characteristics associated with the efficacy of face to face interventions.

Methods Cochrane Controlled Register of Trials, Embase, MEDLINE (ovid), PsycINFO, Web of science, PubMed, and Scopus databases were searched (from start date till May 2019). Randomized Controlled Trials (RCTs) were included if they described the intervention to improve medication adherence delivered via face to face; included any LTHC, included a comparator group, conducted in any setting and published in English language. Studies were excluded if used additional delivery mode (e.g. leaflet, SMS, apps, follow up phone call related to medication adherence), involved adolescents (<18 years), children, peers, family members and used group format. Two reviewers independently assessed studies for inclusion, appraised risk of bias and extracted data. Pooled effect sizes will be calculated using random/fixed effects model using RevMan 5.3 software.

Results Results from 50 studies were included in the analysis (n=10576). Most face to face interventions took place in secondary care (n=26), included pharmacists in delivery (n=12) and involved counselling (n=10) and behavioural (n=8) approaches on multiple occasions. Majority of the studies were published in years 2014–2019 (n=26) and conducted in the USA (n=16). Most common health condition was HIV (n=10) in comparison to other LTHCs. The first follow up time point (related to medication adherence outcome), will be analysed from all included studies. In terms of risk of bias, most studies were rated as having overall high risk of bias (n=37), followed by some concern due to lack of information (n=12) and low risk of bias (n=1). BCTs were only used in the intervention groups (n=18), in which most commonly used were: 'self-monitoring behaviour' and 'action planning'. The impact of specific individual BCTs and BCTs domains on effectiveness will be examined. Subgroup analyses will be conducted related to age and gender. Results related to the aims of this meta-analysis and meta-regression will be available by the time of the conference.

Conclusion Efficacy of these interventions related to medication adherence outcome and core components of face to face consultations with BCT coding could be very useful to design a cost and time effective face to face very brief or brief interventions related to medication adherence to be implemented in primary care practices in the future.

P41 ARTERIAL STIFFNESS PROGRESSION AND RISK OF MAJOR ADVERSE CARDIOVASCULAR EVENTS ACCORDING TO HYPERTENSION STATUS IN A COHORT OF BRITISH CIVIL SERVANTS

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Background Arterial stiffness is defined as the loss of compliance of the elastic arteries in the human body and is associated to ageing. Hypertension is the leading global risk factor for cardiovascular disease and is related to a higher frequency of cardiovascular events. A high proportion of the hypertensive population is not aware of their condition or is not provided with adequate blood pressure treatment. The aim of this work is to assess the 4-year rate of change in arterial stiffness according to antihypertensive treatment at baseline in a population of British civil servants and to estimate the differences in the risk of major cardiovascular events between the different categories of change.

Methods Carotid-femoral Pulse Wave Velocity (cf-PWV) is the gold-standard to assess arterial stiffness and it was measured both at baseline (Phase 9, 2008–9) and follow-up (Phase 11, 2011–12) in 4998 participants of the cohort (3680 men; 1318 women). It was measured using the Sphygmacor ® Atcor tonometric device. Major cardiovascular events were defined as myocardial infarction, stroke and coronary heart disease. The information about these outcomes was extracted from the NHS Hospital Episode Statistics. 5-year change models were fitted using linear mixed model regression.

Results There were 1842 (36.9%) controlled hypertensive, 871 (17.4%) untreated hypertensive and 557 (11.1%) uncontrolled hypertensive participants in the total sample. A model adjusted for sociodemographic characteristics, comorbidities and health behaviours showed that compared to non-hypertensives, mean PWV increase was 0.04 m/s (95%CI: -0.04,0.17 p:0.51) for controlled hypertensives, 0.20 m/s (95%CI: 0.06,0.35 p<0.001) untreated hypertensives and 0.25 (95%CI: 0.03,0.47 p<0.05) for uncontrolled hypertensives. The risk of major adverse cardiovascular events was almost four times in uncontrolled hypertensive participants (HR: 3.72; 95%CI 2.47–5.59) and three times in controlled hypertensives (HR: 2.48; 95%CI 1.92–3.21) compared to normotensive participants. A significant difference was not found in untreated hypertensive participants.

Conclusion The rate of arterial stiffening over time and the risk of major adverse cardiovascular effects is higher in uncontrolled participants of the Whitehall II study, compared with normotensive participants. This is additional evidence of the need for improved strategies for blood pressure control in hypertensive patients.

P42 MATERNAL CHRONIC HYPERTENSION AND THE RISK OF ADVERSE MATERNAL AND BIRTH OUTCOMES: A POPULATION-BASED STUDY

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Background Chronic hypertension (CH) has been linked with adverse pregnancy outcomes, but it is unclear whether these associations are changing by maternal characteristics or over time.

The objective of this study was to examine the association between maternal CH and adverse pregnancy outcomes, and to determine whether the risk varies over time. We also aimed to assess the associations according to maternal age (younger or $\geq$ 35 yrs.) and other maternal characteristics.

Methods This population-based cohort study included women who had singleton births in Sweden between 1982 and 2012.

Using data from the Medical Birth Register, we identified 2,777,045 babies born to 1,417,903 mothers during the study period. Of those 9,334 were born to women with CH. Maternal CH were recorded using ICD-8, ICD-9 and ICD-10. Outcome measures were pre-eclampsia (PE), emergency and elective caesarean sections (CS), spontaneous preterm birth (PTB<37 weeks' gestation), medically indicated PTB, stillbirth and small for gestational age. Multivariate logistic regression models were performed using Stata 16 and adjusting for several socio-demographic and perinatal confounders.

