Diabetes UK 2025 Professional Conference

February 26-28, 2025; Glasgow, Scotland; Day #1 Highlights – Draft

Executive Highlights

- **Diabetes UK began Wednesday at the Scottish Event Campus (SEC), marking the first Diabetes UK meeting in Glasgow since 2016.** Diabetes UK's CEO Ms. Colette Marshall opened the conference with a moving address, highlighting one in five adults in the UK now have prediabetes or diabetes (about 12 million people), including 936,000 people in Scotland. Given the rising prevalence, she emphasized that attendees' work to support people with diabetes has "never been more important," sharing several patient testimonials capturing the organization's impact in their lives.
- **Delivering a timely presentation following Tandem's announcement yesterday that Control-IQ+ received FDA clearance for T2D,** Dr. Charlotte Boughton (University of Cambridge) advocated for increased use of insulin pumps and AID to support T2D management, arguing that currently available tools for T2D are insufficient. Given that day-to-day variability in insulin requirements in T2D may be even higher than T1D and over half of people with T2D do not meet recommend targets, she suggested AID could transform outcomes for this population.
    - Dr. Boughton also announced that the University of Cambridge has initiated the COYOTE trial comparing the fully closed-loop algorithm CamAPS HX to MDI with CGM in T2D over 26 weeks. Per ClinicalTrials.gov (NCT06579404), the multi-national RCT will enroll up to 224 adults with T2D and is expected to complete in 2027. Beyond A1c and CGM metrics, Dr. Boughton mentioned that the trial will collect data on biomarkers relevant for diabetes-related complications, including renal and liver function and lipids.
- **Prof. Partha Kar (NHS England) chronicled NHS England's tremendous progress in driving equitable uptake of diabetes technology.** On CGM, disparities in use by ethnicity and socioeconomic status in England have been virtually eliminated since 2019-2020 in both the pediatric and young adult populations. Prof. Kar said healthcare providers should address their conscious and unconscious biases in prescribing technology, stating that technology should simply be offered to everyone. Ignoring these biases would only further perpetuate gaps in outcomes.
- **In therapy, several sessions spotlighted T1D delay and intervention.** Prof. Parth Narendran (University of Birmingham, UK) presented updates on screening efforts for T1D in the UK, particularly on the ELSA study in people three to 13 years. Prof. Narendran elaborated on the ELSA study's focus on understanding the views of HCPs, school staff, and other professionals involved in the testing program. Given first-degree relatives constitute 37% of the participants in the ELSA study, he said this is an effective target population.
    - Dr. Rachel Besser (University of Oxford, UK) then emphasized the need to monitor people who screen positive for islet autoantibodies. She highlighted the importance of monitoring pre-stage 3 T1D to help prevent DKA, implement adequate plans and preparation, delay the need for insulin, and avoid misdiagnosis of T2D. As the co-lead of the pediatric working group of the international consensus on stage 3 T1D, published in June 2024, she reminded follow-up strategies for those who test positive for autoantibodies.
    - Prof. Colin Dayan (Cardiff University, UK) highlighted the advantages of delaying T1D, particularly regarding insulin, which he called a "very difficult" and "unsafe" treatment. As insulin increases the risk for hypoglycemia and metabolic complications, along with posing a burden for daily monitoring and lifestyle limitations, reducing the duration of time on insulin is paramount. Prof. Dayan, therefore, emphasized the role of potential treatments in development, along with Sanofi's Tzield (teplizumab).
    - Dr. Kimber Simmons (University of Colorado) provided real-world insights and experiences of

Tzield for T1D delay. Since its approval in November 2022, Dr. Simmons said there have been 484 infusions of Tzield to date, compared to 322 infusions reported during her presentation at ISPAD 2024. Dr. Simmons said that according to a recent survey, findings demonstrated that delaying T1D diagnosis serves as one of the biggest motivators for screening for T1D. To date, 30 patients have been infused with Tzield at the Barbara Davis Center Early T1D Clinic. Among those infused with Tzield, Dr. Simmons said two patients have been diagnosed with stage 3 T1D.

For the latest from Glasgow, see our Resource Hub. For a look ahead at what's coming in the next two days, see our preview. We are especially excited about a symposium in which Mr. Liam Eaglestone (CEO, Steve Morgan Foundation) and Prof. Simon Heller (University of Sheffield, UK) will highlight the mission of the T1D Grand Challenge, a funding collaborative initiative aimed at T1D research that has impacted the arena with several advancements.

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Top Ten Highlights

1. Dr. Charlotte Boughton: Current management tools for T2D are insufficient; new COYOTE trial of fully closed-loop CamAPS HX in T2D initiated

Dr. Charlotte Boughton (University of Cambridge) advocated for increased use of insulin pumps and AID to support T2D management. This presentation was particularly timely following yesterday's announcement that Tandem's Control-IQ+ received FDA clearance in T2D, becoming the second AID algorithm with US marketing authorization for T2D alongside Insulet's Omnipod 5.

Dr. Boughton said that currently available tools for T2D are insufficient. She said that over half of people with T2D do not meet recommended glycemic targets, and while GLP-1 RAs and SGLT-2 inhibitors are effective glycemic-lowering agents, she said these therapies will ultimately likely only reduce, not eliminate, the need for insulin. Although about 15% of people with T2D are on insulin therapy, Dr. Boughton believes that the clinical need is much higher. Given that day-to-day variability in insulin requirements in T2D may be even higher than T1D, she strongly advocated for the use of AID to improve T2D outcomes, noting the somewhat limited literature in this population has already demonstrated safety and efficacy.

