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Supplement A

POSTER ABSTRACT BOOK

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- The abstracts in this supplement have been edited minimally from the submitted versions, primarily for house style on units.
- For full authorship details, please refer to the posters.
- Funding declarations are presented only where explicitly supplied with the abstracts. For full details, please refer to the posters.

P1

Diabetes, reasons and up to date causes behind it and ways to diagnosis

Submitting author: Ali Hashemi

Objective: The aim of this study was to measure the effectiveness of a primary-care virtual group consultation and diabetes self-management education program [VGC-DSME] to improve glycaemia, metabolic control and patients self-efficacy in the management of diabetes. Methods: I conducted a quantitative study on a small group of patients with uncontrolled diabetes as part of a Quality Improvement Project. All patients >18-years with Type-1 or Type-2 diabetes were eligible for the study. Four patients completed a 4-week VGC-DSME program, 2-hours/week, via Microsoft-Teams. Data measuring HbA, Lipids, BP and BMI were obtained, prior to the workshops and at 3-months follow-up. Patient's selfefficacy was evaluated by means of a mixed-methods strategy, using a semi-structured survey. Results: HbA_{tc} significantly reduced by 21 mmol/mol (16%) with an average systolic-BP reduction of 8 mmHg (10%). Average diastolic-BP increased by 5 mmHg (4%) as did the lipidprofile by 0.7 mmol/L (0.03%) due to an adverse health event with a participant. There was a rise of 22.5% in motivation level, 25% in confidence levels with selfmanagement skills boosted by 31%, rating VGC-DSME at 96% with a likelihood of recommending to others. The change impact of the QI project revealed that patients are 7-times less likely to see the GP and with patient-activation-level increasing by 1.8 (scale of 1-5), correlates to primary and secondary-care demand savings of £1002/patient/year. Conclusion: The results confirm the significant benefits of VGC-DSME in improving glycaemia, metabolic control, and patients self-efficacy as well as the notable impact on saving GP appointments and monetary gains. Results were considered valid and reliable however, evidence needs to be further assessed in larger cohort of patients for generalisability.

P2

"Poor AND Fat": Implementation of the Low Calorie Diet in our most deprived communities – how can we improve?

Submitting author: Jessica Randall-Carrick

Background: Practices that serve the 15–20% most deprived populations are known as Deep End Practices. Such populations are known to be at increased risk of obesity, a risk factor for premature disease. Objectives: ICS Cambridgeshire & Peterborough developed

a bespoke Digital Low Calorie Diet programme intentionally engaging with six Deep End Practices. Invitations were sent to >1500 eligible people who live with Type 2 Diabetes (T2DM), to promote significant weight loss, improvement/remission of T2DM and reduce risk of obesity-related diseases. Methods: Patients who did not respond were contacted by the Personalised Care Team and suitable individuals were invited to a "tasting session" with the Dietician at their Practice. Participants spent 12 weeks on a Total Diet Replacement (TDR) with fortnightly Digital Dietetic review (video consultations). Food re-introduction (FR) had continued support; and ongoing Dietetic access up to 24 months. Participants were asked to pay a subsidised rate of £20 per week for their TDR. Results & Conclusions: This programme promoted significant weight loss (12.4 kg) and decrease in HbA_{te} of (12.5 mmol/mol) with 56% achieved remission of T2DM. Personal costs to the eligible patients acted as a barrier with only 10% showing interest. Of these, only 3.5% started the programme, and of those, 4.5% later withdrew citing costs. Starting the NHS Type 2 Diabetes Path to Remission programme should proactively engage with the most deserving patients and be mindful to mitigate any personal cost to the patient.

P3

Deprescribing in older patients living with cardiometabolic conditions, multimorbidity and end-of-life designations

Submitting author: Elizabeth Hickman

Aim: The aim of this systematic review was to investigate deprescribing practices and evaluate health outcomes and adverse events with the de-intensification of preventive medications in older patients with either an end-of-life designation or those residing in long term care facilities with cardiometabolic conditions living with frailty and multi-morbidity. Methods: The included studies were identified using a literature search of MEDLINE, EMBASE, Web of Science, clinicaltrials.gov.uk, CINAHLS and the Cochrane Register from inception to March 2022. The studies that were included for review contained observational studies and randomised control trials (RCTs). Extracted data included baseline characteristics, deprescribing rates, adverse events and outcomes, and quality of life indicators; and the review was discussed using a narrative approach. Results: A total of 13 studies were included in the review. Deprescribing approaches reviewed encompassed complete withdrawal, dose reduction or tapering, or switching to an alternative medication, for at least one preventive cardiometabolic medication. The deprescribing success rates across the studies ranged from 27% to 94.7%. The studies reported no significant changes in laboratory values or adverse cardiometabolic related outcomes but did find mixed outcomes for those requiring admission to hospital along with a slight increase in the mortality rates when comparing the intervention arm with the control arm. Conclusion: Deprescribing is part of safe prescribing practices in the elderly. A lack of good quality RCTs suggest that deprescribing in the older population living in long term care facilities with frailty and multi-morbidity or have an end-of-life designation is feasible when controlled and regularly monitored by appropriate healthcare professionals, and that the benefits outweigh the potential harm in this cohort of patients. Unfortunately, due to limited evidence along with the heterogeneity of the included studies, a meta-analysis was not able to be performed and as such further research is required to assess the benefits of deprescribing in this patient population.

P_{4}

Managing Type 2 diabetes in the prison setting: What's occurring?

Submitting author: Diana Buck

Type 2 diabetes: the rising problem, related to diabetes and care in 8 local prisons. The issues: can patients in prison manage their diabetes effectively? Restrictions on mealtimes, medication times, prison diet, access to exercise. Actions: What we can and have achieved. Conclusion: Improved standards of care.

P5

The use of positive psychology in the communication of HbA_{1c} results by text message

Submitting author: David Mummery

Methods: Over 6 months text messages were sent to diabetes patient about their results. Those with good or excellent control were sent text messages employing positive psychology. Words like "excellent" and "good" control were used. Explanation and a link was put in as to what the HbA₁₆ test was, and what the relevance of this was. Over 6 months >250 text messages such as this were sent. After sending the messages patients who had received them were asked at random how they felt about receiving them and what their response to this was. Results: Quotes are verbatim from the patients who were asked. Text messaging about good and excellent results was regarded by the vast majority of patients as appropriate. Those with off target results generally preferred a telephone or F2F consultation. Qualitative feedback and quotes from patients: "It made my day". "I was really pleased to get the text message and it made me look up about what the HbA, is and try and understand it". "I now understand what the HbA_{1c} is". "I felt relieved". "I was very pleased to get the message". Summary: Positive psychology and appropriate text messaging can be a very powerful tool in diabetes care.

