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Abstracts from the 10th meeting of the Association for the Study of Obesity: UK Congress on Obesity 2025

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P&J Live, Aberdeen, Scotland, 10th–11th September 2025

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PROGRAMME LISTING

Award Sessions

10th September 2025
A1: ASO Best Practice Award
A2: ASO Ken Clare (Patient and Public Involvement and Engagement) Award
A3: Three-Minute Early Career Researcher Competition

Oral Sessions

10th September 2025
O1: Medications for Obesity Management
O2: Mental Health and Emotional and Disordered Eating
O3: Policy, Public Health and the Food System
O4: Advancing Obesity Care with AI and Digital Technologies
11th September 2025
O5: Highlighting the Lived Experience and Patient Journey
O6: Dietary and Health Inequalities
O7: Weight Management Services

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RapidFire Session

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S2: A multidisciplinary approach to current issues in weight management
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S3: The MapMe Study: a very low-intensity intervention embedded within the National Child Measurement Programme delivered by local authorities
S4: The role of psychological intervention in treatment for obesity

ASO BEST PRACTICE AWARD

A1 INCORPORATING A PHYSICAL ACTIVITY MHEALTH TOOL INTO A MULTIDISCIPLINARY CLINICAL WEIGHT MANAGEMENT SERVICE IN ENGLAND: SERVICE EVALUATION OF STEPS4HEALTH

Louisa Y. Herring[1,2,], Joseph Henson[2,3], Martha Thomas[2,3], Ehtasham Ahmad[1,2], Christopher Brough[1,2], Julia Burdon[1,2], Charlotte L. Edwardson[2,3], Michelle Hadjiconstantinou[2,3], Alison Northern[1,2], David Webb[2,3], Hannah Young[1,2], Lucinda Wilde[1], Melanie J. Davies[2,3], Thomas Yates[2,3]*

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Steps4Health, an mHealth tool for promoting physical activity and optimising the 24-hour movement behaviours in long-term conditions, was implemented into a regional multidisciplinary clinical weight management service. This service evaluation reports uptake, usage, linkage with wearable devices, and measures of effectiveness. Service users were adults living with severe obesity (body mass index ≥40 kg/m^2 or ≥35 kg/m^2 with a comorbidity) referred to a regional weight management service from November 2023 to August 2024. Those without physical activity contraindications were offered Steps4Health during their initial consultation. Steps4Health provides personalised goal-setting and feedback on stepping and other 24-hour behaviours alongside educational material and enables linkage to wearable activity devices incorporating baseline physical activity levels. Data extraction allowed for at least 6 weeks of follow-up, assessing uptake, demographic characteristics, usage patterns, and longitudinal stepping data. Of 559 service users, 307 (54.9%) were eligible for Steps4Health. 290 (51.9%) individuals completed registration and logged into Steps4Health an average of 28 times (8.3 minutes/ login) over a 6-week period. The most popular features of Steps4Health were educational resources providing information on physical activity and chronic conditions. At

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baseline users averaged 4079 (95% CI 2628, 4531) steps/day. 139 (24.9%) logged at least two days of stepping data. Over the first 6 weeks, an average clinically meaningful increase of 974 (581, 1366; $p < 0.001$) steps/day was observed. Steps4Health, a bespoke digital tool promoting increased physical activity in inactive clinical populations, was used by half of all individuals within a regional weight management service with half again regularly self-monitoring daily physical activity with a clinically meaningful increase observed over the first 6 weeks. Steps4Health shows promise as part of a broader strategy to enhance physical activity engagement within clinical weight management services.

Disclosures: None

ASO KEN CLARE AWARD

A2 AMPLIFYING VOICES, SHAPING SOLUTIONS: A COLLABORATIVE RESEARCH JOURNEY IN NON-PHARMACOLOGICAL ANTIPSYCHOTIC WEIGHT MANAGEMENT

Jo Howe[1,], Annabel Walsh[2], Alex Kenny[2], Justine Lovell[2], Hafsah Habib[1], Amy Ahern[3], Maura MacPhee[4], Geoff Wong[5], Suzanne Higgs[6], Katherine Allen[7], Max Carlish[6], Sheri Oduola[8], Rachel Upthegrove[5], Ian Maidment[1]*

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People with serious mental illness (SMI) face stark health inequalities, including reduced life expectancy. A major contributor is rapid weight gain from antipsychotic medications, which triggers metabolic changes—such as insulin resistance, dyslipidaemia, and increased appetite—leading to obesity, type 2 diabetes, and cardiovascular disease. Despite the urgency, tailored interventions are lacking. Using realist approaches grounded in lived experience, the NIHR-funded RESOLVE study aimed to identify what non-pharmacological interventions work, for whom, and in what circumstances to prevent and manage antipsychotic-related weight gain. The study was delivered in three phases: a realist review synthesising existing evidence; a realist evaluation involving interviews with people with SMI, carers, and healthcare professionals to test (confirm, refute or refine) emerging theories; and the co-production of recommendations for healthcare professionals. Lived experience involvement was central, with a Lived Experience Group (LEG) managed by The McPin Foundation, lived experience co-applicants, and NHS-based collaborators contributing throughout. The LEG shaped programme theories, advised on interview schedules ensuring inclusive non-stigmatising language, and highlighted overlooked issues such as the profound impact on appetite/food drive and disordered eating behaviours among others. Their insights informed evidence searches, theory refinement, and practical recommendations. Lived experience input identified key contextual factors affecting intervention effectiveness, including dual stigma, service accessibility and responsibility, HCP knowledge and readiness for change. The study developed recommendations for clinical settings: initiating early conversations, integrating peer support, addressing disordered eating, and tailoring interventions to recovery stages. A key finding was that little is being done in practice—weight gain is often not discussed, dismissed or normalised, delaying intervention and reducing motivation. LEG members presented findings nationally and internationally, wrote blogs, engaged clinicians and co-authored academic papers. LEG contributions enhanced the relevance, reach, and uptake. Funding has been secured to develop preventative weight management pathways now being trialled and evaluated via NHS-led quality improvement projects, supported by a national community of practice. RESOLVE shows the power of meaningful co-production. By integrating realist approaches with lived experience, it offers a strong model for addressing antipsychotic weight gain and lays foundations for future research, guidance, and service transformation.

Disclosures: The RESOLVE project was funded by the NIHR (HS&DR 131871). The preventative pathway is being funded by Aston University Impact Escalator (Individual) Award Individual.

THREE-MINUTE EARLY CAREER RESEARCHER COMPETITION

A3-01 EVALUATION OF AN INTEGRATED HEALTHY LIFESTYLE SERVICE FOR EXERCISE REFERRAL

Anna Boath[1,], Jillian Manner[2], Jennifer Elliott[3], Sarah Janac[1], Andrew Williams[2], Marie Murphy[1], Paul Kelly[1]*

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In Southwark (London), 51.1% of adults have obesity, and 68.9% are physically inactive. Southwark Council's Integrated Healthy Lifestyle Service (IHLS) offers a single point of access for residents to local and national health services (e.g., weight management, exercise referral). Referrals are managed by the Healthy Lifestyle Hub (HLH), a telephone-based triage service aiming to enhance referral efficiency and follow-up with service users to support behaviour change, in turn, improving health outcomes and narrowing health inequalities. One of the local services the HLH refers onto is Exercise on Referral (EoR). The aim of this evaluation was to understand how the HLH influences referral to and engagement in EoR. Public and stakeholder consultations informed evaluation priorities, logic models, and recruitment strategies. We conducted a mixed-methods evaluation, including both process and outcome components across three work packages (WPs). WP1 involved secondary analysis of referral, attendance, and health data (e.g., BMI) from HLH and EoR users; WP2 involved an online survey of HLH users, exploring reasons for non-initiation of referrals (descriptive and inferential statistics were performed as data allowed for WP1/WP2); WP3 involved semi-structured interviews and focus groups with service users, staff, and non-initiators to explore service experiences (codebook thematic analysis). The data shared from WP1 highlighted inconsistencies in data linkage and a high degree of missing follow-up data, making it challenging to determine any objective changes in behaviour or health. Survey data (WP2) was available for 163 people, with seven individuals providing information on why they were referred to EoR but did not intend on initiating the service (e.g., inappropriate day/time). WP3 findings found that service users reported weight loss and improved mental health. However, they felt a 12-week intervention was insufficient for sustaining behaviour change. Service users also stated a lack of low-cost post-programme support options and communication challenges with the HLH, EoR and leisure centre staff. Key service recommendations included improving data collection and linkage, extending post-programme support, improving communication with service users, and clarifying referral processes. Implementation of these recommendations will improve programme accessibility, programme engagement, behaviour change and health outcomes, and importantly the ability to accurately evidence such changes.

Disclosures: This project is funded by the NIHR [Public Health Research programme (NIHR 166241)/PHIRST Elevate NIHR160288]. The views expressed are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care.

A3-02 WEIGHT CHANGE FROM EARLY TO MIDDLE ADULTHOOD AND CARDIOMETABOLIC DISEASE RISK: FINDINGS FROM THE CHINA KADOORIE BIOBANK

Yuanyuan Chen[1,], Andri Iona[1], Pang Yao[1], Zhengming Chen[1]*

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Single time-point body weight may not fully capture lifelong adiposity risk. We investigated how weight change from early to middle adulthood, and its interaction with middle adulthood BMI, relates to cardiometabolic diseases (CMDs) risk. China Kadoorie Biobank is a prospective cohort study (n = 512,724; age 30–79 at baseline 2004–2008). We analysed data from 461,046 adults (mean age: 52.0 years) without prior major chronic diseases. Weight change was defined in four pattern groups, total, and averaged annual change between baseline (measured) and age 25 (self-reported). During ~12 years' median follow-up, 21,670 cases of type 2 diabetes (T2D), 48,009 ischaemic heart disease, 45,025 ischaemic stroke and 10,357 haemorrhagic stroke were recorded. Cox regression estimated hazard ratios (HRs), adjusting for socio-demographics, family history, and lifestyle factors. Log-likelihood ratio tests were used to examine the interaction. The average total weight gain from age 25 to baseline was 4.4 kg (SD 8.8). Results showed that greater total and annual weight gain were associated with elevated risk for both cardiovascular diseases and T2D. Compared to individuals with stable lower BMI, those moving from lower to higher BMI had an HR for T2D of 3.05 (95% CI 2.99–3.11), which remained 1.31 (1.29–1.34) after adjusting for baseline BMI. A strong interaction between total weight change and baseline BMI was observed, with joint analyses showing additional risk among participants who gained weight. Compared to participants with normal baseline BMI (20.0–24.9) and minimal weight change (−2.5–5.0 kg), participants with BMI ≥ 25.0 who gained weight had a 1.5-fold higher T2D risk than their stable weight counterparts (HR 3.43 vs. 2.23); among those with normal baseline BMI, weight loss was associated with a 22% reduced risk (HR 0.78), whereas weight gain increased risk by 70% (HR 1.70). Sensitivity analyses confirmed the robustness of the results. In sum, weight gain from early to middle adulthood was associated with an increased CMD risk, particularly T2D, including individuals within normal middle adulthood BMI. These findings highlight the importance of maintaining a healthy weight throughout adulthood and suggest that future risk assessment and clinical guidelines should incorporate weight history, rather than relying solely on static BMI thresholds.

Disclosures: The CKB baseline survey and the first re-survey were supported by the Kadoorie Charitable Foundation in Hong Kong. The long-term follow-up has been supported by Wellcome grants to Oxford University (212946/Z/18/Z, 202922/Z/16/Z, 104085/Z/14/Z, 088158/Z/09/Z) and grants from the National Natural Science Foundation of China (82192900, 82192901, 82192904, 82388102) and the Noncommunicable Chronic Diseases-National Science and Technology Major Project (2023ZD0510100). The UK Medical Research Council (MC_UU_00017/1,MC_UU_12026/2, MC_U137686851), Cancer Research UK (C16077/A29186; C500/A16896) and the British Heart Foundation (CH/1996001/9454), provide core funding to the Clinical Trial Service Unit and Epidemiological Studies Unit at Oxford University for the project.

A3-03 GENETIC SUSCEPTIBILITY, ULTRA PROCESSED FOOD CONSUMPTIONS IN CHILDHOOD, AND ADIPOSITY IN YOUNG ADULTHOOD: A 17-YEAR PROSPECTIVE COHORT STUDY OF 3,061 INDIVIDUALS

Ziyi Zhou[1,], Qiaosen Chen[1,2], Zhi Li[3], Shi Zhang[2], Solange Parra-Soto[1,4], Anqi Wang[5], Mengxi Du[5], Xiwen Xu[6], Zhe Fang[5], Yujia Lu[5], Yuchen Zhao[5,9], Rona J Strawbridge[1,2], Naveed Satter[1], Nicholas J Timpson[7], Mingyang Song[5,8,9], Carlos Celis-Morales[1,10,11], Edward Giovannucci[5], Jill P Pell[1], Frederick K Ho[1]*

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Existing evidence suggests ultra-processed food (UPF) may contribute to obesity, but some people who consume a larger amount of UPF remain at normal weight. This study examined whether childhood UPF consumption was associated with obesity in early adulthood and whether the association was modified by genetic susceptibility to obesity. This prospective cohort study included data 3,061 participants of the Avon Longitudinal Study of Parents and Children (ALSPAC) in England with follow-up from 7 to 24 years. UPF consumption was calculated from food diaries based on the NOVA classification. LDpred2 was used to construct polygenic score (PGS) for body mass index (BMI). Linear regression models were used to estimate the association between UPF intake at 7 years and BMI at 24 years. PGS-UPF interaction was examined. Each 10% increase in the proportion of total energy intake coming from UPF at 7 was associated with 0.21 (95% CI 0.05–0.37) kg/m2 increase in BMI at 24, after adjusting for BMI at 7, age, sex, ethnicity, physical activity, socioeconomic position, total energy intake and BMI-PGS. A significant interaction was found between baseline UPF consumption at 7 and BMI-PGS on adulthood BMI (0.19; 95% CI 0.02–0.36), whereby the UPF-BMI association was only significant in children with the highest genetic predisposition to obesity (0.74, 95% CI 0.07–1.42). UPF consumption in childhood is only associated with early adulthood obesity among children genetically predisposed to obesity.

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A3-04 DIGITAL ENGAGEMENT ENHANCES EFFICACY, RETENTION, AND MAINTAINS A FAVOURABLE SAFETY PROFILE IN REAL-WORLD TIRZEPATIDE AND SEMAGLUTIDE USERS: A UK DIGITAL WEIGHT-LOSS SERVICE EVALUATION OF OVER 72,000 ADULTS

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Novel pharmacotherapies such as tirzepatide and semaglutide are revolutionising obesity management. Digital weight loss services

(DWLSs) offer opportunities for supporting weight management with non-pharmacological adjuncts. We sought to characterise the efficacy, safety, and adherence of a national-coverage DWLS, and understand the effects of digital engagement thereon. We aimed to assess whether engagement with a national DWLS improves six-month weight loss, treatment persistence and safety in adults prescribed tirzepatide or semaglutide. We retrospectively analysed DWLS users prescribed either agent between August 2024 and May 2025. Engagement required at least one coaching session, weekly weight logging and an additional DWLS app interaction. Weight loss was modelled with mixed effects, safety expressed per 100 patient-months and adherence compared by Kaplan–Meier and Cox methods. 72,456 patients were included: mean age 42.0 ± 12.4 years; 76.6% female; baseline BMI 35.3 ± 6.2 kg/m^2. Engaged tirzepatide users (n = 10,051) lost 17.7% (95% CI −18.0 to −17.4) versus 14.0% (−14.2 to −13.8) in non-engaged users (n = 59,932), an absolute difference of 3.7 percentage points ($p < 0.0001$, Cohen's $d \approx 0.59$) over six months. Engaged semaglutide users (n = 211) lost 13.8% (−16.0 to −12.0) versus 11.2% (−12.2 to −10.1) in non-engaged users (n = 2,238), a 2.6 percentage-point difference ($p = 0.03$, $d \approx 0.46$) over six months. Across 233,197 patient-months just 414 safety events occurred (0.18/100 pm; cumulative incidence 0.43 %); 48.3% produced no harm, 35.0% were minor, and 68.6% were classed very low risk, with prescribing errors (47.6%) and side-effects (20.1 %) predominating. Engagement prolonged pharmacotherapy: hazard ratios (HR) for discontinuation were HR 0.67 (95% CI 0.56–0.80) for tirzepatide and HR 0.79 (0.71–0.87) for semaglutide (log-rank $p < 0.0001$ for both), i.e. a 33% and 21% lower risk of discontinuing pharmacotherapy over six months. Embedding structured digital support within pharmacological obesity management therapy markedly augments and accelerates weight reduction, improves persistence and retains a favourable safety profile, underscoring the value of integrated digital care for people with obesity.

Disclosures: HJ, DH, TC and AKC are employees of Menwell Ltd, which provides digital weight management service ("Voy").

A3-05 UNDERSTANDING THE EXPERIENCE OF LIVING WITH OBESITY: A CO-DESIGN PHOTOVOICE EXPLORATION WITH OBESITY LIVED EXPERIENCE CONSUMER GROUP

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Living with obesity is reported to be a complex, individualised, and stigmatising experience. The importance of including the consumer voice in policy, programme, and research activities to generate positive health improvements is well established. However, minimal research has been conducted in a co-designed manner where consumers voice their experiences regarding how best to improve obesity-related health outcomes. To explore the real-world daily experiences of living with obesity from consumer experts, in order to identify key areas for healthcare improvement. Twenty-four self-identified experts with lived experience of obesity participated in semi-structured interviews, guided by a self-taken photograph or hand-drawn picture that represented their experience. This photovoice qualitative study was co-designed with experts in lived experience of obesity and obesity consumer health researchers. Interviews were guided by photovoice methodology and analysed using Braun and Clarke's thematic analysis. Three overarching themes were identified: (1) regular dehumanising experiences; (2) the need for holistic obesity healthcare; and (3) raising awareness of the complexities of living with obesity. Participants described significant exposure to obesity discrimination in all facets of daily life, which, over time, was reported to contribute to internalised obesity stigma and, in some severe cases, internalised dehumanisation. Obesity was described as interconnected and complex, requiring a holistic, person-centred healthcare approach for positive outcomes. Participants called for public, tertiary, and healthcare education to raise awareness about the challenges of living with obesity and the harm and unacceptability of obesity stigma. The harmful impacts of obesity stigma dominated much of the participants' discourse, including how systemic, interpersonal, and internalised stigma perpetuate further obesity-related health issues. These findings support international literature, but also indicate that the severity of obesity stigma as a barrier to improved health outcomes is under-recognised and warrants significant attention. Future research should explore the development of obesity education for public, tertiary, and healthcare audiences, with the aim of raising awareness and reducing stigma for people living with obesity. This education should be co-designed with individuals who have lived experience of obesity.

Disclosures: KN salary and participant gratuities were funded as part of regular employment as research fellow with Monash University. All authors are part of the Weight Issues Network, a lived experience support and advocacy group and The Obesity Collective, Australia's peak coalition body. No funding came from these affiliations.

A3-06 ASSOCIATION BETWEEN MATERNAL FOOD INSECURITY DURING PREGNANCY AND GESTATIONAL DIABETES (GDM), AND INEQUALITIES IN ADVERSE PREGNANCY OUTCOMES AMONG WOMEN EXPERIENCING GDM

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Food insecurity (FI) is linked to increased health risks including obesity and diabetes. Women, particularly from minoritised ethnic groups, are most affected, impacting their health and their children's wellbeing. The risk of gestational diabetes (GDM) among FI women is well documented in the USA, but UK data, especially for South Asian women, is lacking. This study explores the intersection of South Asian ethnicity, FI and GDM risk in the UK. Data from the Born in Bradford's Better Start (BiBBS) cohort, involving families from diverse, economically deprived areas in Bradford (recruited between 2015 and 2024), was used. Pregnant women completed a baseline questionnaire consented to link their maternity records. FI was assessed using the first 4 items from the USDA Household Food Security Survey Module 6-item short form, any affirmative response indicates FI. GDM was diagnosed at 24–28 weeks based on NICE guidelines. Potential confounders were selected using directed acyclic graphs to guide the analysis. Descriptive statistics summarised prevalence of FI and GDM by ethnic group, and multivariable logistic regression models will assess the association between FI and GDM. Secondary analyses will examine if adverse pregnancy outcomes differ among women with GDM based on FI status. A total of 5,697 women were included in the analysis (mean age = 29 years, SD = 5), the majority of women were from South Asian ethnic backgrounds (71.6%). Preliminary findings indicate that 20.5% of women reported experiencing FI during pregnancy. Among those reporting FI, 58.1% were South Asian, 23.9% were white, and 18.0% were from other ethnic groups. Overall, 19.9% of women were diagnosed with GDM; of these, 82.9% were South Asian,

11.0% from other ethnic backgrounds, and 5.9% were white. Among those diagnosed with GDM, 20.9 % reported experiencing FI. Considerable ethnic variation exists in both FI and GDM prevalence within this deprived UK setting. Subsequent multivariable analyses will clarify the extent to which FI independently contributes to GDM risk and will examine differences in adverse maternal and neonatal outcomes among women with GDM by FI status. These insights will guide the development of integrated nutritional and social interventions to mitigate maternal health inequalities.

Disclosures: This research project was funded by Newcastle University Research Excellence Development Awards.

A3-07 CHARACTERISATION OF GENETIC OBESITY IN A COHORT FROM A TERTIARY PAEDIATRIC WEIGHT MANAGEMENT CLINIC

Katherine Hawton[1,2,], Hannah Hickingbotham[3], Alex Phillip[2], Alanna Holt[1], Julian Hamilton-Shield[4,1], Dinesh Giri[1,2]*

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Monogenic obesity presents in childhood with severe, early-onset obesity and hyperphagia and often involves genes encoding proteins in the leptin-melanocortin pathway, crucial for appetite regulation. Prevalence may be underestimated due to limited availability of genetic testing. We present genetic results from a large cohort of children and young people (CYP) living with severe obesity from a tertiary paediatric weight management clinic. Between March 2022 and November 2024, 130 CYP with severe obesity (body mass index (BMI) > 99.6th centile for age) had genetic testing performed using the Rare Obesity Advanced Diagnosis™ 79-gene targeted panel. Variants were classified as pathogenic or potentially relevant variants; further subdivided into suspected pathogenic, variants of unknown significance and suspected benign. 69/130 patients were female. Age ranged from 1.5–17.5 years with onset of obesity between 1–11 years of age. Mean BMI was 34.0 kg/m^2 (range 22.1–55.0) and mean BMI-SDS was +3.78 (range +2.10–6.46). 9.2% (12/130) had pathogenic variants and suspected pathogenic variants were found in 10.8% (14/130). 16.9% (22/130) had variants of unknown significance, 14.6% (19/130) had suspected benign variants (some had more than one variant) and one had a deletion in the 16p11.2 chromosomal region. MC4R heterozygous was the most frequent pathogenic variant (3.8%; 5/130). PCSK1 p.(Asn221Asp) heterozygosity, conferring increased polygenic risk for obesity, was found in 12.3% (16/130). Prevalence of autistic spectrum disorder (28.6% v 28.4%), attention deficit hyperactivity disorder (20.4% v 23.5%) and learning disability (22.4% v 23.5%) was similar for CYP with detected variants (pathogenic or potentially relevant) and those without variants or with a PCSK1 polymorphism only. BMI-SDS was also similar for those with (+3.69) and without variants. Of those with detected variants, 36.7% had a maternal history of obesity (v 36.7% without) and 24.5% had a paternal history of obesity (vs 18.3% without). In this cohort, almost 1/10 patients had pathogenic variants associated with obesity and a further 1/10 had suspected pathogenic variants. Characteristics including BMI, neurodiversity, learning disability and family history of obesity were not predictive for variants being detected. Increased provision of genetic testing may enable both a deeper understanding of monogenic obesity and the development of further targeted therapies.

Disclosures: None

A3-08 FIRST CLINICALLY RELEVANT IN VITRO MODEL MIMICKING THE PHYSIO-PATHOLOGICAL SIGNATURE OF VISCERAL ADIPOSE TISSUE IN OBESITY

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Development of obesity leads to the accumulation of visceral adipose tissue (VAT), which undergoes inflammation, fibrosis, and metabolic dysregulation. VAT is strongly associated with a higher risk of type 2 diabetes, insulin resistance, Metabolic Associated Steatohepatitis (MASH), and cardiovascular diseases. Current non-animal models such as 2D cultures, organoids, and microfluidic organ-on-chips have limited physiological relevance as they do not fully mimic the physiopathology of human obese VAT. Furthermore, sourcing human VAT for research purposes requires highly regulated clinical studies, making it difficult to obtain. The development of clinically relevant VAT models is therefore essential to identify novel treatments for obesity-related metabolic diseases. Expression levels of inflammatory, fibrotic and metabolic markers in VAT from patients with obesity are not well characterized in the literature. To overcome this limitation, we analysed visceral and subcutaneous adipose tissue (SAT) samples from 10 patients with obesity to establish a molecular, phenotypic, and functional profile of VAT in obesity. Using medium-throughput microfluidic qPCR and multiplex cytokine assays, we identified and quantified markers of inflammation, fibrosis, and metabolism. Our analysis revealed a distinct pathological signature of obese VAT compared to obese SAT, characterized by an increased inflammation, a potential impairment in ECM degradation leading to fibrosis, and metabolic dysregulation. In order to develop a model mimicking obese VAT, we cultured SAT from non-obese (lean) donors up to 2 weeks ex vivo according to the patented process named ExAdEx, which preserves the native tissue microenvironment, progenitor populations, vascular network and ECM. The generated lean donor tissue-derived ExAdEx models were exposed to various stimuli to reproduce the expression profiles of markers found in obese VAT. Preliminary results show that a specific TNFα stimulation kinetic can reproduce an inflammatory phenotype similar to that observed in obese VAT. Furthermore, gene expression profile linked to VAT pathology can be modulated using different stimuli such as pro-fibrotic TGF-β1. This approach enables the development and use of models that faithfully mimics the physio-pathological features of human VAT. These models represent a promising preclinical tool for the screening and development of novel therapies against obesity-related metabolic diseases.

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ExAdEx-Innov, a company commercially developing ExAdEx models.

ORAL SESSIONS

O1-01 UNDERSTANDING STAGES OF CHANGE IN PATIENTS STARTING A DIGITAL OBESITY MANAGEMENT PROGRAMME WITH GLP-1 MEDICATION PRESCRIPTION

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The Transtheoretical Model (TTM) outlines five Stages of Change (SOC) that individuals may move through when modifying behaviour. Research demonstrates that applying the SOC model in weight management programmes can support behavioural changes. However, there is limited research on its use in digital interventions for patients prescribed anti-obesity medications (AOMs). Given their decision to start medication, it may be assumed that patients are in the preparation or action SOC. Yet, programmes designed solely around later stages would overlook opportunities to support those in earlier stages. This study explores the distribution of SOC among patients starting an AOM based digital weight management programme and assesses differences between those who engage in optional digital Health Coaching (HC) and those that do not (HNC). As part of a larger evaluation survey conducted among patients enrolled in the programme, a subsample of 288 participants who completed the SOC measure was analysed. Participants were adults (>18 years) with a BMI > 30 kg/m^2 enrolled in a UK-based digital weight management programme between March 2024-March 2025. All had downloaded the programme app, remained active (i.e., had not paused or cancelled), and were prescribed AOMs with access to HC. Participants were asked to reflect on their mindset at programme start and select a statement aligning with a SOC. Engagement with HC was tracked to examine differences in distribution between HC and NHC. Of the 288 participants, 27% had engaged in digital HC. Most reported being in the action and maintenance SOC. There were minor differences in the distribution of SOC between HC and NHC patients, however NHC patients tended to be in later SOC. HC/NHC; Pre-contemplation (5%/1%), Contemplation (6%/2%), Preparation (15%/14%), Action (39%/42%), Maintenance (34%/41%). This study demonstrates that patients' SOC vary when joining a digital weight management programme, underlining the importance of personalised interventions and avoiding a 'one size fits all' approach to onboarding protocols. Limitations of this study include the retrospective completion of SOC measure. Future prospective studies should examine the impact of the use of the SOC in personalised interventions.

Disclosures: All authors are employees or consultants at Vir Health Ltd (T/A Numan)

O1-02 CHANGES IN BINGE EATING AND DEPRESSION SYMPTOMS OVER SIX MONTHS IN PATIENTS TREATED WITH SEMAGLUTIDE IN A SPECIALIST WEIGHT MANAGEMENT SERVICE

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Individuals living with obesity often face significant psychological stress, leading to higher rates of depressive symptoms and disordered eating. While glucagon-like peptide-1 receptor agonist (GLP-1 RAs) like semaglutide effectively promote weight loss and reduce weight-related complications, evidence on their psychological effects is limited. This study aims to evaluate changes in depressive symptoms and binge eating behaviours among patients with obesity undergoing treatment with semaglutide within a Specialist Weight Management NHS obesity service. Patients completed the Patient Health Questionnaire-9 (PHQ-9) and the Binge Eating Scale (BES) at baseline and at 6-month follow-up. Changes in psychological parameters were assessed over the treatment period. Preliminary data from 30 patients who had been taking semaglutide for 6–8 months were analysed. Participants had an average age of 49.1 years (SD ± 12.6), with 80% female and 44% white. The initial Body Mass Index (BMI) was 50.3 kg/m^2 (SD ± 11.4), and the mean glycated haemoglobin (HbA1c) was 42.3 mmol/mol (SD ± 7.1). There was a reduction in median PHQ-9 scores from 7 at baseline to 5 at 6 months; however, this change was not statistically significant ($W = 162.5$, $p = 0.15$). In contrast, BES scores showed a significant improvement, decreasing from a median of 15 to 11 ($W = 70.0$, $p < 0.001$, $r = 0.61$). Preliminary findings indicate a significant reduction in binge eating severity and a non-significant trend toward improved depressive symptoms among those treated with semaglutide over six months. These initial results stress the need for further studies to validate these findings and explore the psychological effects of semaglutide in obesity treatment.