- **Dr. Boughton announced that the University of Cambridge has initiated the COYOTE trial, which will**

compare use of the fully closed-loop algorithm CamAPS HX to MDI with CGM in T2D. As a reminder, CamAPS HX is similar to the hybrid closed-loop CamAPS FX algorithm, except that users are not required to announce meals. Per ClinicalTrials.gov (NCT06579404), the multi-national RCT in Europe will enroll up to 224 adults with T2D and is expected to complete in 2027. Prior to randomization, participants will enter a two-to-three-week run-in period with standard insulin therapy and blinded CGM, after which they will either use CamAPS HX or continue standard insulin therapy with CGM for 26 weeks. The primary outcome of the trial is the between-group difference in A1c, with Time in Range and mean sensor glucose as key secondary endpoints. Dr. Boughton said that the trial will collect data on biomarkers relevant for diabetes-related complications, including renal and liver function and lipids, to provide health economics data that will inform and support conversations with payers. Participants will also complete qualitative questionnaires evaluating their experiences that will also no doubt provide valuable insights.

    - **CamAPS HX has been evaluated in T2D in two smaller crossover trials,** so we are interested to see what outcomes may be possible in COYOTE given its longer duration and larger enrollment size:
        - In January 2023, *Nature Medicine* published an article reporting results of a crossover study (n=26) comparing CamAPS HX to standard insulin therapy and blinded CGM in eight-week periods in adults with T2D. Strikingly, participants achieved an additional 8.5 hours/day Time in Range on CamAPS HX compared to standard insulin therapy (66% vs. 32%, $p<0.001$). Importantly, this significant improvement was accomplished without greater hypoglycemia, and participants reported high acceptability and usability of the system.
        - In August 2021, *Nature Medicine* published results from a crossover study (n=26) in adults with T2D on dialysis comparing CamAPS HX to standard insulin therapy and blinded CGM over 20-day periods. Participants achieved an additional 3.6 hours/day Time in Range with CamAPS HX compared to standard care (53% vs. 38%, $p<0.001$). Time in hypoglycemia was slightly reduced with CamAPS HX compared to standard care (0.1% vs. 0.2%, $p=0.040$).

- **Given the previous trial results, Dr. Boughton positioned fully closed-loop AID algorithms as especially beneficial for T2D.** Beyond patients with T2D, she stressed that a fully closed-loop system would also significantly reduce the burden on healthcare providers, reducing the need for frequent dose adjustments after onboarding to optimize insulin delivery around meals. We imagine patients doing better would also help providers' communications with patients as well as their own confidence about their work. Given that the vast majority of people with T2D receive diabetes care in primary care, a fully-closed loop AID algorithm could catalyze even more significant AID growth in this population. While some may also point out that primary care clinicians have reduced capacity and training for managing AID systems compared to diabetes specialists, it's also true that AID systems, once started, may well have significantly better results than traditional multiple daily injections, etc.

2. The importance of T1D delay: Prof. Colin Dayan discusses the risks of insulin; Dr. Kimber Simmons highlights real-world insight of Tzield

Prof. Colin Dayan (Cardiff University, UK) highlighted significant advantages of delaying T1D, particularly regarding insulin, which he characterized as a "very difficult" and "unsafe" treatment due to the narrow therapeutic range. As insulin increases the risk for hypoglycemia and metabolic complications, along with posing a burden for daily monitoring and lifestyle limitations, reducing the duration of time on insulin is paramount. Prof. Dayan, therefore, emphasized the role of potential treatments, particularly focusing on abatacept in stage 1 T1D and therapies for beta cell presentation in stage 3 T1D. He elaborated on treatments that have shown promising clinical evidence in this population, including golimumab, baricitinib, verapamil, and ustekinumab. Of note, the VER-A-T1D trial of verapamil fulfilled recruitment in 2024 and will complete in April 2025. Prof. Dayan also said that the MELD-ATG trial of verapamil has been completed, with results expected at EASD 2025. Focusing on other treatment classes with high efficacy for autoimmune diseases, the JAKPOT T1D trial (n=78) is studying JAK inhibitors abrocitinib and ritlecitinib. Finally, Prof. Dayan described the significance of Sanofi's Tzield (teplizumab), the first and only treatment that received

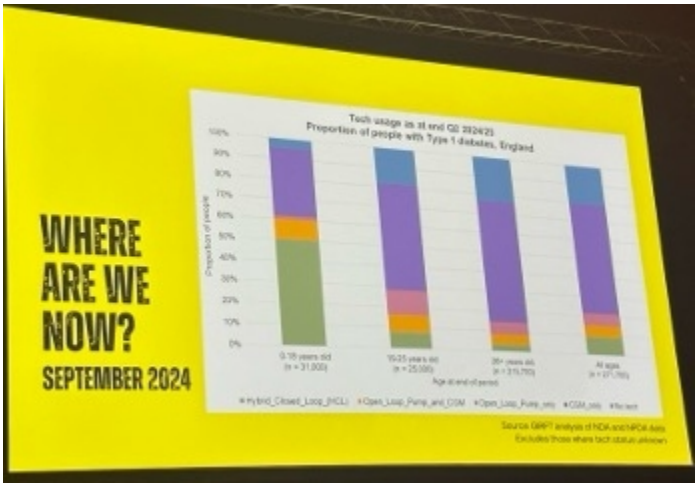
FDA approval in November 2022 for delaying T1D. As Sanofi shared in its 4Q24 update, the EMA has accepted for review the regulatory submission for Tzield in children and adolescents to delay the onset of stage 3 T1D, as well as for early intervention of stage 3 T1D. Sanofi expects to receive regulatory decisions for both indications in the EU in 2H25. Sanofi also expects a regulatory decision on Tzield's indication for delaying the onset of T1D in Canada in 2H25.

