protocol for defining MetS does not exist and some studies have shown MetS definitions to be inferior at predicting diabetes compared to a single measurement of fasting glucose. In this study we examined the ability of five proposed MetS definitions to discriminate incident cases in order to determine whether MetS more accurately predicts type 2 diabetes.

Methods This was a prospective study involving a random sample of 1,754 men and women aged 46–73 years. Receiver operating characteristic curve and net reclassification improvement (NRI) analyses were used to evaluate the ability of MetS definitions and components to accurately classify high-risk subjects.

Results A model including proposed MetS components displayed a significantly ($P=0.02$) higher area under the curve (AUC) to discriminate diabetes (AUC=0.90, 95% CI: 0.87–0.93) compared to fasting glucose alone (AUC=0.88, 95% CI: 0.83–0.92). Models using the European Group for the Study of Insulin Resistance MetS criterion, and which included glucose as a mandatory component, demonstrated significant overall NRI when compared to recommended and optimal fasting glucose cut-offs. A final model had a sensitivity of 0.91 and a specificity of 0.73.

Conclusion In this population there is evidence that a combination of MetS components may help predict diabetes beyond that which is measured by glucose alone. Proposed MetS definitions should include fasting glucose as a mandatory component.

P41 DEVELOPING A HEALTHY LIFESTYLE INDEX FOR ASTHMA AND ALLERGY PREVENTION IN CHILDHOOD

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Background Although asthma is currently the most common chronic disease in childhood worldwide, it is not the key focus of prevention strategies. Diverse modifiable parental and child lifestyle factors has been individually associated with the risk of asthma and allergy symptoms in childhood; however, the quantification of their joint effect is lacking. A healthy lifestyle index (HLI) was developed to examine the combined effect of modifiable lifestyle factors on asthma, rhinoconjunctivitis, and eczema using data from the multicentre International Study of Asthma and Allergies in Childhood (ISAAC) Phase Three. We used this multidimensional lifestyle approach to estimate the impact of potential prevention strategies (mainly recommended for non-respiratory diseases) upon the population burden of asthma, rhinitis, and eczema in childhood.

Methods Information on symptoms of asthma, rhinoconjunctivitis, eczema and several lifestyle factors was obtained from children aged 6–7 years through written questionnaires. The HLI combined five lifestyle factors: no parental smoking, child's adherence to Mediterranean diet, child's healthy body mass index, high physical activity and non-sedentary behaviour. The HLI was modelled as a continuous and categorical variable with four categories (0 or 1 factor, 2 factors, 3 factors, and 4 or 5 factors), using 0 or 1 factor as the reference category. The association between the HLI and risk of asthma,

rhinoconjunctivitis, and eczema was evaluated using multilevel mixed-effects logistic regression models. To estimate the proportion of cases in the entire study population that could be prevented had all children been following four or all five healthy lifestyle factors (i.e. lowest-risk exposure group), we derived centre-specific population-attributable risk fractions.

Results Data of 70795 children from 37 centres in 19 countries were analysed. Each additional healthy lifestyle factor was associated with a reduced risk of current wheeze (OR=0.87, 95% CI 0.84–0.89), asthma ever (OR=0.89, 95% CI 0.87–0.92), current symptoms of rhinoconjunctivitis (OR=0.95, 95% CI 0.92–0.97), and current symptoms of eczema (OR=0.92, 95% CI 0.92–0.98). Theoretically, if associations were causal, a combination of four or five healthy lifestyle factors would result into a reduction up to 16% of asthma cases (ranging from 2.7 to 26.3% according to region of the world).

Conclusion These findings should be interpreted with caution given the limitations to infer causality from cross-sectional observational data. Efficacy of interventions to improve multiple modifiable lifestyle factors to reduce the burden asthma and allergy in childhood should be assessed.

P42 RECRUITMENT STRATEGIES AND LESSONS FROM THE WE CAN QUIT2 TRIAL – A SMOKING CESSATION COMMUNITY-BASED CLUSTER RANDOMISED CONTROLLED TRIAL FOR WOMEN LIVING IN DISADVANTAGED AREAS OF IRELAND

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Background Recruitment is a challenge in community-based randomised controlled trials (RCTs). Evidence on recruitment efforts are not routinely available although they help predict rates and manage risk. This study aims to describe recruitment strategies used in the We Can Quit2 (WCQ2) study, and successes and barriers.

Methods WCQ2 trial is a pilot, pragmatic, parallel-group cluster RCT delivered to women living in disadvantaged areas in Ireland. It tests the WCQ2 programme, a smoking-cessation behavioural support intervention delivered through 12-weekly group sessions, with free Nicotine Replacement Therapy, against a form of usual care.

Four Local Area Advisory Groups (LAGs) were established which consist of local area stakeholders, for example the Irish Cancer Society, the HSE, community organisations, and community workers. LAGs identified four matched pairs of districts within their region (eight clusters) from which eligible women could be recruited. LAGs and the study researcher recruited participants. The recruitment target was 24–25 women in each cluster (97 per arm; 194 in total). Consent was obtained prior to cluster randomisation.

Results Participants were recruited through a variety of methods including leafleting, posters in local shops and community services, information stands at local public events and in facilities like creches, and through traditional and social media, e.g. local radio and targeted Facebook advertisements. The trial was promoted at community employment schemes, and parenting groups.