Disclosures: None

O1-03 THE EFFECT OF CALORIC RESTRICTION AND GLUCAGON-LIKE PEPTIDE-1 RECEPTOR AGONIST INTERVENTIONS ON MEASURES OF MUSCLE MASS IN INDIVIDUALS WITH TYPE 2 DIABETES AND OBESITY

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Caloric restriction interventions - such as very-low energy diets – and glucagon-like peptide-1 receptor agonists (GLP1RAs) are effective methods of inducing significant weight loss. Both have robust evidence supporting their efficacy and are widely utilised for the management of obesity and type 2 diabetes (T2D). However, concerns exist regarding the potential loss of muscle mass with these interventions, and there is considerable inconsistency in the literature on this topic. We present two meta-analyses we undertook to quantify the changes in measures of muscle mass (MM), related to alterations in fat mass (FM) and total body weight (TBW). Both reviews were conducted in accordance with the 2020 Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidance, and were registered on the International prospective register of systematic reviews (PROSPERO 2022 registration numbers CRD42024542940 and CRD42023489617). The primary outcome for both reviews was any measure of MM (lean body mass – LBM, fat free mass – FFM, skeletal muscle mass – SMM), with FM and TBW as secondary outcomes. Review 1 examined the effect of caloric restriction interventions up to 900 kilocalories per day on measures of MM, whilst review 2

focussed on GLP1RAs. Review 1 included 49 studies involving 4785 participants, and 38 studies with 1735 participants were reported in review 2. Caloric restriction resulted in significant reduction in MM, across populations with and without T2D alike. In contrast, GLP1RAs did not elicit significant MM reductions in individuals with T2D, although there was significant reduction observed in individuals without T2D. Both interventions caused significantly greater reductions in FM than MM across both populations. The proportion of weight loss induced by caloric restriction comprising of MM was approximately 26%, whilst the corresponding figure with GLP1RAs was lower at approximately 18%. In conclusion, significant reduction in measures of MM were observed with both interventions, particularly in individuals without T2D. However, the losses of MM were significantly lower than FM. Notably, the proportion of weight loss attributable to MM appeared to be considerably lower with GLP1RAs compared to caloric restriction interventions, suggesting a potential muscle preserving effect of GLP1RAs.

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O2-01 LONGITUDINAL ASSOCIATIONS BETWEEN EATING BEHAVIOUR TRAITS, BMI, AND ADIPOSITY IN THE FENLAND COHORT

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Eating behaviour traits, individuals' reactions to food, food-related cues, and food intake, may play an important role in the development and maintenance of overweight and obesity. Differences in eating behaviour traits have been associated with body weight and food intake. However, evidence is mixed, and the direction of association is not always clear. The Fenland cohort (N = 12,435) investigates the interaction between environmental and genetic factors in determining obesity, type 2 diabetes, and related metabolic disorders and includes adults born between 1950 and 1975 recruited from Cambridgeshire general practices. This secondary analysis aims to explore the bidirectional associations between eating behaviour and body mass index (BMI), and adiposity. Analyses will include a subset of participants from the Fenland cohort (n = 7830) who provided data at phase 1 (collected from 2005 to 2015) and phase 2 (collected from 2014 to 2020). Bivariate latent change score models will test dynamic changes between eating behaviour traits assessed using the Three Factor Eating Questionnaire (emotional eating, uncontrolled eating, and cognitive restraint) and BMI (kg/m2) and body fat percentage (dual-energy X-ray absorptiometry (DXA)) from phase 1 to 2 using maximum likelihood estimation. Such models are powerful analytic methods that allow for exploring cross-domain coupling, that captures the extent to which change in one domain (e.g. eating behaviour) is a function of the starting level in the other domain (e.g. BMI, body fat percentage), and vice versa. Separate models will be fit for each eating behaviour trait and BMI, and for each eating behaviour trait and body fat percentage. Models will be adjusted to account for biological sex, age, household income, education, physical activity expenditure, phase 1 BMI, phase 1 body fat percentage, and clustering by study site. Model fit will be assessed (RMSEA < 0.05, SRMR < 0.08, CFI > 0.95). Preliminary analyses have been completed and full analysis will be completed within the next two months. Findings will provide insights into the direction of association between eating behaviour traits and BMI and adiposity, which can inform understanding of the role of eating behaviour traits in the development and maintenance of obesity and their potential as targets for prevention and treatment strategies.

Disclosures: The Fenland Study is funded by the Medical Research Council (MRC).

O2-02 'UNDERSTANDING EATING BEHAVIOURS, MENTAL HEALTH, AND WEIGHT CHANGE IN YOUNG ADULTS: THE YOUTH INTERNATIONAL LONGITUDINAL STUDY'

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Understanding the complexities of change in eating behaviours, mental health, well-being and weight is essential for informing prevention and intervention strategies targeting young adults before the onset of multimorbidity. The YOUTH study aimed to address the need for more comprehensive cross-sectional and longitudinal evidence, by tracking eating behaviours, mental health, health-related behaviours and weight over a 12-month period, in a sample of young adults (18–35 years) across UK and Australia. The Prolific platform was used to recruit participants across BMI (20–24.9; 25–29.9; 30–34.9; 35–39.9; ≥40 kg/m2) and sex categories, with ~4:1 ratio of UK to Australian participants. Online surveys were administered via Prolific at baseline, 6 and 12 months. The survey measured demographics, the impact of COVID-19, BMI, weight management and health service usage, eating behaviours, personality, mental health, and health-related behaviours. At each time point, participants were also given the option of uploading an image capturing their weight on a set of scales, with the aim of validating self-reported weight in the main survey. The cohort consisted of 507 participants at baseline (49.5% female; mean age 27.9 years), with a retention rate of 73% and 66% at 6 and 12-month follow-up, respectively. Cross-sectional analysis of baseline data revealed significant differences in the levels of overall health, anxiety, depression, food addiction, disordered eating and eating in response to positive and negative emotions across BMI categories, with higher BMI categories generally associated with more negative outcomes. Key differences across males and females were also observed. Longitudinal analysis over 12 months of the bi-directional relationship between weight and eating behaviours, and weight and mental health revealed significant relationships over time for weight with disordered eating, eating in response to positive emotions, and quality of life, with no significant differences identified in these relationships between males and females. Relationships between weight and addictive eating, eating in response to negative emotions, stress, anxiety and depression over time did not reach significance. The YOUTH study makes an important contribution to the evidence base by unravelling some of the complexities in the relationships between weight, eating behaviour, mental health and wellbeing in young adults.

Disclosures: L.E. receives funding from MRC, NIHR, Oliver Bird, OHID.

O3-01 DEFINING, IDENTIFYING AND REGULATING DARK KITCHENS IN THE NORTH OF ENGLAND: PERSPECTIVES FROM CONSUMER, LOCAL AUTHORITY AND FOOD BUSINESS STAKEHOLDERS

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Dark kitchens – technology-enabled commercial kitchen(s) operating primarily for delivery, to fulfil remote, on demand, consumer online orders of food for immediate consumption – are a contemporary addition to the food environment. Often serving foods high in fat, salt and sugar (HFSS), there are growing concerns around the impact of these food businesses on prevalence of obesity and the wider determinants of health, with paucity of guidelines, regulation and oversight of the dark kitchen sector. This work explored the perceptions of and current practice around dark kitchens and the regulatory environment from multiple stakeholder perspectives, including consumers (n = 2,023), and those working in local authorities (n = 36) and the food sector (n = 9). The project applied mixed methods approaches, utilising a cross-sectional survey with consumers and a series of interviews and focus groups across participant groups, to explore the definition, identification and regulation of dark kitchens. Whilst most (n = 26, 72%) participants working in local authority teams were aware of dark kitchens, consumers were less aware of these businesses (n = 496, 25%). Results show confusion and inconsistencies in the way that consumers, local authority departments and other stakeholders define and identify dark kitchens. There are also inconsistencies in how local authorities regulate dark kitchens, partly as "they do sort of go under the radar a little bit and they're very difficult to find…" (participant working in environmental health), resulting in current nutrition and obesity policy being difficult to implement. As such, understanding of the impact dark kitchens are having on public health is limited: "What we're trying to do is make our environments healthier […] with our takeaway guidance, we look at proximity to schools, child obesity, deprivation, proliferation […] impact on the health and well-being of the population […] but it's a completely different story with online deliveries..." (participant working in public health). Where local authorities worked cross-departmentally, a more consistent approach to regulating dark kitchens was observed. The potential risks of dark kitchens to food safety, food hypersensitivities and public health agendas are not fully known and warrant further research and policy development.

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O3-02 EVALUATING FOOD SYSTEM TRIALS FOR HEALTHIER, SUSTAINABLE DIETS: A MODELLING STUDY

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Tackling risk factors for noncommunicable disease (NCD), including overweight and obesity, is an acknowledged public health priority for the UK government. Increasingly, there is also interest among researchers to situate interventions that target these risk factors and healthy dietary consumption within the wider food system to positively impact environment targets. However, robust evidence on long-term population health and sustainability impacts of such interventions remains limited. This study models the long-term health and environmental impacts of food system interventions that promote healthier, more equitable and sustainable diets across diverse real-world settings in England. The study is part of the SALIENT Consortium, a collaboration between eight UK universities and food system partners from retail, catering, and community support sectors. Interventions were co-designed and trialled to identify what works, for whom, under what conditions, and why. We use the PRIMEtime model—a proportional multistate life table model—to estimate long-term impacts on the incidence, prevalence, mortality, quality-adjusted life years (QALYs), and healthcare costs of 19 obesity-related diseases, including cardiovascular conditions, diabetes, and nine types of cancer. Epidemiological data are drawn from the Global Burden of Disease database. Changes in food sales data from the trials are translated into population-level consumption of calories, salt, fruit and vegetables, and processed meat. We model business-as-usual against scenarios of: (1) interventions delivered to trial populations only, and (2) interventions scaled up and sustained across the life course of the current UK population. While final modelling results will be available before the congress, the model structure and inputs reflect an up-to-date and realistic synthesis of trial data and cross-sectoral intervention design for potential health and environmental benefits. This study provides timely evidence on the population-level impacts of embedding dietary interventions for diet-related NCD prevention within the UK food system. It highlights the potential of multi-setting, scalable approaches to reduce diet-related disease burden while supporting broader health equity and environmental goals. Findings will inform future food policy and obesity prevention strategies at both local and national levels.

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O3-03 DIGITAL INFLUENCE: YOUNG PEOPLE'S EXPOSURE TO MARKETING OF HIGH FAT, SALT, AND SUGAR (HFSS) FOODS ON SOCIAL MEDIA

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The National Child Measurement Programme shows that 26.8% of children aged 2–15 years are living with overweight or obesity in England. The consumption of high fat, salt, and sugar (HFSS) products is associated with various factors, including marketing. Increasing evidence shows that exposure to digital marketing is prominent in young people's lives and can influence attitudes and consumption patterns. The social media platform offers unique strengths over traditional marketing such as low cost, tailored audience targeting, and engagement opportunities. This study therefore explores young people's awareness and engagement with HFSS product marketing - among other age-restricted products - on social media, and their perceptions of future policy options. The study recruited 11–21-year-olds across the UK in two parts. First, a quantitative survey of 4,049 participants, and second, qualitative self-ethnographies and focus groups with 46 and 43 participants, respectively. The survey examined social media use, product consumption, marketing awareness, and policy opinions of HFSS products. The qualitative study provided deeper insights into these areas and explored attitudes and awareness in more detail. The study found that HFSS product marketing was highly recognised and engaged with by young people on social media. Over half of the survey respondents

reported seeing HFSS product posts from businesses and influencers online and all participants in the qualitative study spoke of seeing and/or engaging with this content. The qualitative study highlighted the types of HFSS content seen in social media feeds, including restaurant posts and sponsored food reviews. Content was often perceived positively for its entertainment value, and several said they felt hungry or tempted after seeing HFSS content. Participants spoke about influencer-generated content being harder to identify as marketing compared to business posts. They expressed doubt about the effectiveness of current regulations; however, participants also generally showed low desire for further restrictions on HFSS product marketing. In conclusion, HFSS product marketing is highly prevalent and welcomed by young people on social media. There is a need for stricter online regulation, whilst information about commercial determinants and the influence of HFSS products should be adequately communicated to young people.

Disclosures: None

O3-04 ESTIMATING THE CONSUMPTION AND HEALTH IMPACTS OF 3 FOOD TAX POLICY SCENARIOS IN THE UK

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Food taxes can adjust imbalances in healthy and unhealthy food prices. This modelling study estimated changes in consumption and the resulting health and economic outcomes across three hypothetical food tax policy scenarios for the UK. Three tax policies were formulated following literature review, media analysis and interviews with input from stakeholders on acceptability, feasibility and effectiveness. A UK representative synthetic population aged 5–100 was generated using the Health Survey for England and the National Diet and Nutrition Survey to provide consumption across 50 food groups correlated with personal characteristics. Microsimulation modelling simulates the price elasticities of demand and substitution effects estimated using the Living Cost and Food Survey to estimate post-policy consumption. Changes in nutrient intake are translated to permanent changes in weight, systolic blood pressure (SBP), cholesterol and HbA1c, using established models. Health events including type 2 diabetes, cardiovascular disease, cancers, osteoarthritis, dementia and mortality are predicted annually for adults conditional on health status. Dental health was conditional on sugar intake in adults and children. Lifetime quality adjusted life years, National Health Service costs and social care costs were determined by health outcomes. The long-term outcomes, discounted at 3.5%, were compared between policies. The three tax policy scenarios include an extension of the Sugary Drinks Industry Levy (SDIL) to cakes, confectionary and milk drinks; a targeted levy on sugar and salt; and a 20% tax on unhealthy foods defined by their Nutrient Profile score. All three scenarios estimated mixed impacts on nutritional intake. Weight loss from reduced calorie intake was countered by increased cardiometabolic risks due to changes in salt, saturated fat intake and fibre consumption. Therefore, the reduction in risk of health events like type 2 diabetes and cardiovascular disease were mitigated by unintended nutritional consequences. A policy targeting a limited number of high sugar foods was associated with less health benefit than a broader tax on high sugar and salt foods. Tax policies can shift consumption, change nutritional intake and improve health outcomes. Complimentary policies, such as subsidies for fruit and vegetables, may reduce negative unintended consequences of food taxes.

Disclosures: The work is part of the HEALTHEI project, NIHR grant ref: NIHR133927.

O3-05 PUBLIC PERCEPTIONS OF POLICIES TO ADDRESS OBESITY AND PERSONAL EXPERIENCES OF WEIGHT MANAGEMENT ON THE ISLAND OF IRELAND: A QUALITATIVE ANALYSIS OF BARRIERS AND FACILITATORS USING THE COM-B FRAMEWORK

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Limited public support for obesity policies can hinder implementation. Therefore, it is critical to fully consider public perceptions of these policies. Approaches focused on individual agency have not managed to adequately address rising levels of obesity globally. One way to understand influences on diet and physical activity behaviours is to view policies and interventions through a behavioural science lens, using frameworks like the COM-B (Capability, Opportunity, Motivation–Behaviour) model. This study aimed to use the COM-B Framework as a guide to qualitatively analyse public views, perceptions and personal experiences of obesity policies (of which weight management services are a component) on the Island of Ireland. Nine semi-structured focus groups with adult participants of mixed gender and socio-economic status were conducted online ($n = 64$). Analysis of transcripts using COM-B as a framework involved coding participant quotes under capability, opportunity, and motivation regarding weight management-related behaviours. Whether the view expressed was a public perception or a personal experience was noted. Transcripts were double-coded. Most barriers/facilitators to managing weight identified by participants aligned with the COM-B constructs of physical opportunity (e.g., cost of healthy diet/exercise, the type of food environment people are exposed to, and a lack of weight management supports available) and reflective motivation (e.g., personal experiences of motivation to exercise). Reflective motivation was often linked to physical opportunity in examples given by participants. For children and young people, the importance of acquiring cooking skills (physical capability) and the government implementing measures to limit exposure to unhealthy food advertising (influencing automatic motivation) were seen as potential facilitators of weight management. Participants identified potential areas for improvement in obesity policy and services) across all constructs of the COM-B Model. Public perceptions in this study however, mainly focussed on targeting physical opportunities in the food and physical environment, with this being seen to have subsequent implications for motivation in relation to weight management behaviours. The COM-B analysis highlighted the need for policies to address multiple levels of influence on behaviour, including broader environmental factors that shape opportunities and motivation for healthy behaviours.

Disclosures: None

O4-01 VITAL-COMS: DESIGNING AN AI-POWERED CHATBOT TO SUPPORT EVIDENCE-BASED COMMUNICATION ABOUT WEIGHT IN HEALTHCARE SETTINGS

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Healthcare professionals (HCPs) often report feeling underprepared and a lack of confidence about initiating weight-related discussions with patients. Despite available training, many HCPs continue to find these conversations difficult as most current training is a one-off learning experience, lacking scalable hands-on practice with multiple scenarios. Evidence shows the topic of weight is often avoided, even though patients express the need for support with overweight and obesity. There is growing interest in how artificial intelligence (AI) can support continuous experiential learning for HCPs. Conversational agents (AI-powered chatbots) offer a novel approach to practising sensitive communication skills in a safe, scalable environment. This project aimed to design and demonstrate a training chatbot prototype, VITAL-COMS, (Virtual Training and Assessment Tool for Communication Skills) to support healthcare professionals to practice evidence-based and empathetic conversations with people living with overweight or obesity. This research design is a prototype chatbot development. VITAL-COMS was originally developed as a 3D simulation tool using Unity software as part of a doctoral project, where communication challenges were explored and core evidence-based communication strategies were identified, including motivational interviewing, uncovering ambivalence, communication misalignment, affirming autonomy, and using person-first, stigma-aware language. This prototype 2 is built using OpenAI's custom GPT framework to enable more realistic, dynamic and scalable interactions. The communication strategies identified in the original prototype were used to guide the structure and language of the chatbot. VITAL-COMS enables HCPs to role-play clinical conversations with the chatbot acting as a simulated patient, offering naturalistic dialogue and in-the-moment feedback. Scenario customisation, reflection prompts, and teach-back moments are built in to support active learning. On-going feedback from early testers and the project advisory group suggests the tool is engaging, accessible, and useful for building communication confidence. During tool demonstrations, sample interactions show how the chatbot responds to different communication approaches in real time. Features such as empathy nudges, language suggestions, and gentle corrections are included. VITAL-COMS highlights the potential of conversational AI to enhance training in weight-related communication by combining lived experience, communication science, and scalable technology. Further piloting is planned to evaluate its impact on clinicians' communication skills, confidence, and reflective practice.

Disclosures: None

O5-01 DELAYED GDM DIAGNOSIS IN A POST-BARIATRIC SURGICAL PREGNANCY

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The number of bariatric surgeries increases yearly, with the American Society for Metabolic and Bariatric Surgery estimating a rise from 158,000 in 2011 to 270,000 in 2023. As the population of post-bariatric surgery patients grows, so too does the number of these patients who are women of childbearing age. This is key when considering the identification of gestational diabetes mellitus (GDM) in these patients. The current NICE guidelines recommend two methods of diagnosing GDM: self-monitoring glucose and two oral glucose tolerance tests (OGTTs), particularly in high-risk women. Usually with former taking place after the first booking, and the latter between 24 to 28 weeks of gestation. Pregnant women who have undergone bariatric surgery often have delayed gastric emptying and absorption, which subsequently interferes with the results of these tests. We present a case of a late diagnosis of GDM in a primiparous 33-year-old Caucasian female who underwent sleeve gastrectomy a decade prior. At initial booking her BMI was 39 kg/m2, indicating high risk for GDM. HbA1c was also measured at 32 mmol/mol. Subsequent OGTT at 24–28 weeks was negative for GDM, however due clinical suspicion further investigations were carried out. Blood glucose monitoring revealed an unusually high fasting glucose of >9 mmol/L and 1-hour post-prandial blood glucose levels of >8 mmol/L, demonstrating GDM. Fortunately, foetal scans were negative for both macrosomia and placental insufficiency. She was subsequently commenced on a BD metformin regime, and further home glucose testing was within normal range. As previously outlined in the BMJ's 'Pregnancy After Bariatric Surgery: Screening for Gestational Diabetes', this case clearly highlights the lack of sensitivity of the OGTT in post-bariatric surgery pregnancies. This poses an increased risk of adverse health outcomes associated with GDM. Whilst in this case there was no resultant macrosomia, the delayed diagnosis indicates that current guidelines are not adequate at diagnosing GDM in this unique patient population. These false negatives delay adequate and timely treatment, leading directly to detrimental patient health outcomes. We propose post-bariatric surgery pregnancies should tested be for GDM via regular glucose home monitoring to provide optimal treatment and prevent morbidity.

Disclosures: None

O5-02 HOW AND WHY PRECONCEPTION HEALTH AMONG PEOPLE LIVING WITH OBESITY COULD BE IMPROVED BY INCLUDING OBESITY AS A HEALTH CONDITION

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People living with obesity have a greater chance of developing complications during pregnancy and are over-represented in maternal mortality data relating to both direct and indirect causes during pregnancy and up to a year after the birth of their child. In addition, epigenetic influences result in metabolic changes in offspring of people living with obesity leading to a greater chance of them experiencing long-term health consequences. In view of these health concerns, people living with obesity are advised to lose weight in the preconception period, before becoming pregnant. Sustained weight loss, however, can be difficult to achieve, and people do not always seek preconception advice. The aim of this study was to explore what form of preconception care for people with health conditions, including those living with obesity, works, for whom, how, and in what circumstances. Realist methodology was used to identify causal explanations, involving consideration of unobservable processes or powers. A realist evaluation involved 31 qualitative interviews with relevant stakeholders: women living with health conditions (n = 20), including those living with obesity (n = 3), their partners or supporting family members (n = 2), and healthcare professionals involved in providing preconception care (n = 9). The multi-stage realist evaluation generated 13 refined middle-range theories, providing causal explanations of what works for whom, and how. Of these, one specifically relates to achieving support to improve preconception health for people living with obesity. The mechanisms identified involve resources that include monitoring and treatment, and reasoning that reduces feelings of guilt or blame, facilitating effective communication between the person living with obesity and their healthcare professional. This is the first study of preconception care for people with health conditions, including people living with obesity, using a realist approach. The findings identified obesity as an outlier, when compared with health conditions such as diabetes or epilepsy, which are monitored,

treated, and for which preconception care is offered by healthcare professionals. It provides a causal explanation of how preconception health could be improved by including obesity as a health condition and emphasises the importance of treating people with kindness and respect.

Disclosures: None

O5-03 COLLABORATION AND CO PRODUCTION: THE ROLE AND IMPACT OF PATIENT AND PUBLIC INVOLVEMENT IN THE FIO FOOD PROJECT

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With co-production at its heart, the Food Insecurity in people living with Obesity (FIO) Food project unites academics, retailers, policymakers and individuals with lived experience, including patient and public involvement (PPI) groups, to support people living with obesity (PLWO) and food insecurity (FI), purchase healthy and sustainable food from the supermarket. The value of PPI in shaping study design, procedures, data interpretation and dissemination is widely recognised. FIO Food researchers have strived to ensure meaningful PPI inclusion throughout the research process. As the project draws to a close, we reflect on the invaluable contribution of our PPI partners. Our FIO Food PPI groups played a crucial role informing the qualitative research undertaken as part of the project, steering study design, recently identifying a key area for further investigation, not immediately recognised by the research team. Their input also guided study procedures to improve participant engagement, recruitment and the collection of relevant data. PPI partners have been instrumental in 'sense checking' researcher interpretations of the qualitative findings to establish whether these interpretations align with those with the lived experience. To ensure their voices are heard, PPI partners have contributed to stakeholder workshops which informed the development of a White Paper outlining recommendations for policy and health care to address underlying economic factors contributing to FI and obesity. Their lived experience has been documented and included in the recent UK Government Food Security Report. Additionally, recorded interviews with our PPI partners, within which they discuss their lived experiences of LWO and FI, will feature in upcoming events, planned for later this year, at both the Scottish Parliament and in Westminster, to maximise the project's impact. PPI participants have reflected on their time in the FIO Food project as 'empowering' and 'dignifying', offering an opportunity to challenge societal misconceptions that obesity and FI stem solely from an individual's life choices. The FIO Food project stands as a testament to the benefits of co-production and demonstrates how meaningful collaboration with those with lived experience can enhance research quality.

Disclosures: None

O5-04 WEIGHING UP THE COSTS: FOOD SHOPPING EXPERIENCES OF THOSE LIVING WITH OBESITY AND FOOD INSECURITY IN AN ETHNICALLY DIVERSE COMMUNITY

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The UK is currently contending with escalating food prices that disproportionately affect the affordability of healthier options and exacerbate food insecurity among vulnerable populations. People who experience food insecurity are more likely to live with obesity, yet little is known about how these challenges shape everyday food-shopping practices. This qualitative study offers insights from people living with obesity and food insecurity, from an ethnically diverse urban community, into how they navigate the rising cost of food while attempting to reduce their weight. We conducted a secondary analysis of transcripts from four focus groups (8–11 participants per group; 92% female) comprising 39 adults who self-reported as living with obesity and food insecurity and are actively trying to lose weight. Using a deductive thematic framework, we identified three overarching themes and eight subthemes that capture participants' strategies, constraints, and tensions. 1. 'The Conscious Consumer' reflects the deliberate preparation and planning participants employ to stretch limited budgets. Subthemes include advanced meal planning, and price-comparison shopping. Despite these efforts, participants frequently encountered barriers to procuring nutritionally balanced foods. 2. 'The Restricted Consumer' highlights how structural and systemic limitations, such as time pressures due to work or caregiving responsibilities, further constrained participants' purchasing choices. 3. 'The Mitigating Rising Costs' describes the coping mechanisms participants adopted in response to persistent price inflation. Subthemes include substituting affordable, less-healthy products for costlier fresh produce and bulk buying of staple items. Across all themes, participants reported significant cognitive dissonance: they recognised the poorer nutritional quality of budget-friendly foods yet felt obliged by their financial constraints to choose them. These findings challenge prevailing assumptions that individuals on low incomes simply need to budget more effectively to eat healthily. Instead, they reveal the deeply constrained choices that food-insecure individuals face and the emotional toll of making what they perceive to be less-healthy decisions. By illuminating the lived experiences, this study offers critical evidence to inform interventions and policies aimed at promoting healthy, sustainable food purchasing. These insights are essential for guiding efforts to transform the UK food system toward greater equity.

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O6-01 SPATIOTEMPORAL ANALYSIS OF FOOD INSECURITY AND CHILDHOOD OBESITY IN LONDON: A GEOGRAPHICALLY WEIGHTED REGRESSION APPROACH

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Food insecurity, encompassing an interplay of socioeconomic, dietary, and lifestyle factors is recognised as a critical moderator of paediatric obesity outcomes. However, the precise magnitude of this relationship remains understudied, necessitating investigation to elucidate its impact. This study employs spatiotemporal modelling to analyse the relationship between food insecurity and childhood obesity across London's boroughs, focusing on children aged 11–12 (Year 6). Data was sourced from the London Datastore, Office for National Statistics, and NHS England for 2018–2023. A Geographically Temporal Weighted Regression model was applied, accounting for temporal dependencies and spatial interactions with the two nearest neighbouring boroughs. The model demonstrated moderate predictive capacity ($R^2 = 0.582$, $p < 0.05$), explaining 58.2% of the variance in obesity prevalence among Year 6 children. Statistically significant associations ($p < 0.1$) were revealed between childhood obesity and two explanatory variables: free school meal program eligibility ($p < 2e\text{-}16$) and median weekly household income ($p = 0.071$). Meanwhile, the relationship between childhood obesity and two other explanatory variables was statistically insignificant: density of fast-food restaurants per 100,000 ($p = 0.1584$) and food parcels delivered per 100,000 ($p = 0.3179$). Covariates, including green space access and exercise levels, demonstrated statistically significant relationships ($p < 0.1$). Residual analysis revealed spatial heterogeneity in model performance across London boroughs. Positive residues, reflecting underprediction, were most pronounced in Greenwich (1.13) and Wandsworth (0.66). Negative residues were most significant in Camden (−0.53) and Richmond Upon Thames (−0.59). The model showed the strongest performances in Islington (0.01) and Ealing (−0.06). Getis-Ord statistics revealed hotspots and cold spots, demonstrating high and low-fidelity prediction zones respectively. Strong model performance clusters were observed around Hillingdon (W) and Hackney (E), while clusters of weak model performance were identified around Lewisham (SE) and Bexley (E). In conclusion, this study presents a statistical model of moderate strength in predicting childhood obesity prevalence. These findings suggest that targeted interventions could be optimised by focusing on areas that showed a strong relationship between food insecurity and childhood obesity. Future research should incorporate additional variables, such as access to fresh produce and household food budget, to enhance model precision.