- **Dr. Kimber Simmons (University of Colorado) provided real-world insights and experiences of Tzield for T1D delay.** Since its approval in November 2022, Dr. Simmons said there have been 484 infusions of Tzield to date, compared to 322 infusions reported during her presentation at ISPAD 2024. Among this population, 44% were 8-17 years, and 56% were ≥18 years. Patients have mainly been identified through the detection of positive antibodies, through TrialNet, ASK, and community referrals with testing due to family history and symptoms. Additionally, patients with dysglycemia have been detected through the CDC recommendation of having adults ≥45 years or those <45 years overweight with risk factors for prediabetes or T2D get a baseline A1c test. As well, patients with dysglycemia have been identified through militaries obtaining annual A1c tests and pediatric T2D clinics.
    - **Delaying T1D diagnosis serves as one of the biggest motivators for screening for T1D.** Dr. Simmons said that according to a recent survey, findings demonstrated that patients or family members with T1D indicated the importance of having more time before diagnosis.
    - **To date, 30 patients have been infused with Tzield at the Barbara Davis Center Early T1D Clinic.** Dr. Simmons shared that the patient demographic includes a mean age of 22 years, 43% male, 80% White, and 40% with first-degree relatives with T1D. Among those infused with Tzield, Dr. Simmons said two patients have been diagnosed with stage 3 T1D.
    - **Insurance coverage and authorization require an extensive framework.** Given the uncertainty and varying demands for clinical tests, Dr. Simmons emphasized the importance of obtaining results of repeated autoantibody tests, fasting glucose levels, OGTT, A1c, and CGM metrics. Based on the patients seen at the Barbara Davis Center Early T1D Clinic, HCPs have been required for 50% of cases. The time from submission of prior authorization to approval has ranged from four to 127 days, and the time from approval to infusion has ranged from two to 109 days.

3. Prof. Partha Kar surveys England's journey in expanding equitable use of CGM and AID, emphasizing the need to address unconscious biases

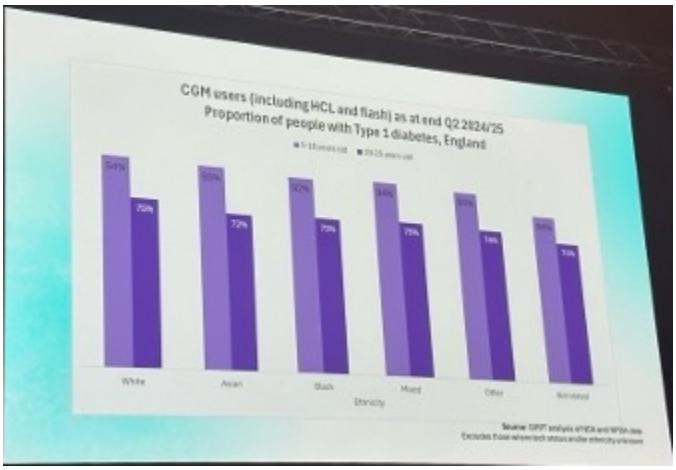
Prof. Partha Kar (NHS England) chronicled NHS England's tremendous progress in driving increased equitable uptake of diabetes technology since 2017. Prof. Kar contextualized these advancements by reflecting on diabetes technology use in England before the COVID-19 pandemic. In September 2017, CGM uptake was extremely limited: 4% among children and adolescents and negligible among adults with T1D. Likewise, pump use remained low, with only 27% of pediatric patients and 8% of adults with T1D using these devices. As adoption grew in the following years, widespread inequities in technology use emerged. In 2019-2020 for instance, the percentage of children and young people with T1D using real-time CGM (rtCGM) differed significantly by ethnicity and socioeconomic status, with the highest usage observed among white individuals and those with the highest socioeconomic status (see below). Given this data, Prof. Kar said healthcare providers should address their conscious and unconscious biases in prescribing technology, stating that technology should simply be offered to everyone. Ignoring these biases and evidence revealing these disparities would only further perpetuate gaps in outcomes.

- **CGM and pump use in T1D has significantly increased across all age groups in England in recent years.** As of September 2024, about half of pediatric patients with T1D were using an AID system, increasing to 56% at the end of December 2024. Prof. Kar expects uptake to further increase to 65% by the end of March 2025, even suggesting that 80% to 90% uptake by the end of 2025 could be feasible. Due to advocacy efforts for expanded access to diabetes technology, Prof. Kar emphasized insulin pumps are now the standard of care in the pediatric population, underscoring the rapid progress in diabetes care in about seven years.
    - **While pump and AID use is lower in the adult population,** CGM use has nevertheless dramatically increased over time. Reflecting on this trend, Prof. Kar highlighted data revealing significant variation in insulin pump use across diabetes clinics. He said this variability should ignite efforts to support clinics with low prescription rates through education and workflow refinement to drive greater pump adoption. As technology adoption has grown, Prof. Kar noted that adult population-level A1c outcomes have predictably improved; however, he said that these improvements appear disproportionate with gaps in outcomes emerging across subpopulations. Thus, he reiterated the need to document these emerging disparities and focus on equitable implementation and use of technology.

