Abstract Book
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A Diagnostics

Accuracy of automated blood pressure measurement in the presence of atrial fibrillation: systematic review and meta-analysis

Dr Chris Clark, University of Exeter Medical School

Ms Sinead TJ McDonagh (1), Prof Richard J McManus (2)  1. Primary Care Research Group, University of Exeter  2. Nuffield Department of Primary Care Health Sciences, University of Oxford

Background/aims Atrial fibrillation (AF) affects up to 3% of the population and is associated with hypertension. Guidelines recommend confirming hypertension with ambulatory or home blood pressure (BP) monitoring, but caution against use of automated measurement devices with AF. Validation protocols for automated sphygmomanometers exclude people with AF, creating uncertainty over their accuracy in AF. Some newer devices include AF detection algorithms, which risk misunderstanding their validity for BP measurement in AF. We undertook this review to explore accuracy of oscillometric devices, especially those with AF detection, for measuring BP.

Methods We searched Medline and Embase to November 2017 for studies including only people with confirmed AF, comparing BP measurement with any automated device to standard measurement by mercury sphygmomanometer, using a contemporaneous protocol. Study details and results were extracted to a standard proforma by two reviewers. Mean BP differences between devices were calculated where not reported using pooled correlation coefficients from a previous review. Meta-analysis was undertaken using Stata v14.0.

Results 506 titles and abstracts were screened and 12 studies (reporting 13 devices) identified for inclusion. Data formats varied limiting potential for pooled analyses. Mean systolic and diastolic differences from mercury standard ranged from -6.4 to 6.1/-6.0 to 9mmHg. Considerable heterogeneity existed between devices (I² =82%, p<0.001). One AF detection device was included: mean difference 6.1 (95%CI 3.5 to 8.7)/2.1 (-0.6 to 4.8) mmHg from standard.

Discussion/Conclusions A previous review suggested that oscillometric devices are accurate for systolic but not diastolic BP measurement in AF. These findings do not support that conclusion. Marked heterogeneity between devices precludes general conclusions; devices should be evaluated on individual performance. Insufficient evidence was found to conclude whether devices with AF detection possess greater accuracy for BP measurement in AF than other devices. Home or ambulatory BP monitors require validation in populations with AF.
Effects of using CRP point of care testing to improve targeting of antibiotics for patients with acute exacerbations of COPD: The PACE Study

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Dr David Gillespie, Cardiff University  Dr Patrick White, Kings College London  Janine Bates, Cardiff University  Dr Rachel Breen, Cardiff University  Nigel Kirby, Cardiff University  Prof Kerenza Hood, Cardiff University  Prof Christopher C Butler, University of Oxford

Background  Not all patients with acute exacerbations of chronic obstructive pulmonary disease (AECOPD) benefit from antibiotic treatment. C-Reactive Protein (CRP) point of care testing (POCT) has been shown to reduce antibiotic use for acute cough, and patients with AECOPD with low levels of CRP managed in primary care receive little or no benefit from antibiotics. However, no trial has evaluated whether CRP testing in primary care reduces antibiotic prescribing without leading to worse outcomes for patients.

Methods  Randomised controlled trial of CRP POCT guided care versus usual care in patients presenting in primary care with AECOPD. The co-primary outcomes are, i) consumption of antibiotics within 4 weeks of randomisation, and, ii) COPD health status assessed using the Clinical COPD Questionnaire (CCQ) at 2 weeks. Analysis used logistic regression to assess superiority for the antibiotic consumption outcome, and linear regression to assess for non-inferiority (using a margin of 0.3) in CCQ score. Secondary outcomes include antibiotic prescribing, all-cause antibiotic consumption, quality of life, adverse effects, and use of other COPD treatments.

Results  We recruited 653 patients (mean age 68 years) between January 2015 and February 2017 (327 to CRP and 326 to Usual Care). Follow-up data were available for 88%, and 85% of participants at weeks 2, and 4 respectively. 57.0% and 77.4% (aOR 0.31, 95% CI: 0.20 to 0.47) consumed an antibiotic for AECOPD within four weeks in the POCT and usual care groups respectively. Mean CCQ scores at two weeks were 2.6 and 2.8 (adjusted mean difference -0.02, 95% CI -0.3 to -0.1) in the POCT and usual care groups respectively.

Discussion  Use of a CRP POCT led to a 20% absolute reduction in antibiotic prescribing with no evidence of adversely affecting patient recovery. This intervention should be recommended as a tool to help guide antibiotic prescribing for AECOPD.
Identification of clinical and immunological markers for uncomplicated urinary tract infections in women

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Background and aim Women with uncomplicated urinary tract infection (UTI) symptoms are commonly treated with empirical antibiotics in primary care. Microbiological culture is infrequently requested prior to treatment, primarily because of the time required to obtain a result, cost, and concerns about the actual value in predicting benefit from antibiotics. However, this practice ignores the overall harm for patients and communities associated with the risk of selection of resistant microorganisms due to excessive antibiotic use. Thus, new diagnostic tools that better identify patients in need of antibiotic treatment are urgently required.

Methods We utilized urine samples and clinical data from 185 women with uncomplicated UTI symptoms, however, diagnosed as either UTI negative (n=106) or positive (n=79) according to the standard microbiological culture results. Samples and clinical data were collected as part of POETIC study (FP7 R-GNOSIS, http://www.r-gnosis.eu). We used classification trees and logistic regression algorithms on a machine learning platform to investigate the predictive value of clinical symptoms and urine sample appearance (as this information is readily available in primary care consultations) in identifying UTI according to several microbiological guidelines (including the standard UK definition). Furthermore, we are evaluating the additional predictive value of a set of urine immunological markers.

Results The analysis is currently ongoing and we expect to demonstrate sensitivity and specificity of each selected clinical and/or immunological marker(s) in identifying patients with a microbiological UTI using Area Under the Receiver Operating Characteristic Curve. Moreover, the overall and class (UTI positive or negative) accuracy of the tested models based on the best selected predictors will be presented.

Discussion/Conclusions We expect to provide statistical evidence on the importance of clinical findings and urine sample appearance at the primary care settings to identify UTI. In addition, we expect to identify some immunological biomarkers that might be potential to develop point of care UTI diagnostic tests.
Clinical relevance of raised inflammatory markers for cancer diagnosis in primary care: a prospective cohort study using CPRD

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Dr Yvette Pyne, University Hospitals Bristol  Professor Chris Salisbury, Centre for Academic Primary Care, University of Bristol  Dr Jonathan Banks, NIHR CLAHRC West  Dr Penny Whiting, NIHR CLAHRC West  Professor Willie Hamilton, University of Exeter

Background/aims: Inflammatory markers such as C reactive protein (CRP), erythrocyte sedimentation rate (ESR) and plasma viscosity (PV) have been implicated in future cancer risk, but the relevance for cancer diagnosis in primary care settings is unknown. The aim of this study was to examine the incidence of cancer in a cohort of primary care patients in whom inflammatory marker blood tests had been performed.

Methods: Prospective cohort study of 160,000 patients from Clinical Practice Research Datalink (CPRD) with inflammatory marker blood testing in 2014. The primary outcome was 1-year incidence of cancer in those with raised versus normal inflammatory marker. A comparison cohort of 40,000 age, sex and practice matched patients without inflammatory marker testing in 2014 was identified, to compare incidence of cancer in tested versus untested patients.

Results: 73% of the tested cohort had a CRP test, 59% had an ESR test, and 10% had PV test; of these 34% had at least one raised inflammatory marker. Of 53,043 patients with raised inflammatory markers; 2.80% developed cancer at 1 year, compared to 1.28% in those with normal inflammatory markers (p<0.001). A dose response relationship was found with CRP, ESR and PV in the highest quintiles associated with >5% 1-year incidence of cancer. Risk of cancer was 0.84% in the untested cohort.

Discussion/Conclusions: This is the first study to explore the risk of cancer following inflammatory marker testing in primary care. Further analysis is currently underway to explore the risk of cancer at different levels of raised inflammatory marker, by gender, age, and for different cancer sites. This will help determine the role of inflammatory markers in identifying patients above the National Institute for Health and Care Excellence mandated threshold of 3% risk warranting urgent referral for suspected cancer.
**B Primary Care Workforce**

**Building portfolio roles for GPs: lessons from a post CCT fellowship in urgent and acute care**

*Dr Carol Bryce, Academic Primary Care, Warwick Medical School*

Professor Jeremy Dale, Academic Primary Care, Warwick Medical School, University of Warwick

**Background/aims:** The growing population of elderly patients with multi-morbidity, alongside continuing health inequalities, requires a health care system that can provide generalist care across a range of settings. Increasing demand for generalist care falls heavily on the primary care sector which is struggling to recruit and retain staff. To deal with these challenges, new models of care and cross sector working, the system requires a suitably trained workforce with the opportunity to work differently. The Post CCT fellowship in urgent and acute care was developed as a response to this need. It aims to provide additional skills training for GPs, ANPs and PAs in Emergency and Acute Medicine which will enable them to bridge between primary and secondary care.

**Method:** Using a qualitative methodology, the evaluation of the fellowship programme in London and the South East comprised: semi-structured interviews conducted with fellows, their mentors and key individuals in the host organisations and key stakeholders in HEE; observations of the fellows general practice and acute settings placements; short interviews with fellows’ colleagues; and patient case studies.

**Results:** Fellows welcomed the opportunity to work across boundaries in primary and secondary care settings and through this upskill. Colleagues in both primary and secondary care settings welcomed GPs working across settings as they could see the learning and improved understanding that was flowing in both directions. The programme also gave leadership opportunities for GPs as they took on quality improvement projects and through working in CCGs to understand commissioning roles.

**Discussion:** Workforce planning reports highlight the need for GPs who can understand and work across primary and secondary care settings to give leadership and coordinate change. This fellowship programme demonstrates one way of equipping clinicians with the required skills to develop portfolio careers which are seen as one way of attracting and retaining GPs.

**Modelling the risk of a supply demand imbalance in general practices, could this have predicted the current situation in Plymouth?**

*Dr Gary Abel, University of Exeter*

Dr Mayam Gomez-Cano, University of Exeter  Prof. Andi Smart, University of Exeter  Dr Navonil Mustafee, University of Exeter  Dr Rupa Chilvers, University of Exeter  Mrs Emily Fletcher, University of Exeter  Prof. Chris Salisbury, University of Bristol  Dr Sarah Dean, University of Exeter  Prof. Sue Richards, University of Leeds  Prof. John Campbell, University of Exeter

**Background/aims** British general practice has been described as being in crisis. Many GPs are close to retirement age, morale is low, and a there is a shortage of qualified GPs. Together, these factors provide potential for practices to find themselves without an adequate supply of workforce to cope
with the demands of patients – a situation currently applicable to a number of practices in Plymouth. We describe the development of a supply-demand risk prediction model and its application to the situation in Plymouth.