Disclosures: None

O6-02 BOMBARDED BY BURGERS: A SURVEY OF OUTDOOR FOOD AND DRINK ADVERTISING ACROSS FOUR LOCAL AUTHORITIES IN THE UK

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Bite Back is a charity working with passionate young activists who want to change the food system to one that protects children's health. Young people have shared their experience of being bombarded by unhealthy food and drink advertising every time they step outside. The aim of the research was to support their insights with evidence. Bite Back partnered with the University of Liverpool to explore the extent of outdoor advertising for food and non-alcoholic drink across four UK Local Authority (LA) Districts – Liverpool, Southwark (London), Birmingham and Newcastle upon Tyne. Data collection was conducted over a two-week period in February 2025 via bicycle using a GoPro Max 360 degree camera to capture all outdoor adverts. The images were processed using a deep learning model to build street view datasets of food and drink adverts in each location. The dataset was manually coded by surface type, brand, product advertised and type of business. Nutrition information was collected to determine whether a product was high in fat, salt or sugar (HFSS). The geo-location of each advert was used to assess the density of adverts by deprivation and proximity to schools. Of the 333 adverts featuring a food or drink product, the majority (190, 57%) featured at least one HFSS item. The prevalence of HFSS adverts in Southwark, the only LA surveyed with a healthier advertising policy, was lowest (28, 38%). McDonald's was the most frequent advertiser representing 31% of all food and drink adverts. Advertising was unequal with 44% of all HFSS adverts in the most deprived quintile, and 4% were found in the least deprived quintile. In three locations, no adverts of any type were captured in the least deprived area. 35% of schools had at least one HFSS advert within a short walk from their gates (400 m). This analysis suggests that local policies to restrict unhealthy outdoor food advertising can make an impact but national action is needed to protect the private advertising spaces which local policies currently can't reach. The research adds to the evidence base showing the overwhelming presence of unhealthy outdoor advertising in the UK.

Disclosures: None

O6-03 ENCOURAGING HEALTHY WEIGHT FOR ADULTS WITH LEARNING DISABILITIES: SUPPORTING THE ROLE OF CARERS

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Adults with learning disabilities die 20 years earlier than the general adult population with heart disease a main cause of avoidable deaths. Obesity, a key risk factor, is more prevalent in this group. Support from carers can be vital for adults with learning disabilities to engage with and maintain healthy behaviours, however, appropriate training for carers is lacking. This research aimed to develop free nationally available e-learning for carers on supporting healthy weight in adults with learning disabilities. Methods included: 1) Content analysis of key professional resources to promote healthy weight in people with learning disabilities, 2) Qualitative interviews with health and social care managers, clinical leads, and commissioners to identify carer barriers in supporting healthy weight in people with learning disabilities and areas of training need, 3) Qualitative interviews and focus groups with paid and unpaid carers to refine training content. Thematic analysis of interview and focus group transcripts was undertaken to identify key themes. Twenty-five individuals (social care $n = 15$, healthcare $n = 5$, family carer $n = 3$, public health professional $n = 1$, social enterprise staff $n = 1$) took part in 19 interviews and two focus

groups. Carers were described as holding 'a lot of power' to demonstrate and support healthy behaviours. Key barriers included workforce pressures, carer beliefs, knowledge and skills related to healthy behaviours, habits around food as a reward, and perceived tensions between supporting choice and healthier behaviours. Carer training needs were categorised into three main areas forming the basis of e-learning sessions: 1) Understanding factors contributing to excess weight in people with learning disabilities, 2) Understanding the basics of healthy eating and physical activity recommendations, and 3) Understanding how to apply this knowledge when working with a person with a learning disability. The research team worked with a learning disability charity 'experts by experience' group to develop lived experience videos of individuals' journeys towards healthier weight included within the e-learning. Carers play a key role in supporting healthy behaviours in people with learning disabilities. They face many barriers, however, which may include limited knowledge of obesity, nutrition and physical activity. National e-learning was developed from this research, available at: https://www.e-lfh.org.uk/programmes/supporting-healthy-weight-in-an-adult-with-a-learning-disability/.

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O6-04 OVERWEIGHT AND OBESITY STATUS OF NIGERIAN CHILDREN UNDER FIVE YEARS: MIXED-EFFECT CLUSTER AND RANKING ANALYSES OF INDIVIDUAL AND CONTEXTUAL CHARACTERISTICS

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The World Health Organisation aims to ensure no increase in the number of children who are overweight by 2025. However, in the past decade, Nigeria has seen a rising trend in overweight and obesity among children under the age of five years. This study addressed: (i) the individual, parental, household, and community predictors of overweight/obesity; (ii) the relative importance of these predictors; and (iii) the interactions among these factors affecting the overweight and obesity status of Nigerian children under five. We conducted a secondary analysis of a representative sample of the 2018 Nigerian Demographic and Health Survey (NDHS) data. Using a two-state multilevel logistic analysis, we assessed predictors by nesting individual (child, parental, and household) characteristics at level 1 within communities at level 2. We evaluated three models, performed a dominance post-estimation analysis for ranking regressors' importance in multi-level settings, and utilised marginal analysis for interaction effects. Children are classified with overweight or obesity if their weight-for-height Z-score exceeds two standard deviations (+2SD) above the reference population's median. The study analysed a weighted sample of 11,731 children under 60 months, with a mean age of 28.37. The prevalence of overweight/obesity was found to be 2.00%. The optimal model included individual, parental, and household variables (Interclass Correlation Coefficients (ICC) = 20.24%, Akaike Information Criteria (AIC) = 1203, and Bayesian Information Criteria (BIC) = 1509). Significant predictors included the child's age, birth size, recent cough, maternal education level, maternal body mass index (BMI), residence in the northeast geopolitical zone, and household size (more than four sleeping rooms). Maternal BMI emerged as the most critical predictor (standardised dominance stat (SDS) = 1.005), followed by the child's age (SDS = 0.106) and regional status (SDS = 0.05). Notably, there were significant interactions between maternal overweight or obesity, and children's age, specifically at 12–23 months (AOR = 3.66, $p < 0.022$ 95%CI [1.21,11.13]), and 24–35 months (AOR = 3.83, $p < 0.023$, 95%CI [1.20,12.20]), indicating that the effects of maternal BMI on children's overweight/obesity status vary with the child's age. The findings will help inform targeted interventions, especially in a resource-scarce society like Nigeria, to address the growing issue of childhood overweight.

Disclosures: None

O6-05 DEVELOPMENT OF A 'SYSTEMS MAP' EXPLORING THE FACTORS INFLUENCING EXCESS WEIGHT IN CHILDREN 0–5 YEARS: A NORTHERN IRELAND PERSPECTIVE

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Childhood obesity rates are rising across the UK (UK) with widening gaps in inequalities. Data from Northern Ireland (NI) in 2024 illustrated that 17% of children in Primary 1 from the least deprived backgrounds are living with excess weight versus 24% from the most deprived. Advancing understanding of the causal inter-relationships of key influences on obesity development in young children through systems mapping is needed. An iterative stakeholder engagement approach was taken to create a systems map, starting with a workshop with n = 23 stakeholders in the UK to produce an initial map (Phase 1). A further discussion group with six parents refined the map (Phase 2), and a workshop with n = 22 additional stakeholders in NI was used to inform the final map (Phase 3). This abstract reports Phase 3 outcomes. The aim of Phase 3 was to build upon the map, consider any omissions and discuss it from an NI perspective with early years organisations/NI government departments/ public health staff/ healthcare practitioners/ commissioners/ charities/ community organisations and parents. The workshop involved an introduction to the map outlining the domains, nodes, and connections to prompt discussion followed by a weightings exercise, where participants indicated nodes/domains on the map of greatest importance regarding the development of excess weight in 0–5 year olds. The final map contained 20 domains of influence and 153 factors. Several new nodes were suggested in Phase 3 relating to behaviours e.g., screen time and physical activity (lack of fundamental movement skills); cultural factors e.g., norms around babies weight gain and a lack of breastfeeding culture; environmental factors such as predominance of unhealthy food choices for children eating out of home; and, psychological factors e.g., stigma of childhood overweight/obesity. There was an emphasis on importance of parental mental health, inequalities, poverty and income. Inadequate government policies and a lack of NI government stability were also prominent and linked directly to insufficient funding for early years services, particularly in rural areas which lack services for large proportions of the NI population. Findings illustrate multiple interacting influences on excess weight gain in 0–5 year olds and findings should be used to contextualise future intervention development.

Disclosures: None

O6-06 EXPERIENCES OF PEOPLE FROM HIGHER -RISK GROUPS ENGAGING WITH TARGETED TIER 2 WEIGHT MANAGEMENT SERVICES: A QUALITATIVE STUDY

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In the UK, rates of obesity are higher in people from minority ethnic groups, men, people living with serious mental illness, people living in more deprived areas, and those with a physical or learning disability. Targeted tier 2 weight management services aim to offer tailored support to these groups in a way that is sensitive to their specific needs. Our qualitative study aimed to explore the experiences of service users from higher-risk groups of engaging with targeted tier 2 services. We used a multi-case study design involving five tier 2 providers. We purposive sampled participants within case studies to ensure a diverse range of experiences were explored. One-to-one interviews and framework analysis were informed by the Consolidated Framework for Implementation Research. We interviewed 28 service users and one carer. Participants attended targeted services for men (n = 7), people with serious mental illness (n = 3), people living in more deprived areas (n = 8), and people living with a learning disability (n = 11). Several commonalities across the service user experience were identified, including: the need for personalised initial contact before the first session; having continuity of staff delivering the programme; holding sessions in a familiar and accessible venue; and the value of non-weight benefits of attending the service such as improvements to social and mental wellbeing. Participants held mixed views on the duration and costs of the programmes. While some participants reported that 12-weeks was sufficient to promote behavioural change, others said it was not long enough, especially for individuals facing issues such as poverty. We also gleaned learning related to specific targeted groups, for example, male specific programmes were reported to fill a gap in a market that was perceived to be dominated by feminised programmes. These programmes successfully engaged men through use of male-specific image and branding. We also identified that service users living with mental illness may benefit from accessing one-to-one support, rather than group-based programmes. Our study presents findings that can be used by service commissioners and providers to enhance the experience of service users from higher-risk groups when engaging with targeted tier 2 weight management services.

Disclosures: None

O6-07 NEW OBESITY SYSTEMS MAP FOR EARLY YEARS

Maria Bryant[2], Alexis Foster[1], Alicia O'Cathain[1], Philip Garnett[2], Wendy Burton[2], Michelle Collinson[3], Dawn Groves-Williams [3], Laura McGowan[4], Aoibhin Kelly, Lauren Surtees[5], Adam Martin[3], Bethan Copsey[3]*

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The Foresight obesity Map describes factors and relationships that influence appetite regulation in adults. Not only did Foresight highlight the importance of complex systems, it sparked policy change. To our knowledge, there is not a map focused on young children, where unique parent/setting factors may operate. We aimed to co-develop a systems map to identify key factors contributing to excess weight gain in 0–5 year olds. We hosted two workshops with 45 stakeholders in the UK (childcare practitioners, academics, parents, public health specialists, commissioners). Using a group model building approach, participants were asked to consider factors they felt influenced excess weight gain and to start drawing maps in groups. Vignettes of young families were then used to encourage additional thinking (particularly focused on inequalities). We then asked participants to discuss (and draw) relationships between factors. In order to get a sense of perceived importance, participants were asked to signify factors they felt were most influential by applying stickers onto all group maps. After the workshops, we collated maps into a single map. Iterations were made following participant feedback and a parent advisory group discussion. Following review by the immediate team (authors), it was apparent that key factors were omitted (likely due to the roles of participants). To ensure completeness, we conducted a rapid and specific literature review, (including obesity and child development frameworks and policies) to further refine the map. The final map included 153 interacting factors and six embedded levels: (1) Child (e.g. physiology, demographics, health/social needs); (2) Parents (e.g. income/resources, mental health, parenting style/skills); (3) Family and social networks (e.g. wider family and friends); (4) Local factors (e.g. physical environment, childcare access, early years services, local government services); (5) National factors (e.g. government policies/funding, food suppliers, retailers, societal pressures) and (6) Global factors (e.g. events affecting food supply/prices). This map can support the development of prevention policies/interventions. We also intend to use it within a RCT: exploring the degree to which the effectiveness of an obesity prevention intervention is affected by wider system factors.

Disclosures: None

O7-01 ASSOCIATION BETWEEN VISCERAL ADIPOSITY REDUCTION AND IMPROVEMENTS IN CARDIOMETABOLIC OUTCOMES: FINDINGS FROM A DIETARY INTERVENTION STUDY

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Visceral adiposity plays a critical role in the development of cardiometabolic diseases. However, the precise amount of visceral fat reduction required to achieve these improvements remains unclear. This study aims to determine the extent of visceral fat area (VFA) loss necessary to observe significant improvements in cardiometabolic outcomes following 12 weeks of dietary interventions: combined intermittent fasting and the healthy plate (IFHP) and the healthy plate (HP) alone. This was a sub-analysis of a non-randomised controlled trial involving adults with overweight and obesity. Body composition, glucose parameters, and lipid profiles were measured at baseline and after 12 weeks of interventions. As data analysis using the general estimating equation revealed no significant differences in the VFA changes between intervention groups, all data were combined for multiple logistic regression analysis to determine the association between

VFA loss (no loss, < 5% loss, and ≥ 5% loss) and improvements in cardiometabolic outcomes. For each cardiometabolic outcomes, a change exceeding the minimum value of the third tertile was considered a high improvement. There was a significant reduction of VFA in the IFHP group (mean difference −4.076 cm2, P-value = 0.003), but not in the HP group (mean difference −0.460 cm2, P-value = 0.663). Compared to no VFA loss, a VFA loss of ≥ 5% was significantly associated with greater improvements in waist circumference (AOR 2.97 95% CI 1.16–7.64), high-density lipoprotein cholesterol (HDL-C) (AOR 4.19, 95% CI 1.58–11.14), triglycerides (AOR 3.01, 95% CI 1.14–7.92), and haemoglobin A1C (HbA1C) (AOR 2.95 95% CI 1.12–7.79). Additionally, those with < 5% VFA loss were four times more likely to show a greater improvement in HDL-C after 12 weeks (AOR 4.08, 95% CI 11.36–12.22). This study found that the magnitude of VFA loss is an independent determinant of improvements in waist circumference, HDL-C, triglycerides, and HbA1C in adults with overweight and obesity. When designing obesity prevention programs, it is essential to establish clear targets for VFA loss to optimise improvements in cardiometabolic outcomes.

Disclosures: None

O7-02 SUPPORTING YOUNG ADULTS (18–34 YEARS) TO MANAGE THEIR WEIGHT AND WELLBEING

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The prevalence of obesity in young adults is an increasing concern given the strong association between obesity and type 2 diabetes and the complexity of managing early onset T2DM. However young adults are under-represented in data evaluating weight management programmes (WMP) and we do not know if programmes are appropriate and effective for this age-group. This study aimed to explore the accessibility and support that a community WMP provides to young adults. An online survey, hosted on Qualtrics, explored health, wellbeing, self-esteem, physical activity, diet and the social support provided for group and online members. All 18–34-year-olds who had been a member for >4 weeks and were not pregnant, were invited to take part over a 4-week period. Ethical approval was obtained. 3466 responded (n = 204 online; 335 aged 18–24), 93.2% identifying as female and 97.4% as white ethnicity. Mean BMI at baseline was 37.9 ± 7.8 kg/m^2 with a weight change of −11.4 ± 9.2 %. 35% of respondents joined the WMP with a BMI > 40 kg/m^2. Median length of current attendance was 32 weeks. The main reasons for accessing weight management support were to 'feel better about myself' (87.7%), 'improve/protect my physical health' (78.9%), and 'gain confidence' (75.9%). Reasons for choosing the WMP included previous membership (61.7%), not wanting a restrictive diet (39.5%), recommendation from friends/family (37.7%), and liking the sound of the group support (37.7%). Respondents reported gaining confidence in changing their eating habits (91%) and felt supported in changing their mindset about physical activity (80%). There was a shift in confidence to prepare healthier meals from scratch (p < 0.001). Overall, 77% felt able to challenge negative thoughts about losing weight and 57.9% felt their mental wellbeing had improved. The group support was valued (92%) and relatable (90%). The data suggests the community WMP promotes young adult members' confidence in their ability to manage their weight, supports positive behavioural changes, with additional health benefits. Of surprise was the greater number of young adults accessing in-person group support over online support. Future research should explore the needs of 18–24 years olds who were under-represented in the study population.

Disclosures: All authors work full or part-time for Slimming World.

O7-03 WEIGHT GAIN IN CHILDREN AND YOUNG PEOPLE REFERRED TO A TIER 3 OBESITY SERVICE PRIOR TO FIRST APPOINTMENTS

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Childhood obesity is a growing public health concern, associated with multiple long-term health complications. The Complications of Excess Weight (CEW) service is a National Health Service England (NHSE)-funded Tier 3 obesity programme for children under 18 years old. Understanding the growth trajectories of children and young people (CYP) referred prior to being seen helps interpret progression when in the CEW service. We conducted a retrospective analysis of weight and BMI changes in 176 CYP referred to the Nottingham CEW service between January 2021 and April 2024, prior to their first clinic appointment. Obesity-related complications were recorded, along with Index of Multiple Deprivation (IMD) decile, gender and age. Eighty-five patients (48%) were from the most deprived quintile compared with 15 patients (9%) from the least deprived. At referral, 39 patients (22%) had one or more obesity-related comorbidity, of which 82% were from IMD deciles 1–4. Patients gained 7.7 ± 14.7 kg/year between referral and first appointment (10 ± 6.2 months). Gender was statistically significant in relation to weight velocity from referral to first appointment. Males gained 5.2 kg/year more than females when taking age and IMD decile into account (p < 0.001), but weight gain was not associated with IMD decile or age. Change in BMI SDS was associated with age (0.03 SDS per year) but not IMD decile or gender. In 22 patients with measurements for at least 3 previous years, weight gain was greatest in the second year prior to referral (year before: 7.1 kg, 2nd year before: 17.1 kg, 3rd year before 12.4 kg). Almost half of CYP referred to the Nottingham CEW service were from the lowest IMD quintile and those with obesity-related complications were concentrated in this group. Patients in this group appear to be particularly susceptible to the effects of excess weight, but do not appear to gain weight faster while waiting to be seen. The current waiting times for access to services is associated with clinically significant weight gain. When assessing patient progress in clinic, it is important to consider the trajectory prior to engagement with weight-management services.

Disclosures: None

POSTER SESSIONS

P01 A UK-BASED SPECIALIST CHILDREN WEIGHT MANAGEMENT APPROACH: THE FAMILY AND PARENTING GROUPS

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Today, nearly a third of children aged 2 to 15 are living with overweight or obesity, which has an impact on both physical and

mental health. MoreLife delivers tailored, evidence-based and psychologically informed specialist child weight management services (SCWMS) in the UK. Children living with obesity need support in gaining self-esteem and self-acceptance3and the higher risk of depression in children living with obesity or those who are overweight can be partially accounted for by their weight concerns, their perceived isolation from their peers and shame. Despite this, the majority of commissioned Specialist Child Management Services are highly medicalised, neglecting psychological support. MoreLife provides Family (parents and their children) and parent-only groups to families with complex medical, social and psychological needs to help them with healthy lifestyle changes to facilitate weight loss/maintenance. The programmes are designed as 8 biweekly therapeutic group sessions facilitated by an experienced therapist and co-facilitated by an experienced practitioner. Weight, physical activity, diet, screen time, well-being and self-esteem are monitored during the intervention, which lasts a year. We also gather qualitative feedback from the parents after each session. Child Eating Behaviour Questionnaire (CEBQ): A 35-item parent-report measure assessing eight dimensions of children's eating behaviour, including food responsiveness, food enjoyment, emotional eating, satiety responsiveness, food fussiness, slowness in eating, and desire to eat. CHILDREN'S PHYSICAL ACTIVITY QUESTIONNAIRE (CPAQ): A self-report measure assessing children's physical activity levels. CYP Children's Healthy Behaviours Questionnaire: A parent-report measure assessing children's healthy behaviours, including fruit and vegetable consumption, physical activity, sleep quality, and screen time. The Good Childhood Well-being Index Questionnaire: Measures children's well-being across five domains: happiness, self-worth, relationships, competence, and resilience.

The Harter short 12 version of the "What am I Like" questionnaire is a self-report measure that assesses children's self-esteem in six domains: scholastic competence, social competence, athletic competence, physical appearance, behavioural conduct, and global self-worth. Both Family and parenting groups will end in early April. Qualitative and quantitative data will be analysed and discussed in the light of relevant literature.

Disclosures: None

P02 COMPREHENSIVE FAMILY BASED WEIGHT MANAGEMENT INTERVENTION FOR CHILDREN WITH COMPLEX HEALTH NEEDS: SERVICE EVALUATION, TIER 3 CHILDREN WEIGHT MANAGEMENT SERVICE

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Children living with complex health needs (CHN) such as autism spectrum disorder (ASD) are at greater risk of excess weight gain. The contributing factors to obesity this group includes selective eating patterns, disordered sleep, obesogenic medication, as well as social challenges impacting participation in physical activity. The gold-standard intervention for weight loss in children is family-based intervention. MoreLife, Medway and Swale online weight management service offers 1:1 support for children with a BMI ≥98th centile. Families are given tailored support and advice in line with evidence-based guidance. Sessions are offered weekly for the first 12 weeks, with regular check-ins thereafter. This intervention offers a multidisciplinary approach, with families having access to a specialist nurse, specialist dietitian, registered nutritionist and psychotherapist. Feedback and outcomes were gathered through an online questionnaire sent to parents upon joining the program. This questionnaire included validated tools including the Child Eating Behaviour Questionnaire (CEBQ). Weight measurement included weight reported by parents. Of the total referrals made to our specialist weight management service, 31 participants (39%) had a diagnosis of ASD or ADHD. Mean age was 11 years, and 58% were males. The responses to initial questionnaire on child eating behaviour recorded that all of these children 'never' or 'rarely' enjoyed a variety of food, 'always' refused new foods at first, and are 'always' or 'often' difficult to please at mealtimes. The flexible appointment times and remote phone consultations and individualised support facilitated 100 % retention rate, high engagement with their scheduled appointments. Feedback from families of children with CHN reported several positive changes, including increased willingness to try new foods, improved quality and variety of foods, and improved energy and concentration levels at school. Weight measurement outcomes suggested some improvements with weight loss ranging from 2.5–3 Kg. Whilst children living with CHN exhibited common difficulties around food, the service proved effective in cultivating positive changes to promote healthy eating guidelines and established acceptability and feasibility of family-based intervention in this group.

Disclosures: None

P03 THE SILENT CONDUCTOR: EPIGENETICS AND THE SYMPHONY OF MIND, BEHAVIOR, AND BODY WEIGHT

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Complex gene-environment interactions, including DNA methylation, histone modifications, and non-coding RNAs, are involved in the development of obesity. In accordance with PRISMA guidelines, this systematic review synthesized evidence from clinical trials from ClinicalTrials.gov (e.g., NCT03548779), longitudinal human cohorts (ALSPAC, NHANES), rodent models studying germline epigenetic inheritance, and epigenome-wide association studies (EWAS) in the GEO database (e.g., GSE104297, GSE124839). Computational analyses using MethylKit and ChIP-seq pipelines mapped epigenetic changes in key metabolic genes (e.g., LEP, POMC, FTO). Key findings revealed: (i) maternal obesity induces persistent LEP hypomethylation ($\beta = -0.18$, $p < 0.001$) and POMC hypermethylation in offspring, disrupting hypothalamic appetite regulation; (ii) paternal high-fat diets alter sperm tsRNAs, dysregulating offspring Mc4r expression in rodents, while grandparental famine in humans correlates with IGF2/H19 methylation changes (OR = 1.42); and (iii) postnatal stressors exacerbate metabolic dysfunction through NR3C1 hypermethylation and diet-induced miR-33a overexpression, which impairs dopaminergic signalling. Interventions demonstrated promise: time-restricted feeding restored CLOCK gene methylation rhythms ($\Delta\beta = +0.15$), and resveratrol reduced adipogenesis via FTO demethylation. However, challenges include tissue-specific epigenetic variation (blood vs. hypothalamus correlation $r = 0.32$) and the predominance of observational human studies (78%). Translational barriers persist, as murine models poorly replicate human epigenetic memory. Future research must prioritize longitudinal multi-tissue studies, CRISPR-dCas9 validation of causal epigenetic marks, and combinatorial therapies integrating dietary, pharmacological, and behavioural strategies. Bridging population data, preclinical models, and clinical trials offers a viable pathway to translate epigenetic insights into equitable, effective obesity interventions.

Disclosures: None

P04 THE MODERNISATION PARADOX IN GLOBAL HEALTH AND OBESITY: DISPARITIES IN LIFE EXPECTANCY, NUTRITION TRANSITIONS, AND SYSTEMIC INEQUITIES IN SOUTH AMERICA AND LMICS

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Modernization in South America and LMICs has led to paradoxical health outcomes, with economic progress coexisting with persistent inequities in life expectancy and well-being. Using World Bank and WHO datasets (1990–2023), DHS, and FAO food balance sheets, this study examines life expectancy trends, nutrition transitions, and healthcare access disparities quantified via Gini indices. Chile and Costa Rica achieved life expectancies over 80 years through robust primary care, while Bolivia and Paraguay face rural healthcare shortages. The COVID-19 pandemic reversed Brazil's decades of progress, erasing 1.8 life expectancy years (2020–2021). Rapid urbanization and dietary shifts in urban Peru correlate with a 15% annual diabetes rise, compounding risks alongside sub-Saharan Africa's dual burden of childhood stunting (30%) and adult female obesity (>20%). Climate stressors, like droughts in Guatemala, worsened acute malnutrition by 34% (8), highlighting disparities with urban elites' access to privatized healthcare. Brazil's Family Health Program (FHP) shows scalable solutions, reducing infant mortality by 25% through community-based care (1). Still, systemic gaps remain as transnational corporations market ultra-processed foods to LMICs. Integrated interventions combining drought-resistant crops with primary care expansion could address climate-nutrition synergies. Achieving health equity demands democratizing preventive care, regulating commercial determinants of disease, and fostering multisectoral climate resilience. High-income nations like the UK could adapt Brazil's FHP model to reduce domestic disparities exacerbated by austerity. Sustainable progress depends on policies that prioritize universal health access and nutritional security over purely economic metrics.

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P05 DIET INEQUALITIES AND FOOD CONSUMPTION PATTERNS IN SCOTTISH ADULTS

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Dietary patterns in Scotland remain unhealthy and this impacts on health. Socio-economic differences in diet are a contributor to dietary health inequalities(1). For brevity, this abstract will report on cross-sectional data on food consumption in Scottish adults. To explore dietary behaviours, we used the National Diet and Nutrition Survey Rolling Program (NDNS RP) dataset, which reports 4-day food and drink records (2). Our focus was on exploring diet quality between different Scottish Index of Multiple Deprivation levels (SIMD). Of the 16,908 NDNS records available (years 2008–2019), 2,303 were from Scotland, with 630 records for adults aged 40–70years. Citizens who stated they had dietary restrictions (e.g. consuming vegetarian or weight loss diets) were excluded; there was incomplete data available for SIMD levels, so data is presented for $n = 295$. We report that those living with the least deprivation (SIMD level 1 grouping) had significantly better Global Diet Quality Scores (GDQS)(3) than those living with the most deprivation (SIMD level 5 grouping; $p < 0.001$). Based on the GDQS results, a higher percentage of the level 1 group were in the low-risk category for nutrient adequacy and non-communicable disease risk, compared to the level 5 group (44% vs 13% respectively, $p < 0.001$). Conversely, there was a higher percentage of the level 5 group in the high-risk category compared to the level 1 group (31% vs 11% respectively, $p < 0.001$). The level 1 group had a better quality of diet in terms of higher consumption of fibre ($p < 0.001$), fruit and vegetables ($p < 0.001$), and plant protein (peas, beans and pulses; $p = 0.001$), compared to those in level 5. Nutritious food is essential for health, but these data suggest that the chances of accessing healthy food depend strongly on where we live. In Scotland, people living in communities associated with poverty, are less likely to have access to affordable, healthy food and are more likely to experience poor health as a result. Transforming our food system to be accessible, affordable, environmentally sustainable and culturally acceptable for all remains a high priority.

