the membership please simply drop us a line at info@abcd.care.

This year we welcomed Dr Hermione Price to the Executive Team of ABCD as Honorary Secretary. We are currently seeking applications for an education lead for ABCD and committee membership. This may be your opportunity to shape the Association and work with our fantastic committee. See

<https://abcd.care/abcd-committee-position-applications-2022>

As chair of the ABCD committee I would like to take this opportunity to thank all our corporate sponsors of ABCD and DTN, without whom none of these programmes and supporting activities would be possible. Sponsors include Boehringer Ingelheim & Eli Lilly & Alliance, Lilly, Novo Nordisk Ltd, Abbott Laboratories Ltd, Dexcom, Insulet International Ltd, Medtronic Ltd, Medtrum Ltd, Air Liquide Healthcare Ltd, CamDiab and Roche Diabetes Care.

I wish you all a happy, healthy and warm sun-filled summer and I hope you all get a chance to take that well deserved and long overdue holiday. I also look forward to seeing you in person at an ABCD event in 2022 and beyond.

Dipesh Patel, ABCD Chair

From the desk of the News Editor, Umesh Dashora

JBDS News (Ketan Dhatariya)

Please look out for a questionnaire coming out soon to assess the use of devices and electronic medical records. This will help inform a new document we are currently putting together. New JBDS guidelines published:

1. Joharatnam-Hogan N, Chambers P, Dhatariya K, Board R, Joint British Diabetes Societies for Inpatient Care (JBDS-IP), UK Chemotherapy Board (UKCB). A guideline for the outpatient management of glycaemic control in people with cancer. *Diabetic Medicine* 2022 Jan;39(1):e14636.
2. Dashora U, Levy N, Dhatariya K, Willer N, Castro E, Murphy HR, Joint British Diabetes Societies for Inpatient Care group. Managing hyperglycaemia during antenatal steroid administration, labour and birth in pregnant women with diabetes—an updated guideline from the Joint British Diabetes Societies for Inpatient Care. *Diabetic Medicine* 2022 Feb;39(2):e14744.
3. Dashora U, Levy N, Dhatariya K, Willer N, Castro E, Murphy HR. Reply to Rowe *et al* Re: Managing hyperglycaemia during antenatal steroid administration, labour and birth in pregnant women with diabetes—an updated guideline from the Joint British Diabetes Societies for Inpatient Care. *Diabetic Medicine* 2022; 39: Apr 14:e14844.
4. Dhatariya KK, Joint British Diabetes Societies for Inpatient Care. The management of diabetic ketoacidosis in adults – An updated guideline from the Joint British Diabetes Societies for Inpatient Care. *Diabetic Medicine* 2022 Feb 27:e14788.

Updated diabetes module on RCM website (Umesh Dashora and Dinesh Nagi)

The highly successful ABCD collaboration with the Royal College of Midwives, which led to the development of an online training module for diabetes midwives (Diabetes I-Learn), has now been revised in view of the new JBDS guidance. The updated module is live on the RCP website. The previous version (2019-2022) had 1,563 members enrolled (of whom 965 have downloaded their certificate). The updated version went live three weeks ago: so far there have been 41 participants and 15 certificates have been downloaded.

Results of Rowan Hillson Inpatient Safety Award 2022

The Rowan Hillson Inpatient Safety Award for “The best interventions: redesigning, rebuilding and maintaining safe inpatient diabetes care during COVID” attracted many innovative entries from all over the country. The winner was the team from University Hospitals Birmingham NHS Foundation Trust led by Dr Punith Kempegowda for their innovative quality improvement project across hospitals during COVID to improve diabetes related ketoacidosis management. The Kings College NHS Foundation Trust team led by Adrian Li and colleagues received the highly commended award for their innovative project of remote blood glucose (BG) monitoring which improved diabetes control and tackled health inequalities. The Northampton General Hospital NHS Trust team led by Dr Sowmya Gururaj-Setty and Mr Thomas Williams was commended for their project of a new diabetes in-reach service during COVID-19 pandemic. The team from East and North Hertfordshire NHS Trust led by Shelley Hodgins was commended for their project on teaching video that was focussed on the treatment of hypoglycaemia. Guy’s and St Thomas’ Hospital team led by Elizabeth Camfield received a commended award for their project of a multidisciplinary inpatient service for safe discharges in the pandemic. The project is led by Umesh Dashora and Erwin Castro. The winners will receive their awards during the ABCD meeting in October.

EndoBarrier - The Latest (Bob Ryder)

EndoBarrier is a 60 cm impermeable sleeve implanted during a simple endoscopy procedure into the first part of the small intestine such that the food passes through it rather than the

small intestine. It is left in place for up to one year. Whilst in situ it leads to considerable weight loss and improvement in glycaemic control. In 2014, Dr Bob Ryder from Birmingham set up an NHS service providing EndoBarrier to patients with long-standing diabetes – patients who remained poorly controlled and obese despite years of advice about lifestyle and all available medications. In 2017 various hospitals in the UK were set to start similar services when unfortunately, EndoBarrier lost its CE mark.

Recently, the latest data regarding the NHS EndoBarrier service in Birmingham were published in *Diabetic Medicine* (<https://doi.org/10.1111/dme.14827>). The patients had a median duration of diabetes of 14.4 years and their mean BMI was 41.7 kg/m². During the year with EndoBarrier the mean HbA_{1c} fell from 76.8 mmol/mol (9.2%) to 56 mmol/mol (7.3%) and they achieved a mean weight loss of 17.3 kg. There was a considerable improvement in the need for insulin and one third of the insulin-treated patients were able to discontinue insulin. Two years after removal of the EndoBarrier three quarters of the patients were able to maintain the considerable improvements they achieved during the treatment with EndoBarrier.