P6

Low-calories diet patient session

Submitting author: Adele Breaton

Aim: To encourage patients with type 2 diabetes eligible for the NHS low calorie diet to attend an engagement session learning how to manage their diabetes, with a patient choice of being referred to the low-calorie diet programme.

P7

Breaking lipid management clinical inertia for patients living with diabetes

Submitting author: Carmen Villegas

Aims: Increase awareness of lipid guidelines for Health Care Professionals dealing with diabetes. Maximise benefits for patients from increasing access to evidence based medications/Optimise their existing treatments. Highlight patients that need lipid management optimisation. Promote the use of existing IT technology in the clinical records to support and assess lipid discussions at diabetes reviews. Tools: Eden (Effective Diabetes Education Now) Training modules/Train the trainer course, in liaison with the local Diabetes Lead for Integrated Care Board. Ardens templates. Results: Training sessions on lipids in diabetes have been delivered for approximately 100 healthcare professionals. Mentoring of new Clinical Pharmacists to apply the learning. Feedback forms: Average rate before session (1-10) was 5. Average rate after the session was 8. 100% of attendees found the session very to extremely useful. Main learning points were: learnt importance of lipid optimisation in diabetes reviews; understanding of targets; awareness of use of high intensity statins; understanding of other lipid management treatments; understood the place of ezetimibe; clarification of lipid guidelines; understanding when to refer.

P8

ASK, ASSESS, ADVICE, AGREE, ASSIST intervention: Does it help in managing secondary outcome of type 2 diabetes patient in primary care?

Submitting author: Shawn Joseph

Background: Inspired by the 5As approach used in smoking cessation, a 5As program for diabetes management has been developed and adapted to enhance provider-patient interaction and improve diabetes care. This poster outlines the design of the study aimed at evaluating the effectiveness of a 5As eLearning program for diabetes management in primary care. Aims: This study addresses and evaluates the effectiveness of 5As program for diabetes management among GPs. The findings will contribute to our understanding of the impact of this approach. Methods: The study is a cluster randomized controlled trial designed to implement and assess an online tutorial for diabetes management based on the 5As approach in collaborating primary practices. The effectiveness of the 5As intervention will be evaluated by assessing both patients' and doctors' perspectives in primary care before and after the training. GPs in the intervention group will have access to the 5As diabetes management online tutorial, while GPs in the control group will be placed on a waiting list. Outcome measures for patients and GPs will be compared between the intervention group (treatment as usual plus GP training) and the control group (treatment as usual). Regression models will be employed to analyse effects over time pre- and postintervention. Discussion: The 5As framework provides

GPs with a simple mnemonic for patient counselling. There is a lack of intervention studies examining the effectiveness of a concise 5As eLearning program for GPs on secondary outcomes, such as glycaemic control or patient adherence to treatment.

P9

Aneurin Bevan University Health Board & Primary Care division-commissioned primary care diabetes specialist nurses (PCDSNs) to provide National Enhanced Service (NES) reviews for diabetes patients prescribed injectable therapies

Submitting author: Frances Rees

Aim: The specification of this service is designed to cover enhanced aspects of clinical care of the patient, that go beyond the scope of essential services. Methods: Supporting development and maintenance of high-quality care for people with diabetes in primary care. Increasing the proportion of people with diabetes being cared for outside of hospital and enabling the referral and discharge of patients from Secondary Care in accordance with appropriate clinical guidance. Supporting all patients being cared for in Primary Care to receive a holistic Annual Review. Using prudent healthcare principles to provide the necessary supportive monitoring reviews according to clinical guidance. Ensuring that all newly diagnosed patients with diabetes receive an enhanced review promoting awareness of the condition, self-care, ongoing education, and monitoring. Providing data to clusters, Local Health Boards and Welsh Government to inform the design and development of services for patients with Type 2 Diabetes Mellitus. Results: Of 73 General Practices within Health Board, 61 services are operational; 7 are considering the logistics; 5 have opted out (reason: currently delivering service in house). Patients report seeing PCDSN for glycaemic review as a valuable opportunity to discuss issues and concerns in person particularly post-pandemic. Conclusions: An innovative initiative to provide an equitable service across GP practices of a comprehensive glycaemic review of patients with type 2 diabetes using injectable therapies.

P10

Using peer and inter-professional teaching with nursing students to improve confidence with managing patients with diabetic complications in the community

Submitting author: Emma Cook

Aim: Using a patient case study based approach with peer and inter-professional teaching to improve confidence with managing patients with diabetic complications in the community. Methods: The teaching session for the nursing students began with an interactive quiz. One of the questions was "what worries me when caring for a patient with diabetes". Afterwards the students were divided into groups and assigned a patient case study. The case studies were

based on patients presenting in general practice with different complications of diabetes: hypoglycaemia, diabetic foot or eye disease. The students were asked to prepare questions they had for the patient and anticipate questions that the patient may have. Afterwards the students presented their findings to the other groups and the class debriefed with a local GP with a specialist interest in diabetes. Following the session the students were invited to give feedback. Results: Many students cited managing patients with diabetic complications as a worry in the presession quiz however following the teaching session many students reported feeling more confident going forwards and enjoyed the use of case studies as a basis for the discussion. Conclusion: Managing patients with diabetic complications in the community can be a source of anxiety for nursing students. Nevertheless, facilitated peer led education can help improve confidence amongst nursing students.