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P06 QUANTIFYING THE HEALTH AND SOCIAL IMPACTS OF OBESITY DURING CHILDHOOD: A SCOPING REVIEW WITH EVIDENCE MAPPING

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Quantifying the impacts of childhood obesity on health and social outcomes is essential for understanding the broader benefits and potential cost-saving of preventive and treatment interventions. This scoping review aimed to systematically map the evidence on health, social, and educational impacts of childhood obesity. We conducted comprehensive database searches in April 2024, identifying 8,207 unique systematic reviews that included a childhood obesity exposure (0–18 years) and any health or social outcomes (up to 30 years), from UK or comparable high-income countries published between 1990–2024. Following screening and full-text review, 230 systematic reviews were included and categorised across four domains: physical health, mental health, social and behavioural, and educational and economic. Of the 230 reviews, 122 were narrative syntheses (53%), and 108 meta-analyses (47%). The outcomes domains studied were physical health (144/230, 63%), mental health (47/230, 20%), social and behavioural (21/230, 9%), educational and economic outcomes (10/230, 4%), with the remainder covering multiple domains (8/230, 4%). Each review was categorised as either finding an association between childhood obesity and the included outcome/s, 'mixed' if this differed across outcomes, or 'null' if there was no association. Most reviews found evidence of an association (86%), with fewer finding evidence of a mixed or null association (13% and 6%, respectively). Reviews assessing mental health outcomes had the highest percentage finding an association with childhood obesity (94%); reviews assessing educational outcomes found the lowest (70%). Of the associations, most found that obesity was associated with adverse outcomes. This mapping exercise highlighted significant evidence gaps. Non-health domains were less studied than physical and mental health. Limitations

included not assessing the quality of studies or examining study overlap. This work can help identify reviews that provide parameters for cost-effectiveness modelling. It will also help guide further work to strengthen the evidence base between childhood obesity and health, social and education outcomes. This scoping review maps the multifaceted impact of childhood obesity across domains and provides an evidence foundation for prioritising outcomes in cost-effectiveness modelling of childhood weight management services. This work focuses on the impacts of obesity, rather than the narrative that obesity itself is a problem.

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P07 CHILDHOOD OBESITY AND THE ACT OF TRANSITION

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Recent decades have witnessed a tidal wave of adolescents with obesity, as well as obesity-related metabolic and cardiovascular diseases in tandem. Although the favourable effects of lifestyle measures, pharmacotherapy, and bariatric surgery in the management of obesity have been well documented, a recurring problem in obesity treatment in adolescents, is the transition into adult care. This study explored the evidence of transition services for adolescents with obesity though a scoping review. According to Blum et al 1993: "Transition is a multi-faceted, active process that attends to the medical, psychosocial, and educational and vocational needs of adolescents as they move from child-focused to the adult-focused health-care system." There is a paucity of models or services for transitioning adolescents with obesity, despite the spotlight on the critical vulnerabilities of the transition period and the health outcomes. Poor health care transition from paediatric to adult health services jeopardises healthy weight management, with consequent unhealthy weights and associated co-morbidities. There is a paucity of evidence on the transition of adolescents with obesity in the literature, thus emphasising this as a priority research area or gap. Bridging this gap requires collaborative efforts to develop effective transition models. In this context, we therefore propose a model of transition known as the ACT of transition, A: Assessment of readiness, C: Consolidation of knowledge and skills, T: Transfer of care to ensure effective transitioning of adolescents with obesity.

Disclosures: None

P08 WEIGHT STIGMA ENVIRONMENT AND EQUIPMENT CHECKLIST FOR HEALTHCARE SETTINGS: A NATIONAL SURVEY OF OBESITY HEALTHCARE EXPERTS AND PEOPLE WITH LIVED EXPERIENCE OF OBESITY

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Weight stigma (WS) negatively impacts health outcomes. Hospital environments should be inclusive for people living with obesity (PLwO). This study aimed to develop a WS environment and equipment checklist with input from healthcare experts (HCPs), researchers, as well as people, carers, and family members with lived experience of obesity (C/FM) to increase obesity inclusivity in UK NHS hospital environments. A converging coding matrix was used to integrate multiple existing checklists, including one developed by Northumbria Healthcare NHS Foundation Trust, to form a draft version. A mixed-methods online survey (February-March 2025) was conducted and disseminated through professional and patient networks to gain feedback on the checklist categories (reading materials, furniture, equipment, and access and infrastructure). Sixty-nine respondents, including fifty-one HCPs, eight researchers, PLwO, and four C/FM. Most respondents thought that no items were missing, none should be removed, and no changes were needed to the wording of the checklist. Respondents expressed some concern about the language used, highlighting the need to avoid unintentionally stigmatising or non-inclusive language. Most identified checklist domains such as furniture, equipment, and access as challenging to implement without support. Financial constraints, especially within NHS budgets, were the primary barrier, with dedicated funding packages seen as essential. Additional challenges included limited space, outdated infrastructure, insufficient storage, and restricted access to suitable equipment via NHS suppliers. The need for increased awareness and understanding among NHS staff about the importance of creating inclusive environments for PLwO, the complexity of obesity, and what constitutes stigmatising practices was highlighted. Respondents also noted that training, education, and potential accreditation schemes could support implementation. Weight bias, both implicit and explicit, alongside discriminatory attitudes among healthcare professionals, was also seen as a significant barrier to progress. The collaboratively refined checklist offers a practical tool for NHS trusts to audit and enhance obesity-inclusive environments. Respondents valued the checklist but noted that implementation requires funding, structural changes, and staff training, while PLwO felt it may not improve their experience, citing the need for inclusive communication which not directly addressed by the checklist. This highlights the need for deeper exploration through qualitative methods.

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P09 EXPLORING THE LINK BETWEEN TIMING OF PHYSICAL ACTIVITY, BODY COMPOSITION, AND CARDIOMETABOLIC HEALTH IN PEOPLE WITH METABOLICALLY COMPLICATED OVERWEIGHT/OBESITY

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While physical activity benefits cardiometabolic health, the impact of its timing remains less understood. In this cross-sectional study, 32 individuals (75% female, aged 49 ± 11 years, mean body mass index 36 ± 7 kg/m^2) with metabolically complicated overweight/obesity were assessed over two weeks. During this period, participants were instructed to consume five meals and snacks per day within a 14-h daily eating window (approximately 07:00–21:00 hrs). Habitual physical activity was measured via wrist-worn accelerometer, and 24-hour glycaemic control was assessed via blinded continuous glucose monitoring. Body composition was evaluated using dual-energy X-ray absorptiometry. Insulin-stimulated glucose disposal (index of skeletal

muscle insulin sensitivity) and insulin-induced suppression of plasma free fatty acids (index of adipose tissue insulin sensitivity) were assessed via a two-stage hyperinsulinaemic-euglycaemic clamp procedure. Linear regression analyses examined associations between activity timing, body composition, and cardiometabolic health parameters, adjusting for sex, age, and total activity. In the fully adjusted model, proportionally higher physical activity levels in the morning (06:00–11:59 hrs) was associated with greater lean body mass [$\beta = 0.43$ kg, 95% Confidence Interval (CI): (0.05, 0.8 kg), $p = 0.03$]. Proportionally higher physical activity levels in the afternoon activity (12:00–17:59 hrs) was associated with lower logarithmically-transformed fasting plasma triglycerides [$\beta = -0.02$ mg/dl, 95% CI: (-0.05, -0.0 mg/dl), $p = 0.03$] and borderline linked to fasting plasma glucose [$\beta = 1.0$ mg/dl, 95% CI: (-2.1, 0.06 mg/dl), $p = 0.06$]. Proportionally higher physical activity in the evening (18:00–23:59 hrs) showed a trend toward improved adipose tissue insulin sensitivity [$\beta = 0.9\%$, 95% CI: (-0.2, 1.9%), $p = 0.11$]. No association was found between activity timing and 24-hour glycaemic control or skeletal muscle insulin sensitivity. These preliminary findings suggest that morning physical activity may be more beneficial for preserving lean body mass. Afternoon activity is associated with potential improvements in fasting plasma triglyceride and glucose levels. A trend between evening activity and improvements in adipose tissue insulin sensitivity was observed. Larger studies examining not only the timing but also the type and intensity of physical activity are needed to expand upon our findings.

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The authors declare no conflicts of interest.

P10 THE CHALLENGE OF PROVIDING LONG-TERM FOLLOW-UP DATA FROM A SERVICE EVALUATION OF A SPECIALIST MULTI-DISCIPLINARY WEIGHT MANAGEMENT SERVICE BASED IN PRIMARY CARE

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There is modest evidence that weight management services in primary care can be effective but long-term data on weight loss maintenance is lacking. Fakenham Weight management Service, a specialist multi-disciplinary service based in primary care attempted the challenge of collecting weight data both during and at 12 months post completion of the programme. This evaluation analysed five years of data from 1/4/2014 to 28/3/2019 including data from 1094 patients. The one-year programme was based on National Institute of Health and Care excellence guidelines CG189 and met the criteria for a multi-disciplinary specialist weight management service. Outcomes included weight and BMI changes at 3, 6, 9, and 12 months, and 12 months after discharge. Quality of life, physical activity, and quality of diet were measured quarterly. Blood pressure and HBA1c in people with type 2 diabetes were measured at the onset and end of the programme. Data on weight a year after discharge was collected directly from participants in person, or by post, from GP records, and from attenders at support groups. Clinically and statistically significant improvements in weight, diet, physical activity, quality of life, blood pressure and blood glucose control were observed at the completion of the programme. Weight loss in completers was a mean of 6.2% (SD 5.8), with 60%, losing ≥5% of their baseline weight, and 23.8% losing ≥10% of their baseline weight. Long-term weight data 12 months post-discharge in completers showed a mean weight loss of 8.3% (SD 10.3) $n = 350$ from baseline weight using all available data. Using baseline observation carried forward for the whole cohort there was a mean weight loss of 2.5% (SD 6.8) $n = 1094$ a year post-discharge. The results confirm the feasibility and effectiveness of providing a specialist weight management service in primary care. However long- term follow-up data was incomplete, required a variety of methods, and was unfunded. These results pre-date the introduction of GLP1 receptor agonist anti-obesity medications and new evidence on the effectiveness of total diet replacements and including these treatment options should improve weight loss. Commissioners should consider requiring and funding long- term follow up when designing service specifications.

Disclosures: CH time was funded by the Rona Marsden Research fund at Fakenham Medical Practice. The authors declare no conflicts of interest.

P11 EXPLORING NEW STRATEGIES TO MEET THE NEEDS OF PEOPLE LIVING WITH OBESITY: THE ROLE OF YOGA TEACHERS IN MULTI-DISCIPLINARY OBESITY PRIMARY CARE

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Due to the complex and individualised nature of obesity, multi-disciplinary healthcare teams are considered best practice for delivering effective care. However, current health system strains—resource, time, and funding—limit this approach, prompting exploration of alternative strategies. Yoga teachers may offer unique value in obesity care, given their physiological knowledge and ability to deliver holistic, low-impact, and accessible healthcare. To explore yoga teachers' perspectives on the suitability of integrating yoga into primary care multi-disciplinary teams.

Method: Fifteen yoga teachers with experience delivering obesity-related yoga care participated in semi-structured interviews. This co-designed qualitative study involved obesity lived experience experts, yoga teachers, and obesity primary care researchers. Interviews were analysed using Braun and Clarke's thematic analysis. Three overarching themes were identified: 1) misunderstanding of what constitutes authentic yoga, 2) alignment between yoga practices and the complex health needs associated with obesity, and 3) the need for professional validation of yoga teachers. Participants expressed frustration with the dominant social media portrayal of yoga as only advanced postures, typically exclusive for young, thin, white individuals. In contrast, authentic yoga was described as a cross-cultural, holistic, and low-impact health practice with wide accessibility. Teachers emphasised a commitment to the principle of 'do no harm' likening it to the ethical standards found in the Hippocratic Oath of Western medicine. Importantly, participants rarely discussed weight change when addressing the benefits of yoga for individuals living with obesity. All participants stressed the importance of an accreditation system to demarcate authentic yoga and ensure safe healthcare. Yoga teachers demonstrate a significant foundation in physiological principles, a client-centred care approach, and a nuanced understanding of the complex obesity health issue. Participants strongly endorsed the integration of yoga and yoga teachers into multi-disciplinary care teams for people living with obesity. Current referral pathways to allied health professionals (e.g., Pilates instructors) are already associated with positive health outcomes and patient acceptability, suggesting a viable precedent for similar pathways involving yoga teachers. Further research is warranted to explore and evaluate the efficacy and feasibility of

developing a recognised accreditation process for yoga teachers within Western healthcare systems.

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P12 THE IMPORTANCE OF RELATIONSHIPS IN ATTENDANCE AT FOLLOW-UP WEIGHT ASSESSMENTS IN A BEHAVIOURAL WEIGHT MANAGEMENT TRIAL. A QUALITATIVE STUDY OF PARTICIPANT AND RESEARCHER PERSPECTIVES

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Retaining people for the duration of weight management programmes and in studies of obesity interventions is a challenge. Poor retention has financial costs as well as costs in terms of data quality, validity and knowledge translation. A number of behavioural strategies have been identified which have the potential to improve retention at follow-up in trials. However, research in this area has been limited, the evidence is uncertain and has not focused on style of delivery, including relationships. With the aim of exploring strategies to improve retention, two protocolised follow-up weight assessments were implemented as part of a study within a trial, scheduled at 3- and 6 months, during the 12-month text-based behavioural weight management programme. Participants were randomised to receive either a task-oriented or relational approach delivered by researchers at each of the three centres (Belfast, Bristol and Glasgow). The task-oriented approach focused on completing a weight verification and recording relevant information on the case report form. The relational approach focused on building the relationship with the participant in addition to completing these tasks. This qualitative study sought to explore participant and researchers' experiences of the follow-up weight assessments using framework method and was carried out prior to the quantitative data analysis. Fifty-four trial participants took part in interviews alongside five researchers, who delivered the protocols. Three broad themes were constructed from the narratives: the experience of attending follow-up weight assessments, the mode of weight assessment delivery and the style of weight assessment delivery. Nine related sub-themes provided an insight into the emotive nature of weight assessments related to weight stigma and the impact of attendance for participants. They also provided evidence for the need for human contact within digital interventions and how the role of researchers and relationship have importance for retention but also other weight-related outcomes. Researcher-participant relationships have an important role in retention. The approach of researchers within trial processes such as outcome assessments could improve attendance within weight management trials primarily by providing accountability and support. Removal of relationships by digital-only interventions or during participant follow-up has potential implications for retention and wider intervention implementation.

Disclosures: This qualitative study forms part of a SWAT designed within a NIHR funded trial 129703. The authors declare no conflicts of interest.

P13 HEALTHCARE PROFESSIONALS' UNDERSTANDING, CONFIDENCE AND USE OF GLUCAGON-LIKE PEPTIDE-1 RECEPTOR AGONISTS FOR OBESITY: A MIXED-METHODS STUDY

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Novel pharmacotherapies such as GLP-1 receptor agonists (GLP-1RAs) have emerged as transformative medications for weight management. However, prescriptions and uptake in the UK NHS remain low compared to the prevalence of obesity in the population. Understanding healthcare professionals' (HCPs) perspectives on GLP-1RAs could inform strategies to promote fair, effective use at scale. We undertook a mixed-methods study comprising: 1) an online survey assessing knowledge, prescribing practices and attitudes towards GLP-1RAs, and 2) qualitative interviews to identify emerging themes. Quantitative data were analysed with descriptive statistics. Braun & Clarke's framework was applied for thematic interview analysis. 72 HCPs completed the online survey: 58.3% were female, 62.5% worked in NHS settings, and 52.8% were GPs (8.3% prescribing pharmacists, 6.9% advanced nursing practitioners). Whilst 51.4% reported high or very high familiarity with therapeutic uses of GLP-1 RAs, only 40.3% stated that they had confidence in prescribing them (29.2% reported low or very low confidence). There were mixed opinions on the appropriateness of GLP-1RAs as a first-line approach for weight management (44.4% disagreed/strongly disagreed), but 57.0% agreed/strongly agreed that GLP-1RAs are under-utilised. 8 HCPs partook in qualitative interviews: major themes comprised: 'efficacy', 'concerns regarding sustainability and long-term effects', 'systemic barriers and access inequities', 'professional knowledge gaps', 'service delivery models', 'digital and private healthcare landscape', and 'silver bullet misconceptions'. Individual interviewees' concerns included: NHS resource constraints, adequacy of HCP knowledge, risks of sarcopenic obesity, restrictive eligibility criteria and private-public healthcare friction. Positive perspectives included optimism around the scope for reduction of weight-related stigma and shame with digital services, and roles for innovative patient-support models. HCPs recognise the significant potential of GLP-1RAs for weight management and most believe they are under-used. Despite this, they articulated major barriers to their effective implementation including lack of prescribing confidence, lack of resource for appropriate multidisciplinary care, and divergence of opinion on when best to utilise them. The perspectives elucidated suggest that enhanced training and the development of efficient, collaborative care pathways could empower HCPs in providing broader, appropriate, equitable use of these medications.

Disclosures: HJ, NA, AKC and DRH are employees of Menwell Ltd, which provides digital weight management service ("Voy").

P14 EXPLORING PERCEPTIONS AND EXPERIENCES OF GROUP-BASED SUPPORT FOR PEOPLE LIVING WITH OBESITY FROM THE PROGROUP RANDOMISED CONTROLLED TRIAL

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Groups are increasingly used in obesity treatment and may provide a time-and cost-effective method of care. Beyond their practical

benefits, group-based programmes potentially offer valuable opportunities for social support, which may enhance patient engagement and improve clinical outcomes. However, little is known about how group support impacts adults living with severe obesity, particularly within specialist weight management settings in the UK. This study explores patients' views and experiences of group support as part of the PROGROUP trial, which aims to test whether a group-based programme (PROGROUP) helps people with severe obesity manage their weight more effectively than the usual care provided by the National Health Service. Twelve patients from a specialist weight management service in Northern England, randomised to either PROGROUP or usual care, took part in follow up semi-structured interviews about their perceptions and experiences of PROGROUP and the specialist weight management service. Thematic analysis was carried out and guided by the Framework Approach for data management. Findings revealed three themes which were common to both patient groups: shared support from similar others, desire for a safe space, and sharing strategies. Regardless of whether patients were in the PROGROUP intervention or receiving usual care, many valued the experience, or the opportunity, to receive support from others with similar weight management experiences. These patients recognised the benefits of group support, describing it as a potentially safe space to share personal experiences of managing their weight, exchange practical tips (such as recipes and physical activity ideas), and discuss weight management strategies with supportive peers. In PROGROUP specifically, these effects emerged to the extent that members formed a shared social identity. While others expressed a preference for more personalised care, group support was still considered a valuable element of treatment. The findings suggest that group-based programmes for weight management may offer a supportive and empowering environment for people living with obesity. While personalised care remains important, group support has the potential to offer both informational and emotional benefits by providing a platform to discuss behaviour change strategies with others who share lived experiences of obesity and weight management.

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P15 TIRZEPATIDE FOR WEIGHT LOSS IN AN ADOLESCENT WITH ALSTRöM SYNDROME

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Alström syndrome (ALMS) is a rare, autosomal recessive condition caused by variants in the ALMS1 gene. It is a multisystem, progressive condition characterised by vision (retinal dystrophy) and hearing loss, obesity, insulin resistance, type 2 diabetes mellitus, cardiomyopathy and renal dysfunction requiring specialist multidisciplinary management. Treatment of obesity in ALMS is difficult, with limited efficacy of glucagon-like peptide (GLP-1) receptor agonists and inconclusive results for the MC4R agonist, Setmelanotide. We present a case of an adolescent living with ALMS who has shown a successful response to Tirzepatide, a dual agonist for GLP-1 and Gastric Inhibitory Polypeptide (GIP) receptors. This male patient was born at term weighing 4.4 kg and developed early-onset, hyperphagic obesity. He was diagnosed with retinal dystrophy aged one year and moved to the UK aged 9 years, whilst being referred to a weight management service at 11 years. At that time his weight was 86.6 kg, height 162.5 cm, BMI 32.9 kg/m^2 (BMI-SDS +3.32). He was hypertensive, with evidence of metabolic dysfunction associated steatotic liver disease (MASLD), and significant visual impairment due to retinal dystrophy and was diagnosed with ALMS at 12 years of age. Despite behavioural and dietetic input from the multi-professional weight management team, he continued to gain weight. He initially commenced daily GLP-1 agonist therapy (Liraglutide) at 14 years of age but experienced further weight gain. Nine months later he was switched to Semaglutide, a weekly GLP-1 receptor agonist, for seven months, but weight gain persisted with no reported appetite change. Aged 17 years he was commenced on Tirzepatide (GLP-1 and GIP dual agonist) off-licence due to his obesity associated complications, with weight 122.7 kg, BMI 37.2 kg/m^2 (BMI SDS +3.77). Following, 3 months of treatment (5 mg weekly), he has lost 9.7 kg (7.9% weight loss, BMI-SDS reduction 0.25), the medication is well tolerated with the patient reporting considerable reduction in appetite. With negligible reported benefits from Semaglutide and Setmelanotide in Alstrom's syndrome, these early weight and appetite changes suggest possible benefits from dual agonist treatment which warrants further investigation in this condition.

Disclosures: None

P16 SOCIODEMOGRAPHIC DETERMINANTS OF OBESITY: INVESTIGATING REGIONAL VARIATIONS IN DIETARY BEHAVIOURS

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This research examines the relationship between sociodemographic factors, daily dietary behaviours, and obesity in contemporary Mongolia. It explores how dietary habits influence body weight across rural, urban, and peri-urban areas using a mixed-methods approach, combining both structured and semi-structured interviews with qualitative and quantitative data analysis. The study compares obesity rates and dietary patterns among rural nomads, urban settlers, and peri-urban residents, many of whom are internal migrants from rural areas. It also considers additional sociodemographic factors, such as food environments and occupations, while investigating generational differences in obesity and dietary behaviours. The findings reveal that internal migrants in Ulaanbaatar are nearly twice as likely to be overweight or obesity compared to non-migrants. Regional variations in dietary behaviours were also evident, particularly in relation to seasonal food consumption, meal frequency, and cooking practices. Furthermore, dietary behaviours such as food commensality and meal frequency appeared to be more strongly shaped by regional factors than by generational differences, suggesting that lifestyle, work environments, and food availability have a more substantial influence on eating habits than age. The study underscores the complex interplay between sociodemographic characteristics and dietary practices, highlighting that factors such as migration, regional food environments, and work conditions are pivotal in understanding obesity in modern Mongolia. These findings offer valuable insights for policy-makers and public health initiatives aiming to address obesity in diverse settings.

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P17 A CASE STUDY LINKING HMGB1 TO SKELETAL MUSCLE INSULIN RESISTANCE IN A RODENT MODEL OF MULTIMORBIDITY

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Obesity is increasingly associated with multimorbidity, yet its impact on skeletal muscle function in complex disease contexts remains underexplored. Skeletal muscle, a key regulator of whole-body glucose homeostasis, is particularly vulnerable to metabolic and inflammatory insults, making it a critical target for mechanistic studies. In this case study, we used a rodent model combining a high-fat diet (HFD) with angiotensin II (AngII) infusion to mimic obesity-related metabolic and cardiovascular stress, and assessed its effects on skeletal muscle insulin signalling and inflammatory markers. Phosphorylation of Akt, a central mediator of insulin sensitivity, was reduced in HFD +AngII-treated rats compared to controls, thereby suggesting impaired metabolic signalling in this model. To explore inflammatory responses, we investigated the expression of high mobility group box-1 (HMGB1), an alarmin increasingly implicated in obesity-related tissue damage and chronic inflammation. Immunoblotting analysis, although limited by sample size ($n = 2$ per group), revealed elevated HMGB1 protein levels in skeletal muscle from HFD+AngII-treated rats. To investigate the relationship between metabolic and inflammatory markers, we performed Pearson's correlation analysis between HMGB1 expression and the pAkt:tAkt ratio, using technical replicates ($n = 3$ per biological replicate). A moderate-to-strong negative correlation was observed ($r = -0.5855$, $r^2 = 0.3428$; $p = 0.046$), suggesting that increased HMGB1 levels are inversely associated with insulin signalling activity in skeletal muscle under multimorbid conditions. No immunohistochemical changes were observed in HMGB1 localisation. These preliminary findings illustrate the value of multifactorial rodent models in capturing the interplay between metabolic and inflammatory stressors. Moreover, they suggest that targeting HMGB1 or its downstream signalling could offer a potential new avenue for investigating strategies to preserve muscle insulin sensitivity in the context of obesity-linked multimorbidity. Further validation in larger cohorts will be essential to determine whether this relationship holds in more advanced disease stages, particularly those associated with ageing, or in other metabolically active tissues.

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P18 TIME-RESTRICTED EATING (TRE) AND MEAL FREQUENCY TO INFLUENCE BODY WEIGHT AND FAT MASS IN ADULTS LIVING WITH OVERWEIGHT OR OBESITY: A RANDOMISED CROSSOVER TRIAL

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Obesity is considered one of the most serious health problems worldwide. Time Restricted Eating (TRE) is a type of intermittent fasting that limits the time between the first and last period of eating, as a form of caloric restriction. Ten-hour TRE is a common regime, with an eating window to support long-term dietary adherence, expressed as 14:10, with 14 hours fasting. This study reports on a randomised crossover trial utilising TRE and meal frequency in UK adults living with overweight and obesity. The study explored the efficacy and physiological appetite response to a controlled TRE regime in a human intervention study focused on change in body weight and fat mass, using bio-impedance (BIA) assessment. All subjects gave written, informed consent. The 3-week randomised study included 10 adults (9 females and 1 male), aged 36–62 years, with a mean BMI of 33.1 kg/m2. The subjects received a high protein (HP) intervention weight loss diet (WL, 30:35:35% of energy from protein, fat and carbohydrate, respectively); provided as either 2 meals/day or 5 meals/day, which was consumed during the 10-hour TRE window (from 07:00 to 17:00). All meals were individually prepared to meet 100% resting energy requirements (RMR). A T-test confirmed both diets were associated with a significant reduction in body weight ($p < 0.001$ for both diets) and body fat mass ($p = 0.037$ for 2 meals/day and $p = 0.006$ for 5 meals/day) from baseline, with no significant difference between the two diets. On average, consuming 2 meals/day led to a weight loss of −1.26 kg (SD 0.334), and 5 meals/day −1.08 kg (SD 0.443). There was an associated body fat mass loss of −0.68 kg (SD 0.876) with 2 meals/day and −1.07 kg (SD 0.946) with 5 meals/day. The subjective appetite data is still to be analysed, but these preliminary data support the hypothesis that 10-hour TRE window, consumed as either 2 or 5 meals/day, can support short-term weight loss.

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P19 EVALUATING ELIGIBILITY FOR ANTI-OBESITY MEDICAL THERAPIES IN PEOPLE WITH OBESITY: INSIGHTS FROM PHASE 1 IMPLEMENTATION

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Obesity is a complex, chronic condition requiring multimodal management. The Joint Position Statement on Medical Therapies for Obesity (Phase 1) outlines eligibility criteria for pharmacological intervention. This study evaluates real-world eligibility for bariatric surgery and tirzepatide in a cohort of people with obesity, incorporating demographic and lifestyle factors. A retrospective analysis was conducted in individuals attending Birmingham Heartlands Hospital from October 2024 to April 2025. Data collected included demographics, baseline BMI, weight, smoking status, alcohol use, employment status, and eligibility for bariatric

surgery and tirzepatide. Eligibility for tirzepatide was assessed based on BMI thresholds and comorbidities as per Phase 1 guidance. Descriptive statistics and subgroup analyses were performed to identify disparities in eligibility. Cohort Characteristics: 108 individuals (median age 41.5 years [IQR: 29–54]; 64.18 % female). Median baseline BMI was 47.21 kg/m^2 (IQR: 38.0–53.0), with a median weight of 124 kg (IQR: 106.00–151.90). Eligibility for tirzepatide: 35.19% were prescribed tirzepatide for glycaemic control in type 2 diabetes, 30.55% were prescribed it for severe obstructive sleep apnoea (OSA), 5.56% were eligible due to infertility, 6.48% were eligible due to genetic conditions. Lifestyle & Socioeconomic Patterns: 69.44% of individuals were unemployed, 15.74% reported alcohol consumption, 8.33% reported smoking. Comorbidities: Hypertension: 23.15%, Type 2 diabetes: 52.78%, Polycystic ovary syndrome (PCOS): 12.96%, Hypothyroidism: 9.26%. A significant proportion of individuals met eligibility criteria for medical therapy and/or surgery, though lifestyle and socioeconomic factors influenced access. Most individuals were unemployed, and severe OSA was the most common eligibility criterion for weight management alone. Additionally, a large proportion of people with obesity also had type 2 diabetes, and tirzepatide provided dual benefits for both obesity and glycaemic control. Since October 2024, tirzepatide has been prescribed in line with Phase 1 guidance, and this study serves as an audit of its implementation in clinical practice.

Disclosures: None

P20 PREGNANCY PLANNING AND METABOLIC OPTIMISATION IN WOMEN LIVING WITH OBESITY -A NOVEL PILOT PATHWAY

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Obesity has become one of the most commonly occurring risk factors in obstetric practice. Pregnant women with obesity are at greater risk of pregnancy-related complications compared with women of normal BMI, including hypertension, pre-eclampsia, thrombosis and gestational diabetes mellitus. There are significant inequalities in women who are most at risk of having obesity during pregnancy, including living in areas of high deprivation and women from Black ethnic groups. Women also report experiences of obesity stigma during pregnancy. The preconception stage offers an opportunity for metabolic optimisation and a deeper understanding of women at higher risk.