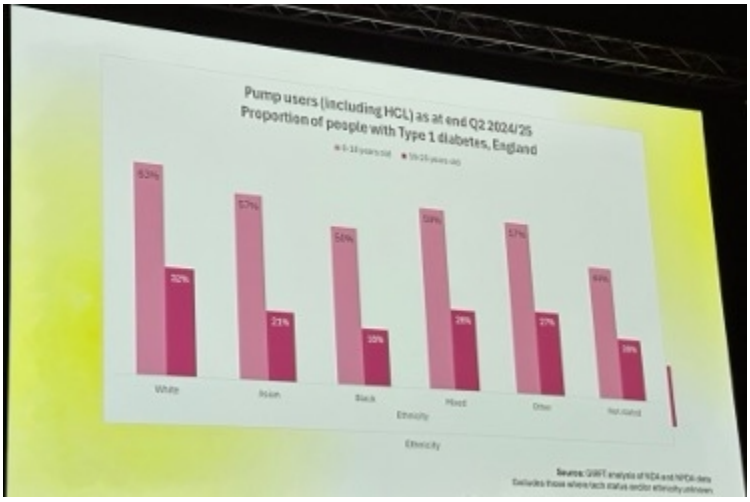


- **On achieving more equitable access, disparities in CGM use across ethnicity and socioeconomic status in England have attenuated since 2019-2020 (see below).** In the pediatric population, CGM use was similar between white, Asian, Black, mixed, and other ethnicity – around 92% to 94% in September 2024. Although CGM use was lower in the young adult population, differences across ethnicities were also marginal. Additionally, CGM use was roughly equivalent regardless of social deprivation quintile in both the pediatric and young adult populations. Prof. Kar celebrated this tremendous accomplishment, encouraging healthcare providers to always try initiating CGM. He acknowledged that CGM may not be beneficial for every patient

without difficulty, but he emphasized that it is better to experiment and fail in initiating CGM than avoid prescription entirely due to the value of learning through failure.



- **While disparities in pump use still exist by ethnicity and socioeconomic status, Prof. Kar suggested that these disparities are narrower now than historically (see below).** As of September, pump use, including AID, was highest among white children, adolescents, and young adults, with the lowest use among Black children, adolescents, and young adults. As the rollout of AID advances in the UK, Prof. Kar expressed confidence that these disparities will eventually be mitigated as seen in CGM use rates.



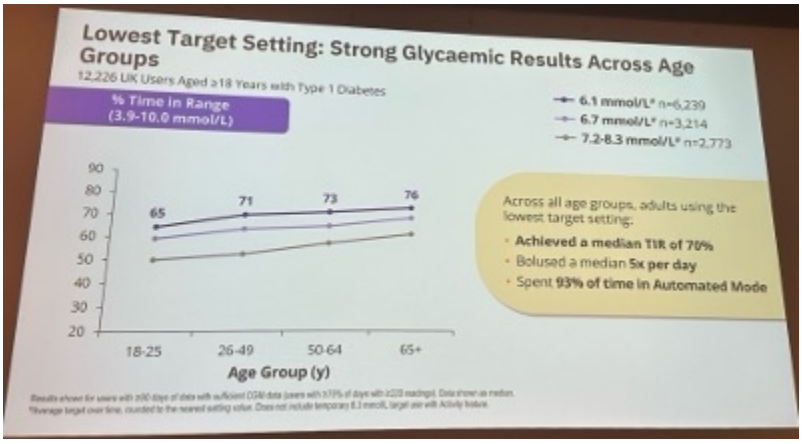
4. Dr. Emma Wilmot presents additional real-world outcomes among adult Omnipod 5 users in the UK (n=12,226): Median TIR of 70% at lowest target setting across all age groups

Dr. Emma Wilmot (University of Nottingham, UK) presented additional real-world outcomes from adult Omnipod 5 users with T1D in the UK (n=12,226). We previously saw Insulet present real-world outcomes from 9,265 pediatric UK users at ISPAD 2024, and Dr. Wilmot also presented outcomes from 14,848 pediatric and adult users in the UK at EASD 2024. Like all Insulet's real-world analyses, these results included individuals with at least 90 days of "sufficient" CGM data (≥75% of days with ≥220 readings/day).

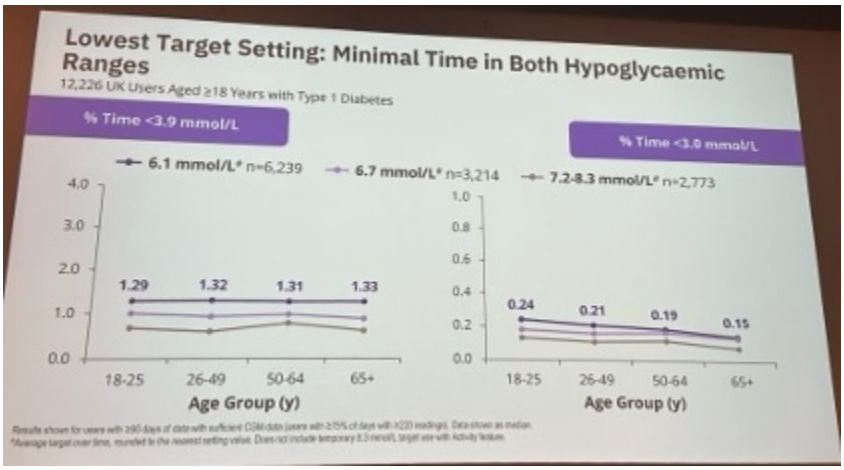
Of note, Dr. Wilmot will present results from the RADIANT RCT at ATTD 2025 on Saturday, March 22, in an oral symposium. As a reminder, the trial is comparing glycemic outcomes with Omnipod 5 and FreeStyle Libre 2 Plus to MDI in people with T1D.