P11

Obesity and glycaemic control among people with type 2 diabetes in the UK: A retrospective cohort analysis

Submitting author: Joanne Webb

Background and Objectives: Evaluate the prevalence of glycaemic control (HbA_{1c} <53 mmol/mol [<7.0%]) and explore the relationship between obesity and glycaemic control among people with type 2 diabetes (PwT2D) in the UK. Methods: This retrospective study utilized IQVIA Medical Research Data (IMRD), which comprises electronic medical records (EMR) from UK general practitioners. Adult PwT2D were identified with recorded HbA_{1c} result and body mass index (BMI) value measured within 90 days of each other from 01/2015-12/2018 (second record termed the "index date"). PwT2D had a recorded HbA_{tc} at the end of the one year post-index period. The relationship between baseline BMI and baseline HbA_{1c}, as well as change in HbA, over time, were assessed descriptively. Results: The final sample comprised 103 866 PwT2D. At baseline, 42.0% had achieved glycaemic control and 17.2% had HbA_{1c} ≥75.0 mmol/mol (≥9.0%). Mean (SD) age was 67.5 (11.8) years for those below HbA_{1c} target (53 mmol/mol) and 63.9 (12.1) years for those above. At baseline, 32.7% of PwT2D were overweight (BMI 25.0-29.9 kg/m²) and 55.0% had obesity (BMI ≥30.0 kg/m²); a higher proportion of PwT2D without obesity achieved glycaemic control vs those with obesity (47.6% vs. 37.4%). At one year post-index, 44.8% achieved glycaemic control and 14.1% had HbA_{tc} ≥75.0 mmol/mol. **Conclusions:** This study presents information on BMI and $HbA_{_{1c}}$ among PwT2D in the UK. The proportion achieving glycaemic control was stable over one year. PwT2D with obesity had poorer glycaemic control. The data suggest the need for further interventions to improve glycaemic control in PwT2D in

Previously submitted to the Diabetes UK Annual Professional Conference 2023

P12

Efficacy of tirzepatide in people with young-onset T2D in the SURPASS program

Submitting author: James Shipton

Background: Young-onset type 2 diabetes (T2D), defined as diagnosed before age 40, presents with a more aggressive disease course, faster beta-cell deterioration and reduced response to diabetes treatment compared to later-onset T2D. Tirzepatide (TZP), a novel GIP/GLP-1 receptor agonist, was recently approved for the treatment of T2D. Aim: In this post-hoc analysis we assess the effect of TZP on glycemic control, body weight (BW) and cardiometabolic markers in participants with young-onset T2D from the SURPASS program. Method: Changes from baseline in mean HbA_{te}, BW, waist circumference (WC), and cardiometabolic markers including lipids, and blood pressure (BP) were compared in participants with young-onset (N=873, 20.5%) vs later-onset T2D (N=3394, 79.5%) at Week 40 (SURPASS-1, -2, -5) or Week 52 (SURPASS-3). Results: No differential treatment effect was observed for participants with young- vs later-onset T2D. TZP treatment led to similar improvements in HbA, and BW in both subgroups at Week 40/52 for all TZP doses. Furthermore, TZP (all doses) improved WC, lipids (triglycerides and HDL) and systolic BP similarly between the two groups. Conclusion: TZP treatment led to similar improvements in HbA,, BW and cardiometabolic markers (WC, lipids, SBP) in participants regardless of having young-onset or later-onset T2D.

Previously submitted to the American Diabetes Association 83rd Annual Scientific Sessions (ADA 2023)

P13

The effect of tirzepatide during weight loss on metabolic adaptation, fat oxidation and food intake in people with obesity

Submitting author: Amber Lynch

Background: We hypothesized that tirzepatide (TZP) causes body weight loss by reducing food intake and, according to pre-clinical studies, decreasing metabolic adaptation during weight loss. Aim: In a randomized blinded clinical trial in people with obesity (PWO) undergoing caloric restriction, we investigated the effect of TZP vs Placebo (PBO) on energy metabolism after targeting a 10% (≥12%) weight loss. Methods: In this 18-week phase 1 study, 55 PWO were randomized (1:1) to TZP 15 mg or PBO (mean baseline body weight 102.5 vs 103.1 kg, respectively). The primary objective was to investigate the change from baseline in sleeping metabolic rate (SMR) measured by whole-room indirect calorimetry. Secondary measures were changes in 24-hour sedentary energy expenditure, 24-hour respiratory quotient (RQ), sleeping RQ, substrate utilization, body composition (BC) and food intake. Results: TZP caused greater weight loss than PBO (-16.7 kg vs -8.3 kg; P<0.001). The decreases in SMR (TZP: -135 kcal/day; PBO: -154 kcal/day; P=0.573) and 24-hour energy expenditure (TZP: -300 kcal/day; PBO: -297 kcal/day; P=0.948) were not different between

groups after adjusting for changes in body weight and BC. However, TZP significantly reduced 24-hour RQ (TZP: -0.030; PBO: 0.005; P<0.0001) and sleeping RQ (TZP: -0.028; PBO: -0.001; P=0.0031) compared to PBO; thus, significantly increasing fat oxidation (TZP: 12.8 g/day; PBO: -1.6 g/day; P<0.0001) while decreasing carbohydrate and protein oxidation rates. Conclusion: TZP significantly reduced food intake, did not affect metabolic adaptation but significantly increased fat oxidation.

P14

Acceptability of community health worker interventions for ethnic minority groups with diabetes: A qualitative systematic review

Submitting author: Vivene Grant

Background: The increasing burden of type 2 diabetes mellitus is a major concern for healthcare systems worldwide. Community health worker interventions have the potential to improve diabetes related health outcomes for ethnic minority groups. Acceptability has implications for the success and uptake of programmes. Therefore, this review aims to understand the factors influencing the acceptability of CHW interventions in order to identify how they can be improved and make recommendations for improvements. Methods: Five electronic databases were searched in February 2023. Qualitative and mixedmethods papers were eligible for inclusion. A framework approach was used to synthesise findings and quality of studies was assessed using the CASP Qualitative Checklist. The Theoretical Framework of Acceptability Programme (TFA) domains provided the coding framework for analysis. Secondary inductive analysis generated subdomains which captured the views of participants across studies. Results: The search returned 673 results of which 17 were eligible for inclusion. CHW interventions were generally acceptable for participants who appreciated teaching methods and culturally tailored approaches. 14 subdomains were interpreted from study data which mapped to all seven TFA domains. Conclusion: By using the lens of acceptability, this study has highlighted the key factors influencing how patients perceive CHW interventions. Employing a conceptual framework has helped clearly identify intervention components which can be developed and fine-tuned to suit the needs of ethnic minority groups. Programmes were mostly positively received, but points contributing to high attrition rates were raised. Future programmes and research should draw on these findings, in a culturallysensitive way, to improve practice and expand the non-professional health.