**Methods** A hybrid modelling approach was used to predict imbalance based on practice factors including current workload, GP Patient Survey scores, nurse workforce, projected populations and the projected fraction of current GP workforce expected to remain in direct patient care in 5-years’ time. The predictive model was developed using national data from 2012 and subsequently applied to current data for practices in south-west England. The risk profile of practices in Plymouth is compared to that in the rest of the region.

**Results** The risk prediction model was found to have fair to good discriminatory ability to predict which practices faced supply-demand imbalance (area under the ROC curve 0.759). Using our model to examine practices in the city of Plymouth, we found that of the 39 practices with available data, more than half (53%) of Plymouth practices were at a greater than 10% risk of being in a state of undersupply. This compares with 6% of practices in the rest of Devon.

**Conclusions** It is possible to make reasonable predictions of an individual general practice’s future risk of undersupply of GP workforce with respect to its patient population using a modelling approach such as the one described here. Application to practices in Plymouth shows that the model we describe may be useful in targeting resources before crisis arises.

“**If I could do anything but vote with my feet...**” Understanding why GPs are leaving direct patient care and what might help to retain them: a qualitative study.

*Mrs Emily Fletcher, University of Exeter Medical School*

Dr Anna Sansom, University of Exeter Medical School  Dr Rohini Terry, University of Exeter Medical School  Mrs Emily Fletcher, University of Exeter Medical School  Professor Chris Salisbury, University of Bristol  Dr Linda Long, University of Exeter Medical School  Professor Suzanne Richards, University of Leeds  Mr Alex Aylward, ReGROUP project PPI group  Dr Jo Welsman, University of Exeter  Dr Laura Sims, University of Exeter Medical School  Professor John Campbell, University of Exeter Medical School  Dr Sarah Dean, University of Exeter Medical School

**Background/aims** In the context of the current GP workforce crisis, this study aimed to identify factors influencing GPs’ decisions about whether to remain in direct patient care, and what might help to retain them in that role.

**Methods** Qualitative, in-depth, individual interviews exploring factors related to GPs leaving, remaining in, and returning to direct patient care. Forty-one GPs from South West England were interviewed: 7 retired; 8 intending to take early retirement; 11 who were on or intending to take a career break; 9 aged under 50 who had left or were intending to leave direct patient care; and 6 who were not intending to leave or to take a career break. In addition, 19 stakeholders were interviewed from a range of primary care related organisations and roles.

**Results** Reasons for leaving patient care were complex and based on a range of job-related and individual factors. Three key themes underpinned GPs’ thinking and rationale: issues relating to personal and professional identity and the perceived value of general practice within the healthcare system; concerns regarding fear and risk, for example in respect of medical litigation and managing administrative challenges within the context of increasingly complex care pathways and
environments; and issues around choice and volition in respect of personal social, financial, domestic, and professional considerations. These themes provide increased understanding of the lived experience of being a GP in today’s NHS.

**Discussion/Conclusions**  Future policies and strategies aimed at retaining GPs in direct patient care should clarify GPs’ role and identity; demonstrate to GPs that they are valued and listened to in planning delivery of UK healthcare; target GPs’ concerns regarding fear and risk, seeking to reduce these to manageable levels; and give GPs viable options to support them to remain in direct patient care.

**Exploring the Validity of Rater Selection in Multisource Feedback Assessments for Revalidation: A Social Network Analysis in Primary Healthcare**

**Mr Sebastian Stevens, Peninsula School of Medicine, Plymouth University**

Dr Arunangsu Chatterjee, Peninsula School of Medicine, Plymouth University  Professor Julian Archer, Peninsula School of Medicine, Plymouth University  Professor John Scott, Department of Sociology, Philosophy and Anthropology, University of Exeter

**Background**  Multisource feedback (MSF) is a method of workplace-based assessment in which doctors are evaluated by their colleagues on key performance behaviours. MSF forms a core component of the ‘medical revalidation’ process in the UK, established by the government to quality assure clinical practice and certify that all licensed doctors ‘up-to-date and fit-to-practise’. A number of threats to the validity of MSF have been highlighted, with biases in the selection of raters being one underexplored area of research. This project provides new insights into the validity of MSF within revalidation by answering the research question ‘does the social network within a primary healthcare team influence rater selection within MSF assessments of general practitioners (GP’s)?’

**Methodology**  Adopting a critical realist perspective, this study utilises a cross-sectional, mixed methods design. Research methods include an online survey, archival data and in-depth interviews, have been adopted to explore the impact of friendship on rater nomination choices made by doctors from both an explicit and implicit perspective. To explore differences in patterns of rater nomination decisions made by GP’s, a case study approach is adopted involving four GP practices in the South West of England, each varying in healthcare team size and geographic locality.

**Results and Conclusion**  This paper will disseminate the interim results of this ongoing study. Early findings suggest ‘tribal’ patterns of socialisation within healthcare teams, with stronger social relationships between GP’s than other non-medical staff. Significant correlations also exist between the social network of GP’s and their rater nomination choices. Finally, in-depth interviews provide new insights into the attitudes of those involved with MSF in revalidation. Results have important implications for understanding the existence of potential bias within MSF. The final results of the study aim to increase the validity of MSF instruments used within revalidation and subsequently support the quality and safety of patient care.
C Mental Health (A)

Exploring General Practitioners’ perceptions of boundaries between depressive disorder and emotional distress

Dr Adam Geraghty, University of Southampton

Charlie Beavis, University of Southampton  Dr Miriam Santer, University of Southampton  Samantha Williams, University of Southampton  Prof. Tony Kendrick, University of Southampton  Dr Berend Terluin, VU University Medical Centre  Prof. Paul little, University of Southampton  Prof. Michael Moore, University of Southampton

Background/aims: GPs are primarily responsible for detecting depression, with the majority of cases managed in primary care. Previous qualitative research has highlighted the complexity of identifying depression, although the drivers of this complexity have not been investigated in depth with GPs. The aim of this focused qualitative study was to explore the underpinnings of GPs’ understandings of emotional symptoms, diagnosis and disorder.

Methods: Qualitative interviews were conducted with a purposive sample of 21 GPs from the south of England. Telephone and face-to-face interviews followed a semi-structured interview guide, were audio-recorded and transcribed. A thematic analysis was undertaken from a critical realist perspective.

Results: GPs’ notions of depressive disorder were broad, ranging from ideas of simple depression based on the presentation of clusters of symptoms, to ‘true’ depression, identified primarily by the absence of precipitant stressful life events. When considering presentations that may not reflect disorder, the absence of biological/physical symptoms and a clear link to a stressor were thought of as indictors of emotional responses unlikely to reflect psychopathology. Views were divergent when directly considering whether emotional distress could be distinguished from depressive disorder. Some GPs suggested distinction was not possible as symptoms lay on a continuum, with severity as a proxy for disorder. Others focused on the difficulty of similar symptoms seemingly driven by different processes and highlighted the importance of patients’ contexts in making distinctions (e.g. life stressors likely to indicate distress). A final group perceived the distinction to be clear, often drawing on notions of reactive and endogenous depression.

Discussion/Conclusion: GPs’ perceptions regarding when emotional symptoms reflect disorder vary greatly. This variance is likely to have a direct impact on treatment decisions as well as patients’ understanding of their condition. Research is needed to explore which models of symptoms-disorder relations are most likely to benefit patients.
How shared are decisions in primary care mental health consultations?

Dr Joseph Ford, University of Exeter Medical School

Dr Felicity Thomas (University of Exeter Medical School)  Professor Rose McCabe (University of Exeter Medical School)  Professor Richard Byng (Plymouth University Peninsula School of Medicine)  Lorraine Hansford (University of Exeter Medical School)  Professor Katrina Wyatt (University of Exeter Medical School)

Background/Aims  NICE guidelines state that patients should be involved in decisions about their mental health treatment (National Institute for Health and Care Excellence [NICE], 2011). Earlier research, though, has suggested low patient involvement (Loh et al., 2006). This paper, as part of the wider DeStress Project, aims to show how shared decision-making is actually managed in primary care mental health consultations.

Methods  52 recordings of primary care consultations about depression, anxiety, and related conditions were analysed using conversation analysis. These recordings, taken from the One in a Million data archive, covered both initial consultations and follow-up consultations. The patients in the data came from a range of socioeconomic backgrounds, which was taken into account during the analysis.

Results  Patient involvement varied depending on the nature of the decision. When it came to which treatment they should take (medication, counselling, or both), patients were usually given the option to choose. Decisions about type (e.g. which antidepressant), or changes to dosage (in follow-up consultations), on the other hand, tended to be less shared, with GPs typically making either a strong recommendation for, or a unilateral declaration about, what should be done. The presence of shared decision-making was not binary - overwhelmingly shared decisions could still have elements of non-shared decision-making, and vice versa. Patients themselves varied, as well, in their engagement with decision-making, which was related to their socioeconomic background.

Discussion/conclusions  Shared decision-making in primary care mental health consultations depends on the nature of the decision being made, the decision-making opportunities that doctors give to patients, and patients’ engagement with those opportunities. GPs should take these factors into account during decision-making, and adjust their practice accordingly.

How effective are current GP referral mechanisms for IAPT for low-income patients? Lay and primary care perspectives.

Dr Felicity Thomas, University of Exeter

Ms Lorraine Hansford, University of Exeter  Dr Joe Ford, University of Exeter  Professor Richard Byng, University of Plymouth  Professor Rose McCabe, University of Exeter  Professor Katrina Wyatt, University of Exeter

Background/aims Improving Access to Psychological Therapies (IAPT) now constitutes a key element of national mental health strategy in the UK. Accessing this type of support usually requires that the patient self-refer to IAPT services on the advice of their GP. However, little is known about the ways that GPs communicate IAPT services to patients, nor how the notion of self-referral is perceived by GPs and understood and responded to by low-income patients. This paper draws on interim findings from the DeStress study to examine how IAPT referrals are made by GPs and to identify how patients from low-income backgrounds perceive and respond to IAPT referral.

Methods Working with low-income communities in Plymouth and Teignmouth, the data draws on findings from sixteen focus groups (participant n=97) with local residents; in-depth interviews with low-income patients who have experienced mental distress (participant n=60); interviews with GPs (n=10); analysis of video-recorded GP-patient consultations for mental health (n=52).

Results GPs interviewed were generally found to support self-referral, perceiving it would provide an important initial step forward in patient recovery. Many low-income patients however, perceived self-referral as an obstacle to accessing IAPT, resulting in many returning to their GP for additional support. Furthermore, most low-income patients who had used IAPT found it to be of limited use, particularly when the issues underlying their distress remained unresolved.