The makers of EndoBarrier, GI Dynamics, Boston, USA, have applied for restoration of the CE mark for EndoBarrier and they are hoping this will be achieved during 2022.

Remote DAFNE courses (Gillian Thompson, National Director – DAFNE Programme)

The Remote DAFNE course, which was launched in July 2020, was developed to enable continued access to DAFNE education during the COVID pandemic. More than 2,000 adults with type 1 diabetes have completed a Remote DAFNE course, with 93% that commence a course completing it.

Paired baseline and after-course data for 313 participants show outcomes comparable to face-to-face DAFNE courses, with a mean 7.7mmol/mol decrease in HbA_{1c} 12 months after completion of the course for those with pre-course HbA_{1c} >58mmol/mol. The percentage with a HbA_{1c} of <58mmol/mol increased from 40.5% at baseline to 52% after the course. Feedback from participants is identical to the feedback from face-to-face courses.

More than 600 educators have been trained to deliver the Remote course and 197 doctors have completed Remote DAFNE

doctor training, which is offered free of charge and is open to any consultant diabetologist or trainee (ST3 onwards) and GPs. Further information is available at www.dafne.nhs.uk

Diabetes UK and JDRF UK launch pioneering £50 million partnership with Steve Morgan Foundation (Dipesh Patel)

During the centenary of the first use of insulin to treat type 1 diabetes, Diabetes UK announced that £50 million – the largest ever single philanthropic gift in the UK for diabetes research – has been donated by the Steve Morgan Foundation (SMF) for type 1 diabetes research.

Diabetes UK and JDRF UK have partnered with the Foundation to invest £50 million over five years in the “SMF Type 1 Diabetes Grand Challenge”, with the shared aim of developing new treatments and ultimately finding a cure for type 1 diabetes. Diabetes UK will administer the SMF funding alongside its usual research budget, which will continue to support scientists working in all areas of diabetes through existing Diabetes UK funding schemes.

The SMF Type 1 Diabetes Grand Challenge will focus on:

- Treatments to replace or rescue insulin-making beta cells in the pancreas
- Treatments to stop the immune system's attack that destroys insulin-making beta cells
- Novel insulins, such as those that respond to changing blood sugar levels.

From the desk of Rebecca Reeve (Sanofi)

Referral to treatment waiting times

At the end of February 2022, some 62.6% of patients waiting to start treatment through consultant-led elective care were waiting up to 18 weeks, thus not meeting the 92% standard. The number of patients waiting for treatment was 6.1 million, with 311,528 patients waiting more than 52 weeks, and 23,281 patients waiting more than 104 weeks.

<https://www.england.nhs.uk/statistics/statistical-work-areas/rtt-waiting-times/rtt-data-2021-22/>

The NHS and the Government have published plans that set out how the backlogs built up during the COVID-19 pandemic and long waiting lists for care will be handled over the

next three years. This plan aims to deliver around 30% more elective activity by 2024/5 than before the pandemic. NHSE Chief Executive Amanda Prichard and Health and Social Care Secretary Sajid Javid MP have announced plans to build dozens more community diagnostic centres as part of the new elective recovery plan. This would require a commitment to increasing specialised workforce.

<https://www.england.nhs.uk/coronavirus/publication/delivery-plan-for-tackling-the-covid-19-backlog-of-elective-care/>

New Diagnostic Centres

Record levels of health and social care funding have been allocated to help deliver up to 160 community diagnostic centres across England by 2025. The Health and Social Care Levy began on 6th April and will aim to raise over £36 billion over the next three years to help tackle the COVID backlog and reform services in the UK. The Government states that implementation of the Health and Social Care Levy will enable the NHS to offer more appointments, checks, scans and operations and reform the way that services are delivered so that the NHS is fit for the future.

<https://www.gov.uk/government/news/new-diagnostic-centres-deliver-nearly-three-quarters-of-a-million-tests>

Real-world evidence framework feedback consultation

NICE have opened a consultation to gather feedback on the real-world evidence framework. This comes after the NICE Strategy 2021-2026 stating their ambition to use real-world data to resolve gaps in knowledge and drive forward access to innovations for patients. This framework will describe the best practices for the planning, conduct and reporting of real-world evidence studies. The framework aims to improve the quality of real-world evidence that informs NICE guidance. The consultation ends on 29th April 2022, and the revised version of the real-world evidence framework will be published on 23rd June 2022.

<https://www.nice.org.uk/about/what-we-do/real-world-evidence-framework-feedback>

Quality in Care 2022 awards launched

changes to the delivery of diabetes care to reduce the variation of care and outcomes? Do you work in a UK or Ireland team that has made an outstanding contribution to the treatment and management of people with diabetes? Have you made positive changes to diabetes services? If the answer

to any of these is “yes” then please enter QiC Diabetes this year and let your efforts be applauded, shared and disseminated.

Entry closes 1st July and the awards ceremony will be held at Sanofi HQ on 13th October.

<http://qicdiabetes.awardsplatform.com>

New guidance from NICE

NICE has recommended the use of real-time continuous glucose monitoring (rtCGM) for adults and children living with type 1 diabetes for the first time. It will give them a continuous stream of real-time information on a smartphone about their current blood glucose level. Alongside new rtCGM technology, the use of intermittently scanned glucose monitoring (isCGM) devices – also known as flash monitoring – has been expanded to the whole of the type 1 diabetes patient population. Patients will now be able to choose the technology which is right for them in discussion with their diabetes team. NICE has recommended extending the use of flash monitoring to adults with type 2 diabetes who are on insulin therapy. This recommendation makes the technology available to around 193,000 people.