P15

Knowledge, attitudes, and practices of patients with type 2 diabetes mellitus in Brunei Darussalam

Submitting author: Mei Chein Seit

Background: Patients' lack of knowledge and proper self-care practices in type 2 diabetes mellitus (T2DM)

have been linked to the worsening of the disease and its complications. However, the level of knowledge, attitudes, and practices among T2DM patients in Brunei Darussalam remains poorly understood. Aims: This study aims to assess the knowledge, attitudes, and practices of patients with T2DM in primary care settings in Brunei Darussalam and explore any associations between socio-demographic and clinical profiles that could affect their knowledge, attitudes, and practices regarding diabetes. Methods: A selfadministered questionnaire was distributed to 135 T2DM patients attending appointments at Berakas Health Centre. The questionnaire included information on sociodemographic characteristics, clinical profiles, the Diabetes Knowledge Questionnaire, Diabetes Attitude Scale, and the Summary of Diabetes Self-Care Activities tools. Statistical tests, such as Chi-square, Fisher's exact test, and simple linear regression, were used for analysis. Results: The study findings revealed that T2DM patients had moderate to good attitudes but poor levels of knowledge and practices regarding their disease. Significant associations were found, with prior exposure to T2DM education associated with better knowledge (P<0.001). Additionally, older age, marital status, and low educational background were associated with poor practices (P=0.038, P=0.005, and P=0.046, respectively). Furthermore, a positive relationship between knowledge and attitudes was found, indicating that better knowledge was linked to more positive attitudes (P=0.031). Conclusions: Overall, the study highlights the importance of developing a tailored diabetes educational program in Brunei Darussalam to address the identified gaps in knowledge, attitudes, and practices among T2DM patients.

P16

Diabetic kidney disease: An audit of urine albumin to creatinine ratio (ACR) screening in primary care

Submitting author: Rose Inyama

Background: Kidney disease contributes to the development of macrovascular complications. Early diagnosis aids early treatment to slow its progression. Aims: Identify the percentage of patients that received ACR within the last 12 months. Consider how to increase the uptake of ACR test to aid the early identification of nephropathy. Methods: I ran a search for patients on the diabetes register to determine the percentage that had ACR screened within the last 12 months; last 3 years and 5 years ago as well as those with no ACR. Results: The practice diabetes register has 583 patients. No ACR screened yet (61) 10%. ACR screened within the last year (350) 60%. ACR screened 3 years ago (482) 83%. ACR screened 5 years ago (531) 91%. From this audit, all the results fall below the 100% standard that we should be achieving to increase the opportunity of identifying early onset of diabetic kidney disease and reduce complications related to nephropathy and chronic kidney disease for our patients. Conclusion: ACR is a fundamental, underused screening. As a practice we are

failing to obtain the urine sample to screen ACR despite two patient contact opportunities as the patients would attend an appointment for blood tests and a subsequent appointment for their diabetes review. Practices should adopt more robust processes to ensure timely and annual ACR screening is done to facilitate the early identification of diabetic kidney disease.

P17

GDM follow-up in primary care

Submitting author: Ziad Shaban

Gestational diabetes follow-up is often missed or not performed leading to missed diabetes diagnosis and potential harmful impact on the patients life. We audited the compliance with the GDM follow up in our practice and the results were shocking.

P18

New diagnosis of type 3c diabetes in a 74 year old gentleman with pancreatic cancer who is already a known type 2 diabetic.

Submitting author: Gayathri Pushparajan Aims/Objectives: To be able to diagnose type 3c diabetes in patients with pancreatic cancer. To be able to manage recurrent hypoglycaemia associated with type 3c diabetes. Method: A case study of a 74-year-old man, known type 2 diabetes mellitus on medications who presented to a GP surgery with symptoms of upper abdominal pain. He was diagnosed to have gall stones and was planned for cholecystectomy. While waiting for his surgery, he was taken into hospital with worsening abdominal pain and was diagnosed to have intestinal obstruction secondary to advanced pancreatic cancer with bowel metastasis. He had palliative laparotomy with stoma bag in situ. Since his discharge his blood sugar levels have been erratic with recurrent episodes of hypoglycaemia at night time but with BMs of 20 during day time. He was referred to diabetic team in view of this. Results: His care was managed between primary care, hospice and diabetes team. He was diagnosed with type 3c diabetes and had Libre 2 fitted for BM monitoring. He was started on Humulin and was advised on how to manage hypoglycemia at night time. Conclusion: In patients with pancreatic cancer, it's important to consider type 3c diabetes even if patient had type 2 diabetes prior to diagnosis of pancreatic cancer. Involving diabetic team, starting insulin, considering flash diabetic monitors like Libre 2 and advise on managing hypoglycaemia at home remains integral part of management.

P19

Evaluation of psychological impact of food reintroduction, following a period of total diet replacement, on the LCD diabetes remission programme.

Submitting author: Sukhvinder Bhakar

Background: Xyla Health and Wellbeing (Xyla) has
provided the Low Calorie Diet (LCD) diabetes remission
pilot since 2020 and continues provision of the national

roll-out under its new title Type 2 Diabetes Path to Remission (T2DR). The year-long programme begins with 12 weeks of total diet replacement (TDR), followed by 4 weeks of food re-introduction (FR), and finishes with the weight maintenance phase. Objectives: To understand the psychological implications of FR following the TDR phase of the LCD programme, and subsequently carry out improvements to the service to mitigate against this. Methods: Surveys were sent out via email to all service users (SU's) upon completion of the FR phase. Responses were evaluated. Results: The results showed that FR had an overall positive impact, with SU's enjoying eating meals with family again. 89% would recommend the programme to a friend or family member. 78% stated that the speed of FR was "about right", however 22% reported that the speed was "too fast". When asked: "How did you feel about weight change during FR?", 39% of SU's had a positive response, however, 44% of SU's expressed negative feelings such as being "extremely terrified" and "disappointed" (n=18). Conclusions: Re-introducing food can be psychologically challenging for some. Therefore, our updated provision allows for greater choice for SU's, including the option for a slower re-introduction, and many more recipes to support practically and help alleviate worries about weight re-gain. Future evaluation is needed to assess the efficacy of these changes.

