Background In the UK, 20–32% of children experience atopic eczema (AE), a chronic inflammatory skin condition typically diagnosed and treated in primary care. Emollient is effective for preventing flare-ups of inflammation and itchiness, topical corticosteroids (TCS) are used for flare-ups. The 2007 National Institute of Health and Clinical Excellence (NICE) guidelines for childhood AE diagnosis and treatment recommend all children presenting with AE in primary care are prescribed emollient; TCS are co-prescribed if indicated by the severity. The proportion of children receiving recommended treatment and NICE guideline impact on prescribing practices is unknown. This study was the first to access SystmOne routine data about UK-wide dermatology consultations in primary care.

We aimed to evaluate treatment patterns of childhood AE against NICE recommendations using routinely collected primary care data from SystmOne.

Methods Secondary analysis of retrospective, longitudinal primary care data for childhood (<12 yo) AE-related consultations from 2004 to 2013. Difference in proportion of consultations per month documenting 4 treatment scenarios was calculated (Wilson Score Method): 1) emollient and TCS co-prescribed (NICE-recommended for moderate or high severity presentation), 2) emollient only (NICE-recommended for mild severity presentation), 3) TCS only (not recommended), or 4) no topical treatment prescribed (not recommended if AE suspected). ARIMA used to examine step and trend-change in prescribing towards NICE-recommended treatment following guideline release.

Results We identified 130,106 children with AE documented at a consultation during the study period. After guideline was released, NICE-recommended treatments increased: emollient and TCS increased 8% (95%CI 7.7,8.7%); emollient only increased 8% (95%CI 7.8,8.8%); TCS only decreased 5% (95%CI -4.2,-5.1%); and no topical treatment decreased 11% (95%CI -11.3,-12.3%).

However, longitudinal analysis revealed there were underlying trends where NICE-recommended prescribing was increasing over time (scenarios 1 and 2), and prescribing not supported by NICE guidelines was decreasing (scenarios 3 and 4). These trends were not significantly affected by the guideline release. Despite these trends, at the end of 2013 ~334 children per month were still not receiving recommended AE treatment (37% of ~900 first-time AE consultations/month).

Conclusion Adherence to best practice guidelines for treatment and management of childhood atopic eczema could be improved. UK routine data can provide insights into the management of chronic conditions in primary care. Improving design of data input interfaces used by health professionals would remove significant barriers to optimal use of the data to answer pressing research questions.

P39 THE CHIPPS STUDY: A CLUSTER RANDOMISED CONTROLLED TRIAL TO DETERMINE THE EFFECTIVENESS AND COST-EFFECTIVENESS OF INDEPENDENT PHARMACIST PRESCRIBING IN CARE HOMES

[1]RC Holland*, [2]DW Wright, [3]CM Bond, [4]C Hughes, [5]D Alldred, [6]F Poland, [7]A Blyth, [7]L Watts. *[1]Leicester Medical School, University of Leicester, Leicester, UK; [2]School of Pharmacy, University of East Anglia, Norwich, UK; [3]Academic Primary Care, Aberdeen University, Aberdeen, UK; [4]School of Pharmacy, Queens University, Belfast, UK; [5]School of Healthcare, Leeds University, Leeds, UK; [6]School of Health Sciences, University of East Anglia, Norwich, UK; [7]Norwich Medical School, University of East Anglia, Norwich, UK*

10.1136/jech-2020-SSMabstracts.133

Background Prescribing, monitoring and administration of medicines in care homes could be significantly improved. Research has identified the need for one person to assume overall responsibility for medicines management within care homes. The advent of pharmacist independent prescribers (PIPs) provides an opportunity for pharmacists to assume this role. Although this approach is already being implemented, there has been no testing of effectiveness. This cluster randomised controlled trial (RCT) sets out to establish effectiveness and cost-effectiveness of PIPs.

Methods A cluster RCT across 90 care homes in England, Scotland and Northern Ireland with an internal pilot. The trial was designed following a programme of developmental and feasibility work in accordance with the MRC framework for developing and evaluating a complex intervention. The unit of randomisation is a triad (a PIP, a GP practice and a care home(s)). In the intervention group, the PIP is responsible for providing medication review, pharmaceutical care planning, prescribing and deprescribing for care home residents; supports the care home and optimises communication between GPs, care homes, and supplying pharmacy. The primary outcome is resident falls at 6 months. Secondary outcomes include resident health-related quality of life, medication burden, mortality and hospitalisation. Sample size is 880 residents across 44 triads to provide 80% power to detect a 20% decrease in fall rate from 1.5/resident to 1.178 with an ICC of 0.05 or less. We have conducted a parallel process evaluation including in-depth qualitative interviews with stakeholders.

Results The internal pilot study confirmed feasibility of the RCT with no significant adverse events. The trial completed recruitment to its sample size in October 2019, and follow-up will complete in March 2020. Characteristics of all residents recruited are: mean age 85 years; 70% female; 13% had capacity to consent; median number medications 7; fall rate 0.55/three months; mean Drug Burden Index 0.64; Charlson Morbidity Index 5.98; proxy EQ-5D 0.32; Barthel index 7.51. Full trial results will be available at the SSM Annual Scientific Meeting. Preliminary analysis of qualitative stakeholder interviews suggests changing professional roles need to be actively managed and effective communication systems implemented.

Conclusion As yet we do not know the trial outcome. A positive finding would support the provision of PIP-type interventions in care homes, whilst a negative finding would imply pharmacist resources may be better directed elsewhere. Either will be of great significance for UK pharmacy practice.

On behalf of CHIPPS investigators.

P40 A SYSTEMATIC REVIEW OF FACE TO FACE MEDICATION ADHERENCE INTERVENTIONS FOR PATIENTS WITH LONG TERM HEALTH CONDITIONS

K Akhter*, S Sutton, A Kassavou. *Department of public health and primary care, University of Cambridge, Cambridge, UK*

10.1136/jech-2020-SSMabstracts.134

Background This review aimed to (i) identify efficacy of face to face interventions on medication adherence behaviour in adults with Long Term Health Conditions (LTHCs) and (ii) identify Behaviour Change Techniques (BCTs) and study

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

[1]CA Valencia-Hernández*, [2]C McEniery, [2]IB Wilkinson, [3]S Ahmadi-Abhari, [4]J Lindbohm, [1]MJ Shipley, [1]EJ Brunner. *[1]Research Department of Epidemiology and Public Health, University College London, London, UK; [2]Division of Experimental Medicine and Immunotherapeutics, University of Cambridge, Cambridge, UK; [3]Ageing Epidemiology Research Unit, Imperial College London, London, UK; [4]Clinicum, Department of Public Health, University of Helsinki, Helsinki, Finland*

10.1136/jech-2020-SSMabstracts.135

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

[1,2]EJ O'Reilly, [3,4]FP McCarthy, [5]M Kublickas, [6]K Kublickiene, [1,3]AS Khashan, [1,3]SY Al Khalaf*. *[1]School of Public Health, University College Cork, Cork, Ireland; [2]Department of Nutrition, Harvard T.H. Chan School of Public Health, Boston, MA, USA; [3]INFANT Research Centre, University College Cork, Ireland; [4]Department of Obstetrics and Gynaecology, University College Cork, Cork, Ireland; [5]Department of Obstetrics and Gynaecology, Karolinska Institutet and Karolinska University hospital Stockholm, Sweden; [6]Renal Medicine, Department of Clinical intervention, Science and Technology (CLINTEC), Karolinska Institutet and Karolinska University hospital, Stockholm, Sweden*

10.1136/jech-2020-SSMabstracts.136

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.