<https://www.nice.org.uk/news/article/thousands-of-people-with-diabetes-set-to-benefit-from-real-time-information-after-updated-nice-recommendations#:~:text=New%20guidance%20from%20NICE%20has,their%20current%20blood%20glucose%20level.>

Diabetes is serious report

Published on 20th April 2022, Diabetes UK's report *Recovering diabetes care: preventing the mounting crisis* sets out the urgent action needed by the Government, NHS England and Integrated Care Systems to reduce the long-term harm from missed routine diabetes care. The report includes findings from a survey of more than 10,000 people with diabetes, which shows that:

- 1 in 3 people said they had no contact with their diabetes healthcare team in 2021. This is despite the importance of regular checks and appointments to support people with diabetes to stay well and stave off serious complications.
- 47% of people said they had difficulties managing their diabetes in 2021.
- 2 in 5 people reported that they had found it much more difficult to contact their healthcare team during 2021 than before the pandemic.

The report was launched at a parliamentary reception on April 20th 2022. The Minister for Public Health and Primary Care was speaking at the event, alongside Diabetes

UK's Chief Executive, Chair of Trustees and Gary Mabbutt MBE, Former Premier League footballer and long-term Diabetes UK supporter.

https://diabetes-resources-production.s3.eu-west-1.amazonaws.com/resources-s3/public/2022-04/Diabetes%20is%20Serious%20Report%20Digital_0.pdf?VersionId=LpcXWRXhAli4Y3D_y7BABGqrGOq9lcB

The 15th International Conference on Advanced Technologies and Treatments for Diabetes (ATTD) took place in Barcelona on 27-30 April 2022, bringing together more

than 4,000 delegates in person and many more online to watch the first ATTD hybrid event. All abstracts are published in the *Diabetes Technology and Therapeutics journal* and the ATTD yearbook is available free on the website together with programme highlights. See www.attd.kenes.com You can find information from the meeting's tweets as though you were there using #ATTD2022. Next year's meeting will take place in Berlin 20-25 February 2023.

HARDoc, a parallel randomised controlled trial of the Hypoglycaemia Awareness Restoration Programme for adults with type 1 diabetes and problematic hypoglycaemia despite optimised self-care, was presented at the ATTD 2022 and simultaneously published in Nature. The HARDoc intervention significantly reduced diabetes distress, anxiety and depression.

www.HARDoc.org

Interesting recent research

(Umesh Dashora, Mizanour Md Rahman, Sheena Gupta)

A rapid-fire collection (extract) of interesting recent developments in diabetes

Authors, Journal	Type of study	Main results
Rathmann <i>et al</i> , <i>Diabetologia</i>	Retrospective cohort analysis	COVID-19 is associated with new-onset diabetes After propensity score matching, individuals with COVID-19 showed an increased incidence of type 2 diabetes compared with those infected with acute upper respiratory infections (15.8 vs.12.3 per 1,000 person-years, incidence rate ratio of 1.28). Rathmann, W., Kuss, O. & Kostev, K. Incidence of newly diagnosed diabetes after Covid-19. <i>Diabetologia</i> 2022; 65 (6):949-954 . https://doi.org/10.1007/s00125-022-05670-0
Siddiqui <i>et al</i> , <i>Diabetologia</i>	Cohort study	Young-onset diabetes in Asian Indians is associated with lower beta cell mass The prevalence of young-onset diabetes with normal BMI was 24-39% among Asian Indians compared to 9.3% in white Europeans. Additionally, stimulated C-peptide was 492 pmol/ml lower in lean compared to obese individuals. The number of risk alleles was higher and genetically determined beta cell function was lower in Asians compared to white counterparts. <i>Diabetologia</i> 2022; 65: 973-983. https://doi.org/10.1007/s00125-022005671-z
Soulimane <i>et al</i> , <i>Diabetologia</i>	Eurodiab database study	Favourable clustering of risk factors protect against CVD in type 1 diabetes Participants with more favourable HbA _{1c} levels of <57 mmol/mol had a 37% significantly lower CVD risk than those with poorer glycaemic control. Participants with more favourable BP (SBP <112mmHg and DBP <70mmHg) had a 44% significantly lower CVD risk than participants with higher BP. There was a dose-response relation, with a lower risk observed with greater clustering of more favourable matrices. People with four or more favourable matrices had an adjusted HR of 0.37. Soulimane S, Balkau B, Vogtschmidt YD <i>et al</i> . Incident cardiovascular disease by clustering of favourable risk factors in type 1 diabetes: the EURODIAB Prospective Complications Study. <i>Diabetologia</i> 2022; 65: 1165-1178. https://doi.org/10.1007/s00125-022-05698-2
Wang <i>et al</i> , <i>Diabetologia</i>	Cohort study	Plant-based diets can reduce type 2 diabetes through multiple metabolites Healthy plant-based diet is associated with reduced isoleucine, and triacylglycerols but increased trigonelline and hippurate and reduced incidence of type 2 diabetes. <i>Diabetologia</i> 2022 April 8. https://doi.org/10.1007/s00125-022-05692-8
Fève <i>et al</i> , <i>Diabetologia</i>	Review	Medication-induced diabetes Glucocorticoids, antipsychotics especially second generation, antiretroviral therapies and immune check point inhibitors can all cause diabetes. Drug-induced weight gain contributes to disturbances in glucose homeostasis. Fève B, Scheen AJ. When therapeutic drugs lead to diabetes. <i>Diabetologia</i> 2022. https://doi.org/10.1007/s00125-022-05666-w
Jenkins <i>et al</i> , <i>Diabetologia</i>	Review	Lipid-lowering drugs may reduce the progression of diabetic retinopathy Although clinical trials did not show protection against diabetic retinopathy with statins, data from very large database studies suggest statins and fibrates can potentially reduce the progression of diabetic retinopathy by reducing blood lipids, retinal lipids and by their lipid independent effects. The review discusses potential challenges in these studies including lipid-independent effects of fibrates and statins, modified lipoproteins and retina-specific effects of lipid lowering medications. Dysregulation of retina-specific cholesterol metabolism leading to retinal cholesterol accumulation and potential formation of cholesterol crystals are discussed. Jenkins AJ, Grant MB, Busik JV. Lipids, hyperreflective crystalline deposits and diabetic retinopathy: potential systemic and retinal-specific effect of lipid-lowering therapies. <i>Diabetologia</i> 2002; 65: 587-603. https://doi.org/10.1007/s00125-022-05655-z