P20

Improving urine ACR uptake in diabetes care: A patient-centered approach

Submitting author: Amir Ghanghro

Background: Urine albumin-to-creatinine ratio (ACR) testing is an essential tool for early detection and management of diabetic kidney disease. In Wales, urine ACR testing was initially incorporated into the Quality and Outcome Framework (QOF) for diabetes care. However, with the transition to the Quality Assurance and Improvement Framework (QAIF) in 2018, urine ACR testing was discontinued as a QOF indicator, leading to suboptimal uptake. In England, urine ACR uptake remained poor despite QOF inclusion. The COVID-19 pandemic further compounded the challenges faced in urine ACR testing, resulting in a national uptake rate of approximately 50%. Project aim: This project aimed to improve the uptake of urine ACR testing among patients with diabetes mellitus by implementing a patient-centered intervention. The objectives were to enhance patient education about chronic kidney disease in diabetes and emphasize the importance of urine ACR testing for early detection. Project plan/Methods: The project was conducted in two practices, Practice A in Wales and Practice B in England, with differing demographics. In Practice A, a list of patients who had not undergone urine ACR testing in the preceding 15 months was generated. A dedicated Health Care Support Worker (HCSW) contacted each patient via their provided phone number, providing education and creating urine ACR and blood test forms. HCSW provided a brief education to patient about Chronic Kidney disease in diabetes and importance of Urine ACR testing. Patient education leaflets about Urine ACR and Chronic Kidney disease in diabetes were attached, to urine ACR forms and patients were advised to collect from Reception. In Practice B, a whole team approach was utilized, recalling patients by birth months and conducting face-to-face appointments with a Health Care Assistant (HCA) who provided education and distributed urine ACR kits. Results/Outcomes: In Practice A, post-intervention data comparing HbA_{1c} and urine ACR demonstrated a significant impact of the HCSW model, with improved urine ACR uptake among patients contacted by the HCSW compared to traditional recall systems. In Practice B, year-on-year comparisons of urine ACR uptake from the total diabetes register showed an increasing trend post-intervention. Conclusion: The implementation of a patient-centred approach, including targeted education and personalized recall systems, significantly improved urine ACR uptake in diabetes care. This project highlights the importance of empowering patients through education and optimizing recall systems to enhance early detection and management of diabetic kidney disease. Future initiatives should focus on sustaining these improvements and exploring additional interventions to overcome barriers associated with urine ACR testing. Acknowledgments: We would like to express our gratitude to the Health Care Support Workers, Health Care Assistants, clinicians, and receptionists who participated in this project and contributed to its success. Their dedication and commitment to improving diabetes care are invaluable.

P21

Comprehensive Support and education for type 2 diabetes management: A multi-disciplinary approach

Submitting author: Anagha Jadhav

Objective: Our Diabetes Level 1 project provides support and educational guidance to type 2 diabetic patients, helping them manage potential diabetic complications through the efforts of our multidisciplinary team (MDT). Method: Our team of Clinicians and Dietitians conducted virtual (VGC) and in-person group sessions, utilizing audio-visual (A/V) aids and slide presentations for enhanced communication. Session format: 3 group sessions per patient set: (1) Introduction, consent for information sharing; (2) A/V on Diabetes self-management; (3) Slide presentations on intermittent fasting, low-carb diets, weight management, improving insulin sensitivity, overall well-being; (4) Individual guidance on HbA₁, Cholesterol, BMI, and medication adherence; (5) Referral to community programs, phlebotomy, GP appointments, and fulfilling nine key care processes; (6) One-to-one diet consultation, with additional educational materials; (7) Realistic goal setting, and connecting with support networks and communities; (8) Health and wellness coach support for mental and social well-being. Results: Supported over 60% of our PCN's type 2 diabetic population, resulting in patient satisfaction. The program

successfully lowered HbA_{1c} and total Cholesterol levels by 3–10 mmol/mol. **Conclusions:** Patients became more confident in managing their Diabetes after the VGCs. They learned about diabetes care terms, diets, exercises, phlebotomy readings, and their social and mental well-being. We successfully educated patients in selfmanagement, low-carb diets, intermittent fasting, sleep regulation, and exercise.

P22

Automating referrals to the National Diabetes Prevention Programme

Submitting author: Gurjinder Samra

Background: Between June 2021 and March 2023, Midlands and Lancashire Commissioning Support Unit (MLCSU) were commissioned by the Black Country and West Birmingham CCG (subsequently the Black Country ICS) to engage with practices and assist primary care with improving referral numbers to the National Diabetes Prevention Programme (NDPP). Aims: To work collaboratively to improve referral numbers to the NDPP. To improve engagement with GP practices either not making referrals or referring low numbers. Methods: The MLCSU approach involved providing practices with practical pathway documents to support engagement and implementation and a newly developed clinical system search to help them identify eligible patients at scale. Practices were informed of outcomes for coding in the patient's record. Results: Since the project began, MLCSU have supported 42 GP practices across the Black Country ICS with over 3680 eligible patients contacted and 2130 referrals made to NDPP providers. Conclusions: Type 2 diabetes is preventable through lifestyle changes. MLCSU recently evaluated a model involving personalised video links sent by text to eligible patients. Results have shown elevated levels of engagement and prominent levels of action taken by patients, which shows using technology to engage patients in healthy lifestyle programmes can have a positive impact on uptake, in a more cost effective manner. This project has shown that the at scale approach employed by MLCSU for referral into the NDPP programme, is an effective means to potentially save thousands of people from the serious consequences of this condition.

P23

An innovative project to improve accessibility, management, and control of housebound and hard-to-reach patients with type 2 diabetes

Submitting author: Rachel Fletcher

Background: Numbers of full diabetic checks for housebound and hard to reach type 2 diabetic patients have recently decreased, exacerbated by COVID 19. This has led to poor management of the chronic condition, leading to secondary health problems. Increased costs include appointment time, staff, and medication, to name a few. **Aim:** Increase the contact, accessibility, and control with Diabetic 9 checks in the housebound and hard-to-reach groups. **Objectives:** To improve accessibility of

diabetic annual reviews for housebound patients from 6% to 40%. To improve appointment compliance of hardto-reach patients from 0% to 30%. To improve patients' HbA_{te} so they are at or below 58 mmol/mol; increasing the number of patients achieving this from 59% to 70%. Methods: NICE guidelines (2022) recommended 9 essential health checks for diabetics. Completing these checks through increasing home visits, providing better communication and education to these patient groups was planned. The time from the baseline audit (Jan 2023) to the re-audit (June 2023) limited what improvements could be made - the objectives reflect realistic standards. Results: 6-70% (64%) improvement for all housebound diabetic 9 checks. 0-40% (40%) improvement on hard to reach diabetic 9 checks. 59-80% (21%) improvement on HbA_{1c} blood results within range. Conclusion: Objectives were achieved, leading to better diabetes control and patient care. It enabled us to learn more about providing quality, sustainable patient care to those in low contact groups and discover new ways of working for the future.