Objective: Given the recognised local impact of obesity in pregnancy, we designed a novel joint pathway incorporating obesity and maternal medicine expertise. The aims include: 1) Improve metabolic status of women aiming to conceive by laying the foundation for improved maternal and fetal outcomes 2) Reduce risk through a range of personalised, evidence-based measures 3) Promote awareness of obesity as a risk factor in maternal and fetal medicine 4) Work with a range of stakeholders including women living with obesity to integrate obesity care and share system learning and resource 5) Use data and improvement methodology to support learning and effective, sustainable care. The pilot has considered the evidence base, expert opinion as well as local context and challenges to present a proposal for implementation. This will be carefully evaluated and further refined using feedback from colleagues and service users. A joint clinic has been established with maternal and multidisciplinary obesity expertise. A database has been developed to capture a joint maternal medicine/obesity consult. Following review, women are then able to fast-track access to evidence-based treatments including medical, dietary and psychological interventions. A detailed metabolic profile will be developed to further understanding. Digital therapeutics will be incorporated. The pilot has commenced and received positive feedback from patients and staff. A novel consult which minimises duplication has been established. Combining preconception counselling with metabolic profiling and obesity assessment is feasible to conduct in the real-world setting. The approach minimises duplication and offers a preventative strategy to improve maternal and fetal outcomes in women living with obesity.

Disclosures: Dr Zalin has accepted funds from NovoNordisk and Lilly for training and conference attendance. The authors declare no conflicts of interest.

P21 EFFECTIVENESS OF POSTPARTUM LIFESTYLE INTERVENTIONS AT REDUCING WEIGHT AND FASTING PLASMA GLUCOSE IN WOMEN WITH A HISTORY OF GESTATIONAL DIABETES MELLITUS

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Gestational diabetes mellitus (GDM) is the most common pregnancy complication worldwide and has been shown to increase the risk of type 2 diabetes (T2DM) after pregnancy by almost ten-fold. This study aimed to assess the effectiveness of behavioural interventions at reducing the risk of T2DM, with a focus on long-term outcomes in high-income countries. We searched PubMed, EMBASE, CINAHL, Cochrane Library, PsychINFO, ERIC and Web of Science for publications including protocols, theses and abstracts, and clinical trial registration databases from inception until 20/02/2024. Studies were eligible for inclusion if they were individual, or cluster randomised controlled trials conducted in high-income countries, with a postpartum intervention that included dietary or physical activity changes, a control group that received minimal, standard or no care, and reported follow-up from randomisation of at least one year. Studies were excluded where pharmacotherapy was used, or if they were not available in English. The protocol was registered on PROSPERO (CRD42024518659). Searches identified 2900 studies. 117 full texts were screened, and nine studies were included for analysis (n = 2001 women with previous GDM). Women in the included studies had a mean (SD) age of 35.80 (5.41) and BMI of 28.17 (6.05). Five studies reported on weight, and three reported on fasting plasma glucose (FPG), at 12-months. Random effects meta-analyses showed women in the intervention group lost more weight (−1.21 kgs, 95% CI [−3.14–0.72]), and had a greater decrease in FPG (−0.27 mmol/l, 95% CI [−0.66– 0.11]) compared to the control group. However, these results must be interpreted with caution, as heterogeneity among the studies was substantial. Offering women with a history of GDM postpartum lifestyle interventions helps reduce weight and lowers FPG; indicating such interventions may help lower risk of future T2DM in this group.

Disclosures: This study is part of a PhD studentship funded by Diabetes UK.

P22 AI-ASSISTED RAPID REVIEW OF DETERMINANTS OF CHILDHOOD OBESITY: A NOVEL APPROACH TO EVIDENCE SYNTHESIS

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Childhood and adolescent obesity remains a critical global health issue, with complex, multifaceted causes spanning individual, family, community, and societal levels. This study aimed to identify behavioural and broader determinants of childhood obesity through a review using a novel AI-assisted methodology. A literature search was conducted in Medline, PsycINFO, and PubMed to identify reviews published between 1 January 2007 and 24 April 2025 that (1) involved children or adolescents aged 0–18 years, and (2) investigated determinants of obesity (e.g. screen time, physical activity). A total of 362 systematic review articles were included. Traditional systematic review methods were combined with large language models to expedite eligibility screening, full-text data extraction, and thematic synthesis. The review identified a wide range of determinants. Behavioural determinants included unhealthy dietary patterns, low levels of physical activity, excessive screen time, and insufficient sleep. These behaviours were often shaped by social and environmental determinants including family routines, parental influence, peer norms, school policies, and broader structural factors such as socioeconomic status, food marketing, and neighbourhood environments. Environmental constraints, such as limited access to green spaces and affordable healthy food, were especially influential in low-income contexts. AI-assisted methods enabled rapid and structured extraction of complex data across a large, heterogeneous body of literature, improving both the speed and consistency of synthesis while maintaining rigour through human oversight. AI tools supported the identification of recurring themes, classification of determinants, and cross-context comparisons. This project demonstrates the potential of AI to enhance the efficiency of evidence synthesis in addressing complex public health challenges. The findings underscore the complex, multi-layered nature of obesity determinants and support the need for multi-factorial interventions across behavioural, social and structural levels.

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P23 SUPPORTING WEIGHT MANAGEMENT (SWIM): EVALUATING THE EFFECTIVENESS, EQUITY AND COST-EFFECTIVENESS OF USING ACCEPTANCE-BASED GUIDED SELF-HELP TO IMPROVE LONG TERM OUTCOMES OF WEIGHT MANAGEMENT INTERVENTIONS

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Behavioural weight management programmes can help people lose weight and improve health outcomes, but this weight is often regained. We previously developed an intervention to support weight loss maintenance called SWiM (Supporting Weight Management). We are currently conducting a national trial to provide robust evidence concerning the effectiveness, equity, cost-effectiveness and sustainability of SWiM. We will recruit 1840 adults with overweight or obesity who have recently completed a range of UK-commissioned standard behavioural programmes for the prevention and treatment of obesity and type 2 diabetes. They will be randomly allocated to either the SWiM programme or standard care. SWiM: SWiM is delivered via a website, with 14 modules delivered over 4 months, and uses principles of Acceptance and Commitment Therapy (ACT) to address core psychological challenges of weight loss maintenance. It also involves telephone calls with a trained, non-specialist health coach. Participants can use a paper-based version of SWiM if preferred. Standard care: The standard care group will receive no additional structured support. At baseline, 6 months, 12 months and 24 months, we will measure weight (using "e-scales" that send data automatically when participants step on the scales), average blood glucose (using at-home fingerpick tests) and other physical and mental health outcomes and health economics outcomes like health resource use (using self-report questionnaires). Our analyses will evaluate whether SWiM is better than standard care at reducing weight regain, average blood glucose (HbA1c), and health care costs, and improving other physical and mental health outcomes over two years. We will assess whether SWiM works equally well in different groups. In an embedded process evaluation, we will also interview a subset of participants and people involved in delivering SWiM to understand what worked, what didn't, and why. We will use health economic modelling to examine the long term physical and mental health impact and cost-effectiveness of SWiM. Our findings will inform decisions on whether and how SWiM should be commissioned to support weight loss maintenance in people who have taken part in behavioural programmes for obesity and type 2 diabetes.

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P24 MATERNITY HEALTHY LIFESTYLE PILOT STUDY

AB Sirin Ayva[1], Lucy Rogerson[1], Orla McMahon[1], Sophie Edwards[1], Paul Gately[1]*

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This service provides specialist weight management and dietetic support to pregnant individuals with a BMI > 30 kg/m^2. The service aims to help participants achieve appropriate weight gain during pregnancy, in line with British Dietetic Association (BDA) guidelines, and to support weight loss in the postnatal period. Antenatal and postnatal weights were either self-reported by clients or taken during face-to-face sessions as part of the three antenatal appointments offered by the service. Based on BDA guidelines, recommended weight gain for individuals with a BMI > 30 kg/m^2 was defined as 5–9 kg during pregnancy. Postnatal weights were collected during face-to-face sessions or through self-reporting.

Qualitative data were gathered via a client feedback survey to evaluate participants' experiences and the impact of the programme on their physical and mental health. Of the 275 referrals received since March 2023, 63 clients completed antenatal weight tracking, and 37 provided postnatal weight tracking. Among antenatal participants, 50 (79%) maintained weight gain within the 5–9 kg BDA-recommended range. Eight clients lost weight during pregnancy, with weight changes attributed to healthy lifestyle modifications. The average weight change during pregnancy was +5.6 kg, ranging from −7 kg to +24 kg. Postnatally, 21 out of 37 clients (57%) achieved a weight below their referral weight, and 32 clients (86%) lost weight from their final recorded pregnancy weight. Qualitative feedback highlighted the programme's positive impact on participants' experiences. One participant shared, "I have enjoyed every session, and the way everything gets explained really helps with not only me but my family as well, for example my husband and stepdaughter." Participants frequently praised the service's non-judgmental approach and the opportunity to learn sustainable strategies for weight management, which also positively influenced their mental health. The service achieved strong outcomes in promoting healthy weight gain during pregnancy and weight loss postnatally. While 79% of antenatal participants met recommended weight gain targets, postnatal results demonstrated sustained benefits, with 86% losing weight from their final pregnancy weight. Qualitative feedback underscored the programme's value in improving participants' physical and mental well-being.

Disclosures: This project was funded by The Innovation Fund grant. The authors declare no conflicts of interest.

P25 IMPLEMENTATION FIDELITY OF A PILOT TIER 3 CHILD WEIGHT MANAGEMENT SERVICE: A PROCESS EVALUATION

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Introduction: It is recommended that process evaluations of implementation fidelity become an integral part of the conduct of all health behaviour intervention research. The current study evaluated implementation fidelity of a pilot digital tier 3 child weight management service in the southeast of England. A pragmatic sample of 14 individual interviews & 4 focus groups were conducted. This resulted in a total of 36 (15 male) individuals comprising service staff across senior management (n = 1), team lead (n = 1) & practitioner (n = 4) roles, as well as service clients comprising of children & young people (n = 19) & significant others (n = 11). Questions addressed knowledge, attitudes & beliefs towards health behaviour change, as well as views on barriers & opportunities for pilot participation. All data were transcribed verbatim. Thematic analysis was then conducted with outcomes represented as pen profiles which presents findings from content analysis via a diagram of composite key emerging themes. Positive views of the service were highlighted by children, young people & significant others across the key themes of: Programme staff & structure; family engagement & support; lifestyle changes; health & weight outcomes; & emotional & psychosocial wellbeing. With regards to service staff, mixed degrees of implementation fidelity were noted across the key themes of: Family engagement & support; staff meetings & training; programme structure; & client outcomes. Lessons learned showed that the program's structure & supportive approach resulted in high retention rates & consistent session attendance. This indicated strong client commitment & satisfaction. Furthermore, significant weight loss, improved physical health, & enhanced emotional wellbeing were noted highlighting service effectiveness. Overall, clients were making healthier lifestyle choices, which was reflected in both physical health improvements & positive behavioural changes. This process evaluation represents one of the first efforts to document implementation fidelity of an ongoing tier 3 child weight management service. In the context of child weight management services, the ubiquity of digital technologies & their adoption into day-to-day life translates into greater potential reach than traditional health behaviour change interventions, & consequently, greater potential for positive public health impact.

Disclosures: None

P26 MORELIFE PHYSICAL ACTIVITY CLUB: AN ADVENTURE THERAPY-BASED APPROACH TO TACKLE CHILDHOOD OBESITY

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MoreLife UK delivers tailor-made, evidence-based and psychologically informed health improvement programmes to individuals and families. Morelife created a unique weight management programme for children and young people based on Adventure Therapy and storytelling approaches. The programme aims to help children living with obesity to pursue a healthy lifestyle while managing their weight. The programme is aimed at children living with obesity and their families. It has 10 weekly sessions to cover obesity-related topics, such as nutrition, physical activity, sleep, and stress via adventure therapy activities. Morelife created a Healthy Behaviours Questionnaire to monitor nutrition, screen time and sleep and stress. The questionnaire has 3 subscales (Nutrition: 12 questions, Screen Time: 3 questions, Sleep: 6 questions) 21 questions in total with visual aids to make it more engaging for children and young people. We implemented this questionnaire to monitor healthy behaviours before and after the programme. Thirty-seven children and 30 parents completed the pre and post Healthy Behaviour Questionnaire. Some of the results are shared below: The number of children who have stated that they do not like eating new fruits and vegetables has significantly decreased from 6 in the pre-programme questionnaire to 1 in the post-programme questionnaire. The percentage of children who are eating three or more portions of fruit and vegetables per day has increased from less than a third (32%) to more than half (51%). The percentage of parents who think their children know what a balanced diet is has increased from less than 50% to over 80% after completing the programme. 87% of the parents think that their children have become more aware of what a balanced diet looks like since starting the programme. The most common changes made at home to help them eat a balanced diet were more fruits and vegetables, reduced sugar and smaller portions. The number of children who are waking up full of energy has increased from 14% to 22%. Morelife PA club is effective on improving nutrition, physical activity and sleep. Further data is required to analyse long term effects of this programme.

Disclosures: None

P27 OUTCOMES OF SELF-GUIDED HELP BINGE EATING PILOT WITH CLIENT INSIGHTS

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Morelife is a healthy lifestyle provider across the UK that offers weight management programmes to local residents funded by Integrated Care Boards. Morelife piloted a Binge Eating Intervention that started in September 2021 and until late 2023. The aim of this pilot was to provide a binge eating intervention before starting the main weight management intervention to ascertain whether this improves client outcomes on their disordered binge eating. The Binge Eating intervention is a 12-week, guided self-help programme that is compliant with NICE guidelines. It consists of individuals working through a manual alongside seven telephone support sessions from their trained guide. Once clients complete the Binge Eating Intervention, they then enter More Life's standard one-year weight management intervention. The Binge Eating Scale (BES) was used to screen clients for this pilot. The (BES) is a 16-item self-report instrument designed to evaluate the presence and behavioural manifestations of binge-eating disorder (BED), with scores ranging between 0 to 46. Those clients who scored 27 or above were offered the binge eating intervention prior to starting our standard weight management intervention. The clients who completed this 12-week Self-Guided Binge Eating pilot repeated the BES to compare their results after completing the programme. Between September 2022 and December 2023, 44 clients completed the Guided Self-Help program. The average BED score was 34.25 before the programme whereas it reduced to 22.9 at the end of 12-week programme. Following completion of the Guided Self-Help Programme, the clients attended More Life's standard one-year weight management programme. Thirty-eight clients completed the 12-week healthy lifestyle programme with average weight loss of 3.18 kg (2.51% reduction from their initial weight). At the 6-month point, the average weight loss was 8.41 kg (n = 28, 6.40% reduction from their initial weight), whereas, at 12 months, the average weight loss was 11.29 kg (n = 15, 8.19% reduction from their initial weight). Self-guided binge Eating programmes are effective in reducing binge eating scores for people living with obesity. The weight loss followed steadily but significantly after the completion of the programme.

Disclosures: None

P28 OUTCOMES OF PHYSICAL ACTIVITY REFERRAL SCHEME (PARS) PILOT PROGRAMME WITH CLIENT FEEDBACK

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More Life is a healthy lifestyle provider across the UK. Physical activity referral scheme (PARS) is granted by MoreLife to provide assessments of children and young people (CYP) and their families with the aim of increasing their uptake of community-based physical activity, and, to reduce sedentary behaviours. This programme has been running since June 2021, allowing health and social care professionals to refer children into the service if they meet the eligibility criteria of ages between 5 and 17 and 91st Centile and above (prioritising 96th centile and above). Junior PARS is a 10-week social prescribing programme that connects children and young people aged 5–17 to fun sports and activities in their local neighbourhood. In this programme, Morelife also provides simple tips and advice on how to eat healthy and improve a healthy lifestyle. More Life accepts referrals from health professionals or clients and their families. The programme offers an initial assessment, week 1 and 5 reviews, and an end assessment. The WHO-5 is a self-report instrument measuring mental well-being Morelife had 210 referrals between October 2023 and July 2024 and 179 actively engaged clients. At the start of the 10 weeks, the average amount of physical activity the client engaged in was 2.7 days per week; after the 10 weeks, physical activity increased to an average of 3.9 days per week. 77 % achieved their goal of increasing physical activity. At the start of the 10-week program, the average well-being score (WHO-5) was 69. After 10 weeks, the average well-being score increased to 77, reflecting the positive impacts of attending the program. Selected parent feedback regarding the programme: "When she started basketball she was really struggling but is now more confident", "He is more social and interactive with others", "He has made positive changes to his BMI, he can run faster and has more stamina". The PARS programme has been shown to be an effective way of increasing physical activity and well-being in children and young people. However, long-term evaluations are needed to determine the programme's long-term effectiveness on physical activity and weight.

Disclosures: None

P29 THE EFFICACY OF BEHAVIOURAL INTERVENTION IN WEIGHT MANAGEMENT IN INDIVIDUALS WITH OVERWEIGHT AND OBESITY IN ASIA: A SYSTEMATIC REVIEW

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Introduction: The prevalence of overweight and obesity is rising globally, particularly in the Asia-Pacific region. While various weight management strategies—such as meal replacements and exercise programs—have been widely explored in Western countries, their effectiveness in Asian populations remains less understood.

Methods: To address this gap, we conducted a systematic review and meta-analysis of randomized controlled trials (RCTs) examining behavioural interventions for weight loss in Asian adults (≥18 years) with overweight or obesity. Following PRISMA guidelines, we screened 25,937 unique studies, identifying 65 that met the inclusion criteria for final analysis. Key extracted data included changes in weight, BMI, and body fat percentage, alongside intervention characteristics such as personnel involvement, intervention intensity, and the use of technology. Interventions were mapped to their respective Behaviour Change Technique (BCT) domains.

Results and conclusion: Preliminary findings highlighted three commonly used BCT domains: shaping knowledge (91%), goal setting and planning (86%) and feedback and monitoring (83%). Long-term interventions (>6 months) were more effective in achieving weight loss (−1.45 kg; 95% CI: −3.16 to 0.26 kg) than short-term interventions (<6 months) (−1.15 kg; 95% CI: −0.03 to 2.32 kg), though neither approach achieved clinically significant weight loss, defined as weight loss > 5% of body weight. Over 50% of studies incorporated digital tools, such as web portals and mobile applications, with 17 studies conducted entirely remotely. Two-thirds of these studies were published in the last five years, reflecting growing interest in digital health solutions. Most studies (82%) targeted both diet and physical activity. Additionally, >50% of the interventions followed a one-on-one delivery style, indicating a possible preference for personalized counselling over group-based programs. Unravelling behavioural domains which confer greatest influence on weight loss is crucial for optimizing behavioural weight management strategies in the region and providing valuable insight for healthcare providers.

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P30 PREVALENCE OF DYNAPENIA, SARCOPENIA, AND SARCOPENIC OBESITY AMONG POSTMENOPAUSAL WOMEN AT A TERTIARY CARE CENTRE IN NORTH INDIA

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Dynapenia and sarcopenia are conditions associated with age-related loss of muscle strength and mass. This study aims to determine the prevalence of dynapenia, sarcopenia and sarcopenic obesity among postmenopausal women and identify associated risk factors for dynapenioa/sarcopenia. This is an ongoing study in which 800 out of proposed 1100 postmenopausal women <60 years have been enrolled. Women who had any neuromuscular disorder, acute or chronic infection, malignancy and organ dysfunction were excluded. Hand grip strength (HGS) <18 kg assessed by hand held dynamometer, classified as dynapenia. Socioeconomic, clinical, anthropometric, biochemical, nutritional, physical activity parameters were noted along with DEXA scan was performed in dynapenic women and an equal number of non-dynapenic women. Dynapenic women with an appendicular skeletal muscle mass index (ASMI) <5.4 kg were classified as sarcopenic. Statistical comparisons were made between dynapenic/sarcopenic (S) and non-sarcopenic (NS) women. The prevalence of dynapenia and sarcopenia were 7.7% (62) and 5.1% (41) respectively. The prevalence of obesity (BMI ≥ 25 Kg/m2) and sarcopenic obesity were 65.5% (524) and 2.75% (22) respectively among postmenopausal women. Both groups showed no significant difference in age and comorbidities including hypertension, diabetes, dyslipidaemia and thyroid disorders. Dynapenia/sarcopenia was significantly associated with rural residence ($p < 0.05$) and lower waist and hip circumference ($p < 0.05$), although difference in BMI was not significant ($p = 0.08$). DEXA measurements revealed significantly lower lean body mass and bone mineral density (BMD) in the S group ($p < 0.05$). There was significantly low progesterone level in the S group while no significant differences in estradiol, testosterone and DHEA. There were no differences in lipid profile parameters, hemoglobin, calcium, vitamin D and physical activity levels among both groups while significantly lower mean corpuscular volume (MCV) ($p < 0.05$) and urea levels ($p < 0.05$) were observed in the S group. Nutritional assessment revealed significantly lower energy, protein, carbohydrate, fat, calcium, and iron intake in the S group ($p < 0.05$). These findings suggest that dynapenia/sarcopenia affect a considerable proportion of postmenopausal women and are associated with rural residence, lower waist and hip circumference, lower bone density, low progesterone level and poor nutritional intake. Final conclusion will be drawn after completion of the study.

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P31 EXPLORING THE LIVED EXPERIENCES OF PEOPLE WITH WEIGHT LOSS MAINTENANCE

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Having overweight has been socially constructed as a correctable medical problem resulting from individuals' behaviours and lifestyle choices. Although there are several factors which determine body size, overweight is construed as a personal and moral failure indicative of poor health. The implementation of changes for weight loss and weight loss maintenance are typically accorded to the individual and include perceived healthier meal planning and preparation. While weight loss maybe the outcome of revised behaviours, sustaining this poses the greatest endeavour for many. Qualitative explorations of weight loss maintenance have typically been derived from individuals who have lost weight but who have not experienced sustained weight loss. Seventeen people took part in semi-structured interviews and data were analysed using reflexive thematic analysis. Three themes were generated about the strong perceived need for change, which was understood to be different from 'being on a diet' and the recognition of the role of self-criticism and self-kindness in affecting such changes. The analysis highlights that weight loss and weight loss maintenance are attributed to long-term lifestyle and behavioural changes framed as healthier living and underpinned by self-kindness and compassion. The visible changes of weight loss often ignite interest, enthusiasm and support from others. However, this is not characteristic of weight loss maintenance when revised behaviours are no longer novel and positive responses from others may dissipate. The absence of support for weight loss maintenance demonstrates a gap in the field.

Disclosures: None

P32 UNDERSTANDING THE LIVED EXPERIENCE OF CHILDREN, YOUNG PEOPLE, AND FAMILIES WHO ATTEND COMPLICATIONS OF EXCESS WEIGHT CLINICS IN ENGLAND

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Living with excess weight in childhood is associated with a plethora of complications, which can persist into adulthood. Early intervention may limit excess weight gain and prevent the onset of associated long-term health conditions. Complications of Excess Weight (CEW) clinics are multidisciplinary tier 3 paediatric weight management services, set up in 2021/2022, run across England by the National Health Service. CEW clinics use a holistic approach to treating conditions related to obesity in children and young people (aged 2–18 years). ENHANCE (Evaluating the NHS EnglANd Complications of Excess weight services for Children and Young People) is a nationally commissioned evaluation of the 38 CEW clinics which aims to understand the experiences and perspectives of CYP, families, carers, clinicians, and commissioners to inform and optimise cost-effective care. A questionnaire has been sent (April-June 2025) to all CYP and families registered with a CEW service in England to explore their views and experiences. The responses to the surveys will be collated and for participants who provide consent, these will be followed up by longitudinal interviews, directed by a maximum variation sampling framework. Emerging quantitative and qualitative insights from the patients and families will be presented, including referral experiences, prior knowledge and expectations of CEW clinics, experience of attending (or not attending) CEW clinics, and overall experience. The realist-informed methodology will help us to present what works (or not) for whom, why, and under what circumstances, with particular focus on variables of significance to the CEW clinics such as neurodiversity, ethnicity and deprivation. The data provided by the questionnaires and interviews allows us to present a nuanced understanding of the CEW clinics and what is working or could be improved for those accessing care. The ongoing coproduction of the evaluation with policy makers, clinicians and our PPI team enables

these insights to inform ongoing service development and commissioning at a national level.

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P33 EXPLORING THE LIVED EXPERIENCE OF TIER TWO WEIGHT MANAGEMENT SERVICES IN THE UK: A QUALITATIVE SYSTEMATIC REVIEW

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Obesity is a global health epidemic with many attempts to address the rising prevalence. Lifestyle weight management services – typically focussing on dietary and physical activity interventions – have been the backbone of much obesity treatment in the UK. Whilst producing modest weight loss, these services fail to promote sustained weight loss maintenance, largely due to placing onus on the individual to enact behaviours (e.g., "eat less and move more") that do not reflect the complex nature of obesity. This systematic review synthesised evidence on the experience of adult lifestyle weight management services in the UK, exploring service user motivations for joining services and experience in the context of weight loss maintenance. Four databases were searched (Web of Science, CINAHL, Science Direct and Google Scholar) resulting in 46,050 records. Following screening, a total of 37 were included in the present review. These articles highlighted health as a powerful motivator for service uptake and engagement. The services increased users' weight loss capability by creating a physically enabling and motivational social environment, with many barriers to access removed by online delivery (e.g., during COVID-19). However, users expressed reliance on accountability, social encouragement and relatedness for motivating engagement and achieving 'successful' weight loss. This reliance on programmes is a particular concern for weight loss maintenance, given many users are expected to maintain weight loss independent of the services. Capitalising on digital service possibilities may offer cost-effective solutions to physical accessibility barriers and a novel way of providing ongoing social support for weight loss maintenance.

Disclosures: None

P34 WHY DEFINE? A CONSENSUS DEFINITION OF 'DARK KITCHENS': IMPLICATIONS FOR PRACTICE

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"Dark kitchens" are an innovative and potentially disruptive addition to the global food environment with potential implications for policy, practice and public health. In the UK, dark kitchens currently represent approximately 15% of all food retailers across the three major online food delivery platforms in England (e.g., Just Eat, Deliveroo, Uber Eats), contributing significantly to the digital food environment and increasing access and availability of high fat, salt, sugar (HFSS) food. To date, dark kitchens have been poorly defined, under researched and their wider impact (e.g. on health and obesity) poorly understood. Therefore, the aim of this work was to coproduce a consensus definition of dark kitchens to be used across multiple disciplines. A series of consultations took place with stakeholders including consumers, local authority representatives, academics, dark kitchen employees and national governing bodies to understand knowledge and currently used definitions of dark kitchens. Mixed method approaches were used involving questionnaires, interviews, focus groups and workshops. The stakeholder consultation process provided a robust methodology through which a consensus definition of dark kitchens was agreed. In addition, short- and long-term benefits of such a definition were outlined for all stakeholder groups. The adoption of a consensus definition of dark kitchens is pivotal to the cross-sectoral work and understanding of many stakeholder groups. The definition allows for transparency and improved communication between dark kitchen stakeholders and provides the opportunity to drive public health agendas, including obesity, at multiple points within the food and obesogenic system.

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P35 MANAGEMENT OF WOMEN WITH OBESITY IN PREGNANCY: A SINGLE CENTRE RETROSPECTIVE AUDIT

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The prevalence of maternal obesity has risen substantially, from 9–10% in the early 1990s to 16–19% in the 2000s, with MBRRACE 2020–22 data indicating that 64% of maternal deaths occurred in women with obesity. Obesity in pregnancy is associated with adverse maternal and fetal outcomes, including spontaneous first trimester miscarriage, pre-eclampsia, gestational diabetes mellitus (GDM), venous thromboembolism (VTE), increased risk of caesarean birth, wound infections, and overall increased maternal morbidity and mortality. Fetal risks include a higher incidence of congenital anomalies and challenges in fetal surveillance. We aim to compare the management of women with BMI ≥ 30 kg/m^2 at booking against the standard outlined by the Royal College of Obstetrician and Gynaecologists (RCOG). A registered retrospective audit was conducted over three months involving 46 pregnant women with a BMI ≥30 kg/m2. Data regarding antenatal, intrapartum and postpartum care was compared against RCOG guidelines on care of women with obesity in pregnancy. The audit demonstrated excellent compliance with antenatal and VTE risk assessment (100%), oral glucose tolerance test for diagnosis of GDM (100%), serial growth scan requests (100%) and BMI recording in third trimester (97%). Moderate compliance was noted with prescription of aspirin (82%), vitamin D (89%) and high-dose folic acid (74%). Only 4% of our cohort received a

dietician referral. For women with BMI ≥40 kg/m2, low compliance rates were observed for referral to anaesthetist (23%) and moving and handling (0%). This audit has highlighted areas of improvement in certain aspect of antenatal care in women with obesity in pregnancy. Given the increased risk of neural tube defects in this population, initiation of 5 mg folic acid at least one month preconception and continued throughout the first trimester is essential. Implementation of antenatal checklist including screening for gestational diabetes, VTE risk assessment, serial growth scans for fetal growth and screening for mental health problems must be considered. A multidisciplinary approach involving senior obstetricians, specialist midwives, dietitians, and anaesthetists is recommended to optimize maternal and fetal outcomes, alongside individualized counselling and weight management support pre-conception and in between pregnancies.