Conclusions A number of factors prevent patients from low-income backgrounds self-referring for IAPT services. Understanding why self-referral for IAPT is deemed problematic by this population group would enable the development of more effective referral and support mechanisms within primary care.
**GPs’ views and experiences of managing patients with personality difficulties in primary care and through IAPT**

*Dr Lydia French, Centre for Academic Primary Care, University of Bristol*

Prof Paul Moran, Centre for Academic Mental Health, University of Bristol  Dr Nicola Wiles, Centre for Academic Mental Health, University of Bristol  Dr David Kessler, Centre for Academic Mental Health, University of Bristol  Dr Katrina Turner, Centre for Academic Primary Care, University of Bristol

**Background/Aims:** Individuals with personality difficulties (PD) frequently present to primary care and are at increased risk of suffering from a range of serious mental and physical health problems. In 2011, the government expanded the scope of Improving Access to Psychological Therapies (IAPT) programme to include patients with depression and/or anxiety with co-morbid PD. This expansion was viewed as responding to the needs of GPs, who manage many of these patients in primary care. To date, no research has been conducted to explore GPs’ views on this development and whether they think IAPT services are an appropriate and effective way to manage this patient group. The aim of this study was to explore GPs’ views and experiences of managing PD patients in primary care and through IAPT.

**Methods:** In-depth telephone interviews were held with 15 GPs who had been recruited from general practices across the West of England. Interviews were transcribed and analysed thematically.

**Results:** Findings suggest GPs found providing care for PD patients was extremely challenging and time-consuming. While they viewed IAPT service provision as ‘better than nothing’, they considered it unable to effectively ‘hold’ and treat PD patients. They described PD patients to regularly ‘fall in the gap’ between primary and secondary mental health services, leading patients’ mental health to deteriorate as a consequence of receiving little or no treatment. GPs also described the techniques they used to manage PD patients and what they considered an effective mental health service would need to offer this patient group.

**Discussion/Conclusions:** Findings suggest that GPs consider the IAPT programme to be an effective service for patients with more straightforward mental health needs such as depression and anxiety but that the service struggled to meet the needs of patients with more complex mental health needs, as exemplified by people with PD.
Rates of progression to diabetes in a single general practice and factors associated with fast progression.

Dr Kate Sidaway-Lee, St Leonard’s Practice, Exeter

Associate Professor Philip H Evans (St Leonard’s Practice, University of Exeter)  Professor Sir Denis Pereira Gray (St Leonard’s Practice)

Background/aims Type 2 diabetes (T2DM) is a major disease with steadily increasing prevalence.[1] Prediabetes (HbA1c 42-47mmol/mol)[2] is a high risk condition for T2DM.[3] It is often identified in general practice via opportunistic screening for diabetes.[4] Studies have shown progression rates over short periods[5] and have identified factors such as BMI, Sex, HbA1c and blood pressure as being predictors.[6] We compared progression rates from a range of initial HbA1c values and investigated additional factors.

Methods Using anonymised HbA1c practice audit data, we undertook an observational study on patients with >1 HbA1c result at least 6 months apart. We calculated the proportions subsequently diagnosed with T2DM for different initial HbA1c test results, for each year following the first test. Progression rates per 1000 person years were calculated for different groups of patients to investigate factors potentially linked to progression including social deprivation and BMI.

Results 1015 had an initial Hba1c test result <42 and 426 within the prediabetic range. For patients in the prediabetic range, 50% had progressed to T2DM within 8 years. Under 10% of those who were not prediabetic progressed in the same time period. Above 42mmol/mol, the higher the HbA1c value at the first test, the more likely patients were to progress after 3 and 5 years. Both social deprivation and obesity are linked to faster progression. For obese patients the incidence per 1000 person years is 41 versus 26 for non-obese. For the most deprived 40% by national IMD ranking this is 36 versus 23 in the least deprived 40%. Interestingly, for non-obese patients in the most deprived this is similar to obese patients in the most affluent.

Discussion Patients with HbA1c within the prediabetic range should be followed up regularly, particularly those who are obese or in deprived areas.

eMotion: A pilot trial randomised controlled trial of a web-based intervention combining behavioural activation and physical activity promotion for people with depression.

Mr Jeffrey Lambert, University of Exeter Medical School

Prof Colin Greaves: University of Birmingham  Prof Paul Farrand: University of Exeter  Dr Anne Haase: University of Bristol  Prof Adrian Taylor: Plymouth University

Background: In trials, moderate effect sizes have been found for physical activity as a treatment for depression and may also help to prevent depressive relapse(1). However, promoting physical activity in people with depression is challenging(2). Web-based interventions informed by theory and evidence are needed to support people with depression to become more physically active. eMotion is a web-based intervention combining behavioural activation and physical activity promotion for people in the community with depression(3). The aims of this study were to: 1. Assess the feasibility of delivering eMotion to people with depression who are inactive in the community with regards to recruitment, retention, fidelity and acceptability. 2. Explore outcomes relating to depression.

Methods: Participants with depression (≥10 PHQ-8) were recruited into a pilot RCT and randomised to eMotion or a waiting list control group for eight weeks. eMotion aimed to help people to re-engage in routine pleasurable or necessary activities (with a focus on physical activities) using key behaviour change techniques (graded tasks, action planning and self-monitoring). We assessed feasibility relating to recruitment, retention, intervention fidelity, the acceptability of the intervention and data collection procedures. Analyses were carried out on the primary (PHQ-8) and secondary (GAD-7 and physical activity) outcomes.

Discussion/Conclusions: Of the 183 people who made contact, 62 were recruited and randomised with a mean depression score of 14.6 (SD = 3.2). Of those randomised, 52 provided physical activity data which showed only seven people (13%) were achieving NICE guideline levels. Exploratory data showed post PHQ-8 levels were reduced more for the intervention group than controls (Adj Mean Diff: -3.6 (95% CI: -6.1 to -1.1). eMotion was feasible, can potentially recruit inactive populations, has the potential to be effective and is ready for testing in a full-scale trial. Further work is needed to improve engagement with both the intervention and data collection procedures.

STRENGTHEN: Piloting a Health Trainer Intervention for men and women receiving Community Supervision.

Dr Lynne Callaghan, presented by Dr Tom Thompson, Plymouth University Peninsula Schools of Medicine and Dentistry

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Background/aims: People receiving Community Supervision have greater healthcare needs, but tend to access healthcare less frequently; contributing to lower health and wellbeing compared to the general population. Mental health, substance misuse, homelessness and unemployment are particularly common in this population. Uncertainty about basic needs can make it difficult to focus on behaviours such as smoking, alcohol use, diet and exercise, all of which contribute to health and wellbeing. Little is known about the effectiveness of support to improve the health and wellbeing of this population, due to a lack of routine data collection and challenges of retention and follow-up. Health Trainers, with an understanding of the client group and basic training in effective behaviour change techniques, may be able to support clients by helping to build motivation and confidence to make important changes. The person centred STRENGTHEN intervention uses motivational interviewing techniques to support participants to make changes in at least one of the following: smoking reduction; alcohol reduction; healthy eating, physical activity and mental wellbeing. This pilot randomised controlled trial, aims to test the acceptability and feasibility of both the STRENGTHEN intervention and trial methods.

Methods: Participants were randomised 1:1 to the intervention or treatment as usual. Outcome measures of wellbeing, self-reported smoking, alcohol consumption, diet and physical exercise, resource use and quality of life are collected at baseline and followed up at 3 and 6 months.

Results: 120 men and women across two sites in the South West and North West of England were recruited. Preliminary findings with respect to the acceptability and feasibility of the intervention and trial methods and descriptive baseline data will be discussed.

Discussion/conclusions: This presentation describes the development of the STRENGTHEN intervention, its implementation and current evaluation within the changing climate of probation services in England.


Interventions to improve control of hypertension; what works (and what doesn’t)?

Dr Christopher Clark, University of Exeter Medical School

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Background/aims We have completed a Cochrane review of allied health professional-led interventions for hypertension (submitted for editorial review). Overall, we found benefits for nurse-led and pharmacist-led care compared to usual (doctor-led) care. Heterogeneity between studies was not fully accounted for by either study size or risk of bias, therefore we are undertaking further analyses to identify key components of effective interventions.

Methods Within the review planned subgroup analyses of intervention characteristics using I² statistics in random effects analyses were undertaken. To explore these findings further, effective components were incorporated into a hierarchical model, and univariable and multivariable meta-regression analyses are being conducted using Stata v14.0.

Results Multiple database searches to July 2017 identified 1618 unique citations; 398 full texts were reviewed and 120 randomised controlled trials contributed to meta-analyses. On univariable analysis, potentially effective components of interventions included: face to face contact (p=0.084), contact at least monthly compared to less often (p=0.04), and interventions advising or prescribing changes of antihypertensive medication compared to those not doing so (p=0.002). Substitution of face to face with telephone support was ineffective (p=0.018 for negative correlation with blood pressure reduction). An initial hierarchical model including these factors accounts for 17% of variance in blood pressure lowering between groups (p<0.001). In multivariable meta-regression using the above terms, only prescribing interventions remain associated with significantly greater blood pressure lowering (p=0.007, meta-regression; p=0.035, Monte Carlo multiple permutation testing).

Discussion/Conclusions Allied health professional-led interventions to improve blood pressure have heterogeneous effects. Successful interventions require face to face contact, and telephone support or substitution appears ineffective. Ability to advise or prescribe changes in medication appears to be a key component of successful interventions, and review should take place at least monthly until blood pressure is at target. Analyses continue and final results will be presented to the meeting.
E Methodology

GPs working in or alongside Emergency Departments: a rapid realist review

Dr. Alison Cooper, Cardiff University

Dr. Freya Davies, Cardiff University  Dr. Michelle Edwards, Cardiff University  A/Prof Pippa Anderson, Swansea University  Dr. Andrew Carson-Stevens, Cardiff University  Prof Matthew Cooke, Warwick University  Prof Jeremy Dale, Warwick University  Dr. Bridie Evans, Swansea University  Ms Julie Hepburn, Involving People  Dr. Thomas Hughes, Oxford University Hospitals  A/Prof Alison Porter, Swansea University  Prof Tim Rainer, Cardiff University  Prof Niro Siriwardena, Lincoln University  Prof Helen Snooks, Swansea University  Prof Adrian Edwards, Cardiff University

Background  This year NHS England will receive £100million of capital funding for co-locating General Practitioners (GPs) within emergency departments (EDs) to help manage demand. However, the evidence base to support different service models of GPs working within EDs (GP-ED models) is weak and patient attendances may increase due to provider-induced demand. We aim to understand how and why the range of GP-ED models work, how they operate in different settings, and how this may generate variations in intended and unintended outcomes.