Authors, Journal	Type of study	Main results
Teo <i>et al</i> , <i>Diabetologia</i>	Systematic review of RCTs and meta-analysis	Continuous glucose monitoring is effective in improving glycaemic control in people with type 1 diabetes This meta-analysis including 22 studies and 2,188 individuals with type 1 diabetes showed that CGM significantly decreased HbA _{1c} compared with self-monitoring of blood glucose (mean difference -2.46 mmol/mol or -0.23%) with nearly double the difference in individuals with higher baseline HbA _{1c} >64 mmol/mol (>8 %). However, there was no difference in the number of severe hypoglycaemia episodes and DKA. Teo E, Hassan N, Tam W <i>et al</i> . Effectiveness of continuous glucose monitoring in maintaining glycaemic control among people with type 1 diabetes mellitus: a systematic review of randomised controlled trials and meta-analysis. <i>Diabetologia</i> 2022; 65: 604–619. https://doi.org/10.1007/s00125-021-05648-4
Kibirige <i>et al</i> , <i>Diabetologia</i>	Cross-sectional study	Lean African people with type 2 diabetes In this study of 500 lean, non-immune African participants with type 2 diabetes, the median age, BMI and HbA _{1c} were 48 years, 27.5 kg/m ² , and 90 mmol/mol respectively, with female preponderance (57%). 32% participants were lean and were mainly males (61%). They had lower visceral adiposity and features of metabolic syndrome. The lean group also had markedly reduced beta cell function. Kibirige D, Sekitoleko I, Lumu W <i>et al</i> . Understanding the pathogenesis of lean non-autoimmune diabetes in an African population with newly diagnosed diabetes. <i>Diabetologia</i> 2022; 65: 675–683. https://doi.org/10.1007/s00125-021-05644-8
Oberhauser <i>et al</i> , <i>Diabetologia</i>	Animal and human cell culture study	Regular fasting can preserve beta cell functions In human islets, chronic exposure to palmitate and oleate modified expression of genes involved in lipid handling. In high glucose conditions there was enhanced capacity of the glycerolipid/NEFA cycle under glucotoxic conditions. Fat accumulation was facilitated in a glucose dependent manner. High glucose combined with unsaturated fatty acids induced the highest capacity of cellular fat storage and mobilisation. This adaptive fat turnover preserved part of the insulin secretory response. Regular fasting therefore can help obese patients preserve their beta cells. <i>Diabetologia</i> 2022; 65: 705-720. https://doi.org/10.1007/s00125-021-05633-x
Harmsen <i>et al</i> , <i>Diabetologia</i>	Randomised, controlled, crossover study	Natural light/dark cycle may help reduce the risk of metabolic diseases Bright day-Dim evening day created by (1250lx/5lx) light leads to greater increase in postprandial triacylglycerol levels following breakfast but lower glucose levels before evening meal at 18:00 hours. Dim day-Bright evening increased postprandial glucose after dinner, suppressed melatonin secretion and increased skin temperature. Harmsen JF, Wefers J, Doligkeit, D <i>et al</i> . The influence of bright and dim light on substrate metabolism, energy expenditure and thermoregulation in insulin-resistant individuals depends on time of day. <i>Diabetologia</i> 2022; 65: 721–732. https://doi.org/10.1007/s00125-021-05643-9
Starskaia <i>et al</i> , <i>Diabetologia</i>	Genetic study	DNA methylation changes can be used to predict beta cell autoimmunity before the diagnosis of type 1 diabetes mellitus This study used genome-wide DNA sequencing to detect cell type-specific DNA methylation changes associated with type 1 diabetes mellitus before clinical diagnosis and before the appearance of diabetes autoantibodies. Starskaia I, Laajala E, Grönroos T <i>et al</i> . Early DNA methylation changes in children developing beta cell autoimmunity at a young age. <i>Diabetologia</i> 2022; 65: 844–860. https://doi.org/10.1007/s00125-022-05657-x
Waijjer <i>et al</i> , <i>Diabetologia</i>	Post-hoc analysis of randomised controlled trial	Dapagliflozin is beneficial in improving kidney and cardiovascular outcomes in patients with a wide spectrum of kidney disease severity 4,304 participants with an eGFR of 25–75 ml min ⁻¹ and urinary albumin/creatinine ratio (UACR) of ≥22.6 were enrolled onto the DAPA-CKD study. Dapagliflozin, compared with placebo, consistently reduced the relative risk of kidney failure, heart failure and cardiovascular and all-cause mortality across all KDIGO risk categories. Waijjer SW, Vart P, Cherney DZI <i>et al</i> . Effect of dapagliflozin on kidney and cardiovascular outcomes by baseline KDIGO risk categories: a post hoc analysis of the DAPA-CKD trial. <i>Diabetologia</i> 2022; 65: 1085-1097. https://doi.org/10.1007/s00125-022-05694-6
Thomson <i>et al</i> , <i>Diabetologia</i>	Randomised controlled trial	Carbohydrate reduction has a weight loss-independent beneficial effect on reducing HbA_{1c}, liver fat and plasma triacylglycerol In this randomised study, 72 participants with type 2 diabetes had a matched 6% weight loss in 6 weeks of fully provided carbohydrate-reduced diet (30% energy from carbohydrate) versus a conventional diet (50% of energy from carbohydrate). For the same amount of weight loss as induced by the control diet, there was a 1.9mmol/mol reduction in HbA _{1c} , 26% reduction in liver fat and 18% reduction in plasma triacylglycerol Thomson MN, Skytte MJ, Samkani A. <i>et al</i> . Dietary carbohydrate restriction augments weight loss-induced improvements in glycaemic control and liver fat in individuals with type 2 diabetes: a randomised controlled trial. <i>Diabetologia</i> 2022; 65: 506–517. https://doi.org/10.1007/s00125-021-05628-8
Dratver <i>et al</i> , <i>Diabetologia</i>	Longitudinal study	Fasting glucose levels are lower and 1 h and 2 h post-load glucose levels are higher during pregnancy versus post-partum Fasting glucose was lower in pregnant compared with non-pregnant women by 0.34 in early pregnancy and by 0.45 in mid-late pregnancy. There was no statistical difference in post-load glucose levels in pregnant vs non-pregnant women. However, according to the longitudinal study of pregnant women, fasting glucose levels were lower, and 1 h and 2 h post-load glucose levels were higher in mid-late pregnancy versus post-partum. Bochur Dratver MA, Arenas J, Thaweethai T <i>et al</i> . Longitudinal changes in glucose during pregnancy in women with gestational diabetes risk factors. <i>Diabetologia</i> 2022; 65: 541–551. https://doi.org/10.1007/s00125-021-05622-0
Pradhan <i>et al</i> , <i>Diabetes Care</i>	Cohort study	GLP-1 receptor agonists and SGLT-2 receptor inhibitors are associated with reduced risk of NAFLD compared to DPP-4 inhibitors in type 2 diabetes GLP-1 RAs were associated with a lower incidence of NAFLD with a wide CI compared with DPP-4 inhibitors (3.9 vs. 4.6 per 1,000 person-years, respectively; HR 0.86, 95% CI 0.73–1.01). SGLT-2 inhibitors were associated with a de-