Disclosures: None

P36 BIDIRECTIONAL RELATIONSHIP BETWEEN CHILDHOOD OBESITY AND SOCIO-EMOTIONAL DEVELOPMENT: A PROSPECTIVE COHORT STUDY

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There is an established association and longitudinal relationship between poor socio-emotional development and children living with obesity. This study aims to address the gap in knowledge regarding the bidirectional nature of this relationship and if it differs by gender. Data came from the Avon Longitudinal Study of Parents and Children gathered at ages 6–7 and 15–17 years. BMI Z-scores and parent-completed Strengths and Difficulties Questionnaire (SDQ) were used as measures of weight status and socio-emotional development respectively. Those excluded were without any SDQ or BMI data at the defined time points, with the remaining missing data for covariates handled using multiple imputation. This gave a cohort of 15645 with 2.5% living with obesity at baseline. Analysis utilised multivariable logistic regression modelling with adjustment for mother's maternal age, socio-emotional factors and sex (prior to gender stratification). SDQ total difficulties at 6–7 were associated with higher odds of obesity at 15–17 (OR per 1-SD = 1.18, 95% CI 1.05–1.33, p = 0.008). Similarly for peer problems (OR per 1-SD = 1.16, 95% CI 1.01–1.34, p = 0.035), hyperactivity (OR per 1-SD = 1.18, 95% CI 1.05–1.33, p = 0.01) and conduct problems (OR per 1-SD = 1.10, 95% CI 1.07–1.32, p = 0.003). After gender stratification, this relationship was only significant for girls. A 1-SD higher in BMI at 6–7 was associated with increased odds of peer problems (OR 1.12, 95% CI 1.01–1.24, p = 0.027) at 15–17 but not the other domains of SDQ. At age 6–7 years, total difficulties, peer problems, conduct problems and hyperactivity was associated with increased odds of obesity at 15–17 years old but only in girls. Having a higher BMI at 6–7 was associated with peer problems at 15–17. These findings suggest addressing socio-emotional development at a young age can be a valuable starting point in reducing numbers living with obesity.

Disclosures: None

P37 EMPOWERMENT IN BEHAVIOURAL WEIGHT-MANAGEMENT PROGRAMMES: A SCOPING REVIEW

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In the UK, 26% of adults live with obesity, with higher prevalence in black adults (35%) and those living in the most deprived areas (36%). Obesity is associated with increased comorbidity, mortality and stigma with annual health-related costs exceeding £11.4-billion. Behavioural weight-management programmes (BWMPs) are the frontline treatment for obesity, yet evaluations show poor weight-loss, a lack of empowerment to maintain weight-loss, and poor cultural relevance. The World Health Organisation and UK policy endorse empowerment to reduce health disparity and to support citizens to successfully manage their weight. However, 'empowerment' is enigmatic; inadequately defined and therefore poorly understood. Currently, no examination of empowerment as it relates to an obesity BWMP context has been conducted to justify its widespread application. A scoping review was used to identify and consolidate the ways in which BWMPs have defined and implemented empowerment. Studies (n = 11) showed poor consensus in their design, theoretical grounding, definitions and implementations of empowerment. However, studies using community-based participatory approaches and user-involvement were successful in increasing BWMPs cultural relevance leading to increased engagement and retention, and positive health and wellbeing outcomes. No studies were found in a UK setting. To guide a consensus of empowerment in this context, definitions of empowerment and empowerment-based processes have been consolidated. Although good examples of empowerment practice are provided, poor consensus in the meanings and implementation of empowerment are pervasive. More research is required in a UK obesity BWMP setting to examine the specific meanings of empowerment, to facilitate translation within and between research, practice and policy.

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P38 EXPLORING THE USE OF SOCIAL PRESCRIBING WITHIN COMPLICATIONS OF EXCESS WEIGHT (CEW) CLINICS TO SUPPORT CHILDREN AND YOUNG PEOPLE LIVING WITH SEVERE OBESITY

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Complications of Excess Weight (CEW) clinics are Tier 3 weight management services which support children and young people (CYP) in England. Living with severe obesity in childhood has been linked to many significant physical comorbidities and negative mental health impacts. Social prescribing involves connecting CYP and families to community services in their local area for additional non-medical, holistic support. Social prescribing is a potential useful way to provide additional support to families accessing CEW, but it has not yet been used with this population. This study aims to explore how, in what ways and under what circumstances social prescribing may (or may not) work in CEW clinics to support the health and wellbeing of CYP living with severe obesity using a realist approach. Theories about how social prescribing might work within CEW clinics were developed through engagement with stakeholders including people with lived experience of obesity and clinical and community-based staff, alongside a review of the current literature. These theories were then refined through interviews with staff, patients and their families from a CEW clinic and staff working in community services. Early findings

suggest that social prescribing was used in different ways to support families attending CEW clinics. This includes through referral to advice and information (targeted at parents/carers) and through referral to physical activities (targeted at CYP). Engagement with social prescribing required trust between the family and CEW staff, and a family support worker role (based in the CEW multi-disciplinary team) was crucial to developing this. Referral to advice and information was seen as positive and was suggested to support engagement with the CEW clinics and increase CEW staff capacity. Referral to physical activities provided social support to families, helping them to feel less alone as well as empowering young people. However, there were reported challenges around finding community activities which met the diverse needs of CEW families, potentially limiting long term outcomes. The findings from the interviews informed recommendations for CEW clinics, policy makers and commissioners around how social prescribing can be implemented within CEW clinics to support families.

Disclosures: None

P39 DEVELOPING A PUBLIC PARTNER INCLUSION STRATEGY FOR HOUSEBOUND PEOPLE LIVING WITH OBESITY: AN UNDER-SERVED POPULATION

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The Housebound Obesity Pathways and Engagement (HOPE) study focuses on engagement with Specialist Weight Management services for housebound people living with obesity (HPwO). HPwO can experience poor physical and mental function, high levels of external and internal weight stigma, and feel "stuck" both physically and psychologically. Engaging such underserved groups in research requires an inclusive research design to ensure the quality and relevance of research. We aim to work inclusively with HPwO to optimise outcomes for HOPE, adopting a learning approach (1). Using the six UK Standards for Public Involvement (2) we reflect on progress. First, inclusive opportunities: HOPE research questions came directly from patient feedback in clinical practice. Multiple networks are being used to reach public partners, including local and national clinical networks, advocacy groups for PwO and third sector organisations. Recruitment is ongoing (we currently have 2 Public Partners), aiming for a diverse group. Second, working together: giving Partners' choice about how they contribute (by phone or online), time availability and clear expectations. We recognise that Partners' health may affect their availability, understanding that their motivation to contribute may be affected by previous negative experiences of care. The third standard, support and learning to build confidence, is a key area for recognising the impact of internal and external weight stigma for HPwO. We strive to reduce this through use of person-first language and individual meetings, rather than group input. It also includes affirming the benefit of their contributions and valuing their experiences. For the fourth standard, communications, we are aiding partners to overcome barriers to engagement, such as one-to-one support using technology platforms. Fifth, we see the real impact of Public Partners improving research design, for example, suggesting key Facebook groups for lived experience, which we would otherwise miss. Finally, governance: the Partner's role is recognised through payment, with agreed data processing arrangements. Future goals include increasing the diversity of Public Partners, particularly from men and ethnic minorities. Positive engagement with seldom-heard groups can occur: for HPwO this includes addressing weight stigma and being flexible in approach.

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P40 DEVELOPMENT OF AN ALL-AGE HEALTHY WEIGHT AND TREATING OBESITY STRATEGY ACROSS AN INTEGRATED CARE SYSTEM BY THE INNOVATIVE CENTRE FOR EXCELLENCE AT HUMBER AND NORTH YORKSHIRE INTEGRATED CARE BOARD

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22.5% of reception-aged children in Hull are living with obesity. We know children living with obesity grow to be adults living with obesity. 90,000 adults living across Humber and North Yorkshire have a Body Mass Index of >35 (adjusted for ethnicity) and are living with at least 1 co-morbidity. There are long-term health implications of living with overweight and obesity. These issues disproportionately impact those at the greatest risk of health inequalities, as well as the health stigma faced by this cohort. Access to weight management services across Humber and North Yorkshire is inequitable. The aim of the Centre for Excellence is to develop an all-age, system wide healthy weight and treating obesity strategy to ensure equitable access to our population. We convene a local authority weight management meeting of experienced public health practitioners and an integrated care board steering group of senior public health leaders, clinicians and commissioners. We work with academic partners at Leeds Beckett University to engage service users and providers, to produce recommendations based on experiences of those working in and utilising the services. By working at both ends of the system, we aim to effect meaningful change. Undertaking primary prevention with places to change the obesogenic environment by creating advertising and sponsorship policies for harmful commodities including high fat, salt and sugar products. Acting to recommission specialist weight management services across the system to deliver the same level of care, including weight loss medications to the whole population. We acknowledge the challenges within this, around previously excluded groups; pregnant women, adults with learning disabilities and children. We acknowledge the need for a digital offer to be part of the services delivered. The development of the strategy to date has involved complex system working with multiple stakeholders, including those with lived experience, evolving treatment options and changing national policy. But the mandate for the Centre for Excellence and the population health team remains to put the health and wellbeing of our population at the centre of all we do, making services for those living with overweight and obesity fully equitable and accessible.

Disclosures: None

P41 HOW TO MAKE A DIETITIAN CONSULTATION'S STRATEGY FOR A SPECIFIC PERSON. HOW TO CHOOSE INITIAL RECOMMENDATIONS AND WHAT EATING BEHAVIOUR CHANGES CAN BE POSTPONED

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Dietitians and nutritionists have guidelines with a big variety of recommendations. However, people can not change all eating habits at once. For this reason, it does not make sense to give people information about all eating habits during the first consultations. Moreover, information overload can be harmful for commitment and might create frustration. This is why, a specialist should make preferences of initial and postponed recommendations. I would like to introduce a system of creating a strategy for personal consultations. Firstly, specialists should make a list of the reasons for being overweight for a specific person during deep analysis. Secondly, experts should estimate the extent of the influence of each cause on a person's weight and choose the main one. Thirdly, specialists should make a list of recommendations which can address the main causes. Next, experts should discuss recommendations with the person and teach them how to implement them in their real life. Finally, experts should demonstrate the whole strategy for forming ideas of gradual changes during a long-term diet therapy. In addition, I will show examples of strategies and involve the audience to decide which recommendations should be initial. My presentation can help practitioners to make their consultations more effective.

Disclosures: My source of funding for the submitted work is my own salary, materials or project or programmes.

P42 MANAGING DISORDERED EATING IN CHILDREN WITH EXCESS WEIGHT: FINDINGS FROM TIER 3 WEIGHT MANAGEMENT SERVICES IN ENGLAND

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Disordered eating behaviours (DEBs) encompass a range of problematic eating patterns, from emotional eating and food addiction to clinically defined eating disorders such as Binge Eating Disorder. Although estimates vary, evidence suggests that up to 82% of children and young people (CYP) living with obesity exhibit at least one DEB, underscoring a significant overlap between higher weight and disordered eating. Complications from Excess Weight (CEW) clinics are an NHS England pilot providing specialist tier 3 multidisciplinary services supporting CYP with severe obesity. It is currently unknown what disordered eating assessments are used, and what support is available across clinics which may offer different models of care. This study explores current practices in recognising and responding to DEBs within CEW clinics across England. Data was collected from 30 CEW clinics in England via telephone interviews and/or surveys conducted between June 2024 and February 2025. As part of a larger survey, respondents were asked two questions on DEBs: (1) Is disordered eating formally assessed in your CEW service? (2) Is there any support offered in your service for disordered eating? Responses were analysed using content analysis and coded into quantitative categories. Of the 30 clinics interviewed, 30% (n = 9) reported formal and routine assessment for DEBs, 30% (n = 9) used informal or non-routine methods, and 40% (n = 12) did not assess for DEBs at all. Among the 18 clinics that assessed for DEBs, 33% (n = 6) provided no treatment, 50% (n = 9) offered in-house support for less severe DEBs and referred more complex cases to specialist eating disorder services. One clinic (6%) treated all DEBs within a specialist in-house team, while two clinics (11%) used the presence of DEBs as exclusion criteria for their service. CEW clinics offer a much-needed holistic multidisciplinary service to CYP with complex severe obesity. Whilst some larger clinics could offer in-house DEB assessment and support with trained staff, others do not offer this service. We stress the need for providing clear guidance and resource allocation to support CYP with co-occurring obesity and disordered eating.

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P43 COMPARING OUTCOMES BETWEEN PEOPLE WITH EARLY VERSUS LATER-ONSET TYPE 2 DIABETES (T2D) USING TOTAL DIET REPLACEMENT (TDR): A SERVICE EVALUATION OF NHS TAYSIDE'S REMISSION PROGRAMME

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Early-onset T2D is associated with rapid progression of micro- and macro-vascular complications and a 10–15 year reduction in life expectancy. While TDR programmes for weight loss and T2D remission are available within NHS services, their effectiveness is unclear for this high-risk group. This study compared outcomes (at 12 weeks) between individuals with early-onset (<40 years old) and later-onset T2D (≥40 years old), participating in an NHS TDR T2D remission programme. This service evaluation analysed data from individuals enrolled in the NHS Tayside Counterweight-Plus T2D remission programme between 2021 and 2024. This 12-month programme is a group-based intervention delivered by dietitians and psychologists, incorporating a 12-week TDR phase (800–900 kcals/day liquid formula diet) followed by food reintroduction and weight maintenance support. We assessed weight, HbA1C, and TDR completion at the start and end of the 12 week TDR period. Chi-Squared and Mann-Whitney U tests were used to analyse differences between the early- and later-onset groups. Of 189 participants enrolled, 47 (25%) had early-onset T2D (mean age 33.7 years (SD 4.2)) and 142 (75%) had later-onset T2D (mean age 52.1 years (SD 7.6)). The early-onset group had a mean baseline BMI of 45.1 kg/m2 (SD 11.8), HbA1c 66.2 mmol/mol (18.6), with 62% female and 60% living in areas of high deprivation. The later-onset group had a mean baseline BMI of 42.7 kg/m2 (SD 12.9), HbA1c 63.2 mmol/mol (SD 18.5), with 59% female and 41.5% living in high deprivation areas. A lower proportion of the early-onset group completed the TDR phase compared to the later-onset group (70% vs. 87%, $\chi 2 = 9.07$, $p = .003$, Phi = −.219),). Among those who completed TDR, there were no significant differences in weight loss (−12.6% vs. −12.4%; Mann-WhitneyU = 1645, $p = .46$) or HbA1c reduction (−16 mmol/mol vs −14 mmol/mol; Mann-WhitneyU = 1501, $p = .95$) between the early and later-onset groups. Initial findings suggest that younger adults with T2D achieve comparable weight loss and HbA1c reductions to older adults within a TDR-led behavioural weight management programme, albeit with modestly lower completion. Further research

is needed to assess longer term weight loss maintenance and retention outcomes in this younger, high-risk population.

Disclosures: None

P44 PER- OR POLYFLUOROALKYL SUBSTANCES (PFAS) AS POTENTIAL DRIVERS OF THE OBESITY EPIDEMIC

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Per- or Polyfluoroalkyl substances (PFAS) are disruptors of lipid metabolism. In humans PFAS exposure is associated with increased serum cholesterol levels. In mice addition of PFAS to diet leads to non-alcoholic fatty liver disease. In cell lines PFAS promote lipid uptake and oxidative stress. However, PFAS compounds show almost no direct toxicity to tissue culture cell lines. Their effects are therefore thought to be due to their action as endocrine disruptors. At a molecular level PFAS have been shown to interact with the nuclear receptor PPARα. However, the main transcriptional response to PFAS exposure in liver cells is a downregulation of the nuclear receptor FXR, the main regulator and sensor of bile acid concentration in the body. In accordance with published data we find that treatment of HepG2 cells with PFOS and PFOA significantly reduces the expression of the Cyp7A1 gene, which encodes the main enzyme regulating bile acid synthesis. This is consistent with the increase of serum cholesterol. A molecular modelling analysis (using Autodock Vina) of FXR and PPARα demonstrated almost equal affinity of PFOS and PFOA to the ligand binding domain of both nuclear receptors. Analysis of a library of 15000 PFAS compounds demonstrated a strong affinity of many compounds to the ligand binding domain of FXR. Affinity towards other liver specific transcription factors, including PPARα, ERα, and HNF4α was substantially lower. FXR as a major regulator of mammalian cholesterol metabolism may therefore constitute a key mediator of endocrine disruption by PFAS compounds.

Disclosures: None

P45 HIGH-FIBRE β-GLUCAN SUPPLEMENTATION DURING CALORIE RESTRICTED DIET: IMPACT ON APPETITE, BODY WEIGHT AND BODY FAT IN HEALTHY WOMEN WITH OVERWEIGHT

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We previously demonstrated that consuming 3 g of β-glucan with energy-restricted breakfast and dinner, and low-carbohydrate lunch increased peptide YY (PYY) and reduced acylated ghrelin and composite appetite score (CAS) in individuals living with overweight/obesity. The current study investigated whether CAS, appetite hormones and body mass loss are impacted when β-glucan is supplemented during a 4-week energy and carbohydrate-restricted diet. Sedentary, healthy females were randomly assigned in a parallel intervention to 4 weeks energy and carbohydrate-restricted diet combined with 9g β-glucan/day (β-glucan group) or 9g cellulose/day (Placebo group). Energy-restricted meal replacements (~200 kcal) were consumed at breakfast and dinner. Lunch was low-carbohydrate meal providing 35% of habitual energy intake. Data were analysed using ANOVA. The study was completed by forty-nine participants (age: 41 ± 10 years, BMI: 31 ± 5 kg/m2). Both groups experienced a reduction in body mass and fat mass. Reduction in body mass (β-glucan, −3.13 ± 1.45 kg; Placebo, −1.85 ± 1.04 kg) and fat mass (β-glucan, −2.3 ± 1.3 kg; Placebo, −1.4 ± 1.2 kg) was significantly greater ($P < 0.05$) in the β-glucan group. In the β-glucan group, concentration of total ghrelin and acylated ghrelin significantly ($P < 0.05$) decreased. In the placebo group, concentration of total ghrelin did not change ($P > 0.05$) while acylated ghrelin concentration significantly increased ($P < 0.05$). Changes in total ghrelin (β-glucan, −131 ± 215 pg/ml; Placebo, 100 ± 302 pg/ml) and acylated ghrelin (β-glucan, −69.77 ± 114.25 pg/ml; Placebo, 73.61 ± 71.69 pg/ml) were significantly different ($P < 0.05$) between groups. There were no changes in fasting PYY and GLP-1 in both groups. Fasting and time-averaged postprandial CAS significantly decreased in the β-glucan group ($P < 0.05$), but no change was found in the placebo group ($P > 0.05$). Thus, supplementing a low-calorie, low-carbohydrate diet with β-glucan can enhance weight loss, probably by reducing ghrelin and appetite.

Disclosures: This study was conducted as a part of the PhD and was funded by the University of Glasgow and Saudi Arabia government. The authors declare no conflicts of interest.

P46 REAL-WORLD EVALUATION OF TIRZEPATIDE USE IN A TIERED NHS ACCESS FRAMEWORK FOR OBESITY AND TYPE 2 DIABETES

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Tirzepatide is a novel treatment for weight management with efficacy well documented in clinical trials. It is recommended under two primary guidelines: for type 2 diabetes and for weight loss, in conjunction with dietary and lifestyle interventions. A key consideration is access and delivery, given the potential impact on NHS resources. NHS England published commissioning guidance for its use during the first three years of NHS implementation. We reviewed data from our weight management clinics, where 625 patients underwent initial assessment for medical or surgical management (from April 2024 to March 2025), with the referrals based on the NICE guidelines on obesity management (NG246). Of these, 372 patients (male:female 1:2.7) progressed to further evaluation. Medical management was selected by 243 patients, while 96 opted for surgical intervention. Patients were stratified into Cohort Access Groups I–III, following NHS England's "cohorting approach" for phased implementation of tirzepatide: 11 patients (3%) were in Cohort I, 5 (1.2%) in Cohort II, and 30 (7.6%) in Cohort III. Forty-two patients were identified as eligible under the NICE guideline (TA924) for tirzepatide use in type 2 diabetes and 26 commenced tirzepatide therapy. Their baseline weights ranged from 75 to 175 kg (mean 111.9 kg), and BMI ranged from 29.3 to 61.3 kg/m^2 (mean 40.5 kg/m^2). Weight, BMI, HbA1c, antidiabetic regimen, and other metabolic parameters were assessed at 3–4 and 5–6 months after initiation. Twenty-five patients experienced weight loss; one patient's weight remained unchanged. The maximum weight loss at 3–4 months was 12 kg (mean 6.4 kg; average BMI reduction 2.3 kg/m^2), and at 5–6 months, the maximum loss was 15 kg (mean 6.6 kg; average BMI reduction 2.4 kg/m^2). Additional benefits included mean HbA1c reduction of 16.7 mmol/mol and 28–52% reduction in insulin use. These real-world findings suggest that tirzepatide is effective in improving both weight and metabolic outcomes in people with obesity and type 2 diabetes, with a notable reduction in insulin dependency. However, as a substantial proportion of

patients with obesity in our cohort fall outside the initial three access groups, the 2–3-year delay in availability may carry significant metabolic consequences.

Disclosures: None

P47 IMPROVING OBESITY CARE THROUGH COMMUNICATION, DECISION-MAKING AND HEALTHCARE LEADERSHIP: SCOPING REVIEW

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Obesity remains a global public health challenge, with obesity rates predicted to further increase. Obesity care is a cornerstone of addressing obesity but globally patients still report lack of access to effective obesity-related services. Therefore, leadership among healthcare professionals (HCPs) in obesity care is important. It is essential to review obesity care strategies, in order to enable HCPs to better support their patients. This research was a scoping literature review, with the question: "What are the obesity care strategies enabling healthcare professionals to improve decision-making, communication and healthcare solutions?" This review was based on Arksey and O'Malley's Framework (2005), between 2014–2025 following the PRISMA guidelines. In total, 28 primary studies were identified. From these studies, obesity care and support strategies, including decision-making and communication, were identified in three categories, 1. Structural strategies, such as policy and research; 2. General strategies, such as improvements in multidisciplinary approaches; 3. Population specific strategies, such as pre and antenatal care. This review demonstrates HCPs are calling for leadership at a structural level, for strategies towards improving policy, addressing weight stigma on a societal and on a provider level, as well as ensuring that services are adequately resourced and financed. HCPs themselves when consulted can articulate the challenges they face, the resources they need and the successful strategies and tools they employ when providing obesity care and support to patients. HCPs report common challenges and barriers to obesity care, which are also reported in research, but these gaps still remain unaddressed. Person-centred communication is essential to effective obesity care. Decision-making covers all aspects of the patient journey, such as when and how to raise the topic of weight to referral to secondary support services. Solutions for healthcare professionals in obesity care were identified, including the need for shared messaging concerning obesity. This review provided recommendations to improve obesity care through healthcare leadership. In conclusion, HCPs are aware of the challenges and potential solutions for improving obesity care but there is a lack of investment at government level globally. There is also a need for more consistently in communication and decision-making strategies in obesity care.

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P48 EXPLORING THE SOURCES AND TYPES OF WEIGHT STIGMA AND THEIR RELATION TO ADIPOSITY AMONG CHILDREN AND ADULTS: A SYSTEMATIC REVIEW

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Weight stigma refers to the social devaluation and discrimination of individuals perceived as living with overweight or obesity. Categorised as experienced, internalised, or anticipated, stigma is linked with negative physical and psychological outcomes. Bidirectional relationships between stigma and adiposity have not been systematically explored across different stigma types. This systematic review explored relationships between types of weight stigma with adiposity across childhood into adulthood. This review followed PRISMA guidelines and employed a narrative synthesis (PROSPERO registration: CRD 42024534245). Studies reporting quantifiable relationships between stigma and adiposity in participants aged 4–65 were eligible. Searches conducted in August 2024 using Ovid Medline, PsycINFO, CINAHL, and EMBASE yielded 14,408 records. After abstract and full-text screening, 25 truly longitudinal studies were included in the final synthesis. Of these studies, 16/25 were in adults (8 internalised, 7 experienced, 1 anticipated), 5/25 were in children (1 internalised, 4 experienced), and 4/25 spanned childhood to adulthood (all experienced). Findings show consistent positive relationships between stigma and adiposity in child and child-to-adult studies. 2/5 child studies and 4/4 child-to-adult studies reported positive relationships from experienced stigma to later adiposity, while 3/5 child studies (2 experienced, 1 internalised) and 1/4 child-to-adult studies reported positive relationships from adiposity to stigma. Findings from adult studies were more mixed. For internalised stigma: 5/8 studies showed positive relationships from stigma to adiposity, 1/8 showed positive relationships from adiposity to stigma, and 3/8 showed no relationship. For experienced stigma: 3/7 studies reported positive relationships from stigma to adiposity, 1/7 reported negative relationships from stigma to adiposity, 2/7 reported no relationships, and 1/7 reported positive relationships from adiposity to stigma only. The single anticipated stigma study reported no relationship with adiposity. Of the 5/25 studies examining bidirectional relationships, only 2/5 (one adult internalised, one child-adult experienced) reported significant effects in both directions. Potential identified mediators of the stigma-adiposity relationship included negative emotional symptoms and perceived stress, while gender, baseline weight status, and stigma source were suggested moderators. A lack of validated tools for assessing experienced stigma was identified. These findings underscore the need for increased societal awareness, improved assessments, and stigma-reduction interventions from early life.

Disclosures: None

P49 PSYCHOSOCIAL OUTCOMES IN ADULTS MAINTAINING WEIGHT LOSS: A SYSTEMATIC REVIEW

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The body mass index of the global population is rapidly increasing, with an anticipated 54% of individuals living with overweight or obesity by 2035. Despite the chronicity of obesity, treatment impacts are relatively short-term, with 80% of individuals experiencing weight regain one year after treatment. Weight loss maintenance is exceptionally challenging but offers many health benefits including reduced comorbidities. Barriers to weight loss maintenance include waning social support, fear of weight regain and lack of satisfaction (e.g., no decreasing number on scales). Changing social networks and previous experiences of weight stigma, which can psychologically "scar" individuals, often makes weight loss maintenance psychosocially complex. This systematic review will identify the known psychosocial impact of weight loss maintenance on individuals who are or were living

with obesity. A literature search of five databases (Medline, PsychInfo, Embase, CINAHL and Web of Science) was conducted in May 2024 and was updated in April 2025. Search results are currently undergoing second review. Of the initial 3,778 results, 20 studies met the inclusion criteria and were assessed for risk of bias and certainty of evidence. The preliminary narrative synthesis showed that the research demographic was primarily White females and only 10% of the study populations were weight loss maintainers, with the remainder representing comparison groups (e.g., general population, treatment seeking individuals). Overall, 14 psychosocial outcomes were assessed and 64% of those outcomes were significantly impacted by weight loss maintenance. Initial syntheses found that quality of life improved with maintenance duration, with no clear evidence of interaction between maintenance duration and depression. Meanwhile, depressive symptoms and perceived stress were lower in those maintaining weight loss compared to controls including those who sought treatment or regained initial weight loss. Anxiety was higher during weight loss maintenance compared to non-maintenance controls. However, so far, the included studies were highly heterogeneous and provided low evidence certainty. These initial results indicate some need for targeted psychosocial support for those maintaining weight loss but, primarily, results highlighted gaps in the literature and future research directions. These include planned sub-group analyses for separate weight loss trajectories and inclusion of more diverse populations.

Disclosures: Economic and Social Research Council South West Doctoral Training Partnership 1 + 3 studentship.

P50 PRELIMINARY OUTCOMES OF POSTPARTUM WEIGHT MANAGEMENT SERVICE

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Morelife UK is a healthy lifestyle service provided across the UK. This service provides a Postpartum Weight Management Service (PNWMS) (integrating two priority areas—perinatal mental health and infant-parent relationships) for individuals who have given birth in the last year. Maternal obesity and weight retention after birth are not only associated with socio economic deprivation, but also numerous health risks for both women and baby. Evidence suggests people living with obesity when they become pregnant have poorer mental health compared to their healthier weight counterparts. PPWR is a strong predictor of obesity in later life with long term health consequences in women, including coronary heart disease, some cancers and type II diabetes. The service, a postpartum lifestyle intervention, will function to enable people to thrive and realise their potential, promoting healthier lifestyles and reducing postpartum weight retention (PPWR). This programme aims to support 200 individuals BMI > 25 and aged 18 and over (<18, with parental consent), who gave birth in the last year by delivering weekly support for up to twelve weeks. Postnatal weights will either self-reported by clients or taken during face-to-face sessions offered by the service. Qualitative data will be gathered via a client feedback survey to evaluate participants' experiences and the impact of the programme on their physical and mental health. Quantitative data will include number of completers losing weight, maintaining healthy BMI, improved wellbeing, nutrition, physical activity, confidence around healthy eating and connection with their baby. The groups will start in early January 2025 and will be completed by April 2025. Preliminary outcomes from qualitative and quantitative data will be available to be analysed by the end of April.

Disclosures: None

P51 OUTCOMES OF 'MY LIFE PLAN' AN INCLUSIVE DIGITAL WEIGHT LOSS PROGRAMME BY MORELIFE

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Individuals living in deprived areas may experience some barriers to accessing weight management services. Common barriers include language barriers, shift work, childcare, and lifestyle. Research shows that digital interventions help support weight loss in adults living with obesity and overweight. MyLifePlan (MLP) was created by Morelife, an interactive digital platform consisting of 12 weekly sessions with educational videos, recipes, podcasts and other nutrition, physical activity and psychology resources. The platform is accessible through mobile phones and computers. It has Auto-translation to 98 languages and ReachDeck assistive technologies: text-to-speech, translations, Picture Dictionary, Screen Mask (reduces visual stress/improves focus), text magnifier, webpage simplifier (removes potentially distracting content), and multiple formats including Easy Read. Recipes on this platform reflect a variety of cultures, religions, beliefs and financial pressures. The platform has progress and interactive goals/exercise trackers, motivational and personalised nudges and interactive challenges. This digital platform has been offered to Morelife clients as an option for weight management purposes. This service evaluation aims to analyse the outcomes of the MLP platform. In total, 262 (155 female, 107 male) clients completed the digital programme by engaging with the content for 12 weekly sessions and uploading their self-measured weight between weeks 8 and 12. 215 (82%) had hypertension, 49 (19%) Type 1 diabetes and 61 (23%) Type 3 2 diabetes. Outcomes show that 189 (72 %) clients lost more than 3% of their initial body weight, and 126 (48%) clients lost more than 5% of their initial body weight. 49% of those with hypertension, Type 1 and Type 2 diabetes, 49%, 29% and 46% achieved over 5% weight loss respectively. These outcomes show that the MLP digital programme helps clients with hypertension and diabetes lose weight in 12 weeks. Future research is needed to evaluate the long-term effectiveness of this platform for weight loss maintenance and to identify characteristics of those most likely to have success using a digital platform for weight management.