- **Among those using the 110 mg/dL target setting (n=6,239), median Time in Range (TIR) was 70%, an outstanding result.** Interestingly, median TIR tended to increase with age, with the lowest median TIR among young adults at 65% and the highest median TIR among adults aged 65+ years at a whopping 76%.

Over half (52%) of adult users achieved at least 70% TIR, with nearly 20% achieving at least 80% TIR. Three-quarters (75%) of adults aged 65+ years achieved at least 70% TIR. The majority of adults aged 26-49 years (54%) and 50-64 years (61%) also achieved at least 70% TIR. Young adults (18-25 years old) were least likely to achieve at least 70% TIR, with only one-third (33%) achieving this threshold; however, 63% still achieved at least 60% TIR. Across all age groups, individuals using the 110 mg/dL target achieved the highest median TIR, so Dr. Wilmot emphasized that lowering the target is essential to improve TIR further. We thought this was great for the group to hear – historically, of course, lower targets were thought to be riskier in terms of possibly prompting greater hypoglycemia.



- **Median Time below Range remained very low regardless of target setting and was comparable across age groups.** With the lowest target setting, almost all users achieved consensus targets for hypoglycemia – 92% achieved <4% Time below Range and 93% achieved <1% time <54 mg/dL, both of which are associated with very strong clinical results.



5. Prof. Parth Narendran on T1D screening efforts and follow-up strategies

In the afternoon, Prof. Parth Narendran (University of Birmingham, UK) presented updates on screening efforts for T1D in the UK. Prof. Narendran emphasized the need to implement screening, given the benefits of early T1D detection – more frequent check-ups, early treatment initiation, reduced DKA risks, and access to promising treatments. The UK currently includes two active screening programs: (i) ELSA in people three to 13 years; and (ii) T1DRA in people 18-70 years. In today's presentation, Prof. Narendran elaborated on the ELSA study with a focus on its goal to understand the views of HCPs, school staff, and other professionals involved in the testing program. One of the major goals of the ELSA study is to understand these perspectives to gain insight into the feasibility and acceptability of any future national screening initiatives.

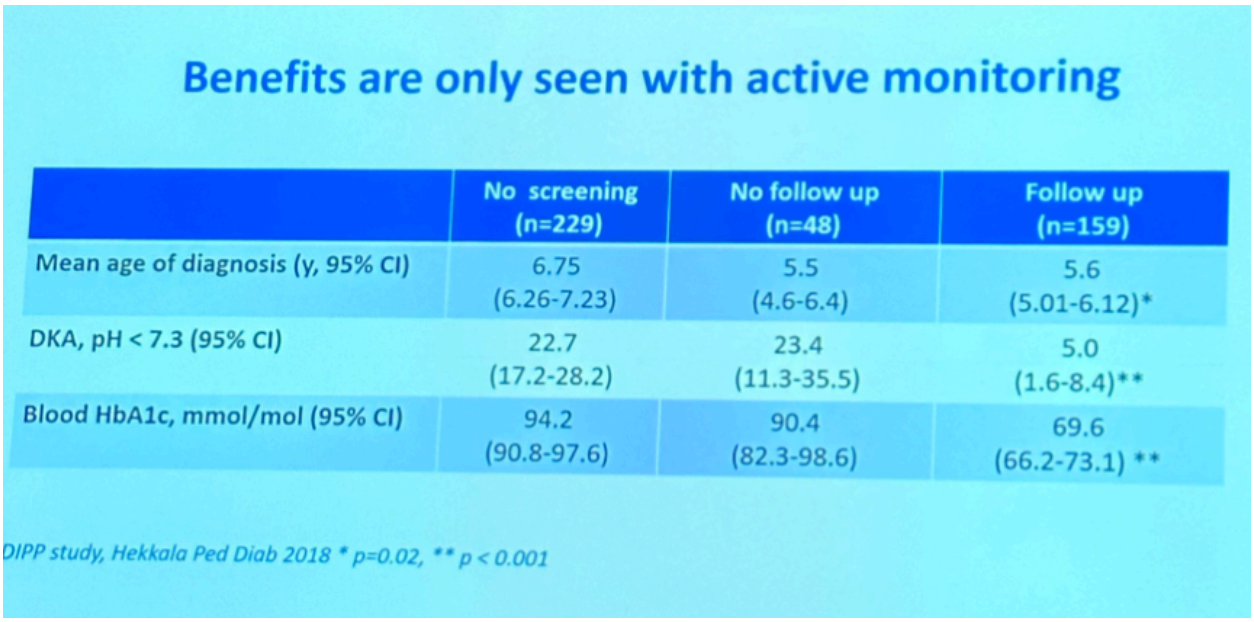
- **Recruitment strategies have focused on home tests, general practices, schools, other programs, and**

community settings. Prof. Narendran said that while there's been a slow increase in the number of participants reached through community-based initiatives, such efforts have supported recruitment from ethnic minorities and underprivileged populations. Community-based initiatives have also helped recruit people without a family history of T1D. Furthermore, Prof. Narendran mentioned the feasibility of school and social media-based recruitment with home and school-based sampling. He also highlighted the feasibility and acceptability of dried blood spot testing followed by confirmatory testing at local sites.