P24

Improving sustainability of diabetic retinopathy screening

Submitting author: John Smith

Background: Programmes for diabetic retinopathy screening have increased the number of patients screened for sight threatening diabetic retinopathy (STDR) and permitted monitoring of people at risk of progression to referable diabetic retinopathy (RDR). A disparity between demand for screening and capacity to provide screening has arisen from the rapid increase in the prevalence of diabetes. Over 350 000 people have diabetes on the island of Ireland; most (-90%) have Type 2 diabetes (T2D). The current mode of universal annual DR screening is unsustainable. A possible solution would be to increase screening intervals for those at "low risk". The means of reliable identification of those at low risk will require identification of the factors associated with disease progression to RDR in Ireland. Methods: In this work, we identify the factors associated with progression to RDR in the form of weighted co-variates. A variety of risk prediction models for progression to various degrees of vision threatening DR have been developed and validated in populations throughout Europe and we test them using our prospective cohort. Results: Our prospective external validation of two pre-existent prediction models for stratifying risk of progression to RDR in people with T2D in Ireland. The predictive accuracy of the algorithms to determine progression to RDR was compared with the outcomes observed in a prospective Irish cohort (n=939). Receiver operating characteristic (ROC) curves were used to assess models' performance. Models developed in Iceland and Gloucester had an acceptable performance with an AUC of ~0.70 or above. **Conclusions:** This signifies that there would be a >70% probability that a randomly selected subject from the screening cohort who did in fact develop RDR would have been allocated to the higher risk score category by

each of the models. This signifies safety in individualising screening intervals.

P2

Balancing Blood Sugars

Submitting author: Gita Shah

Asian vegetables, whole grains and spices that maintain healthy blood sugar levels with links to some recipes.

P26

Virtual group sessions for non-diabetic hyperglycemia

Submitting author: Ayca Sedef

Non-diabetic hyperglycaemia is a significant risk factor for the development of type 2 diabetes. This research aimed to evaluate the effectiveness of virtual group sessions in engaging individuals with non-diabetic hyperglycaemia and promoting referrals to the NHS Diabetes Prevention Programme (NDPP). A total of 23 virtual group sessions were conducted over a 12week period, with 346 participants actively joining the sessions. Participants were informed about the NDPP and encouraged to join the program, resulting in 92 referrals. Participant satisfaction surveys provided valuable feedback on the virtual group sessions, highlighting high levels of satisfaction, appreciation for the educational content, and the interactive nature of the sessions. Convenience and accessibility were identified as key strengths, enabling participants to engage from the comfort of their homes and accommodate their schedules. Suggestions for improvement centred around increased session frequency and more personalized content. These findings demonstrate the success of the virtual group sessions in engaging individuals with nondiabetic hyperglycaemia and facilitating referrals to the NDPP. The positive participant experiences and feedback support the use of virtual group sessions as an effective platform for delivering diabetes prevention interventions and connecting individuals to further resources. Future iterations can consider the provided suggestions to enhance the program's effectiveness and reach. Virtual group sessions hold promise in addressing the growing burden of non-diabetic hyperglycaemia and preventing the progression to type 2 diabetes in high-risk individuals.

P27

Improving awareness of sick day rules for SGLT2 inhibitors patients

Submitting author: Zakaria Rob

Background: This project set out to improve the awareness of sick day rules to patients who are on a SGLT2 inhibitor (SGLT2) for diabetes. The Sick Day Rules are an understanding of which medicines to stop taking temporarily during periods of illness. SGLT2 are well-tolerated, but a rare and important side-effect of "euglycaemic DKA" exists. This amplifies the need for patients to be aware of the sick day rules. Aims/Objectives: The aim was to increase the awareness of sick day rules by developing a resource to assist and aid in building patients awareness and learning on sick

day rules. Methods: To measure the level of awareness, a system search was carried out for patients on dapagliflozin, diabetic and English speaking. Then subsequently contacted to ascertain their awareness. The intervention of a text message template summarising sick day rules, and medications it applies to were sent to all patients on SGLT2. A month later, patients were contacted once again to assess their awareness. Results/Conclusions: In the initial cycle 27 patients were contacted, with 11 being successfully contacted and assessed. 82% (9 patients) were not aware of what to do with their SGLT2 when unwell, with 18% (2 patients) being aware. Following the intervention, 10 patients were successfully contacted, 20% (2 patients) were not aware of what to do, and 80% (8 patients) were aware. The awareness of patients was successfully increased from 18 to 80%, and was presented to the entire practice and accessible to be sent when starting patients newly on SGLT2.

P28

A Diabetes Remission Pilot in Northern Ireland: modelled on the Diabetes REmission Clinical Trial (DiRECT)

Submitting author: Lara Jackson

Aim: The Diabetes Remission Pilot aims to shape the development of a Northern Ireland-wide type 2 diabetes remission service. Method: Participants meeting the inclusion criteria were referred by Primary Care to the diabetes hub for assessment and suitability for the 12-month programme by the Consultant Endocrinologist. The programme consisted of total diet replacement (TDR) using a low calorie diet formula of 880 kcal per day for 12 weeks, stepped food reintroduction for 6 weeks and structured support for the weight maintenance phase for the remaining 32 weeks. Prior to commencing TDR, all glucoselowering medication was stopped. Advanced Practice Diabetes Dietitians delivered the pilot virtually in groups of 8-12. To enable participants to take their own measurements, training on equipment (blood pressure monitor, blood glucose meter, scales) was provided with advice on upper and lower thresholds for these readings. Results: Data was analysed at 0 and 12 months for 35 participants completing the programme. Nearly half (17) achieved remission at 12 months. All 10 participants who lost >15% achieved remission. Mean weight loss in the whole group was 10% and 17% in those achieving remission. Significant changes were seen in HbA_{tc} (P=0.005), Weight (P<0.001), BMI (15% weight loss increased probability of remission). Remission should now be the primary aim of diabetes and everyone recently diagnosed type 2 diabetes should be considered for and, where appropriate, offered the opportunity to reverse their diabetes.