Disclosures: None

P52 PILOT OF A PEER SUPPORT GROUP FOR PARENTS OF CHILDREN WHO ARE SELECTIVE EATERS AND / OR HAVE HYPERPHAGIA AND ARE LIVING WITH OVERWEIGHT OR OBESITY

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There is a large cohort of children within the South Tyneside and Sunderland Childhood Weight Management Service who are living with overweight or obesity and either: selective eaters or have hyperphagia. It can be a challenge for parents to support their children, and they report frustration and anxiety. This pilot is exploring the feasibility of delivering optional online peer support for parents to: reduce parental stress; empower parents to share lived experience and strategies; improve mental health of parents by providing peer support; provide structured education to improve behaviour; improve anthropometric outcomes in children's BMI centiles and waist to height

circumference. Parents were invited via letter to monthly online sessions on Microsoft Teams with 15 minutes of structured education and 45 minutes of facilitated discussion and peer support. Text invites with the link to join were sent the day before the sessions. Attendance was monitored and the Parent Stress Scale used (1). Children continue to attend regular clinic appointments where anthropometrics are measured. Despite initial enthusiasm from parents, attendance of groups has been low. Reasons include difficulties joining Microsoft Teams via Text invites and inconvenient times. It has so far not been possible to gather any parent stress scale data. Parents have subsequently been surveyed to get preferred times for groups. The pilot has revealed poor attendance of optional online peer support groups suggesting that feasibility of delivery using the current model is poor. We will be adapting the methods to use email invites and sending QR codes to facilitate ease of joining Teams meetings and will offer a range of group times including evenings. Input from parents will be gathered to develop the service going forward.

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1. Berry JO, Jones WH. The parental stress scale: Initial psychometric evidence. Journal of social and personal relationships. 1995 Aug;12(3):463–72. https://doi.org/10.1177/0265407595123009

Disclosures: None

P53 BEYOND THE USUAL SUSPECTS: UNRAVELLING THE CARDIOVASCULAR CONUNDRUM IN SOUTH ASIANS

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South Asian communities endure a cardiovascular disease (CVD) burden 3–4 times higher than global averages, driven by genetic susceptibility (APOC3, ANGPTL4 variants), epigenetic damage from urban air pollution, and dietary shifts from whole grains to polished rice and trans fats. This systematic review, adhering to PRISMA guidelines, synthesized data from genome-wide association studies (South Asian Genome Consortium, n = 75,000), national health surveys (India's NFHS-5, Pakistan's PDHS), the MetaCardis gut microbiome cohort, and WHO policy reports. Key findings include: 1) The APOC3 rs5128 variant elevated triglycerides by 32% (OR = 1.42, $p < 0.001$), while smog in cities like Lahore hypermethylated IL6, increasing inflammation (C-reactive protein ≥3 mg/L); 2) Polished rice (glycemic index: 73) and trans-fat-laden snacks impaired endothelial function within 4 weeks (flow-mediated dilation ↓2.1%); 3) Gut dysbiosis (Prevotella-dominant microbiomes) doubled trimethylamine N-oxide (TMAO) levels (≥6 µM vs. 3 µM controls), a biomarker for myocardial infarction. Interventions demonstrated millet-based diets reduced HbA1c by 0.8%, and community yoga programs lowered systolic blood pressure by 10 mmHg, rivalling antihypertensives. Policy action—subsidizing statins in underserved areas, banning trans fats, and redesigning cities for walkability—must align with cultural strategies like integrating millets into school meals and yoga into primary care. Challenges include underrepresentation of rural populations in genetic studies and limited longitudinal microbiome data. Future priorities include CRISPR-based validation of epigenetic targets and cost-effectiveness analyses of lifestyle interventions. Bridging scientific advances with equitable implementation is critical to mitigating South Asia's CVD epidemic.

Disclosures: None

P54 MENTAL HEALTH AND OBESITY: AN INNOVATIVE APPROACH TO DEAL WITH THE BIDIRECTIONAL CRISIS

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Interconnected neuroendocrine, inflammatory, and psychosocial processes underlie the reciprocal relationship between obesity and mental health. According to PRISMA guidelines, this systematic review synthesized evidence from policy evaluations (OECD reports, South Korea's National Obesity Management Program, 2018–2023), psychosocial metrics (U.S. Census data, CDC PLACES database), and neuroimaging data (NeuroVault repository, focusing on prefrontal cortex and amygdala activity). Key findings showed that SSRIs worsen metabolic health by activating histamine receptors, leading to 3–5 kg of weight gain annually, while leptin resistance and interleukin-6 (IL-6)-mediated dysregulation of the hypothalamic-pituitary-adrenal (HPA) axis destabilize emotional regulation. Adverse childhood experiences (ACEs) increase obesity risk by 34% through cortisol-induced visceral fat deposition (OR = 1.34). Neuroimaging revealed neural deficits affecting decision-making, including decreased dorsolateral prefrontal cortex activity and amygdala hyperactivity. Digital CBT reduced emotional eating by 40%, and GLP-1 agonists like semaglutide significantly cut weight and depressive symptoms. However, systemic disparities persist: weight stigma in healthcare deters treatment seeking, and 23% of American neighborhoods are food deserts, correlating with higher obesity rates. Policy initiatives like South Korea's program have lowered national obesity prevalence by 8% through subsidized fitness access and anti-stigma campaigns. Integrating trauma-informed care and AI-driven personalized interventions could address both biological and structural drivers. Sustainable solutions combine pharmacological advances with urban policies to tackle food deserts and clinician bias. Future research should focus on longitudinal studies of neurobiological resilience and scalable digital therapies to bridge the gap between individual pathophysiology and societal inequities.

Disclosures: None

P55 WHOSE PRIORITY IS IT?

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Obesity is recognised as a multifactorial and chronic disease that can impact on health. Obesity Canada and the National Institute for Health and Care Excellence (NICE) evidence-based guidelines provide comprehensive recommendations for the management of obesity, ranging from health promotion to specialist overweight and obesity management services. The guidelines emphasise an individualised approach to treatment and the need for long-term support. Despite the guidelines' recommendations, access to care is inconsistent and geographically dependent, not only in Northern Ireland but throughout the wider UK and internationally due to varying government policies and priorities. This review aimed to explore the contrast between what is currently recommended as best practice for the management of obesity against the limited services available in practice. It found that despite guideline recommendations, obesity is under-prioritised, as people with obesity are still not likely to experience effective obesity management, with access to care notably less accessible

compared to other chronic diseases. It is evident from the literature that a 'postcode lottery' is a global issue, where access to care is based on geographical location rather than clinical need. Compared to other chronic diseases, obesity is yet to be seen as a priority locally, nationally, or internationally. Guidelines recommend obesity and weight management services, however, they are not mandatory, and this can lead to inequity in service provision as local commissioners may not prioritise or fund these services despite the economic costs associated with obesity and the cost to the individual. Furthermore, evidence suggests that healthcare providers may under-prioritise obesity due to a lack of knowledge and their own implicit bias towards people with obesity. A cultural shift in how obesity is understood and addressed is required to address the ingrained weight stigma that remains pervasive within society. The guidelines alone do not lead to improved services required for systemic change. To address this, governments, policymakers, and healthcare providers must ensure that obesity is prioritised and treated as a chronic disease, as with other chronic diseases.

Disclosures: None

P56 EVALUATION OF 25-HYDROXY VITAMIN D LEVELS AND BONE HEALTH IN PATIENTS INITIATED ON SEMAGLUTIDE IN A TIER 4 BARIATRIC SERVICE

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Subcutaneous semaglutide was the first glucagon-like peptide-1 (GLP-1) agonist approved by the National Institute for Health and Care Excellence (NICE) technology appraisal for weight loss. Obesity is linked to an increased risk of vitamin D deficiency, likely due to sequestration in adipose tissue leading to reduced bioavailability. Tobias et al. found reduced efficacy of vitamin D supplementation in patients with elevated body mass index (BMI) in a large 2023 cohort study, suggesting altered metabolism. Recent studies have recommended weight-adjusted vitamin D dosing for individuals living with obesity. We investigate the impact of GLP-1 agonist treatment for obesity on vitamin D levels and bone health. 11 patients initiated on subcutaneous semaglutide in a Tier 4 bariatric service were identified. We looked at pre-and post-semaglutide 25-hydroxy vitamin D levels, bone health parameters, and supplementation practices. 91% of patients had baseline 25-hydroxy vitamin D levels tested, with 63% classified as deficient or insufficient. All 37% of patients with deficiency (<25 nmol/L) received once weekly 40,000 IU cholecalciferol for 7 weeks. 27% were prescribed maintenance vitamin D (400–800 IU once a day) by their GP, although 66% of these patients reported they were not concordant with this. 36% were taking over-the-counter supplementation. None were taking weight-adjusted doses. 45% were not taking maintenance supplementation. The patients who were not taking maintenance supplementation had all had deficient or insufficient levels of 25-hydroxy vitamin D on their most recent blood results. No patients had repeat vitamin D levels tested after initiation of semaglutide. 2 patients underwent bone density (DEXA) scans due to previous fracture history and were found to have osteopaenia. No new fractures were reported. Although GLP-1 agonists decrease bone resorption, obesity is associated with vitamin D deficiency and weight loss has been shown to reduce vitamin D levels and bone mineral density. Patients taking semaglutide require bone health screening and regular monitoring to allow early intervention for patients with an increased fracture risk. Weight-adjusted dosing of cholecalciferol is recommended. We aim to follow up this small group with repeat vitamin D testing and comparison with a larger cohort of patients taking semaglutide.

Disclosures: None

P57 ANALYSIS OF HAIR ZINC TO GUIDE ASSESSMENT IN A CASE OF REFRACTORY ZINC DEFICIENCY POST METABOLIC BARIATRIC SURGERY

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Patients who undergo metabolic bariatric surgery (MBS) are at high risk of micronutrient deficiencies. We describe a case whereby multiple MBS procedures were performed, resulting in refractory zinc (Zn) deficiency. Paired scalp hair and serum Zn (sZn) concentrations (CRP <20 mg/L) were analysed using Inductively Coupled Plasma-Mass Spectrometry in an UKAS accredited laboratory. A 45-year-old female underwent a primary laparoscopic sleeve gastrectomy for class 3 obesity in 2005. She achieved very good post-surgical weight reduction, but regained weight following pregnancy. Hence, she underwent laparoscopic biliopancreatic diversion and duodenal switch in 2015. She developed Zn deficiency despite multivitamin supplements including a Zn:copper (Cu) ratio of 8–15 mg:1 mg (min 2 mg Cu). Four months post-surgery, sZn was 9.0 µmol/L (reference range 11–19) and dropped to 7.5 µmol/L at eight months, with symptoms consistent with Zn deficiency (hair loss, poor wound healing and mouth ulcers). She was on maximum tolerable oral Zn over the next four years but demonstrated refractory Zn deficiency with normal Cu. She was trialled on IV Zn sulfate infusions in 2019 with modest improvement in sZn but could not sustain it. With the aim of reducing post-surgical gastrointestinal (GI) side effects and correcting Zn deficiency, laparoscopic conversion to Roux-en-Y gastric bypass and distal gastrectomy were performed in 2022. Post-surgery, the GI side effects settled, but she remained Zn deficient with hair loss. Six months post-surgery, sZn was 8.1 µmol/L, but hair Zn (hZn) was only slightly below the lower limit of in-house reference range at 142.9 µg/g dry weight (150–250). In 2024, she was given monthly IV Zn for six months. Pre-infusion sZn peaked at 12.26 µmol/L (ave. 8.15) and hZn at 158.9 µg/g (ave. 142.8) with notable reduction in hair loss. There was no statistical correlation between sZn and hZn. A fall in sZn (50%) and hZn (29%) were evident three months after stopping infusions. hZn could be more reflective of the total body Zn reserve, indicating a potential utility of hZn analysis in refractory deficiency state. Our patient continues to receive intermittent IV Zn, alongside regular oral Zn supplements. This case highlights the challenges in managing micronutrient deficiencies after MBS.

Disclosures: None

P58 BARIATRIC SURGERY IN PEOPLE WITH TYPE 1 DIABETES-TWO CASE REPORTS

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Obesity is common in people with Type 1 Diabetes. Managing T1DM during bariatric surgery presents unique challenges to avoid hypoglycemia and diabetic ketoacidosis. We present two cases of people with T1DM who underwent bariatric surgery in our service. Case 1: A 39yr old woman with T1DMTHIS, BMI 40 kg/m^2, underwent sleeve gastrectomy. Her diabetes was diagnosed 15 years ago. Her GAD and IA-2 antibodies were positive, and she had intermediate c-peptide at 204 pmol/L in 2025. Her HbA1c was 43 mmol/mol preoperatively. At the start of the liver reducing diet (LRD) her long-acting insulin was reduced by 30%, and insulin-to-carbohydrate ratio (ICR) was weakened from 1 unit to 3 grams of carbohydrates (1:3) to 1:4. Further reductions in long-acting insulin by 70% and ICR to 1:5 were required by day 3 into the LRD given hypoglycemic events. Post-surgery, her blood glucose levels remained stable, and she did not require short-acting insulin by day 10. She experienced approximately 24% weight loss 3 months post-surgery. Case 2: A 49yr old man with T1DM (diagnosed 41 years ago), BMI 48 kg/m^2, and end-stage renal disease on hemodialysis underwent a gastric band insertion. His HbA1c was 49 mmol/mol prior to surgery. During the LRD, his long-acting insulin was gradually reduced by 50% and the short acting insulin reduced by 36%. At day 5 post-operatively his long-acting insulin requirements dropped to 30% and he required negligible short acting insulin. This gradually increased again with ongoing insulin titration. He experienced a 24% weight loss at 15 months and was placed on the kidney transplant waiting list. Both cases were reviewed by a consultant endocrinologist prior to commencing on the LRD and required close monitoring by the diabetes specialist and bariatric nurses. Neither patient had severe hypoglycemia or DKA. Bariatric surgery is an effective and life-changing procedure in people with T1DM. A multidisciplinary team approach and careful insulin management are important to ensure safety and avoid severe hypoglycemia and DKA peri-operatively. There is a need for national guidelines on how to manage insulin around bariatric surgery in people with T1DM.

Disclosures: None

P59 THE YELLOW CARD BIOBANK: HOW DOES GENETICS IMPACT THE SAFETY OF WEIGHT LOSS MEDICATIONS?

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Yellow Card Biobank pilot is a collaboration between Genomics England and the Medicines and Healthcare products Regulatory Agency (MHRA) to help understand how a patient's genetics can impact the safety of their medicines. By collecting genetic samples from patients who have experienced suspected side effects, the Yellow Card Biobank aims to create a rich resource of genetic information that could help researchers to determine whether a suspected side effect was caused by a specific genetic trait. Data will be available to researchers in the National Genomics Research Library, securely linkable to wider genetic and health data. The project is currently recruiting patients suffering from acute pancreatitis to GLP-1 receptor agonists, commonly used weight loss medications. The presentation will provide an overview of the biobank, pilot topics, key recruitment pathways, and progress to date. Opportunities for people living with obesity and those who treat them to get involved in the project and access data will be highlighted.

Disclosures: This project is funded by the Medicines and Healthcare products Regulatory Agency (MHRA) and Genomics England.

P60 THE ROLE OF THE NIHR HEALTH DETERMINANTS RESEARCH COLLABORATION ABERDEEN (HDRCA) IN SUPPORTING THE DEVELOPMENT OF A WHOLE SYSTEMS APPROACH TO OBESITY AND HEALTH INEQUALITIES IN ABERDEEN CITY

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In Aberdeen City, 1 in 5 Primary 1 children are at risk of overweight or obesity, with 27% of Primary 1 children in the two most deprived quintiles at risk of overweight and obesity, compared to 17% of children in the least deprived quintile (1). Furthermore, 66% of adults live with overweight and obesity in the Grampian Health Board area (2). The causes of obesity are multifactorial and often beyond the control of individuals, with many causes related to the conditions in which people are born, grow, work, live, and age, known as the social determinants of health. A Whole Systems Approach (WSA) to obesity - which shifts focus away from individuals and places emphasis on understanding and improving social determinants - is considered an effective mechanism for delivering equitable change in a complex and unpredictable social system. In 2024, Aberdeen City Council (ACC), Community Planning Aberdeen (CPA) - the City's strategic collaborative of public, private and third sector organisations - and NHS Grampian launched a WSA to Healthy Weight in Aberdeen City. The approach is being co-developed with local stakeholders, including the NIHR Health Determinants Research Collaboration Aberdeen (HDRCA), hosted at ACC. Working in partnership with ACC and CPA, the HDRCA is uniquely placed to provide the local evidence base that can be developed to progress the WSA, capture the learning during this process and support an evaluation of the approach. The HDRCA will review current local outcome improvement projects related to the WSA, including those addressing diet, physical activity and associated health inequalities, to identify what has worked and where there are evidence-based interventions that can be included in future action plans. Building on previous WSA evaluations that have been predominantly process focused rather than process and outcome focused, the HDRCA will support evaluative strategies that seek to address both the process and outcomes of local healthy weight interventions. Engaging a HDRC represents a novel approach to systems change, ensuring that a social determinants lens is employed throughout the implementation, evaluation and adaptation of the WSA.

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P61 A SCOPING REVIEW OF TOOLS ASSESSING HEALTHCARE PROFESSIONALS' KNOWLEDGE, ATTITUDES, AND BELIEFS ABOUT ADULT OBESITY

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The relationship between knowledge, attitudes, and beliefs (KAB) is complex and reciprocal, not merely cause-and-effect. Accurately measuring KAB is vital for understanding healthcare professionals' (HCPs') perspectives and supporting evidence-based practices in obesity management. To gain meaningful insights, measurement tools must be well-designed and psychometrically robust. This scoping review aimed to identify and evaluate published measurement tools that assess HCPs' KAB regarding adult obesity, utilising the Consensus-based Standards for the Selection of Health Measurement Instruments (COSMIN) framework. This scoping review adhered to the COSMIN methodology and the five-stage framework by Arksey and O'Malley, refined by Levac and Colquhoun. Reviewers searched databases—Embase, Medline, Web of Science, PsycINFO, CINAHL, and Google Scholar—for studies from January 1, 1999, to April 15, 2023, with an updated search from April 15, 2023, to May 1, 2025. Inclusion criteria focused on HCPs', KAB tools for adult obesity, and related tool development or testing. Two reviewers screened the literature and extracted data, consulting a third for consensus when necessary. Measurement properties were assessed using the COSMIN criteria. A total of 9,213 records were identified, with 5,454 screened for abstract review. An updated search from April 15, 2023, to May 1, 2025, added 84 records, all screened for full-text eligibility. Ultimately, 45 articles were assessed for full-text eligibility, leading to the exclusion of 41, leaving 4 articles for final review. According to COSMIN criteria, these studies had inadequate methodological quality, lacking sufficient content validity due to unrepresentative HCP samples and poorly defined constructs. The findings reveal a significant gap in rigorously developed tools for assessing HCPs' KAB regarding adult obesity. The lack of validated measurement instruments limits our understanding of how providers manage this issue. Previous research often relies on outdated methodologies, highlighting the urgent need for contemporary tools that meet quality standards, such as those in the COSMIN framework. Current tools for assessing HCPs' KAB regarding adult obesity may be inadequate. Future research should focus on developing robust, contemporary, and validated measurement tools to improve obesity-related research and clinical practice.

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P62 PHYSICAL ACTIVITY, FITNESS, AND FATNESS: RESULTS FROM A GLOBAL ANALYSIS

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Physical activity is generally favourably associated with improved adiposity, fitness and health outcomes. However, limited data from non-western countries has been reported on associations of domain-specific physical activity with obesity and fitness, or their role in mediating cardiometabolic risk factors and their endpoints. We aimed to investigate associations of physical activity with obesity and resting heart rate as both outcomes and mediators of the relationship with cardiometabolic risk factors and disease endpoints. In ecological analyses, we examined associations between agricultural employment (200 countries) and self-reported domain-specific physical activity (aggregated, 100 countries) with obesity prevalence as an outcome and as a mediator of diabetes. In cross-sectional analyses, we examined associations of domain-specific physical activity with BMI and resting heart rate as outcome variables and as mediators of the relationship with fasting glucose, cholesterol, and blood pressure. In ecological analyses, agricultural employment (per SD = 20%) was inversely associated with obesity prevalence (RR 0.62; 95% CI: 0.50, 0.76) and diabetes prevalence (RR 0.75; 95% CI: 0.65, 0.86). Self-reported occupational physical activity (per SD = 487 minutes/week) was also inversely associated with diabetes prevalence (RR 0.80; 95% CI: 0.71, 0.90). In individual-level cross-sectional analyses, self-reported physical activity was inversely associated with resting heart rate and BMI. Physical activity was also inversely associated with fasting glucose and total cholesterol across all domains investigated, but associations with blood pressure appeared to be positive for occupational activity. At the same level of overall activity, a higher proportion of activity accumulated through occupation was associated with lower blood glucose and cholesterol but higher blood pressure and resting heart rate, though magnitude of all associations were very small. Adjusting for BMI and resting heart rate attenuated associations, though they remained consistent with findings from the ecological analysis. Physical activity is favourably associated with lipid and glucose metabolism and domain-specific differences are very small.

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P63 MAPPING WEIGHT MANAGEMENT APPROACHES USED BY LOCAL AUTHORITIES TO ADDRESS OBESITY ACROSS THE NORTH EAST AND YORKSHIRE REGION

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Obesity is a complex chronic disease which can negatively impact physical and mental health and wellbeing. Local authorities in England are not mandated to commission weight management services to support people living with obesity and there is a lack of recent national government policy. This has resulted in a multitude of different approaches being implemented to address obesity within local authorities. This study collated information on what approaches and services are available and commissioned across the North East and Yorkshire regions of England. The aim of this study was to explore and understand what approaches are used in local authorities in the North East and Yorkshire region to address obesity. This qualitative study included two stages of data collection. 1) The researcher conducted surface level mapping through participating in community network meetings attended by local authority public health obesity leads and facilitated by Office for Health Improvement and Disparities regional leads. 2) Conducted thirty-minute semi-structured interviews with local authority public health obesity leads (n = 21) to give a greater insight into chosen approaches within each area. North East and Yorkshire local authorities are broadly focussing on three approaches; whole systems, delivering or commissioning NICE guidance advised weight management services and weight neutral/compassionate approaches. Findings indicate that there is a shift from delivering weight centric services to patient led weight management services. It is recognised that gaps in missing

pathways, limited senior leadership support, lack of support as weight management remains outside mandated service requirements, and a dearth of national guidance are contributing factors to disparities in approaches adopted. This study has mapped in detail the different approaches taken between local authorities in the North East and Yorkshire region. This has been shared with local authorities and policy communities. The study will contribute to recommendations for developing local authority obesity strategies in the future.

Disclosures: None.

P64 'WE'RE NOT DIETITIANS, WE'RE NOT PHYSIOTHERAPY, WE'RE AN MSK SERVICE' - DEVELOPING OBESITY EDUCATION WITH MUSCULOSKELETAL PHYSIOTHERAPISTS: A THEORETICALLY INFORMED INTERVENTION TO PROMOTE TRANSFORMATIVE LEARNING

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The Chartered Society of Physiotherapy proposes that physiotherapists are well placed to contribute to obesity assessment, care and treatment. However, evidence suggests that tensions exist between motivation, capability and action in physiotherapists outside of specialist obesity services. This National Health Service (NHS) service improvement project was precipitated by a musculoskeletal (MSK) physiotherapy service clinical audit and training needs analysis that identified gaps in best practice, knowledge, skills and confidence relating to weight management. An audit identified that only 15% of eligible patients were offered weight management support, contrary to National Institute for Health and Care Excellence (NICE) osteoarthritis guidance recommendations. Lack of knowledge, resources, confidence and time were cited as barriers to implementation. A tailored education intervention was proposed aiming to promote transformative learning (changes in perception and action) and factors that enhance practice (capability, motivation, opportunity) in MSK Physiotherapists. This aligns with international multidisciplinary agreement on the need for transformational change in overweight/obesity education and collective action to establish effective interventions that improve health outcomes for people living with both MSK disorders and obesity. The long-term vision for this project therefore was to facilitate the advancement of care quality and access to obesity treatment within MSK services. A programme theory was developed, informed by realist methodology. A participatory, transformative learning approach was employed throughout development. Intervention delivery was guided by the NHS Change model framework. Evaluation was continuous and informed the refinement of the programme theory with the aim of establishing an effective education intervention to positively change practice and care quality in relation to overweight and obesity nationally. A novel education intervention was identified, developed and tested with physiotherapists ($n = 111$) within an NHS community MSK service as part of usual continuous professional development protected time. Results of the first iteration suggest that this education package was valued and participants demonstrated positive changes in self-reported knowledge, confidence, skills and perceptions. Participants reported ongoing conflict with navigating their local health system to effectively connect patients with appropriate care and treatment. Role identity, time and resources remain likely barriers to behaviour change in practice.

Disclosures: None

P75 EFFECTIVENESS AND SAFETY OF AN UNSUBSIDIZED SEMAGLUTIDE-SUPPORTED DIGITAL WEIGHT LOSS PROGRAM IN THE UK: A 12-MONTH RETROSPECTIVE ANALYSIS

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Telehealth has expanded access to obesity care, yet data on the safety and effectiveness of digital weight-loss services (DWLS) combining lifestyle and pharmacological therapy remain limited. This study retrospectively assessed the safety and effectiveness of the Juniper UK weight loss program, a medicated DWLS offering combined lifestyle and pharmacotherapy for people with overweight and obesity. Data was extracted from Eucalyptus' electronic records for patients initiating Semaglutide-supported treatment between January 1, 2023, and May 1, 2025. Exclusion criteria included discontinuing the program before six medication orders, receiving more than 15 orders, pausing treatment for over three months, or failing to submit weight data within a 12-month window (341–379 days post-initiation). Of 11,162 patients, 2499 met the inclusion criteria (77.6% dropout rate). The mean %WL for this group was 15.2%, with 90.8% achieving clinically significant weight loss (≥5%) and 73.5% losing ≥10%. 1773 patients reported at least one side effect, and 18 experienced severe adverse events. A limitation of the study was that over 80 percent of patients were women of Caucasian ethnicity. In conclusion, despite these limitations and the high prevalence of mild adverse events, the Juniper UK program demonstrated substantial weight loss for adherent patients, with a high proportion achieving clinically significant weight reduction. These findings, combined with the fact that program cost was a major factor in discontinuation and pause decisions, highlight the need for strategies to improve accessibility, address cost barriers, and ensure equitable effectiveness of medicated DWLS across diverse populations. Further research should investigate strategies to enhance long-term adherence and safety, and examine the impact of different cost structures on program accessibility and reach.

Disclosures: LT and AT are paid employees at Eucalyptus/Juniper

RAPID FIRE COMMUNICATION

RF01 REASONS AND PREDICTIVE FACTORS FOR HOSPITALISATION WHILE TAKING WEIGHT LOSS MEDICATION: ANALYSIS OF OUR COHORT OF 102,364 PATIENTS FROM JANUARY TO DECEMBER 2024, CONCLUSIONS, AND RECOMMENDATIONS FOR BEST PRACTICE TO IDENTIFY THOSE AT RISK AND IMPLEMENT EVIDENCE-BASED PREVENTATIVE MEASURES

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Weight loss medications, particularly GLP-1 agonist medications, are relatively new. While they are safe and effective when prescribed appropriately, there are potential side effects and an associated risk of hospitalisation in a minority of patients. Identifying risk factors for hospitalisation could inform practice and policy, leading to improved prescribing and a reduction in hospitalisation of patients taking weight loss medication. From 1st January 2024 to 31st December 2024, 102364 patients received prescriptions for weight loss medication from our service, including orlistat, injectable semaglutide

and injectable tirzepatide. We performed a retrospective analysis of all reported hospitalisations in that time to identify reasons for hospitalisation, related comorbidities and prescription medications reported by the patients involved. These cases were then analysed to identify trends and potentially modifiable predictive factors, or factors where a change in prescribing policy could prevent future hospitalisation. Of 102364 patients receiving treatment in a 12 month period, 75 were hospitalised. Reasons for admissions (number of patients) were: vomiting (17), abdominal pain (12), cholecystectomy (9), constipation (9), diarrhoea (9), pancreatitis (8), cholecystitis (7), diverticulitis (5), gastroenteritis (4), nausea (4) and various, less common indications. The most common comorbidities(n) were depression/anxiety (26), none (22), hypertension (12), asthma (6). The most common medications taken alongside weight loss medication (n) were none (21), antidepressant (20), antihypertensive (12), hormone replacement therapy (10). Hospitalisation was more common in women aged over 46 years. Prescriptions were for semaglutide (n = 35), tirzepatide (n = 39), orlistat (n = 1). These data broadly represent our cohort and do not appear to be risk factors for hospitalisation. Hospitalisation was most common in the first three months of treatment, and therefore was more strongly associated with lower doses of the relevant drugs, in line with standard dose titration protocols. Those who were hospitalised tended to have experienced greater weight loss (>5 kg in total) than their peers. Rapid weight loss in the early stages of treatment with GLP-1 medication is associated with an increased risk of hospitalisation, often with potentially treatable side effects. Identifying rapid responders to medication, slowing their dose titration and effective management of side effects may reduce hospitalisations.