Results Compared to normotensive women, we found higher odds among hypertensive women of the following outcomes: PE adjusted odds ratio [aOR (95% confidence intervals)]: [4.60 (4.31, 4.92)]; emergency CS [1.64 (1.53, 1.77)]; elective CS [1.63 (1.51, 1.76)]; medically indicated PTB [3.36 (3.11, 3.63)]; stillbirth [1.62 (1.26, 2.08)] and SGA [2.33 (2.13, 2.54)]. Moreover, Women of advanced maternal age were more likely to have emergency CS [aOR: 1.82 (1.61, 2.05)]; elective CS [1.83 (1.64, 2.04)]; medically indicated PTB [4.01 (3.54, 4.54)] and SGA [2.61 (2.24, 3.04)] compared to younger normotensive women. However, the magnitude of these associations appears to decrease over time apart of the association with PE which appears to have remained almost constant over time.

Conclusion Women with chronic hypertension are at increased risk of adverse maternal, fetal and neonatal outcomes and the risk differs according to maternal age. However, the effect of antihypertensive treatment and severity of hypertension have not been taken into account in this study.

P43 EXPERIENCE OF CHILD WELFARE SERVICES AND LONG-TERM ADULT MENTAL HEALTH OUTCOMES: A SCOPING REVIEW

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Background Research consistently suggests that children in care have higher rates of mental ill-health compared to their peers in the community, however, studies exploring the long-term adult mental health outcomes have shown mixed results. The proliferation of research in this area is challenging and to date no comprehensive overview exists. This study synthesised the literature on the mental health outcomes of adults with a history of child welfare involvement.

Methods A systematic scoping review methodology was used to search five electronic databases (MEDLINE, EMBASE, PsychINFO, IBSS, Social Policy and Practice). Two reviewers screened all papers independently. Studies were included if they examined any child welfare exposure (including being known to social services and remaining at home or being removed from the home and placed in foster care or residential care) and adult mental health status.

Results In total 4,591 records were retrieved, of which 53 met the eligibility criteria. Four major themes of child welfare and adult mental health research were identified based broadly on service type: 35 studies examined out-of-home care (OHC) without specifying outcomes by placement type; eleven studies of OHC examined specific placement types; four studies examined both in-home care (IHC) and OHC; and three studies examined IHC services only. Overall, both OHC and IHC were associated with an increased risk of adult mental ill-health, suicide attempt and completed suicide. Potential moderating factors such as gender and care related experiences have been explored but produced conflicting results. Reason for becoming known to child welfare services and experience of abuse or neglect have not been widely explored, nor have outcomes in those who received child welfare services but remained in their own home. Mental health was defined and measured heterogeneously and detail on welfare services received was lacking.

Conclusion This is the first review to systematically map the available evidence on child welfare exposure and adult mental health. There is a need for detailed, longitudinal studies to better understand the aetiology of mental ill health amongst adults with a childhood history of welfare service exposure, with more standardised measures of mental ill-health and more detail from authors on specific care exposure.

P44 DIFFERENT PATTERNS OF FAMILY ADVERSITY IN EARLY CHILDHOOD AND MIDDLE CHILDHOOD MENTAL HEALTH: WHEN DOES CHILDCARE HAVE A PROTECTIVE EFFECT? RESEARCH USING THE GROWING UP IN SCOTLAND STUDY

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Background Various patterns of early childhood family adversity characterised by poverty and/or other stressors are major risk factors for middle childhood mental health. Efforts to reduce mental health inequalities would benefit from understanding whether childcare moderates effects of different adversity patterns. This study examined hypotheses regarding centre-based (eg nursery) and non-centre (eg grandparent, childminder) childcare in: (1) buffering effects of adversity mainly characterised by poverty; (2) potentiating effects of adversity characterised by multiple stressors.

Methods We used the Growing Up in Scotland first birth cohort (born in 2004/5, n=5217), selecting families with a singleton birth, where mothers provided information on adversity and childcare at child age 10, 22 and 34 months, and where there was parent-reported information on children's externalizing and internalizing problems at 46, 58, 70, 94, 122 and/or 152 months (n=3419). Using Mplus, latent class analysis of 19 indicators identified four adversity subtypes: Low (66%), Health-related (20%), Poverty/discord (9%), Multiple (5%). Growth mixture modelling identified five childcare patterns: Low (28%), Moderate Non-Centre (30%), High Non-Centre (16%), High Centre (12%), High Combined (13%). Latent growth models of problem trajectories (approximate ages 4 to 12 years) on adversity, childcare and interaction terms controlled for child gender, low birth weight, mothers' age, ethnicity, education, smoking in pregnancy, family type and number of children at baseline.

Results Compared to the Low adversity subtype, children from higher-risk subtypes had higher 8.25-year intercepts of externalizing problems (coefficients with 95% confidence intervals: Health-related 1.46, 1.15–1.78; Poverty/discord 1.34, 0.82–1.87; Multiple 2.56, 1.86–3.26) and internalizing problems (Health-related 1.20, 0.93–1.47; Poverty/discord 1.16, 0.70–1.61; Multiple 2.60, 2.02–3.17); and steeper linear growth in