P29

Factors associated with variation in diabetes care across Birmingham and Solihull ICB

Submitting author: Srikanth Bellary

Background/Aim: Consecutive National Diabetes Audits (NDA) have shown significant variation in diabetes care. The aim of this study was to identify factors contributing to this variation in diabetes care. Methods: Data from NDA core audit 2019-20 was used as reference. We included all general practices within Birmingham and Solihull ICB. Practices were ranked based on the percentage of all 8 care processes achieved for T2DM in that year and divided into quartiles (Quartile 1 [Q1] worst, Quartile 4 [Q4] best). Demographic data, total number of T2DM patients, proportion belonging to non-white ethnicity were recorded. General practice characteristics (practice size, gender, age categories, clinical and admin staff) were obtained from NHS Digital General Practice data. IMD deciles for the practices were obtained using the post code of the respective practices. Continuous GP and practice factors were grouped in categories driven by the distribution of the data. Differences in characteristics between the quartiles was investigated by ANOVA. Ordinal logistic regression was used to estimate the likelihood of being in a higher quartile. Analysis was done using SPSS29. Results: Data was available for 152 practices. Achievement of care processes ranged from 38% to 95.7%; median 70.8%. Number of patients with diabetes per GP were well matched across all quartiles (range 143-153; median 106; P=0.67). There were significant differences between the quartiles for percentage of diabetes patients (6.6%, 6.4%, 6.4%, 7.6% for Q1, Q2, Q3 and Q4 respectively; P=0.02) and proportion of patients belonging to non-white ethnicity (39%, 47%, 34%, 58% across Q1 to Q4; p=0.005). General practices with a higher proportion of those of non-white ethnicity were more likely to be in Q4 (estimate 0.029; 95% CI 0.008-0.051; P<0.008). None of the other demographic factors (GP age, %patients <65 years, IMD score) or resources (GP number, nursing, pharmacist, and admin staff) had any significant effect on the performance. Conclusion: Our data shows proportion of patients of non-white ethnicity is significantly associated with better achievement of NICE care processes in Birmingham and Solihull. Further research is needed to investigate if these findings are sustained over time.

P30

Improving access to diabetic eye screening services in Rural Ayrshire

Submitting author: Kelly Taylor

Aims: Dalmellington is a rural town in Ayrshire. The area has a high rate of deprivation and chronic disease, with a higher than Scottish average prevalence of diabetes. Diabetic eye screening (DES) provides an opportunity to identify eye disease early, preventing severe disease and sight loss. Socioeconomic and geographical factors result in an inequitable access to healthcare services for Dalmellington residents, with attendance rate at DES appointments 45% in 2021. The aim of this project is to empower people to better self-manage their prediabetes or diabetes in order to reduce the incidence of

diabetes and its complications, enabling people to live healthier lives, while ensuring equitable and sustainable delivery of services. Methods: The Dalmellington Community Health Hub is a weekly event, held in the local community centre, where NHS and third sector agencies are present to offer advice and support to people in living healthier lives. Appointments for DES are available weekly. Dalmellington residents previously had to travel an hour by bus or car to reach appointments. Results: Attendance at DES has increased by 38%. Direct referrals to disease prevention services have increased and the community report easier access to services. Healthy eating and physical activity education days have taken place with good community participation. Conclusions: The local delivery of services increases people's ability and willingness to engage and empowers them to improve health behaviours. The increased uptake of DES should result in reduced sight loss and diabetic eye complications. It is our intention to evaluate the project at 24 months.

P31

Addressing therapeutic inertia in diabetes management to improve achievement of the three recommended treatment targets

Submitting author: Emma Hunt

Background: The introduction of QOF in 2004 demonstrated a substantial improvement in diabetes care delivery in the UK. However, gains have not been sustained, with no meaningful improvement over the past decade (Diabetes UK, 2018). One reason for this is believed to be therapeutic inertia. Aims and objectives: This study aimed to investigate the presence of therapeutic inertia within a clinical team and identify its underlying causes. An education intervention was implemented to address these issues and improve the achievement of NICE recommended treatment targets, ultimately benefiting patients with diabetes. Methods: Clinical staff at four surgeries in Gloucestershire completed a questionnaire assessing their knowledge and practices related to therapeutic inertia. Results informed the development of a targeted teaching session based on evidence-based guidelines. A follow-up questionnaire and evaluation form assessed the effectiveness of the education. Success will be evaluated based on outcomes from the 2023/24 National Diabetes Audit. Results: The initial questionnaire identified knowledge gaps, therapeutic inertia, and poor understanding of treatment targets among clinicians. However, post-education feedback demonstrated notable improvement in knowledge, confidence, and ability to manage patients with diabetes effectively. Conclusion: The study confirms the impact of therapeutic inertia on diabetes management in primary care. Addressing clinician-related factors, such as knowledge gaps and limited confidence, through targeted educational interventions can successfully tackle therapeutic inertia. Understanding and addressing the underlying causes enable informed decisions and foster patient-centred care. These findings

provide insights and actionable steps for improving diabetes management in primary care. $\hfill \blacksquare$

P32

GLP-1 RAs initiation: A quantitative survey of primary care clinicians' perspective in an East London PCN

Submitting author: Jalal Alam

Aims and objectives: Explore perception of clinicians in general practice towards initiation and monitoring of GLP-1 RAs in an East London PCN, perceived barriers and their knowledge on cardiovascular (CV) benefits of GLP-1 RAs. Background: Recent cardiovascular outcomes have suggested a paradigm shift of use of certain diabetic medications due to their cardiovascular benefits. GLP-1 RAs are an effective class of medication in diabetes control with low side effects profile and significant CV benefits. However, their initiation in the UK is mostly confined with diabetes specialist teams despite being suggested as one of the first intensification agents in patients with CV risks by other diabetes guidelines like ADA. Methods: This study was a service evaluation project at a local context. A quantitative survey of primary care clinicians was proposed to establish their perspective on initiation and management of GLP-1 RAs in a primary care setting. All data were analysed descriptively and inferentially. Results: Responses included GPs (n=16) and non-GPs (n=11). Only 30.4% initiate GLP-1 RA monthly. Most of them are not aware of any CVOTs on GLP-1 RAs and 84% feel need further learning before initiating them. Guidelines and time constraints were perceived as the top two barriers in initiating GLP-1 RAs. Cardiovascular benefits were not ranked as one of the top two reasons for prescribing GLP-1 RAs. Conclusions: Majority of clinicians do not initiate GLP-1 RA and felt they needed further learning before initiating them. Cardiovascular benefits are not the primary reason for GLP-1 RAs use. Moreover, restrictive national guidelines and time limitation were to be additional causes refraining clinicians from initiating this class of medication, despite its multiple benefits.