- **Patient views toward screening.** Prof. Narendran said that a qualitative interview (n=123) showed that diabetes experience in the family led to screening uptake. Among those without a family history of diabetes, people tended to assume no relevance in screening. For screening test acceptability, the survey demonstrated the assistance of previous blood glucose tests, preference for home testing, and easier performance among younger children. Screening anxiety among patients involved uncertainty of whether the sample was received and the timeline of results.
- **First-degree relatives as a target population.** Prof. Narendran said that targeting first-degree relatives is a "good way to start" screening initiatives, as they tend to be more engaged. In fact, this population constitutes 37% of the participants in the ELSA study.

6. The importance of follow-up: Dr. Rachel Besser on continued monitoring of pre-stage 3 T1D

Following Prof. Narendran's presentation, Dr. Rachel Besser (University of Oxford, UK) emphasized the need to monitor people who screen positive for islet autoantibodies. Dr. Besser highlighted the importance of monitoring pre-stage 3 T1D to help prevent DKA, implement adequate plans and preparation, delay the need for insulin, and avoid misdiagnosis of T2D. While screening programs improve outcomes, Dr. Besser provided a reminder that benefits are only seen with active monitoring. She referred to the DIPP study, which found that the reduction in DKA was only seen in those who engaged with follow-up (5%), with no difference in DKA rate between those without screening (23%) and no follow-up (23%). Furthermore, Dr. Besser raised challenges among participants dropping out in the monitoring process, with rates varying across countries shown in the TEDDY study. The treatment adherence was highest in Finland (78%) and Sweden (73%) and lowest in the US (49%) and Germany (48%).



- **Consensus guidance on monitoring.** Given the importance of monitoring people with early-stage T1D, Dr. Besser co-led the pediatric working group of the international consensus on stage 3 T1D, published in June 2024. Impressively, this consensus includes 60 international experts across four continents and 11 organizations to support individuals with positive T1D autoantibodies in clinical practice. Dr. Besser described the use of this statement when approaching follow-up, especially among those who show one positive autoantibody. Dr. Besser emphasized that the first two years are particularly important for monitoring

because of the spread and reversion of autoantibodies and the risk of young age. For those who have two or more autoantibodies during screening, Dr. Besser encouraged follow-ups with CGM metrics and serial monitoring.

- **Raising awareness and education.** Dr. Besser said that the British Society for Pediatric Endocrinology and Diabetes(BSPED) special interest group has adopted the published consensus and awaits funding to deliver a package of education for HCPs. Additionally, Dr. Besser highlighted the UK autoantibody registry that is expected to launch next month. This registry aims to: (i) keep in contact with people with autoantibodies; (ii) share information about research opportunities and participation; (iii) support populations at risk with education and resources; and (iv) collect data on T1D development and increase understanding in the community. It was terrific to hear Dr. Besser speak – as someone with diabetes herself (she was diagnosed with T1D when she was nine), her passion for the subject is obvious and her views shared were quite valuable. We are curious to know more about what funding is needed by BSPED and how the field could help the group.

7. Banting Memorial Lecture: Dr. Johnathan Valabhji discusses innovative force and dedication to the field

In his introduction, Prof. Kamlesh Khunti (University of Dundee, UK) noted that compared to other countries, the UK is obtaining outstanding results in diabetes prevention, remission of T2D, and improvements in the standard of care. An important leader in realizing these changes is Dr. Jonathan Valabhji (Imperial College, London), this year's Banting lecturer. Dr. Valabhji was National Clinical Director for Diabetes and Obesity in NHS England for 10 years from 2013-2023. Notably, he led three high impact programs: (i) the National Diabetes Prevention Programme (DPP); (ii) the NHS Type 2 Diabetes Path to Remission Programme; and (iii) the NHS Digital Weight Management Programme. These programs translated clinical evidence into nationwide healthcare delivery systems, under the UK's NHS, and delivered a major, measurable impact on public health. One of Dr. Valabhji's key contributions is to harness the power of data – to justify funding for new programs, to extend pilot schemes, or to demonstrate the cost/benefit of existing programs. Hard data also justifies a faster pace of change. In this talk, Dr. Valabhji covered his career to date and also looked to the future: he noted that NHS workforce capacity will be a challenge to building new initiatives. He also showed compelling data that Multiple Long-Term Conditions (MLTCs) are the next transition in the diabetes epidemic. As treatments help people live longer and they gain weight earlier in life, patients living with MLTCs are becoming more common. His NHS database data suggested that 17% of the population already have MLTCs.

- **Under Dr. Valabhji's leadership,** the St. Mary's Footcare clinics expanded from once per month to a daily practice and introduced a multidisciplinary team. This specialist service yielded very low amputation rates that were benchmarked internationally. Seeing an opportunity, Dr. Valabhji was able to roll out a national program that decreased the UK's overall amputation rate by 15% over eight years (from 9.1 per 10,000 people with diabetes to 7.7). However, the mortality of people presenting with foot ulcers is very high – 40% at five years. By introducing additional cardiovascular screenings, they were also able to lower mortality in this population by 13% at five years.
- **The NHS Diabetes Prevention Programme (DPP)** was created based on strong international evidence that lifestyle interventions can prevent or delay progression to type 2 diabetes. Dr. Valabhji created an Expert Reference group who digested the best evidence and developed a service specification. They conducted a national procurement exercise, selected multiple providers who could deliver the intervention, and signed service contracts. Each local area could then choose a provider. Notably, providers didn't get paid unless there was a meaningful dataset for each participant. To date 1.7 million people have been referred to the DPP, £200m has been invested, and an independent evaluation has shown a 7% reduction in incidence rate and clear cost effectiveness.
- **Dr. Valabhji steered the NHS Type 2 Diabetes Path to Remission Programme,** which translated this finding into clinical practice. The problem was that the DiRECT trial (which achieved a remarkable 46% of participants achieving full remission at 12 months) was delivered by healthcare practitioners, who didn't have enough capacity. However, another study had implemented TDR via lay people trained as health coaches. Dr. Valabhji put the two approaches together and applied the same procurement and nationwide rollout model as the DPP.