Method  We are conducting a rapid realist review. Articles were sourced from earlier systematic reviews, supplemented by updated database searches (Medline, Embase, CINAHL, Cochrane DSR & CRCT, DARE, HTA Database, BSC, PsycINFO and SCOPUS), citation tracking and collaborator recommendations. Study collaborators acted as an expert group to assist theory development and guide further searches. We extracted data onto bespoke forms and categorised using NVivo 11. The synthesis process (ongoing) will result in programme theories, described by context-mechanism-outcome configurations.

Results  Currently data from 91 articles are included (25 identified through database searches, 24 from earlier reviews, 35 from citation tracking, 7 from collaborators). Nine theories at the practitioner (GP and ED staff), patient, and department level (ED flow, teamwork and communication and costs) have been developed. The strength of the evidence base for each theory varies. Data from many sources supports the theory that GPs’ risk management approach reduces the use of hospital resources and decreases the burden on ED staff. The impact on seriously unwell patients, and the effects on patients’ health seeking behaviour and the wider healthcare system are less clear.

Conclusion  These theories suggest how and when GP-ED models are likely to work and will be tested in the next phase of our study (2018-20) using qualitative and quantitative data from 12 purposively selected case study sites.
What is a placebo? Findings from a meta-ethnographic review of how healthcare professionals and patients understand placebos and their effects in primary care.

Mr Doug Hardman, University of Southampton

Dr Adam Geraghty, University of Southampton  Prof George Lewith, University of Southampton  Dr Mark Lown, University of Southampton  Ms Clelia Viecelli, University of Southampton  Dr Felicity Bishop, University of Southampton

Background  Research suggests that a ‘placebo’ can improve conditions common in primary care including pain, depression, and irritable bowel syndrome. However, uncertainty persists over the definition and clinical relevance of placebo treatments.

Method  We conducted a meta-ethnographic, mixed-research systematic review to explore how healthcare professionals and patients understand placebos and their effects in primary care. We conducted systematic literature searches of five databases – augmented by reference chaining, key author searches, and expert opinion – related to views on placebos, placebo effects, and placebo use in primary care.

Results  From a total of 34 eligible quantitative, qualitative and mixed-methods articles reporting findings from 28 studies, 21 were related to healthcare professionals’ views, 11 were related to patients’ views, and two were related to both groups. Prevalence of use findings were heterogeneous, suggesting current uncertainty is shaped not at the level of solutions but at the level of problems, particularly relating to a placebo definition; thereafter we pursued a definitional line-of-argument. Healthcare professionals and patients predominantly defined placebos as objects. However, defining a placebo in this way – reifying the placebo as a concrete thing-in-itself – leads to uncertainty and paradox. We posit that another way in which healthcare professionals defined placebos in the studies under review – as contextual processes – offers a way towards an intelligible definition.

Discussion  We make a further move to define placebos at the level of praxis and promote a contextual, procedural placebo definition, which we posit can be used to inform future research and practice.

Impact of point-of-care panel tests in ambulatory care: a systematic review and meta-analysis (elevator pitch)

Dr Clare Goyder, University of Oxford

Clare R Goyder, GP/ Clinical Researcher1  Pui San Tan, Researcher1  Jan Verbakel, GP/Clinical Lecturer1,2,3  Gail Hayward, GP/Associate Director3  Thanusha Ananthakumar, GP/Clinical Researcher1  Joseph Lee, GP/ Clinical Researcher1  Philip Turner, Researcher3  Ann Van den Bruel, GP/Director3  1. Nuffield Department of Primary Care Health Sciences, University of Oxford.  2. Department of Public Health and Primary Care, KU Leuven  3. NIHR Diagnostic Evidence Cooperative, Nuffield Department of Primary Care Health Sciences, University of Oxford.

Background  Ambulatory care physicians including General Practitioners (GPs) frequently encounter diagnostic uncertainty; the use of POCT in ambulatory care might reduce this and physicians report that they would like to use POCT more. However, what is lacking is an up to date summary of all the available evidence on the impact of POCT in ambulatory care. This systematic review and meta-analysis evaluates the quantitative impact of POCT in ambulatory care with a focus
on blood based panel tests. This forms part of a series of systematic reviews which assessed the overall impact of POCT in ambulatory care.

**Methods**  Study design: Systematic review and meta-analysis. Data sources: Ovid Medline, Embase, Cochrane Database of Systematic Reviews, Cochrane CENTRAL, DARE, Science Citation Index. Outcomes focus on the impact of POCT on patients and healthcare processes.

**Results**  We included nine studies, with 19558 patients, mostly in Emergency Departments (ED), none in primary care. No significant difference in mortality was reported. The use of general POCT panel tests in the ED speeds up the disposition decision time by 40 minutes compared to laboratory tests (95% CI 37.42-42.93). A general panel test reduces the overall length of stay (LOS) by 38 minutes (95% CI 5.86-70.35) at ED before discharge. In one study, POCT also reduced the time to critical management decisions such as ventilation. Conversely, results from one study on cardiac panels demonstrated that POCT increased LOS but also increased the rate of successful discharge from ED (358/1125(32%) vs 146/1118(13%).

**Discussion**  Well patients who could be discharged and unwell patients who require quicker management decisions may benefit most from the implementation of general POCT panel tests. Future research should be performed in primary care and identify how POCT can contribute meaningful changes to patient care rather than focusing on health care processes and should also consider the patients perspective.

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**The Realist Interview: Using philosophically informed methods in a parallel process evaluation of the Engager trial (elevator pitch)**

*Dr Sarah Rybczynska-Bunt, Community and Primary Care Research Group, Plymouth University*

Mr Jon Graham, Manchester University; Dr Lauren Weston, Plymouth University; Richard Byng, Plymouth University; Dr Tim Kirkpatrick, Plymouth University; Cath Quinn, Plymouth University. This study was funded by the National Institute for Health Research (NIHR) Programme rant for Applied Research (PGfAR) (grant reference RP-PG-1210-12011) and was supported by the NIHR Collaboration for Leadership in Applied Health Research and Care South West Peninsula at the Royal Devon and Exeter NHS Foundation Trust (PenCLAHRC). The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health.

**Background:** The Engager intervention works with offenders with common mental health problems near to and after they leave prison. Its outcome measures are tested through a RCT and a parallel process evaluation is examining ‘what works, for whom and in what circumstances?’ (Pawson and Tilley 1997). Its Realist approach goes beyond identifying correlations to seek out causal explanations. This entails hypothesising about a number of mechanisms, which when activated contribute to outcome patterns. Bhaskar (1979) argues that while mechanisms are unseen this does not mean that they are unknowable. We perceive mechanisms through their effects. Realist researchers are granted discretion on which data collection tools are appropriate for the specific research area (Bunt, 2016). For the realist, data collection should ‘inspire/validate/falsify/modify’ causal explanations. There is no clear consensus on how a realist interview should be carried out, and fewer examples of how realist interviewing has been applied (Manzano 2016).
Method: The process evaluation developed an interview schedule based on two general principles. Firstly, the schedule should explore experience and meaning through a framework of events and process. Secondly, the schedule should be flexible enough to capture unanticipated mechanisms but structured enough to be able to hypothesise about the Context-Mechanism- and Outcome configurations involved in a case (Manzano 2016).

Results/Discussion: The teacher/learner model endorsed by Pawson (1997) was used with Engager practitioners and supervisors to jointly build understanding, and deepen the underpinning theory of the Engager intervention. The research teams’ emergent Programme Theory of the intervention was tested, critiqued and added to by the practitioners and supervisors. Interviews with participants receiving the intervention reflected on significant events, processes and interrelationships. Adopting a realist informed approach for Process Evaluation interviews facilitated a deeper and more individualised, and therefore more nuanced understanding of how, and for whom, the intervention worked.

Predictors of return to satisfactory hearing in children with Otitis Media with Effusion (elevator pitch)

Lowri Edwards, Cardiff University

Background/Aims Otitis media with effusion (OME) is the most common cause of hearing loss, and the most common indication for surgery with anaesthesia, in children. The effectiveness of a 7 day course of steroids in children with OME has been determined through the OSTRICH trial. However, little is known about other possible factors associated with short-term resolution of hearing. A better understanding of prognosis will help parents and clinicians in making decisions about the management of children with OME. This study will explore the association between a number of potential predictors and return to satisfactory hearing at 5 weeks within this cohort of children.

Methods This study uses the cohort of children recruited to a double-blind, placebo-controlled RCT (OSTRICH), in ENT and audiology clinics in Wales and England. Children (2-8 years) with symptoms of OME for at least 3 months and audiometry-confirmed hearing loss defined as > 20 dB hearing loss (dBHL) by pure tone audiometry (PTA) or > 25 dBHL by soundfield audiometry (SFA). The OSTRICH trial collected rich data pre-intervention (baseline) regarding the child’s demographics, medical history, Quality of Life, and audiometry, tympanometry and otoscopy. Satisfactory hearing is defined as ≤ 20 dB hearing loss in at least one ear by PTA or ≤ 25 dBHL by SFA, at 5 weeks follow up (post randomisation).

Results A total of 389 children were randomised; 363 (93%) children had their hearing assessed at 5 weeks follow up with 36% of children having satisfactory hearing. Univariable and multivariable logistic regression models will be used to explore associations between explanatory variables and a return to satisfactory hearing at 5 weeks. Results will be reported as odds ratios alongside 95% confidence intervals.
Exercise Rehabilitation in Chronic Heart Failure: Individual Patient Data Meta-analysis (elevator pitch)

Dr Sarah Walker, University of Exeter Medical School

Professor Rod Taylor - University of Exeter Medical School  Ciani O - University of Exeter Medical School and CERGAS, SDA Bocconi, Milan, Italy  Warren FC - University of Exeter Medical School Smart N - University of Queensland, Brisbane, Australia  Piepoli M - Heart Failure Unit, Guglielmo da Saliceto Hospital, Piacenza, Italy  Davos C - Cardiovascular Research Laboratory, Biomedical Research Foundation Academy of Athens, Athens, Greece  Eames T - University of Exeter Medical School  and on behalf of the ExTraMATCH II steering committee

Background Individual participant data (IPD) meta-analysis is seen as the Gold Standard approach to combining data from clinical trials. In contrast to traditional meta-analyses which aggregate the results of clinical trials, the ExTraMATCH II IPD meta-analysis uses the original randomised trial data for exercise-based cardiac rehabilitation (ExCR) in chronic heart failure (HF).