Authors, Journal	Type of study	Main results
		<p>creased risk of NAFLD (5.4 vs. 7.0 per 1,000 person-years, respectively; HR 0.78, 95% CI 0.68–0.89).</p> <p>Pradhan R, Yin H, Yu O, Azoulay L. Glucagon-Like Peptide 1 receptor agonists and Sodium–Glucose Cotransporter 2 Inhibitors and risk of nonalcoholic fatty liver disease among patients with type 2 diabetes. <i>Diabetes Care</i> 2022 ; 45 : 819-829. https://doi.org/10.2337/dc21-1953.</p>
Magee <i>et al</i> , <i>Diabetes Care</i>	Retrospective Cohort study	<p>People with latent tubercular infection (LTBI) have increased risk of developing diabetes.</p> <p>The diabetes incidence rate (per 100,000 PY) was greater in patients with LTBI compared with those without (1,012 vs. 744; hazard ratio [HR] 1.4 [95% CI 1.3–1.4])</p> <p>Magee MJ, Khakharia A, Gandhi NR <i>et al</i>. Increased risk of incident diabetes among individuals with latent tuberculosis infection. <i>Diabetes Care</i> February 2022; 45 (4): 880-887. https://doi.org/10.2337/dc21-1687</p>
Lin <i>et al</i> , <i>Diabetes Care</i>	Cross-sectional survey	<p>Despite advanced diabetes technology, severe hypoglycaemia continues to occur in individuals with type 1 diabetes</p> <p>Out of 289 participants using CGM, 25% experienced at least one severe level 2 (CBG less than 3) hypoglycaemic episode in the last 6 months and 13.6% were experiencing level 2 hypoglycaemia more than 1% of the time. Hypoglycaemia occurred more frequently in individuals whose primary focus is to avoid hyperglycaemia and in those who have minimal concerns about hypoglycaemic episodes.</p> <p>Lin YK, Richardson CR, Iulia Dobrin <i>et al</i>. Beliefs around hypoglycemia and their impacts on hypoglycemia outcomes in individuals with type 1 diabetes and high risks for hypoglycemia despite using advanced diabetes technologies. <i>Diabetes Care</i> 1 March 2022; 45 (3): 520–528. https://doi.org/10.2337/dc21-1285</p>
Prasad <i>et al</i> , <i>Diabetes Care</i>	Prospective research study	<p>The improvement in β-cell function after roux -en-y gastric bypass, but not changes in weight loss or insulin sensitivity, drives diabetes remission</p> <p>The decreases in body weight, fat mass, waist circumference and insulin resistance after surgery did not differ according to diabetes remission status. However, β-cell glucose sensitivity after oral glucose intake differed by remission status - greater (6.5-fold; $P < 0.01$) and sustained in those in full remission, moderate and not sustained past 12 months in those with partial remission (3.3-fold; $P < 0.001$), and minimal in those not experiencing remission (2.7-fold; $P =$ not significant).</p> <p>Prasad M, Mark V, Ligon C <i>et al</i>. Role of the gut in the temporal changes of β-cell function after gastric bypass in individuals with and without diabetes remission. <i>Diabetes Care</i> 1 February 2022; 45 (2): 469–476. https://doi.org/10.2337/dc21-1270</p>