- **The next major challenge facing healthcare is Multiple Long-Term Conditions (MLTCs),** also described as multimorbidity. The recent dramatic reduction of cardiovascular death for people with diabetes (halving cause of mortality from ~60% to ~30% over two decades) has contributed to people living longer with chronic disease. Equally, expanding waistlines have contributed to earlier diagnosis of many conditions because of the longer exposure to the 'metabolic milieu.' By linking the Diabetes Audit to other NHS databases, Dr. Valabhji was able to show that from a population of 60 million people, 26 million had at least one of 35 different long-term conditions (LTCs). Of this group, over 10 million people in England had MLTCs. People with diabetes and other LTCs face significant loss of lifespan. The worst for longevity are diabetes plus serious mental illness (e.g. schizophrenia) and diabetes plus depression.

8. Current evidence, guidelines, and recommendations for early detection and management of heart, liver, and kidney disease

In this session, a cardiologist, a hepatologist and a nephrologist gave their impressions of how diabetes plus cardiovascular disease (CVD), metabolic associated steatotic liver disease (MASLD), and chronic kidney disease (CKD) overlap. This talk picked up on the theme of multimorbidities discussed in the Banting lecture. Each of the speakers suggested how diabetologists should recognize and screen for co-morbidities, appropriate therapies, and the increasing need for coordination across specialties.

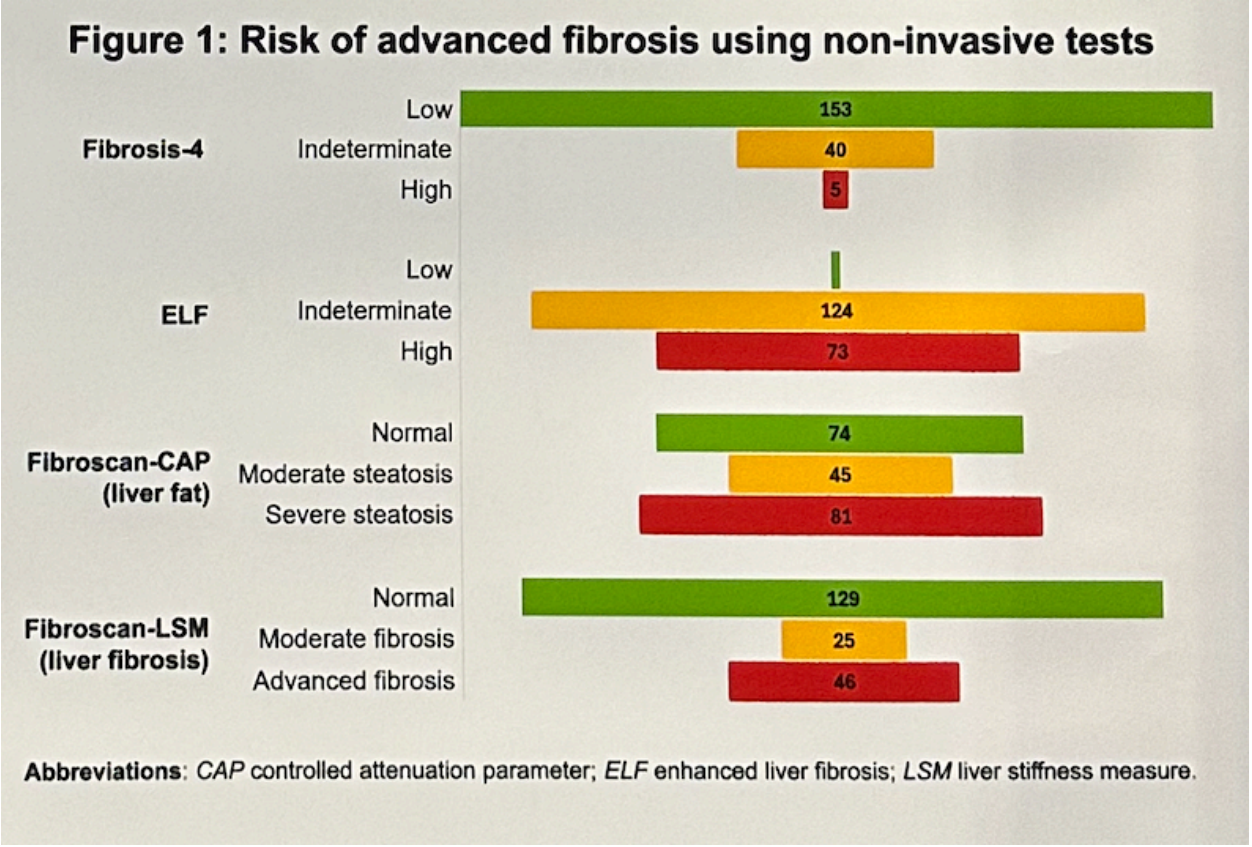
- **Dr. Ameet Bakhai** (Royal Free Hospital, London) strongly advocated for the screening of people with diabetes for CVD. He divided this complex disease into five main areas: (i) coronary artery disease (CAD); (ii) heart dysfunction (heart failure (HF)); (iii) atrial fibrillation (AF); (iv) blood pressure/PAD/aortic aneurism; and (v) exercise/mobility. ECG is an important screening tool in this regard. Screening for AF and PAD can often be overlooked, but patients with PAD have the same life expectancy as those who have had a heart attack. Dr. Bakhai also noted that "blood pressure and the eye will tell you when a person with diabetes should be screened for CVD." He noted that SGLT-2 and GLP-1 RAs are the medicines of choice for people with both CVD and diabetes and both should be used.
- **Dr. Guru Aithal** (Nottingham University) set out a strong case for liver health screening in those people with diabetes and obesity. MASLD is fatty liver caused by metabolic factors (but may also be combined with alcohol related liver disease because it is synergistic with BMI). The chronology of the cluster is fascinating. Weight gain comes first, then dyslipidemia, then MASLD, then hypertension, then impaired glucose tolerance. Insulin resistance in the liver is critical in the progression to diabetes. The degree of scarring (fibrosis) in the liver is also more important than having fat alone. All people with type 2 diabetes plus obesity should be screened for fibrosis. It's important not to wait for elevated liver enzymes, because otherwise cases will be missed. Screening can be achieved using ultrasound elastography (Fibroscan). FIB-4 is also a cost-effective lab test that can also indicate liver fibrosis. In the NHS, 4% of Fibroscan tests give a diagnosis of cirrhosis. Treatment for MASLD in diabetes is currently achieved via GLP-1 RAs. Dr. Aithal noted that there isn't yet sufficient evidence that semaglutide reduces fibrosis, but there is some evidence with tirzepatide. He also mentioned SGLT-2, and obesity treatment, such as bariatric interventions.
- **Dr. David Wheeler** (Royal Free Hospital) cares for people with chronic kidney disease (CKD) in London. 40% of his patients also have type 2 diabetes as a comorbidity. 40% of people with diabetes will in turn develop CKD. Dr. Wheeler noted that the best patients with CKD to treat are those in early stages with lower risk of kidney failure – this will enhance both their years and quality of life. However, those patients are not yet typically referred to nephrologists. Patients with later stages of CKD typically are being seen by multiple specialists and getting slightly different advice from each of them. Dr. Wheeler made a strong case for a multidisciplinary approach in all of these situations. He provides a virtual referral advice service to primary care and operates a virtual specialist panel to provide a mutually agreed treatment plan. The two dimensions of CKD diagnosis are eGFR (measure of the blood cleansing capacity) and UACR (serum albumin/creatinine ratio), which measures kidney 'leakiness.' The combination of these measurements can be used to stratify risk of end stage renal disease. The "four pillars" of CKD treatment are blood pressure management, SGLT-2 inhibitors, finerenone (Kerendia), and GLP-1RAs. Current guidelines state that a person with both CKD, eGFR > 20 mL/min/1.73m^2, and diabetes should be treated with an SGLT-2 inhibitor. Additionally, metformin and sulfonylureas should be discontinued. Pioglitazone can be continued. Specific diabetes