Aims The aim of this study is to provide estimates of the impact of ExCR on the time to event outcomes of mortality and hospitalisation (all-cause and HF-related), health-related quality of life (HRQoL) and exercise capacity.

Methods Randomised trials identified in the 2014 Cochrane systematic review were invited to provide data for the study which was merged into a master dataset including studies identified in a previous ExTraMATCH analysis. Both one-stage and two-stage IPD meta-analysis analyses were carried out in order to make comparisons between the results of the two models (as no consensus has been reached on the ‘best’ method). Time to mortality and hospitalisation was modelled using a Cox proportional hazards survival model. HRQoL and exercise capacity were modelled using a linear hierarchical model. Interaction terms were added to the models to investigate whether particular subgroups of patients (eg: age, gender, NYHA status) responded differently to ExCR.

Results Of the 23 studies which met the inclusion criteria, data was obtained from 19. The results for the mortality and hospitalisation analyses are currently awaiting revised data from one trial and will be finalised by the end of 2017. Analyses on the HRQoL and exercise capacity will commence in December 2017; results will be available by February 2018.

Discussion Given the limitations of current trial level meta-analysis evidence in HF, access to individual data from several RCTs offers a timely and important opportunity to revisit the question of which HF patient subgroups benefit most from exercise-based rehabilitation.
Using Propensity Scores to Estimate Generalisability: an example of the PRIMIT study
(elevator pitch)

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Dr David Gillespie, Cardiff University  Professor Lucy Yardley, University of Oxford  Professor Paul Little, University of Southampton

**Background:** RCTs represent the gold standard design for effectiveness and causal inferences. However, the RCT study population may be different in important ways to the target population. It may be possible to explore the generalisability of trial results using propensity scores. We have used data from the PRIMIT study, a trial of a handwashing intervention to reduce infection transmission in 20,066 UK participants and the UK census.

**Methods:** Propensity scores were calculated to give the probability that, given key characteristics, an individual might be selected from the UK census population to participate in the PRIMIT study. To quantify the representativeness of the RCT population, we calculated the standardised mean difference. Only variables available in both the trial and the census data could be included. Inverse probability weights were used to adjust the results of the trial to account for any differences between the trial and the target population.

**Results:** The SMD was 0.57, indicating a substantial difference between the trial and target populations. The trial population was more likely to be aged 50-80 and have a long-term health condition, and was less likely to have dependent children. Single family households were not represented in the trial. The intervention reduced the probability of respiratory tract infection after 16 weeks, OR 0.72 (95% CI 0.67, 0.77). Weighting the model for the probability of participation gave OR 0.71 (0.66, 0.77). For gastrointestinal infections after 16 weeks the original OR was 0.81 (95% CI 0.74, 0.88) whilst the weighted OR was 0.78 (95% CI 0.70, 0.86).

**Conclusion:** Propensity score models allow us to estimate what the effect of an intervention might be if implemented across the UK. In the case of PRIMIT, there were differences between the trial and target populations, but adjusting for these did not alter the inferences. This suggests the differences between the study population and the general population were not likely to be important modifiers of the outcome.
F Consultation

Just a minute: Introductions, transitions and agendas in the first minute of GP consultations

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Background  Communication at the start of General Practice (GP) consultations is complex and may impact on the totality of the consultation including clinical and satisfaction outcomes.

Aims  To investigate how GPs initiate consultations in UK Primary Care, and to examine whether patients can raise concerns without interruption or distraction.

Methods  –Thematic content analysis of the first minute of 18 videos of real GP consultations. This included verbatim transcription, and development and application of coding frame, followed by identification of themes.

Results  Four phases of communication activity, ‘Greeting’, ‘Transition’, ‘Agenda Setting’, and ‘Information Exchange’ were observed consistently and sequentially within the first minute. Four additional components, ‘Encouragement’, ‘Interruption’, ‘Change of focus’, and ‘Humour’ were also identified occurring sporadically. Doctors’ main role in initiating sessions was observed to be that of facilitation. Patients were able to raise on average 1.8 agenda items in the first minute, and interruption of patient narrative by GPs within the first minute was uncommon.

Discussion  The extent of activity observed within the first minute was surprising. Despite the observed level of activity, clear communication phases were observed. Versions of these phases are described elsewhere, but the authors are not aware of studies identifying these phases occurring sequentially within the first minute of Primary Care consultations. The authors anticipate that the phases are transferrable to other Primary Care consultations. Individual GPs or trainees could consider the lengths and ratios of these different phases in their own practice, and compare these to local and national norms.

Conclusion  This study builds on previous work studying the Primary Care consultation, and represents a novel approach to understanding this complex area. The findings lay the foundation for significant future investigation.
An awkward blip, or a welcomed opportunity for change: how communication practices shape smoking discussions in primary care

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Dr Rebecca Barnes - University of Bristol  Professor Paul Aveyard - University of Oxford  Dr Andy McEwen - National Centre for Smoking Cessation and Training  Dr Rachna Begh - University of Oxford

Background  Public health guidance recommends that practitioners deliver very brief advice (VBA) and offer smoking cessation support to smokers during consultations. To encourage practitioners, Quality and Outcomes Framework (QOF) incentives specific to smoking, and training resources on how to deliver VBA on smoking cessation have been created. However, many practitioners miss opportunities to intervene and where they do intervene, little is known about how these discussions play out in practice and the extent to which current training is being implemented.

Aims  To examine video-recordings of routine primary care consultations, with a view to enriching evidence-based training on how practitioners can improve smoking cessation support.

Methods  Video-recordings and transcripts of primary care consultations held in the One in a Million archive [1], were screened for discussions about smoking. Cases will be analysed for common communication practices using conversation analytic (CA) methods. Linked survey and medical record data will also be examined.  (Preliminary) Results  Of 293 screened consultations, 49 contained a mention of smoking. GPs initiated talk about smoking in 38/49 of these cases, predominantly using Yes/No type interrogatives e.g. “Do you smoke”. Patients stated they smoked in 22/49 cases. Advice was given in approximately half of these cases. However, no immediate assistance to quit was offered - a key step advocated in current VBA training. In this talk, we will present examples of common communication practices, employed by both GPs and patients and discuss how these shape the trajectory and outcome of smoking-related discussions.

(Preliminary) Conclusions  Our preliminary findings suggest some discrepancy between what is advised in current guidelines for smoking cessation and what actually happens during routine consultations. Systematic analysis of usual care practices can provide evidence-based insights into why this is the case with a view to enriching guidelines and enabling practitioners to enhance health outcomes in the future.

“What would you recommend doctor?” – Discourse analysis of a pivotal moment in shared decision making consultations

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Background – Proven benefits of Shared Decision Making (SDM) include improved patient knowledge, involvement and confidence in making decisions. SDM is widely advocated in policy but still not widely implemented in practice. A common patient-reported barrier is feeling that “doctor knows best”; thus patients defer decision making to the clinician(1). SDM models have been developed(2), but few studies examine SDM by skilled practitioners in real-life consultations.

Aims - We used discourse analysis to examine moments when patients seemed to defer treatment decisions to clinicians. By examining clinicians’ responses to these “what would you recommend doctor?” questions, we sought to provide practical guidance on how to avoid premature closure of SDM conversations in these situations.

Methods – We selected nine out of 25 audio-recordings of breast cancer patient consultations in the ‘MAGIC Study’ in which patients attempted to defer treatment decisions to clinicians who were trained in SDM(3). We used discourse analysis to examine the transcripts.

Results – Despite asking for a clinician recommendation, all nine patients ultimately made their own decision. Clinicians responded by explaining why the decision was being shared (the personal nature of the decision, individual preferences, equal survival outcomes of treatment options) and assurance of time to make the decision. However, there was little evidence of clinicians eliciting patients’ preferences, as recommended in SDM models(2,4).

Conclusions – That patients are seeking clinicians’ recommendations does not necessarily indicate reluctance to engage with SDM. Practical strategies for clinicians to facilitate SDM when patients seem to defer decisional responsibility include being clear about why the decision is being shared, and then supporting patients to participate in SDM by exploring their priorities and preferences.

Patient feedback on a new method of consulting with the GP; an analysis of responses by users of online consultation software

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Mr. Michael Hopper, University of Warwick  Dr. Helen Atherton, University of Warwick

Background/Aims: Online consultation software is a new way to triage patients online that allows patients to describe their problem via an online form. A GP then contacts the patient to arrange either a face-to-face or telephone consultation. This study aimed to explore use of online consultation software and gain insight into patients’ experiences of using online consultations, identifying potential barriers and facilitators to use.

Methods: This is a mixed methods retrospective study analysing data about patient users and their associated feedback. Data from a sample of 5591 patients were quantitatively analysed to describe characteristics of users. 576 out of the 5591 users left free-text feedback comments on their experience of use. These were thematically analysed. Results: The highest levels of use were observed in 25-35 year olds and lowest from those aged >65. Key themes identified included convenience, consultation quality, appropriateness, resource-use and functionality. Within each, a range of subthemes were present representing both positive and negative perceptions, suggesting that experiences of using e-consults varied and were often context-dependent

Conclusion: There are various advantages to online consultation software, but these are context-dependent. Therefore, such applications should be offered as an additional way to contact the GP surgery, rather than a replacement for more established methods, to ensure appropriate and equal access for patients.
Access to Tier 3 Obesity services in England - a postcode lottery?

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Dr Kelly Johnston, LighterLife UK Ltd & Kings College London, Mr Richard Cassidy, LighterLife UK Ltd

In April 2013 responsibility for tier 3 obesity services transferred from NHS England Specialised Commissioning to CCGs and Local Authorities, and subsequently became the exclusive responsibility of CCGs in 2014. Tier 3 services comprise primary or community care-based multi-disciplinary teams providing intensive individualised interventions to patients including, but not limited to, behaviour change strategies, physical activity promotion, dietary advice and support including low calorie and very low calorie diets, psychotherapy, and pharmacotherapy. From the outset, concerns were raised about the variation in commissioning of services and lack of provision in some areas. Attempts by Public Health England to map tier 3 services in 2015 were met with a poor response.

Methods: Freedom of Information requests were sent to all 208 CCGs in England in September 2016 requesting information about their tier 3 services, including service provider and referral rates.

Results: 201 (96.6%) CCGs responded, including 11 who believed tier 3 was still the responsibility of NHS England. At the time of the request, 135 (68.2%) CCGs commissioned tier 3 services, six were in the process of commissioning a new service and three were decommissioning their services. 39 (19.7%) CCGs reported having no tier 3 services. Of those with a tier 3 service, most used an NHS provider (97/135; 71.9%), followed by private providers (37/135; 27.74%) or the local council (1/135; 0.7%). Between CCGs, referral rates ranged from 1.1 to 503.8 patients per 100,000 population. Referral rate was not correlated with local obesity rate nor was there any difference in referral rate by service provider.