Chivese <i>et al</i> , <i>Diabetic Medicine</i>	Systematic review and meta-analysis	<p>HbA_{1c} combined with OGTT or FPG has higher screening efficacy compared to HbA_{1c} alone, for type 2 diabetes in Africa</p> <p>Almost half of the individuals with T2D may be undiagnosed with HbA_{1c} ≥ 48 mmol/mol (6.5%) cut-off. HbA_{1c} ≥ 48 mmol/mol (6.5%) had a pooled sensitivity of 57.7% (95% confidence interval [CI] 43.4–70.9) and specificity of 92.3% (95% CI 83.9–96.5) against the OGTT. Against the FPG, HbA_{1c} ≥ 48 mmol/mol (6.5%) had a pooled sensitivity of 64.5% (95% CI 50.5–76.4) and specificity of 94.3% (95% CI 87.9–97.5).</p> <p>Chivese T, Hirst J, Matiznadzo JT <i>et al</i>. The diagnostic accuracy of HbA_{1c}, compared to the oral glucose tolerance test, for screening for type 2 diabetes mellitus in Africa—A systematic review and meta-analysis. <i>Diabetic Medicine</i> , April 2022</p>
Min <i>et al</i> , <i>Diabetic Medicine</i>	Retrospective cohort study	<p>Diabetes patients with high baseline HbA_{1c} had a greater risk of COVID-19 hospitalization</p> <p>In comparison with patients with baseline HbA_{1c} 48–57 (6.5%–7.4%), the risk of hospitalization was incrementally higher for those with HbA_{1c} 58–85 (7.5%–9.9%) (adjusted hazard ratio [aHR] 1.19, 95% confidence interval [CI] 1.06–1.34) and HbA_{1c} ≥ 86 (10%) (aHR 1.40, 95% CI 1.19–1.64).</p> <p>Min JY, Williams N, Simmons W <i>et al</i>. Baseline haemoglobin A1c and the risk of COVID-19 hospitalization among patients with diabetes in the INSIGHT Clinical Research Network. <i>Diabetic Medicine</i> May 2022; 39 (5): e14815 https://doi.org/10.1111/dme.14815</p>
Newman <i>et al</i> , <i>Diabetic Medicine</i>	Literature review of relevant studies from online databases using a combination of keywords	<p>Metformin in pregnancy</p> <p>Metformin use in pregnancy for GDM is increasing. Metformin appears to be safe and effective. May increase infants born SGA. Further study is needed to examine mechanisms linking metformin to obesity reported during childhood in some follow-up studies.</p> <p>Newman C, Dunne FP. Metformin for pregnancy and beyond: the pros and cons. <i>Diabetic Medicine</i> March 2022; e14700 https://doi.org/10.1111/dme.14700</p>
Fredriksson <i>et al</i> , <i>Diabetic Medicine</i>	Prospective cohort study	<p>Young women have small but significantly higher risk of developing cancer compared to young men with childhood-onset type 1 diabetes</p> <p>At the end of the study, 125 patients (study population 18,724) with diabetes diagnosed with cancer, of which 61% were women. Women with childhood-onset type 1 diabetes had a small but significantly elevated risk of developing cancer.</p> <p>Fredriksson M, Persson E, Dahlquist G, Möllsten A, Lind T. Risk of cancer in young and middle-aged adults with childhood-onset type 1 diabetes in Sweden—A prospective cohort study. <i>Diabetic Medicine</i> March 2022; e14771. https://doi.org/10.1111/dme.14771</p>
Barron <i>et al</i> , <i>Diabetic Medicine</i>	Research: care delivery	<p>OGTT and HbA_{1c} is superior compared to continuous glucose monitoring in diagnosis of dysglycaemia in compensated liver cirrhosis patients</p> <p>OGTT tended to diagnose more dysglycaemia (n = 7) than did HbA_{1c} (n = 4). Blinded CGM cannot be used to diagnose dysglycaemia in compensated liver cirrhosis patients.</p> <p>Barron CVM, Heenan HF, Thompson H <i>et al</i>. Detecting dysglycaemia in compensated liver cirrhosis: Comparison of oral glucose tolerance test and glycated haemoglobin, with continuous glucose monitoring. <i>Diabetic Medicine</i> 2022; 39 (3):e14778. https://doi.org/10.1111/dme.14778</p>