Disclosures: SK has received honoraria previously from Lilly, Novo Nordisk and Oviva. The work was undertaken by members of Boots Digital Health.

RF02 THE EFFECTIVENESS OF FAMILY-BASED WEIGHT LOSS INTERVENTIONS FOR WEIGHT LOSS/ DIETARY AND PHYSICAL ACTIVITY RELATED BEHAVIOUR CHANGE FOR MOTHERS WITH OVERWEIGHT OR OBESITY: A SYSTEMATIC REVIEW

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Many mothers encounter challenges in maintaining a healthy weight associated with limited time, competing priorities of childcare responsibilities, catering for the dietary requests of their children and family which can have a negative impact on the home food environment and lack of social support from family members. Family involvement and support could potentially improve the effectiveness of weight loss interventions for mothers with overweight or obesity however the comparative efficacy of a family based versus a non-family based or an individual based intervention for mothers is not known. We have performed a systematic review of randomised control trials prospectively registered on Prospero (CRD42024537118) to assess maternal weight and behavioural outcomes. Eligible studies have compared family-based interventions involving children alongside mothers with non-family based or control interventions targeting adult women with a BMI ≥ 25 kg/m2 (≥ 23 kg/m2 for high-risk ethnic groups). Searches were run during April 2024 on Embase, PubMed, CINAHL and PsycINFO without language restrictions. We have screened approximately 2690 records ultimately including 40 RCTs comprising ~7423 parents (>80% mothers) with interventions ranging from 6 weeks to 5 years with minimum follow up 6 months. We have assessed the risk of bias using ROB2 tool. Preliminary results for the risk of bias shows that around 45% classed as low risk, 35% had some concerns and 20% were high risk. Primary outcomes are changes in maternal weight or BMI. Secondary outcomes include dietary intake and physical activity measures for the mother, other family members, including children's weight change. Data extractions and RoB2 assessment have been completed. Full synthesis with random effect meta-analysis using weighed mean differences is planned if heterogeneity ≤50%. Planned subgroup analysis will explore factors like the impact of baseline BMI, spousal involvement, intervention duration and analytic approach (intention to treat versus completers). Findings will showcase the value of involving the whole family for maternal weight management and to help shape future intervention design and public health strategies. Full results will be presented at the UKCO meeting in September 2025. The National Institute for Health and Care Research (NIHR 203308) funded this work.

Disclosures: None

RF03 EXPLORING PATIENT AND PUBLIC VIEWS ON THE EVIDENCE SUPPORTING THE HEALTH BENEFITS OF LOW-LEVEL WEIGHT LOSS

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Individuals with excess weight face increased risks for both physical and mental health conditions. While a 5% reduction in body weight is widely regarded as the traditional threshold for achieving clinically meaningful outcomes, the benefits of low-level weight loss (less than 5%) remain unclear. Recent evidence from our systematic review assessed health outcomes associated with low-level weight loss, analysing 70 studies and including data from over 18,200 participants. Studies included participants aged 35 to 78, evaluating 137 health outcomes across cardiometabolic, anthropometric, psychosocial, and well-being measures. Overall, 87% of participants experienced improvements in health measures, 13% reported no change or mixed results, and less than 1% experienced adverse outcomes. These findings challenge the commonly used 5% threshold, suggesting even low-level weight loss can contribute to meaningful health improvements. To contextualise our findings, a Patient and Public Involvement and Engagement (PPIE) session was held with members of the Obesity Voices Hub. Their lived experiences provided critical insights into how weight loss targets are experienced in real life. Participants emphasised that the 5% threshold, while clinically useful, can be discouraging and lead to feelings of failure. Many described the emotional burden of focusing solely on weight, noting that a narrow and non-personalised focus often overshadowed positive behavioural changes and psychological gains. Attendees also highlighted systemic barriers, such as food poverty, mobility limitations, and stigma in healthcare settings, that complicate sustained weight management. Some recounted being asked to "prove" their efforts through photos, receipts, or detailed logs, only to be met with scepticism. These qualitative insights underscore the need for a holistic, sustainable, and person-centred approach to weight management. Participants advocated for strategies that prioritise long-term health and well-being rather than narrow weight metrics. Findings from the systematic review, together with experiences shared by individuals living with obesity, highlight the need to redefine success in weight interventions to reflect a broader range of health outcomes. Adopting a more inclusive and person-centred model could strengthen both the effectiveness and sustainability of weight management efforts.

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MEMBER-LED SYMPOSIA

S1-01 THE PEOPLE BEHIND THE POUNDS: A QUALITATIVE EXPLORATION OF FACTORS THAT HELP OR HINDER HEALTHY, SUSTAINABLE FOOD PURCHASES FOR PEOPLE LIVING WITH OBESITY AND FOOD INSECURITY IN THE UK

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Good health is essential in enabling people to live fulfilling lives, shape communities and drive economic growth, however, health is socially patterned. Low socioeconomic status is associated with an increased risk of non-communicable diseases. Poor dietary patterns and diet related obesity are likely contributors. Less healthy foods, often high in fat, salt and sugar, generally cheaper than healthier alternatives, can become a sensible economic choice for those on a low income. However, repeated consumption can present a challenge for weight management. Most food purchased to be consumed at home is acquired from supermarkets. Any increase in food prices disproportionately impacts low income households. This study explores factors that help and hinder people living with obesity (PLWO) and food insecurity (FI) to purchase healthy, sustainable food from the supermarket. Semi structured interviews and focus groups were conducted in 2023 with adults, living in Scotland and England, who self-identified as LWO and FI ($n = 32$). Using thematic analysis, six main themes were generated 1) Supermarket deals; perceptions surrounding the good, the bad and the ugly side of supermarket offers and promotions, 2) Scepticism about supermarkets and wider food system; questioning supermarket pricing motives but recognising the role of the wider food system in food pricing, 3) Others role enhancing or undermining healthy diet intentions; the impact of others in shaping food purchases, 4) Restrictions facing non-UK nationals; additional challenges faced by those with no recourse to public funds, 5) Overwhelming in-store experience; sensory overload and attempts to prevent impulse purchases, 6) Unconscious sustainable shopping practices; budget-saving strategies that lead to sustainable purchasing patterns and behaviours. Factors identified as helpful in supporting healthy, sustainable food purchases for some were described as hindering this behaviour for others. Scepticism of supermarket pricing strategies may not be unfounded and potentially result in cost saving, albeit effortful, shopping behaviours. Participants agreed on the need for upstream changes, including the requirement of adequate benefits and wages to reduce health inequalities. Although budget-maximising strategies may be seen as environmentally sustainable shopping practices (i.e., buying less meat), they do not mean that a healthy diet is being purchased or consumed.

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S1-02 NAVIGATING THE AISLES: UNPACKING SUPERMARKET MESSAGING FOR THOSE LIVING WITH OBESITY AND FOOD INSECURITY

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In the UK, obesity and food insecurity are more common among socio-economically disadvantaged groups. People who are food insecure, often struggle to access nutritious foods consistently, with limited options due to the affordability and availability of healthier, more sustainable choices in their communities. The retail environment plays a pivotal role in influencing food purchasing behaviours, as an antecedent to consumption. While retail communications can shape behaviour, little is known about how their campaigns resonate with people living with obesity and food insecurity. This qualitative study gains insights into the perspectives of people living with obesity and food insecurity responding to two national campaigns: one aimed at easing the burden of rising food prices, and another promoting healthy, sustainable meals. Thirty-nine adults, living in the north of England, who self-reported as living with obesity and food insecurity shared their perspectives on campaign images from a single retailer during four in-person focus groups. Using reflexive thematic analysis, five themes and 12 subthemes were generated from the focus groups. In viewing the images and considering their influence, participants questioned (1) Do I have the resources needed? Food purchasing decisions were influenced by both financial and time resources, (2) Do I know what it means?, Participants did not always understand the images presented, (3) Do I trust it? Participants queried the authenticity of the prices and images illustrated, (4) Do I want it? Participants questioned whether the food illustrated was appealing to them. The final theme (5) Recommendations for Future Promotional Communications resulted from participants emphasising that messaging should apply to them by incorporating ethnically diverse food images that are suitable for a range of health conditions. These insights were presented and discussed with the retail partner in an online participatory workshop, which generated the theme It is a conundrum. The diverse needs of subgroups, including people living with obesity and food insecurity, when developing national campaigns, make it challenging for retailers to communicate healthy, sustainable food promotions. Effectively navigating the complexities of promoting healthy and sustainable foods is crucial for achieving lasting improvements as part of transforming the food system.

Disclosures: This research was funded through the Transforming the UK Food System for Healthy People and a Healthy Environment SPF Programme, delivered by UKRI, in partnership with the Global Food Security Programme, BBSRC, ESRC, MRC, NERC, Defra, DHSC, OHID, Innovate UK and FSA (BB/W018020/1 - FIO Food award).

S1-03 CO-DESIGNING SOLUTIONS FOR OBESITY AND FOOD INSECURITY: A CASE STUDY FROM THE FIO FOOD PROJECT

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Despite many UK government reports on tackling obesity, the trends for obesity in men and women in the UK, are increasing. However, obesity is disproportionately represented in socially disadvantaged groups, particularly for those living in areas of deprivation, leading to dietary health inequalities. Engaging stakeholders in health research is pivotal for developing and evaluating effective strategies for managing obesity (supporting healthy weight) and reducing food insecurity. By involving diverse groups, such as policymakers, third sector, community organisations, and individuals with lived experience, researchers can ensure that interventions are culturally appropriate, sustainable, and tailored to communities' specific needs. Furthermore, co-designing decision-making frameworks with food system representatives and consumers can enhance obesity prevention strategies. Lastly, understanding the stakeholders' motivations and the stages of engagement necessary for successful implementation can lead to more effective and context-specific interventions to improve dietary behaviours. The FIO Food project investigates the relationship between food insecurity and obesity and exemplifies the integration of stakeholder engagement in addressing diet inequalities within the UK food system. The project seeks to create actionable solutions that resonate with target populations by prioritising stakeholder input. Despite the strong encouragement for applying a co-production approach, several challenges have been identified, such as conflicting priorities, resource constraints, power imbalances and sustaining engagement over time. The presented work will share best practice from the FIO Food project as a case study to illustrate the co-production processes, with emphasis on challenges and opportunities of engaging policymakers and the third sector stakeholders.

Disclosures: This research was funded through the Transforming the UK Food System for Healthy People and a Healthy Environment SPF Programme, delivered by UKRI, in partnership with the Global Food Security Programme, BBSRC, ESRC, MRC, NERC, Defra, DHSC, OHID, Innovate UK and FSA. Award BB/W018020/1, for FIO Food: Food Insecurity in people living with Obesity—improving sustainable and healthier food choices in the retail FOOD environment.

S1-04 PRELIMINARY ANALYSIS OF SUPERMARKET TRANSACTION DATA TO IDENTIFY HEALTHY AND SUSTAINABLE FOOD AND BEVERAGE SWAPS

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Dietary changes are urgently needed to improve both population and planetary health. One potential intervention strategy already employed by some retailers is the use of food and beverage (F&B) swaps, where consumers are incentivized or nudged to choose one product over another. Supermarket transaction data is a relatively untapped resource that can be used to explore opportunities for F&B swaps and quantify the potential scale of environmental and health impacts. We used transaction data from a major UK supermarket on >160 million purchases made in 2022 in Yorkshire and the Humber (Y&H) to estimate sustainability metrics (Greenhouse Gas Emissions (GHGE), Land Use and Water Use) and High in Fat Salt and Sugar (HFSS) status for >28,000 products. Environmental sustainability metrics were estimated from global averages for 43 food commodities. Products were classified into one of 77 categories based on the Living Costs and Food Survey (LCFS) categories, and then into 201 subcategories. Estimated environmental sustainability metrics were calculated for each of the 201 subcategories. Differences in median sustainability metrics (per kg), proportion of HFSS products, and lowest product price (per kg) across subcategories within the same LCFS category were explored to identify potential product swaps that are better for population and planetary health. Data on product sales over a 12-month period were used to estimate the total environmental impact from such swaps. For example, switching from a beef microwave ready meal (MRM) to a vegetarian MRM was estimated to reduce GHGE by 25.3 kg CO2-equivalent per kg on average, while reducing the cost per kg of the cheapest product within each category by 12%, and maintaining the proportion (by weight) of non-HFSS product options at 94%. Replacing 10% of the beef MRM sold to Y&H customers over a year (by weight) with vegetarian MRM products had the following estimated environmental impacts: 7.3% lower GHGE, 7.1% lower Land Use, 1.7% greater Water Use. This work provides insight into possible F&B swaps that could improve population and planetary health without imposing an additional financial burden on the consumer.

Disclosures: This work was conducted in partnership with Sainsbury's PLC, who supplied transaction data for analysis. Sainsbury's PLC had no role in the design of the study or analysis of the data, but did have input into interpretation of the results by providing important context. This research was funded through the Transforming the UK Food System for Healthy People and a Healthy Environment SPF Programme, delivered by UKRI, in partnership with the Global Food Security Programme, BBSRC, ESRC, MRC, NERC, Defra, DHSC, OHID, Innovate UK and FSA. FIO Food is grant award BB/W018021/1.

S2-01 EXPERIENCES AND IMPACT OF WEIGHT STIGMA

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We report on Patient X's experience of weight stigma. Weight stigma refers to the negative attitudes, beliefs, stereotypes, and discriminatory behaviours directed towards individuals based on their body weight or size. It can impact on a person's physical and mental health, resulting in poor self-esteem, body image and relationship with food, leading to social isolation and decreased trust in people. Only 26% of people with obesity reported being treated with dignity and respect by healthcare professionals when seeking advice or treatment for their obesity. Patient X describes experiencing weight stigma throughout life from health care professions, friends and strangers in the street. Patient X describes feeling talked down to and being refused care by health care professionals due to his weight and receiving derogatory comments whilst attending a gym. Patient X eventually stopped attending, leading to a decline in Patient's X's mental health, trust in people and further weight gain. After losing a substantial amount of weight on a previous occasion Patient X underwent an apronectomy which became infected, resulting in scar tissue and overhang of this tissue. This led to reduced mobility and Patient X eventually became house bound. Patient X sought surgery to remove the scar tissue, however, due to the risks he was advised to reduce his Body Mass Index (BMI) < 40. Patient X was referred to the community dietetic department and started the total diet replacement programme for an extended period. His weight was 284 kg, BMI 80.4. Patient X lost 114 kg (40% of his body weight) over 11 months, however mental health issues remain. Patient X is still unable to leave home and still mistrusting of healthcare professionals. This case study illustrates the lasting impact of

weight stigma, even when weight loss goals are achieved. Further work is needed to highlight the harm caused by weight stigma.

Disclosures: None

S2-02 PSYCHOLOGICAL FUNCTIONING BEFORE AND AFTER BARIATRIC SURGERY

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Bariatric surgery compared to traditional weight loss treatments results in better weight maintenance, improvement of obesity related comorbidities, improvement of quality of life and psychological health. Those seeking bariatric surgery can often present with complex psychological history (e.g. depression, eating disorders, personality difficulties and may have encountered a greater number of adverse childhood events such as neglect and trauma compared to the general population). It is recognised that bariatric surgery will lead to significant weight loss and secondary physical health benefits. Many patients will also benefit psychologically from undertaking bariatric surgery but there are many factors which can make adjustment to life after surgery challenging. Despite the many improvements that may include improvement in mood and increased confidence, there will be a subset of patients who continue to struggle with psychological issues after bariatric surgery. Even for patients with no psychological bariatric surgery is a psychologically and emotionally demanding process that involves significant lifestyle and behavioural changes as well as other adjustments. This is against a backdrop where changes particularly in the first year are rapid which can contribute to issues such as brain-body-lag, body image distress, transfer of addiction, return of disordered eating. The vast number of challenges mentioned above that can occur post operatively are as a result of the rapid adjustments that patients are required to make and highlight that early access to psychology support is vital to help patients navigate these initial difficulties. There is great disparity across the UK in terms of psychological support for patient's undertaking weight loss surgery. NHS Grampian is fortunate to be able to support pre and post- surgery patients psychologically from pre surgery assessment, through education and preparation sessions, offer psychologically informed groups both pre and post-surgery as well as being able to provide induvial support to those most at need. Psychological pre and post-surgical challenges of a case study in the NHS Grampian bariatric service will be presented and what work was undertaken to promote a positive and lasting outcome of weight loss surgery.

Disclosures: None

S2-03 FERTILITY ISSUES AND PREGNANCY IN PEOPLE LIVING WITH OBESITY

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Obesity is a risk factor for subfertility. Furthermore, people living with obesity are often unable to access fertility treatment due to having a body mass index above criteria-based cut-offs for accessing treatment. Many people living with obesity seek help with weight management with a view to improving fertility or accessing fertility treatment. After undergoing bariatric surgery, patients are often advised not to become pregnant until they are weight stable, typically around 12 to 18 months after surgery, and to use reliable non-oral contraception meantime. However, factors such as improved fertility after bariatric surgery and continued use of oral contraception (which may be incompletely absorbed) mean that it is not uncommon for people to become pregnant soon after undergoing bariatric surgery. People who are pregnant after undergoing bariatric surgery require pregnancy-appropriate multivitamin and trace element supplementation, specialist nutritional monitoring and close liaison with the obstetric team. This part of the symposium will involve the case presentation of a person who underwent bariatric surgery and subsequently became pregnant. As the case is discussed by the multidisciplinary panel and audience, key aspects of fertility problems and pregnancy in people living with obesity will be discussed with reference to the evidence base and best practice clinical guidance.

Disclosures: None

S2-04 BARIATRIC AND METABOLIC SURGERY MEDICAL TOURISM: IMPLICATIONS FOR SPECIALIST BARIATRIC CENTRES IN THE UK

Kevin Deans[1]

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An increasing number of people living with obesity are travelling overseas to undergo bariatric surgery. Reasons for this often include limited availability of bariatric surgery within the UK, combined with lengthy waiting lists. People who are considering self-funding bariatric surgery are often drawn to overseas providers due to their lower cost. However, there is significant variation in packages of care provided by overseas services in the context of bariatric and metabolic surgery medical tourism, with a recent survey finding that less than a quarter of centres provide psychological assessment, and less than a third provide dietetic assessment. Follow-up after overseas bariatric surgery has also been found to be variable and often limited. A recent modified Delphi consensus statement from the European Association for the Study of Obesity (EASO), IFSO European Chapter (IFSO-EC) and the European Coalition for People living with Obesity (ECPO) made recommendations on safe practice for bariatric and metabolic surgery medical tourism. Recommendations covered areas such as regulation of providers of bariatric surgery, eligibility for bariatric surgery abroad and provision of clinical care including operative care and follow-up. In this part of the symposium, a clinical case history will be discussed which details some of the issues faced by a person living with obesity who underwent bariatric surgery overseas. Panel and audience discussion will focus on reference to the evidence base and best practice clinical guidance, and the panel members will discuss data from their own centre's experience of providing care for people who experience complications after bariatric and metabolic surgery medical tourism.

Disclosures: None

S3-01 A CLUSTER RANDOMISED CONTROLLED TRIAL TESTING THE IMPACT OF INCLUDING THE MAPME INTERVENTION IN THE NATIONAL CHILD MEASUREMENT PROGRAMME IN ENGLAND ON CHILD WEIGHT OUTCOMES AT ONE YEAR

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Parents are critical to healthy weight maintenance in their child, but many do not recognise when their child has overweight or obesity. The MapMe intervention was developed to address this and raise awareness of the health consequences of overweight in childhood. MapMe includes visual images of child body shapes of different weight statuses, to help parents understand what a child with overweight or obesity looks like. It also provides web-based information to support parents to take action to prevent or address unhealthy weight gain in their child. The mandated National Child Measurement Programme (NCMP) measures the weight status of children aged 4–5 and 10–11 years in England and feedback is shared with parents by letter. This three-arm cluster randomised controlled trial evaluated the effect of incorporating MapMe into the NCMP feedback on child weight outcomes at one year. The three interventions were: Control (Standard NCMP feedback), Intervention 1 (Enhanced NCMP letter including the MapMe website link and a paper copy of the images), Intervention 2 (Intervention 1 plus a 'booster' letter including a copy of the images at six months). Ten local authorities (LAs) were randomly allocated to one of three intervention pairs. Within each LA, schools were randomly assigned to one of the two interventions allocated to that LA. 55,088 parents of 4–5 and 10–11 year old children participated. There was no evidence that either intervention had an effect on body mass index (BMI) Z-score change at one year in children with overweight or obesity at baseline. For all children, there was a statistically significant reduction in BMI Z-score for Intervention 1 compared to Control in 4–5 year old children only (adjusted difference = −0.03, 95%CI = (−0.06 to −0.00), p = 0.03). Embedding the MapMe intervention in NCMP feedback did not significantly affect BMI Z-score change at one year in children with overweight or obesity though it could be useful as a population level intervention to support parents in maintaining a healthy weight in their child. This should be part of wider national strategy. Further research is needed to explore the long-term effects of the intervention.

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S3-02 PARENT AND STAKEHOLDER VIEWS OF EMBEDDING THE MAPME CHILD HEALTHY WEIGHT MAINTENANCE INTERVENTION IN THE NATIONAL CHILD MEASUREMENT PROGRAMME: A QUALITATIVE STUDY

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The National Child Measurement Programme (NCMP) measures the weight status of 4–5- and 10–11-year-olds and communicates results to parents, via letter. Parents are sometimes surprised by and mistrust these results. MapMe is a tool to improve parental acknowledgement and understanding of childhood overweight and obesity. Ten English Local Authorities (LAs) agreed to collaborate to test MapMe and deliver the intervention to parents via an 'enhanced' NCMP feedback letter including Body Image Scales (BIS): images of NCMP age- and sex-appropriate children of different weight statuses, plus dedicated website with BIS and supportive information. As part of the trial process evaluation, a qualitative study was conducted to determine the acceptability of the intervention, and views of embedding MapMe into usual practice. Twenty-seven parents and 48 LA staff consented to an interview, focus group or online questionnaire. All interviews and focus groups were conducted online and data analysed using thematic Framework analysis. Of the 27 parents interviewed, 25 had received a 'healthy weight' feedback letter for their child, one 'overweight' and one 'very overweight'; this limited the range of views available. Parents receiving 'healthy weight' feedback letters had no concerns about receiving the letters, did not feel the need to visit the intervention website and reported being happy to receive the BIS included with the letter. Whilst some LA stakeholders described the enhanced letters as too long or not compassionate in tone, no increase in parental complaints were reported. From the small number of complaints received from parents, LA stakeholders did not believe that embedding MapMe in usual NCMP practice would have a negative effect. Overall, it was suggested that MapMe could add value to the NCMP. Based on the very small number of parent complaints, it is unlikely to have a detrimental effect on the programme delivery.

Disclosures: None

S3-03 EMBEDDING THE MAPME INTERVENTION INTO THE NATIONAL CHILD MEASUREMENT PROGRAMME: A WITHIN-TRIAL COST UTILITY ANALYSIS

Tomos Robinson[1,2], Sedighe Hosseini Jebeli[3], João Paulo de Aguiar Greca[1], Letitia Sermin-Reed[1], Maddey Patterson[1], Angela Jones[1], Laura Basterfield[1,], Lorraine McSweeney[1], Vera Araújo Soares[4], Elizabeth Evans[5], Alison Gahagan[6], Mohadeseh Shojaei Shahrokhabadi[1], Martin Tovee[7], Ashley Adamson[1]*

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Childhood obesity is a major health concern and a public health priority. Parents play a key role in addressing childhood obesity, and one possible solution could be directly informing parents about their child's weight status, encouraging them to change behaviour. The MapMe intervention has been developed as a tool to improve parental acknowledgement and understanding of childhood obesity. As part of the MapMe2 study, a three-arm cluster randomised trial was conducted in England as part of the mandatory National Child Measurement Programme to estimate the impact of two versions of the MapMe intervention on child weight in children aged 4–5 and 10–11 years. The aim of this study was to conduct a within-trial cost-utility analysis (CUA) as part of a sub-study of the MapMe2 trial to estimate the potential cost-effectiveness of two versions of the MapMe intervention compared to a control group. A CUA was carried out from an NHS perspective over a one-year time horizon. In the base case, the primary outcome was child health-related quality of life measured by the CHU-9D. Results were expressed as incremental cost per Quality Adjusted Life Year (QALY) gained. Results showed both the 'Web Only' and 'Web Boost' versions of the MapMe intervention to have a higher probability of being cost-effective compared to the control group, with these results robust to the inclusion of out-of-pocket payments related to child weight management and physical activity made by the parents of the children and the use of a condition-specific measure of HRQoL. However, given the small sample size in the sub-study, the results from this study

should be treated with a high degree of caution. Future analysis should focus on estimating the cost-effectiveness of public health interventions such as MapMe over a longer time horizon, given that full costs and benefits are unlikely to be captured in the short time frame of trials such as MapMe2.

Disclosures: AJA receives funding from NIHR.

S4-01 THE IMPACT OF A REMOTELY-DELIVERED SPECIALIST WEIGHT MANAGEMENT SERVICE (SWMS) ON PSYCHOLOGICAL DISTRESS AND EMOTIONAL EATING FOR PATIENTS IN THE NATIONAL HEALTH SERVICE (NHS): A SERVICE EVALUATION

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Evidence suggests that obesity and psychological distress share a bidirectional relationship, where higher BMI is associated with increased anxiety, depression, and emotional eating. This highlights the need to integrate psychological support into obesity treatment, however, such support remains scarce. Remotely-delivered specialist weight management services (SWMS) can provide psychological support at scale at a lower cost than traditional face-to-face services, however evidence remains limited. This service evaluation explored the preliminary impact of Second Nature's remotely-delivered SWMS for adults living with obesity on psychological distress, emotional eating and weight change at 4 and 7 months. Participants ($N = 39$ at 4-months, $N = 20$ at 7-months) were referred from an NHS SWMS and allocated to: 1) a psychologically-informed app programme, 2) DBT-based group programme, or 3) one-to-one psychological support. Primary outcomes were weight changes; secondary outcomes included psychological distress, emotional eating, quality of life, physical activity, and emotion regulation. At 4-months, weight reduced by an average of -2.2 kg ($p = .012$), alongside significant decreases in psychological distress ($p < .001$). At 7-months, total weight loss increased to -4.3 kg ($p = .037$) with participants in the DBT-based group programme showing the greatest change (-15.7 kg, $p = .026$). Psychological distress continued decreasing ($p < .001$), with 80% below clinical threshold at 7-months versus 28.2% at baseline. Improvements in emotional eating ($p < .001$), emotion regulation ($p = .008$), physical activity levels ($p < .001$) and subjective health status ($p = .002$) were also observed. A remotely-delivered SWWi can achieve significant improvements in psychological distress, emotional eating and weight for adults living with obesity. Integrated approaches addressing both behavioural and psychological factors of obesity may enhance outcomes in clinical practice.

Disclosures: GS, RR and MW are employees of Second Nature Healthy Habits Ltd.

S4-02 EXPLORING THE EFFECT OF WEIGHT LOSS PHARMACOTHERAPY ON EATING BEHAVIOURS: A SERVICE EVALUATION USING IN-DEPTH INTERVIEWS

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Glucagon-like peptide 1 Receptor Agonists, or GLP-1s, are a class of medications being increasingly utilised in the treatment of obesity. GLP-1 outcomes appear promising from a physical health perspective. However, there is limited evidence exploring the impact of GLP-1 use on disordered eating behaviours, of which may be pre-existing or emerge post-treatment initiation. This service evaluation aimed to qualitatively explore the impact of GLP-1 use on eating behaviours. The primary aim of this service evaluation is to explore the relationship between GLP-1 use and eating behaviours, including but not limited to emotional eating, binge-eating, and compensatory behaviours. The secondary aim of this service evaluation is to explore the psychological support patients are currently receiving in relation to their GLP-1 use (NHS or private), any past psychological support they have received, and what additional support, if any, they would find beneficial. Participants ($N = 15$–20) were purposively sampled from service-specific databases used within Tier 3 and Tier 4 Guys and St Thomas' NHS Trust (GSTT). Databases indicated whether participants were taking GLP-1s privately or through NHS provision. A quantitative questionnaire was administered to patients' pre-interview to identify existing difficulties with emotional eating, binge eating and compensatory behaviours. Interviews will take place between April-May 2025, and be analysed using reflexive thematic analysis. This project will address gaps in the literature by identifying key participant experiences surrounding GLP-1 use and eating behaviours that require further investigation and support. The results will be used to inform service provision from a psychological perspective for patients using GLP-1s within the Tier 3 and Tier 4 Specialist Obesity Management Programmes (GSTT).

Disclosures: None

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