P33

Enabling equitable access to the Type 2 Diabetes Remission Programme at scale

Submitting author: Tom Milligan

Objective: The aim of this audit was to show that a new method to support bulk referrals to the Type 2 Diabetes Remission (T2DRP – formerly the Low Calorie Diet Programme) can consistently increase referrals across an ICB. Methods: T2DRP inclusion and exclusion criteria were subdivided into those which could be reliably identified by a computer search and those best found by a human. This correlated to a background search and linked protocol which were shared via the Commissioning Support Units across Humber and North Yorkshire. Primary outcome was an increase in referrals, secondary outcomes came from analysis of 212 referrals to better understand how the referral pattern was different in

high and low deprivation practices where the new method was used. Results: In the first 21 months of the LCD programme, there were 28 referrals per month on average. In the three months after implementation the referrals increased monthly to 140, 60 and 90 referrals respectively. Conclusions: Given that Type 2 Diabetes is the most expensive disease to the NHS and the T2DR programme enables remission, it is important for eligible patients to be enrolled to courses. This method allows clinicians to identify eligible patients in the consultation or to do bulk referrals. IT innovations can help us overcome current issues such as GP workflow capacity, human error and clinician bias which make the usual method have inequitable access based on deprivation and does not fill unused course capacity. A fully automated outreach service is now within grasp.

P34

Allum Medical Centre (AMC) specialist diabetes service audit

Submitting author: Jasvinda Kaur Chana

Introduction: AMC serves one of the more deprived wards in Waltham Forest, London, with an IMD score of 36.18. Deprivation is strongly associated with higher levels of obesity, physical inactivity and unhealthy diet. All these factors are inextricably linked to the risk of developing diabetes and the risk of serious complications for those already diagnosed. Post-pandemic, our QOF data at AMC was reflective of worsening control in our registered diabetic population with a significant rise in HbA, levels. This was the driving force to pilot our multi-disciplinary, specialised diabetes service. Objectives: Improve diabetic control, through optimisation and initiation of oral anti-diabetic agents (OADs), insulin and GLP-1 RA therapies, as measured by HbA_{1c} levels. Work with patients to develop personalised care plans and targets. Improve patient access to diabetes education and diabetes technology to empower and support selfmanagement. Offer weight management support and referrals as needed. Offer emotional and psychological support working collaboratively with our PCN social prescriber and mental health practitioner. Manage comorbidities: hypertension; CKD; hyperlipidaemia; heart failure; and IHD and facilitate timely secondary care referrals. Embed a robust call and recall system to ensure continuity of care. Methodology: Our "Diabetes Team" consists of a care co-ordinator, HCA, CP and GP. We ran an EMIS search to identify our "high risk" diabetic patients and booked them in with the HCA for their initial review. The HCA appointment covered all 8 NICE care processes including a blood test and, personalised diet and lifestyle advice. Patients were then pre-booked to see a clinician to discuss their test results, optimise their medical therapy and agree on personalised targets with a follow-up interval. Standards set and their justification: All the patients seen in the Diabetic Clinic had a baseline HbA, measurement as their "first" level reading. The same cohort of patients were followed-up with a repeat, "final" level HbA, reading. The time frame between these two measurements varied between 3-8 months depending on the personalised management plan for each patient. Results: The data shows a reduction in the HbA_{tc} for 108 of 109 patients who attended the specialist Diabetic Clinic. One patient showed a phenomenal 70 mmol/mol drop in his HbA_{ic} level from 112 to 42 mmol/mol. This was possible through continuity of care with regular follow-up, personalised medical therapy and diet and lifestyle counselling. The average change in HbA_{1c} levels for the cohort was 17 mmol/mol. 21 patients went into diabetic remission with repeat HbA_{1c} levels of <48 mmol/mol. One patient had an increase in her HbA_{1c} level from 65 to 73 mmol/mol. This patient has CKD 4 and had a recent admission with AKI and is under follow-up with the renal team. Conclusion: These results clearly demonstrate that a dedicated diabetes service has shown to be successful in improving diabetic control as measured by HbA_{tc} levels.

D2

Addressing the rising non attendance to DMO clinic appointments since the COVID-19 pandemic

Submitting author: Sabbur Anwar

Aims: Since the COVID-19 pandemic, there have been many changes to the UK healthcare system. Some of these include prolonged waiting lists, need for potential safe distancing in the event of another pandemic and cancellation of non essential clinics. Since this period, compliance with attending DMO (Diabetic Macular Oedema) clinic has decreased and has demonstrated the highest number of DNA rates for anti VEGF injections recorded. DMO is the leading cause of visual impairment in diabetic patients and timely treatment can help prevent permanent visual loss within this population. The aim of our study is to reduce non attendance by sharing the management of a fixed injection regime with the patient. Methods: Data was collected retrospectively from one hospital through the lockdown periods of 2020-2021. 1644 DMO clinic appointments were analysed. An attendance comparison to DMO clinic was made between the patients who had been given their fixed injection regime management plan with those patients who had not. Government guidance regarding lockdowns and stay at home advice at the time were taken into consideration. Results: After the intervention had been implemented, DNA rate had decreased on average by 38%. The pre intervention group had a DNA of 50% and after the intervention, the DNA had decreased to 12%. Conclusions: It is widely understood that involving patients in their management increases treatment compliance. This has been demonstrated within this research and requires further auditing. Variables included here include government guidance, however COVID-19 has taught medical professionals invaluable lessons that must be remembered going forward.