Authors, Journal	Type of study	Main results
Qian <i>et al</i> , <i>Diabetic Medicine</i>	Research: Care delivery	Efficiency of diabetes screening is significantly increased when HbA_{1c} combined with glycated albumin or 1,5-anhydroglucitol in a Chinese population HbA _{1c} when combined with GA or 1,5-AG can improve the sensitivity of diabetes screening. The sensitivities of HbA _{1c} combined with GA and 1,5-AG were both 85%, higher than that of HbA _{1c} (70%). Qian J, Chen C, Wang X <i>et al</i> . HbA _{1c} combined with glycated albumin or 1,5-anhydroglucitol improves the efficiency of diabetes screening in a Chinese population. <i>Diabetic Medicine</i> March 2022; 39: e14685. https://doi.org/10.1111/dme.14685
De Block <i>et al</i> , <i>Diabetes Obesity and Metabolism</i>	Review	Positive results from high-dose glucagon-like peptide-1, glucagon-like peptide-1/glucose-dependent insulinotropic peptide, and glucagon-like peptide-1/glucagon receptor agonists in type 2 diabetes In this review, up to 80% and 97% of people with type 2 diabetes on high dose GLP-1 RAs and tirzepatide reached an HbA _{1c} target of <7 % with even up to 62% of people reaching a target of <5.7 %. A body weight loss of 10% or greater was obtained by up to 50% and 69% with high dose GLP-1 RAs and tirzepatide, respectively. The glucose- and weight-lowering effects of the GLP-1/glucagon RA cotadutide were equal to those of liraglutide 1.8 mg. GI side effects occurred in about 30% to 70% of patients, mostly within the first two weeks of the first dose, mild to moderate in severity and transient. De Block CE, Dirinck E, Verhaegen A, Van Gaal LF. Efficacy and safety of high-dose glucagon-like peptide-1, glucagon-like peptide-1/glucose-dependent insulinotropic peptide, and glucagon-like peptide-1/glucagon receptor agonists in type 2 diabetes. <i>Diabetes, Obesity & Metabolism</i> 2022; 24 (5): 788-805. https://doi.org/10.1111/dom.14640
Leiter <i>et al</i> , <i>Diabetes, Obesity and Metabolism</i>	Post hoc analysis of pooled data from phase 3 clinical trials	Bempedoic acid in diabetes, pre-diabetes and normoglycaemia reduces LDL-C without worsening glycaemia In this analysis the annual rate of new-onset diabetes for bempedoic acid vs placebo was 0.3% vs 0.8% in patients with normoglycaemia and 4.7% vs 5.9% for patients with pre-diabetes. The HbA _{1c} reduced significantly by -0.12% and -0.06% with bempedoic acid vs placebo in people with diabetes and pre-diabetes, with no worsening of fasting glucose. Bempedoic acid significantly and consistently lowered LDL-C levels vs placebo regardless of glycaemic status (by -17.2% to -29.6%). Leiter LA, Banach M, Catapano AL <i>et al</i> . Bempedoic acid in patients with type 2 diabetes mellitus, prediabetes, and normoglycaemia: a post hoc analysis of efficacy and glycaemic control using pooled data from phase 3 clinical trials. <i>Diabetes, Obesity and Metabolism</i> 2022 Jan 3; 24 (5): 868-880. https://doi.org/10.1111/dom.14645
Ojeda-Fernández <i>et al</i> , <i>Diabetes, Obesity and Metabolism</i>	Cohort study	Metformin protects against COVID mortality In this study on a cohort of 31,966 patients in Lombardy, metformin use was associated with significantly lower risk of total mortality (OR 0.70), in-hospital mortality (OR 0.68), hospitalization for COVID-19 (OR 0.86), and ICU admission (OR 0.81) compared to metformin non-users. After propensity score matching the results were similar with lower risk of total mortality (OR 0.79), in-hospital mortality (OR 0.74), and ICU admission (0.77). Ojeda Fernández L, Foresta A, Macaluso G <i>et al</i> . Metformin use is associated with a decrease in risk of hospitalization and mortality in COVID-19 diabetic patients: a population-based study in Lombardy. <i>Diabetes, Obesity and Metabolism</i> 2022 Jan 10; 24 (5): 891-898. https://doi.org/10.1111/dom.14648
Lavynenko <i>et al</i> , <i>Diabetes, Obesity and Metabolism</i>	Prospective study	Combination therapy with pioglitazone/exenatide/metformin vs stepwise conventional therapy reduces hepatic fibrosis and steatosis At the end of the study, HbA _{1c} was 6.8 % and 6.0 % in triple initial combination therapy vs conventional step wise therapy of metformin→glipizide→glargine insulin (P=0.0006). People who were treated with triple combination therapy had less hepatic steatosis and fibrosis vs conventional therapy. Lavynenko O, Abdul-Ghani M, Alatrach M <i>et al</i> . Combination therapy with pioglitazone/exenatide metformin reduces the prevalence of hepatic fibrosis and steatosis: the Efficacy and Durability of Initial Combination Therapy for Type 2 Diabetes (EDICT) Trial. <i>Diabetes, Obesity and Metabolism</i> 2022; 24 (5): 899-907. https://doi.org/10.1111/dom.14650
Ekanayake and Mudaliar, <i>Diabetes, Obesity and Metabolism</i>	Novel hypothesis	SGLT-2 inhibitors may be cardio-renal protective due to multiple possible mechanisms In this elegant and novel hypothesis authors attribute cardio-renal benefits from SGLT-2 inhibitors to a shift towards ketone metabolism which is more energy- efficient, with anti-inflammatory and antioxidative benefits of ketones, positive effect of ketones on mitochondrial biogenesis and function and on erythropoiesis. Ekanayake P, Mudaliar S. A novel hypothesis linking low-grade ketonaemia to cardio-renal benefits with sodium-glucose cotransporter-2 inhibitors. <i>Diabetes, Obesity and Metabolism</i> 2022 Jan;24(1):3-11. https://doi.org/10.1111/dom.14562
Presentation at the 15th international conference on Advanced Technologies and Treatment of Diabetes (ATTD)	RCT	Insulin glargine U-300 comparable to Insulin degludec-100 for time in range Adults living with type 1 diabetes achieved comparable Time in Range at 12 weeks after switching from their previous long-acting basal insulin treatment to second-generation longer-acting basal insulin Toujeo® (insulin glargine 300 units/mL) or insulin degludec 100 units/mL in the first randomized controlled trial (RCT) using Time in Range (TiR) as primary endpoint. The main secondary endpoint was also met as non-inferiority of Gla-300 versus IDeg-100 was demonstrated for glycaemic variability as measured by glucose total CV. Rates and incidences of hypoglycaemia were comparable between Insulin glargine 300U/ml and iDeg-100 across ADA-recommended hypoglycaemia categories.