medicines have built evidence that they can be continued in CKD, including linagliptin, dapagliflozin, and semaglutide.

9. Prospective cohort study on screening for MASLD and advanced fibrosis in people with T2D

In an oral session, Dr. David Williams (Swansea Bay University, UK) presented findings from a prospective study (n=200) on screening for MASLD and advanced fibrosis in people with T2D. Current guidelines suggest screening for MASLD using a FIB-4 score, followed by the enhanced liver fibrosis (ELF) test or transient elastography (Fibroscan) in those with an indeterminate FIB-4 score. The prospective study included adults with T2D who conducted additional liver assessments during their usual clinic appointment in Swansea. Among the study population, nearly all participants had valid FIB-4 (99%), ELF test (99.5%), and Fibroscan scores (100%). The study stratified participants with low, indeterminate, or high-risk scores for advanced hepatic fibrosis or severe hepatic steatosis using the three scores (see figure below). These data results were then applied to a screening algorithm.

- **Results.** Findings showed that 23% of participants required a hepatology referral when using the FIB-4 score, followed by the ELF test. Additionally, 11% of participants required a hepatology referral using a FIB-4 score followed by a Fibroscan. These findings demonstrate the feasibility of routine screening for advanced hepatic fibrosis in people with T2D in a secondary care diabetes clinic. Looking forward, Dr. Williams encouraged more studies to identify earlier stages of MASLD in people with T2D in clinical practice.



10. Exhibit Hall: CGM, AID, GLP-1s, and more

Throughout the conference, the lively Diabetes UK exhibit hall has been routinely filled with attendees, interested in learning more about the latest advancements in technology and therapy. All attendees received an exhibition passport, requiring participants to visit a selection of companies in exchange for a chance to win prizes. A mini golf course in the back of the exhibit hall was also somewhat popular during breaks.

In tech, we saw several CGM companies, including Abbott, Dexcom, and Roche, with Abbott's popcorn station in particular drawing many visitors. Regarding AID, Insulet once again had an extravagant mango booth equipped with

interactive displays, while Air Liquide Healthcare, the authorized distributor of Tandem's t:slim X2 with Control-IQ in the UK and Ireland, also sponsored a booth. In therapy, Lilly and Novo Nordisk dominated the room with large booths devoted to their GLP-1 offerings, while Sanofi's booth focused on its insulins Lantus and Toujeo.

--by Andrew Goyette, Esther Min, John Close, Monica Oxenreiter, and Kelly Close