Conclusion: Provision of, and referral to, tier 3 services across England is variable and does not appear to be based on local clinical need. As obesity is a major risk factor for a number of diseases, commissioning and use of services needs to remain a clinical priority.

Patients’ reasons for, and experiences of, consulting GPs for dental problems: a qualitative study

Dr Anwen Cope, Cardiff and Vale University Health Board

Dr Fiona Wood, Cardiff University  Dr Nick Francis, Cardiff University  Professor Ivor G. Chestnutt, Cardiff University

Background/aims Every year approximately 400,000 patients in the UK consult a GP due to a dental problem. Despite the substantial burden of dental consultations in general practice, to date there has been little exploration of the reasons why patients may consult a GP when experiencing a dental problem. The aim of this study was to explore patients’ reasons for consulting a GP rather than a dentist when experiencing a dental problem, and to describe patients’ experiences of these consultations.
Methods Thirty nine participants who had consulted a GP in the UK for a dental problem in the previous 12 months were recruited via the research cohort HealthWise Wales (n=26), social media (n=7), adverts in print media (n=2), websites (n=2), and via word of mouth (n=2). Data were collected via semi-structured telephone interviews and transcripts analysed using thematic analysis.

Results Key factors influencing participants’ decision to consult a GP included: how they interpreted their symptoms; perceptions of scope of practice of medical and dental practitioners; previous experiences of dental care; access to dental services; and the comparative ease and convenience of obtaining an appointment with a doctor or a dentist. Participants’ experience of the consultation were varied, whilst some received treatment or advice that led to the resolution of their symptoms, others were dismissed without advice or treatment, or signposted to more appropriate care. There was evidence that patient satisfaction with the outcome of the consultation influenced consulting behaviour during subsequent episodes of dental problems.

Discussion/Conclusion Help seeking behaviours regarding dental problems are influenced by patients’ attitudes and beliefs about their condition, previous experiences of care, and the organisation and delivery of medical and dental services. This complex interaction will need to be considered when designing interventions to support patients in accessing the most appropriate care for dental problems.

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“The care is second to none”: ethnographic study of acute ambulatory care for older patients living with frailty

Dr Margaret Glogowska, University of Oxford

Dr Helen Cramer, University of Bristol  Professor Sarah Pendlebury, University of Oxford  Professor Sarah Purdy, University of Bristol  Professor Daniel Lasserson, University of Birmingham

Background Increasing the proportion of acute care delivered outside traditional hospital settings is a national priority but impact on patients is still uncertain. The acute care pathway at the ambulatory care units in Oxfordshire is aimed as an alternative to emergency hospital admission. Patients are referred by GPs or paramedics and a multidisciplinary team (including ‘acute interface’ GPs) provides rapid assessment and interventions that are not available in primary care. Our research aimed to explore frail, older people’s experiences of care in ambulatory settings.

Methods We employed a qualitative, ethnographic approach, using a combination of data collection methods, including observation and informal interviews with patients and carers during their time of stay. Semi-structured, follow-up interviews with patients were conducted when they had been discharged from ambulatory care. Observation and interview data were analysed thematically.

Results We undertook 217 hours of observation, following 23 patients and 8 carers. Our participants perceived care in the ambulatory settings as more personalised and this was felt to be an important consideration for older people with frailty when unwell. The ambulatory care settings were seen as comfortable, friendly places, with a relaxed atmosphere. However, older people struggled with spending long periods of time at the units and could find it demanding when their treatment took place over a number of visits.
Conclusions  Acute care delivered through ambulatory settings was regarded as an acceptable alternative to hospital admission but this imposes an additional burden on patients that has been overlooked by policy makers. Nevertheless many of our participants were surprised and delighted at what was done for them in out of hospital settings. Overall, patients’ and carers’ responses showed that they viewed this type of care as a good model of service provision, especially suited to the needs and priorities of older people living with frailty.

The Hidden Queue of GP Triage

Dr Daniel Chalk, NIHR CLAHRC for the South West Peninsula (PenCLAHRC)

Background  Ivybridge Health Centre run a hybrid system for appointment bookings - some pre-booked by patients, some triaged by a GP over the phone before being invited in to an appointment (“Doctor First”-style system). We were asked to use simulation modelling to test the potential impact of switching to either system for all patients.

Methods  We developed a simulation model of the surgery which captured incoming activity into the surgery, the availability of doctors and appointment slots, and even the likelihood of a patient coming in for an appointment depending on whether or not they spoke to their own GP. The model was used to predict what would happen if all appointments were booked via a “Doctor First”-style system or if all patients pre-booked.

Results  The model showed that switching entirely to either system should lower waiting time and increase same day appointments. Most interestingly, the model showed that GP calls to patients should ideally be 4 minutes or less, and it is essential that calls do not exceed 9 minutes, as the average waiting time to see a GP could increase to one month or more, with some patients waiting up to a year to see their GP if calls were 15 minutes.

Discussion / Conclusions  In reality, the results predicted by the model wouldn’t happen. Instead patients would either go elsewhere, placing demands elsewhere in the system, or would not seek help at all, potentially leading to health complications. It happens in the model because we force people to wait in the queue until they’ve spoken to a GP or seen a GP if they need an appointment. This exposes the queue that can often be hidden in a system in which patients are asked to call back the next day when there are no appointments remaining.
H Ageing/Frailty/Multi-morbidity

Prevalence of postural hypotension in primary care, community and institutional care settings: systematic review and meta-analysis

Miss Sinead McDonagh, University of Exeter Medical School, U.K.
Miss Natasha Mejzner, University of Exeter Medical School, U.K. Dr Christopher Clark, University of Exeter Medical School, U.K.

Background Postural hypotension, the reduction in blood pressure when rising from a seated or supine position to standing, is a major risk factor for falls, cognitive decline and mortality. Prevalence estimates for postural hypotension vary and may differ depending on the definition, population, care setting and blood pressure measurement method. It is often asymptomatic and inconsistently tested for in primary care. Awareness of its prevalence in specific populations could contribute to improved detection.

Aim We reviewed the literature to determine the prevalence of postural hypotension in primary care, community and care home cohorts.

Methods Systematic review and meta-analysis. We searched Medline and Embase to July 2017 for cross-sectional and cohort studies representative of primary care, community or care home settings reporting prevalence of postural hypotension. Data on prevalence, definition used, measurement method and population studied were extracted to a standard proforma by two reviewers. Pooled estimates for mean prevalence of postural hypotension were calculated and compared between care settings using meta-analysis in a random effects model. Further analysis using meta-regression to explore associations between age, medical history, care setting and methods of blood pressure measurement, with prevalence of postural hypotension, are underway. This study is registered with PROSPERO:CRD42017075423.

Results 1497 citations reporting postural hypotension were screened, 302 full texts reviewed and 84 included in the review. Using the consensus definition of postural hypotension, we found the pooled prevalences were 23% (19% to 27%) in primary care, 16% (95% CI, 9% to 24%) for community populations and 52% (39% to 64%) for care home dwellers (P<0.001 between groups). Full findings will be presented at the conference.

Conclusion Initial results demonstrate the high prevalence of postural hypotension in care settings. These findings will help to inform and advance clinical care and future guidelines for the management of postural hypotension in primary care.
Primary care service improvement: The importance of measuring person-centred coordinated care

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Dr Helen Lloyd, Plymouth University

Introduction Measuring patient experience is becoming increasingly emphasised as a mechanism to measure, benchmark, and drive quality improvement in the NHS (1). A key focus of quality improvement within the NHS is person-centred care and coordinated care (2). Currently no tool exists to measure P3C (3) that is short enough for routine practice. We aimed to develop a tool to measure P3C from the perspective of use the patient (P3CEQ).

Methodology An iterative patient-oriented design process was utilised to identify questions and ensure patient acceptability (4). The measure was subject to psychometric validation ensuring measure appropriateness (5). Clinical testing of the P3CEQ took place via 72 general practices across the South-west. Each practice was asked to send the questionnaire to 100 patients with one or more LTC who frequently used general practice. Results Over 2500 patients from across the South-west returned P3C-EQ questionnaires. Responses were distributed well across educational attainment, age, and gender. Patterns of response emerged in relation to number of LTCs and the number of services people used. For example, individuals reporting between 2 and 6 LTCs reported poorer experiences than those with just one condition. A similar finding emerged in relation to the number of services people used.

Discussion The P3-CEQ has been co-designed to help place the patient voice in the centre of efforts to improve the quality of care patients receive. Our results from a large sample of people from the south west supports findings from the literature that people with multiple conditions report poor experiences of care. Conclusion The P3CEQ is a brief and valid measure of P3C that can be used to drive service improvement at different levels across a system and is well received by both staff and patients.

5. Lloyd H and Fosh B BR, Whalley B, and Close J. The Psychometric Validation of the Person Centred Coordinated Care Patient Experience Questionnaire (P3C-EQ) Health and Quality of Life Outcomes. 2017; In preparation
Research involving adults lacking capacity to consent – health and social care professionals' knowledge and understanding of the legal frameworks

Mrs Victoria Shepherd, Cardiff University

Professor Kerenza Hood, Cardiff University Dr Richard Griffiths, Swansea University Dr Mark Sheehan, University of Oxford Dr Fiona Wood, Cardiff University

Background Involving individuals with significant cognitive impairment in research can be complex and challenging, including those with dementia, learning disabilities, or following an acute medical event. Health and social care professionals are often involved in the recruitment of potential participants. However evidence suggests that they may have limited knowledge of the legislation governing research involving adults lacking capacity, which may impact on their confidence and competence in enrolling those in their care in research studies. This study aimed to examine health and social care professionals’ understanding of the legislation governing proxy consent for research participation in England and Wales.

Methods A vignette-based online survey was conducted. Participants were asked to indicate the legally-authorised decision-maker in each vignette, and to identify any relevant factors. Responses were coded by the selected decision-maker and supporting reasons provided, into responses that were either discordant or concordant with the legal frameworks. Results Levels of discordance between responses and the legal frameworks was high across all five scenarios (76% – 82%). Of 127 participants who completed the survey, nearly half of the participants (46%) provided responses that were discordant in all scenarios. Only 2 participants (2%) provided concordant responses across all five scenarios.