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News editor: Dr Umesh Dashora
E-mail: news@bjd-abcd.com

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Connected pen module almost ready

We have finished all the post-production on the connective pens module within the ACADEMY programme and this will be launched shortly. Please log in to see how you can use connective pens in different situations to help with your clinical care of people with diabetes.

Launch of ACADEMY in Ireland

We launched ACADEMY in Ireland at the DICE 2022 meeting hosted by Diabetes Ireland on Friday 6th May. This is our first step outside the UK and we are very excited to take this work to our colleagues across Ireland. We hope to bring them into the DTN network.

Closed loop roll-out data collection

We are now almost six months out from the start of the NHS England-funded Hybrid Closed Loop pilot. All of us involved have seen amazing results. We see many patients who have never had

an HbA_{1c} below 10% for the past two years achieve almost normal control. It has been transformative for those who have been able to access this technology. We urge any people who did not submit data before May 20th to do that so we can analyse the findings and send them to NICE. We hope these data will support access to this technology for a much wider population.

New NICE guidance impact

We would be very interested to hear from colleagues about their challenges, but also their successes, in implementing the latest NICE guidance. In particular we would be interested to hear from people where access to rt-CGM according to the new guidance (for those on insulin pumps or with hypo unawareness) has already been approved to showcase how this can be done. We are also very keen to hear from people who have a protocol in place that allows primary care initiation of Flash monitoring. I hope we can make the DTN a great

forum to share the successes but also to highlight areas where there are challenges and support colleagues.

CamAPS news

For those of you who have not heard, CamAPS have announced a collaboration with Ypsomed insulin pumps and Libre 3 sensors. This may be available clinically towards the end of 2022 on Android, with iOS connectivity following in 2023.

ATTD 2022

The UK made a big splash at the ATTD conference in Barcelona in April. Professor Kar highlighted the progress made in accessing technology in the UK. UK policy, and in particular the session on inequalities, was one of the highlights of the meeting. We also saw the results of the ADAPT study, showing a 1.4% reduction in HbA_{1c} with the Medtronic 780 G system. A host of real-world data really indicated that in a diverse population the various closed-loop systems could get 70-80% of people to target. There were also presentations on connected pens and pen caps from Medtronic, Sanofi and Lilly, and we expect to see this market segment grow in the next few months.

New technology

GlucoRx, Libre 3, DexcomOne

The technology market is becoming increasingly competitive and diverse. It is really important to keep abreast with the different products so that we can provide our patients with choice. At the same time we should make sure that our choices are backed up by the appropriate evidence and that we are comfortable using the technology. It is a tricky balance. Keep an eye out for expert opinions and device news on the DTN website. We will be adding videos on the new devices in the coming months.

Professor Pratik Choudhary

Contact: pratik.choudhary@leicester.ac.uk

YDEF NEWS

EDUCATION • ADVOCACY • SUPPORT

The last few months have seen plans for multiple courses coming together. The YDEF (Young Diabetologists and Endocrinologists' Forum) technology course is scheduled for June and the new and innovative two-day residential obesity course is due to go ahead in July. Both these courses are sold out; their popularity proves the need for us to keep running our courses, and face-to-face too.

We also welcome back YDEF Day on July 6th following the ABCD 100 years of insulin event. We hope specialist registrars (SpRs) can make it to both meetings. YDEF Day is free to attend; sign-up began on May 17th. We look forward to welcoming the winners of the Marjorie Prize to YDEF Day – future Diabetes and

Endocrine SpRs in the making who submitted their reflections on health inequalities in diabetes. The prizewinners will be attending both events, fully funded by the YDEF, as their prize. They will be presenting their reflections in brief at these events, and we look forward to hearing their insights.

We have launched a bursary to support anyone who failed their first attempt at the Specialty Certificate Examinations (SCE). This bursary will be offered again after the next round of results in July. If you know of someone who might benefit from this support, please let us know.

Finally, we continue to advocate for trainees in our roles on multiple committees. We are due to see a change in curriculum and the new Annual Review of Competency Progression (ARCP) decision

aid is being finalised. All trainees who are not yet in their final year will need to transition to the new curriculum. If there are concerns around this and how it might be completed with limited training time then please ensure a gap assessment is completed – this is important for supervisors and trainees to know.

We would like to congratulate our YDEF/BJD QIP prizewinners and runners-up. Their work will be published in the next edition of the *British Journal of Diabetes*. The 2022 prize will be launching in the coming months so watch this space.

As always, if anyone needs any help or support please reach out.

Tom Crabtree

on behalf of YDEF Committee

Contact: T.Crabtree@nhs.net

YDEF is dedicated to all diabetes and endocrine trainees and is open for new members to register on our website. Take advantage of our regular newsletters and up-to-date advertising of a wide variety of courses and meetings to complement your training. As always, we are continuously looking to develop and propagate our specialty so do not hesitate to contact us if you have any suggestions or questions!

www.youngdiabetologists.org.uk @youngdiab on twitter