Conclusion This is the first study to examine health and social care professionals’ knowledge and understanding of the legal frameworks in the UK. Participants demonstrated a lack of knowledge about the legal frameworks, the locus of authority, and the legal basis for decision-making. The findings raise concern about the accessibility of research for those who lack capacity, the ability to conduct research involving such groups, and the impact on the evidence-base for their care. Health and social care professionals’ understanding of the legal frameworks may warrant further in-depth exploration, however the findings from this survey suggest that interventions to raise levels of knowledge may be required.
Acceptability and feasibility of implementing DECODE: a novel clinical support system to aid dementia identification

**Dr Sarah Moore, University of Exeter Medical School**

Dr Laura Hill, Devon Partnership Trust  Dr David Llewellyn, University of Exeter Medical School

**Background**  Our DEmentia identification COmputerised DEcision system (DECODE) has been developed to support clinicians in triaging patients. Operational research modelling has shown that its implementation as a memory clinic triage system would reduce waiting times and release resources for post diagnostic support.

**Methods**  We conducted three primary care focus groups incorporating twenty GPs from five practices, all of whom refer to Exeter Memory Clinic. DECODE was introduced, and following an open discussion the GPs completed a structured questionnaire. This captured demographic information and levels of confidence in dementia assessment before addressing acceptability and feasibility issues. Visual analogue scales from 0=low to 100=high were used to capture overall ratings of confidence, feasibility and acceptability.

**Results**  The mean age of GPs was 46 (SD=10.0, range 31-76), and they had worked as a GP for a mean of 17 years (SD=9.1, range 3-40). Confidence in assessing patients with possible dementia was moderately high, though varied widely (mean rating 65, SD=18, range 29-88). The majority (90%) thought using DECODE would enhance their confidence, and all but one (95%) would like to use DECODE in their clinical practice. Ratings for the acceptability (mean=89, SD=9.5, range 72-100) and feasibility (mean=80, SD=19.7, range 28-100) of implementation at memory clinic triage were high. The same was true of implementation in primary care with high ratings for acceptability (mean=82, SD=16.9, range 45-100) and feasibility (mean=80, SD=18.4, range 36-100). Ease of use, training needs and time management were identified through qualitative feedback as key themes to consider when DECODE is further developed and implemented.

**Conclusions**  Twenty GPs have given us a clear indication that they consider it to be acceptable and feasible to implement DECODE in memory clinics and primary care.
I Vulnerable Groups

Experiences of primary care administrators encountering migrant patients: a qualitative study

Dr Antje Lindenmeyer, University of Birmingham

Dr Sabi Redwood, University of Bristol  Dr Laura Griffith, University of Birmingham  Prof Jenny Phillimore, University of Birmingham

Background/Aim: Increasing numbers of increasingly diverse migrants are arriving in the UK, some of them encountering a primary care service for the first time in their lives (Phillimore 2011). Administrative members of staff are often the first port of call for migrant patients as well as serving as ‘gatekeepers’ to the clinical staff to manage patient demand (Gallagher 2001). This presentation aims to outline their experiences of interacting with migrant patients and their perspectives on healthcare for migrants of which little is known from primary care literature.

Methods: The presentation draws from a qualitative study on primary care professionals’ experiences of providing healthcare to migrants. We interviewed 17 PCPs, of which six were administrative staff (practice managers and receptionists). Thematic analysis focused on 1) barriers and facilitators to successful care and 2) intercultural interactions in a health context (Lindenmeyer 2016).

Results: We identified three main challenges for administrative staff including 1) Planning for new migrants in a fast changing environment where new patients may come with different languages and health problems 2) Managing demand especially from patients unfamiliar with appointment systems 3) Understanding entitlements which could be complex and rapidly changing with new legislation. Some respondents focused on the positive aspects of providing good and appropriate care for migrant patients while others saw them as difficult and demanding.

Discussion: Administrative staff are an often-overlooked group; it is important that their experiences are understood to provide appropriate services to a highly diverse population. As they are at the frontline of primary care services challenges presented by patients unfamiliar with NHS services or with unclear entitlements can particularly affect them. Further research is needed which should feed into the development of supporting resources and education.

Help-seeking by male victims of domestic violence and abuse (DVA): a systematic review and thematic synthesis of qualitative studies

Dr Alyson Huntley, University of Bristol

Dr Alice Malpass (1)  Dr Lucy Potter (1)  Dr Eszter Szilassy (1)  Dr Emma Williamson (2)  Professor Gene Feder (1)  1. Centre of Academic Primary Care,  2. The Centre for Gender and Violence Research, both University of Bristol

Background & Aim  Domestic violence and abuse (DVA) is a highly prevalent violation of human rights that damages health and well-being. Although women experience more DVA than men and substantially more severe abuse, men in heterosexual and gay relationships also can suffer abuse from a partner, ex-partner or family member. Yet the needs of male victims of DVA have been comparatively neglected.  Our aim was to understand help-seeking by male victims of DVA and their experiences of support services including primary care by systematically identifying qualitative and mixed-method studies and thematically synthesising their findings. Our review focuses on the qualitative research to further explore men’s experiences of help-seeking from formal support services.

Methods  Searches were conducted in 12 databases and the grey literature with no language or date restrictions. Reviewers extracted first and second order constructs related to help-seeking, identified themes and combined them by interpretative thematic synthesis.

Results  We identified twelve studies published between 2010-201. Six were conducted in the UK, four in the USA and one each in Sweden and Portugal. We grouped ten themes into  a) barriers to help-seeking: fear of disclosure, commitment to relationship, challenge to masculinity, diminished confidence/despondency and invisibility/perception of services; and b) experiences of interventions and support: initial contact, confidentiality, appropriate professional approaches, inappropriate professional approaches and peer support. Our review revealed many similarities between the experiences of male victims and female victims of DVA; however it also highlighted some important differences.

Conclusion  The recent publication of the primary studies suggests a new interest in the needs of male DVA victims. The thematic analysis builds on previous research describing the need for men-specific DVA services and confirms previously identified barriers to seeking help. It also provides new insight into barriers and facilitators to successful professional advocacy and service provision relevant to primary care.
**Baclofen: potential for harm reduction in chronic alcoholism** *(elevator pitch)*

*Dr Merlin Willcox, Department of Primary Care and Population Sciences, University of Southampton*

**Background:** Baclofen is becoming increasingly popular as a treatment for alcohol dependence in France and Australia, not only for detoxification but also for relapse prevention and harm minimisation. It is not yet widely used in the UK. The aim of this review is to determine whether it could be a useful harm-reduction intervention for chronic alcoholics in whom abstinence is not a realistic option.

**Method:** A Pubmed search was conducted using the terms “baclofen” and “alcohol”. Further unpublished data was obtained through contacting experts. We included only RCTs in this scoping review.

**Results:** The search yielded 103 results. There were 3 systematic reviews including one Cochrane review, all focusing on the effect of baclofen on abstinence in detox programmes; one concluded that baclofen was better than placebo, the other 2 concluded that there was insufficient evidence (1, 2). There were 15 RCTs, almost all of these in the context of alcohol detox rather than “maintenance” in chronic drinkers, and the main outcome measures were to do with abstinence, although a few studies did measure reduction in alcohol consumption. None of the studies included homeless people. Studies were heterogeneous in terms of the type of drinker (very heavy vs moderate), and the doses of baclofen (low vs high). Studies with less heavy drinkers did not show an effect. The studies and subgroups with heavier alcohol consumption, and those with anxiety, seemed to show that baclofen had an effect (and a very large effect in some studies). The Bacloville study is the only study which did not require participants to abstain and measured “harm reduction” in terms of reduced alcohol consumption, and reported a very significant reduction.

**Conclusion:** Baclofen should be considered as an option for harm reduction in chronic alcoholism. More research is needed on its safety and effectiveness for this indication.

**What are the health and wellbeing outcomes of 12-step or peer-led group based interventions in the care of adults who experienced sexual assault and what is the experience of such participants participating in these groups – a systematic review** *(elevator pitch)*

*Dr Judit Konya, University of Exeter, South West Peninsula Deanery*

Dr Katherine Pitt 2, Concetta Perot 2, Dr Jan Mamurekli 1, Dr Alison Gregory 2, Prof Gene Feder 2, Prof John Campbell 1 1 - University of Exeter 2 - University of Bristol

**Background** 473,000 adults are victims of sexual offences every year. In England and Wales there are 11 rapes of adults every hour and 7% of adults experienced sexual assault as a child. Sexual assault survivors are more satisfied with the voluntary support services than the statutory services. The 12-steps approach was developed by Alcoholics Anonymous, and such approaches are now used to help people with various mental health problems. Survivors of sexual assault show common features with mental health problems. Given this, 12-step or peer-led group participation may be of potential importance. Literature to date is limited in this field.
Methods  A systematic review is being undertaken to evaluate the health and wellbeing outcomes of 12-step or peer led group based interventions in the care of adults who experienced sexual assault. Articles from peer-reviewed journals are included if they report either qualitative or quantitative studies where an intervention with 12-step or peer-led group approach has been trialed. Electronic databases (Medline, PsycINFO, Embase, Cochrane Library, Web of Science, Sociological Abstracts) are used during the searches.

Results  11342 titles and abstracts have been reviewed following the searches. 129 full texts are currently being screened for eligibility for inclusion for data extraction. Data extraction and critical appraisal will be performed for a subset of included articles by two independent researchers. Data synthesis will be undertaken using standard approaches to literature review. Findings will be available, and presented at the Conference.

Discussion  Results will be disseminated via academic platforms and we will consider publication and presentation to relevant bodies.

The Complex Needs of Offenders on Release from Prison (elevator pitch)

Dr Lauren Carroll, Community and Primary Care Research Group, Plymouth University
Peninsula Schools of Medicine and Dentistry

Dr Tim Kirkpatrick and Professor Richard Byng, Plymouth University Peninsula Schools of Medicine and Dentistry

Background: Offenders are a marginalised group that often have a wide range of personal and social problems, alongside a high prevalence of common mental health problems. The lives they lead can be chaotic, including homelessness, unemployment, substance or alcohol dependency/misuse, and broken relationships with their families. Being able to understand and measure the whole range of health and social care needs is important for trials in this population. This has led to the development of composite outcome measures such as the Camberwell Assessment of Need – Forensic Version (CAN-FOR).

Aims: To describe the subjective met and unmet needs of prisoners near to release across key outcome domains and contrast with validated measures in key subdomains.

Method: 280 prisoners meeting eligibility criteria for the Engager RCT undertook baseline interviews 4-16 weeks prior to their release. Alongside other measures, an assessment of prisoners’ met and unmet needs was carried out using the CAN-FOR (adapted) to ensure researchers captured subjective need and associated service receipt.

Results: The RCT is ongoing. We will present a description of prisoners’ subjective met and unmet needs (accommodation, education, work/money/benefits, family/friends/company/intimacy, physical and mental health, safety to self and self-care, safety to others, and leisure activities). The scores will be compared with validated and more ‘objective’ assessments of social situation, mental health and substance use, as well as with provision of services to address these.

Discussion: In order for prisoners to resettle into the community effectively a range of complex needs must be addressed. Integrated and personalised support should be implemented to facilitate access to, and positive interactions with primary care, mental health and substance misuse services,
as well as other third sector organisations. Any differences between the composite measure of subjective needs with previously validated scales will be discussed.

Exploring the experiences of Engager intervention participants and their practitioners to support Realist approaches in determining ‘what works for whom, where, why and when’

(*elevator pitch*)

Dr Lauren Weston, Community and Primary Care Research Group, Plymouth University

Peninsula Schools of Medicine and Dentistry

Dr Sarah Rybczynska-Bunt, Plymouth University; Mr Jonathan Graham, University of Manchester; Professor Richard Byng, Plymouth University; Dr Charlotte Lennox, University of Manchester; Dr Tim Kirkpatrick, Plymouth University; Dr Cath Quinn, Plymouth University.

**Background:** Engager is a collaborative care intervention for offenders with common mental health problems, near to and after release, which is currently being tested in a two-arm Randomised Controlled Trial. Offenders are more likely to experience common mental health problems, such as anxiety and depression, and less likely to access appropriate health services than the general population. Engaging with prisoners, and then working with them in the community after release, offers a period of relative stability to undertake meaningful work with offenders.

**Methods:** Within the parallel Process Evaluation we produced an evidence-based logic model, based on formative and pilot trial research, of how we understood the Engager intervention to work. The logic model specified what practitioners were asked to do (inputs), what we believed this would achieve (outputs), and the mechanisms we hypothesised would link the two. We produced an ‘if-then’ tool to test whether we could render the mechanisms visible. The tool asked practitioners and participants about a participant’s experiences and ‘if’ inputs were delivered they believed that they ‘then’ lead to specified outputs. Likert scale ratings and explanatory free-form comments were given.

**Results:** The ‘if-then’ tool produced insightful complementary and conflicting perspectives of intervention participant’s experiences. Of particular interest were practitioner comments about some intervention participant’s difficulties in participating in ‘mentalising’ (a therapeutic approach) and participants’ lack of awareness that this had occurred. Useful explanations were detailed as to why some parts of the intervention had not been delivered to some participants.

**Discussion/Conclusions:** Measuring and understanding the extent to which the Engager intervention is producing the anticipated outcomes for intervention participants is crucial to intervention development and delivery. The ‘if-then’ tool has added to our understanding of how ‘inputs’ lead to anticipated outputs and can support Realist approaches to determining ‘what works for whom, where, why and when’.
What adolescents living with long-term conditions say about being involved in shared decision-making about their healthcare: systematic review and narrative synthesis of attitudes and experiences (elevator pitch)

Miss Amber Jordan, PhD student, Cardiff University

Dr Fiona Wood, Cardiff University  Prof Adrian Edwards, Cardiff University  Miss Victoria Shepherd, Cardiff University  Dr Natalie Joseph-Williams, Cardiff University

Background and Aims: Adolescents with LTCs have demonstrated poorer illness management than young children or adults, resulting in increased risk of complications and mortality. Shared decision making (SDM) is one way to improve care for adolescents with LTCs, and is actively supported by NHS bodies and patient organisations. However, chronically ill adolescents have been found to act as bystanders during consultations, and are rarely encouraged to participate. Clinicians often view the parents as the primary figure in decision-making, and little is known about the adolescent patient perspective regarding SDM involvement with health professionals. The aim of this review is to understand the attitudes and experiences of adolescents (age 10-19) with chronic conditions towards involvement in SDM about their condition management.

Methods: A systematic review and narrative synthesis of qualitative, quantitative and mixed-methods research was performed. Six databases were searched from inception to March 2017. The quality of the articles was assessed according to the each study design. Relevant data were extracted and coded thematically.

Results: 27 articles were included. Information, discussion, and decision-making preferences and experiences were reported from the patients’ perspectives. Variability in preferences and experiences were found within and between individuals. Mismatches between preferences and practice were common, and often detrimental to adolescents’ well-being.

Discussion and conclusion: Adolescent preferences for involvement at different stages of decision-making are situational and individualistic. Training and tools which facilitate SDM should provide healthcare practitioners with the opportunity to understand the involvement preferences of adolescent patients, and for their involvement to be encouraged and supported. Failure to do so can be detrimental to the well-being of adolescents with LTCs. Adolescent perceived barriers and facilitators to SDM should be explored. Interventions are needed to address the mismatches between adolescent preferences and practice, and to support the participation of adolescents with LTCs in SDM.
J Infection

Oral Steroids for the resolution of otitis media with effusion (OME) in children (OSTRICH)

Dr Nick Francis, Cardiff University

Cherry-Ann Waldron Dr Emma Thomas-Jones Dr Rebecca Cannings-John Professor Kerenza Hood Dr Colin Powell Dr Amanda Roberts Debbie Harris Victoria Shepherd Prof Christopher C Butler

Background: Otitis media with effusion (OME) is the most common cause of hearing loss and surgery requiring anaesthesia in children. An effective oral medication could be used in primary care and reduce the need for surgery. A Cochrane review found weak evidence of a beneficial effect from oral steroids. We set out to determine the clinical and cost-effectiveness of oral steroids on hearing at 5 weeks in children with bilateral OME and significant hearing loss.

Methods: Double-blind, placebo-controlled RCT, in ENT and audiology clinics in Wales and England. Children (2-8 years) with symptoms of OME for at least 3 months and bilateral audiometry-confirmed hearing loss were randomised to a 7-day course of oral soluble Prednisolone (20mg or 30mg / day for 2-5 and 6-8 years respectively) or matched placebo. Primary outcome: acceptable hearing (≤ 20 dB hearing loss in at least one ear by PTA/≤25 dBHL by SFA at 5 weeks). Secondary outcomes: hearing at 6 and 12 months; tympanometry; otoscopy; healthcare utilisation; adverse effects; symptoms; functional health status; health related quality of life and cost effectiveness.

Results: 389 children were randomised. Mean age at recruitment was 5 years, 56% were male, and 71% had hearing loss of 40 dBHL or less (slight or mild). Treatment with oral steroids achieved satisfactory hearing in 7.1% more children than placebo at 5 weeks (39.9% versus 32.8% hearing resolution (OR) 1.32, 95% CI 0.85 to 2.05; p=0.208); NNT =14.1; 95% CI: NNTH 35.7 to to NNTB 6.0). At 6 months, 69% and 61% had recovered in the steroid and placebo groups respectively.

Conclusions: OME in children with hearing loss and attributable symptoms for at least three months has a high rate of spontaneous resolution. A short course of oral steroids did not significantly improve resolution of satisfactory hearing.
Uncertainty about cellulitis and unmet patient information needs: a mixed methods study

Dr Emma Teasdale, University of Southampton

Dr Anna Lalonde (University of Southampton) Dr Ingrid Muller (University of Southampton) Dr Joanne Chalmers (Centre for Evidence Based Dermatology, University of Nottingham) Mr Peter Smart (PPI representative) Mrs Julie Hooper (PPI representative) Dr Magdy El-Gohary (University of Southampton) Prof Kim Thomas (Centre for Evidence Based Dermatology, University of Nottingham) Dr Miriam Santer (University of Southampton)

Background Cellulitis is a common painful infection of the skin and underlying tissues that recurs in approximately a third of cases. Patients’ ability to recover from cellulitis or prevent recurrence is likely to be influenced by their understanding of the condition. This study aimed to explore patients’ perceptions and understanding of cellulitis and their information needs.

Methods We conducted a mixed methods study comprising semi-structured, face-to-face interviews and a cross-sectional survey. We recruited through primary care, secondary care and advertising. Adults aged 18 or over with a history of cellulitis (first or recurrent) were invited to complete a survey, take part in an interview or both. Qualitative data was analysed thematically.

Results Thirty interviews were conducted between August 2016 and July 2017. Qualitative data highlighted uncertainty amongst participants in terms of awareness and understanding of cellulitis, particularly their experiences of first episode cellulitis. We found: (1) low prior awareness of cellulitis, 2) uncertainty around diagnosis, 3) concern/surprise at the severity of cellulitis, 4) perceived insufficient information provision. Participants were surprised they had never heard of cellulitis and that they had not received advice or leaflets giving self-care information. Some sought information from the internet and found this confusing. Two hundred and forty surveys were completed (response rate 17%). The quantitative data showed that, whilst many participants had received information on the treatment of cellulitis (60.0%, n=144), many reported receiving no information about causes (60.8%, n=146) or prevention of recurrence (73.3%, n=176).

Conclusions There is a need for provision of basic information for people with cellulitis, particularly (1) being informed of the name of their condition, (2) how to manage acute episodes, (3) how to reduce risk and prevent recurrence.

An examination of reported usage and economic burden of over-the-counter medication for sore throat (elevator pitch)

Dr Gail Hayward, University of Oxford

Dr Richard Burns University of Oxford Dr Jane Wolstenholme University of Oxford

Background Sore throat affects millions of people in the UK every year and represents a sizable economic burden. This study used data from the TOAST (Treatment Options without Antibiotics for Sore Throat) trial to assess the range and economic burden of OTC medications used for sore throat in England.

Methods Participants recorded OTC medication use in a symptom diary at baseline and for 7 days after receiving either a single capsule of 10mg oral dexamethasone or identical placebo. Costing analysis was undertaken using 2017 GBP sourced from online pharmacies and retailers/brands reported. If branding was not specific, generic product pricing was applied. Daily costs were
estimated using maximum daily dosage. National estimates of economic burden of sore throat-related OTC medications were estimated using published literature on age-related incidence and usage.

**Results** 16 categories of products were reported with individuals on average purchasing 1.5 (SD: 1.23) products for sore throat. 76% of patients reported OTC medication usage previous to or on the day they presented to the GP; this increased to 80% reporting usage the day following their GP consultation, with 20% consistently reporting usage for the next 7 days. Costs varied with paracetamol being the cheapest (£0.24 per 24 hours) and Anaesthetic Throat Spray the most expensive (£3.50 per 24 hours). On average 37% of medications were branded. Based on published incidence levels, the overall economic burden of sore throat lies between 30 and 70 million pounds a year depending on the extent of branded versus generic purchasing.

**Discussion** This analysis provides the first examination of the range, utilisation behaviour and cost of OTC medications for sore throat using a large cohort of patients within an RCT setting.

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**Qualitative synthesis of patients', health workers' and the public’s views of Complementary and Alternative Medicine (CAM) as alternatives to antibiotics for Respiratory Tract Infections (RTIs) (elevator pitch)**

**Dr Emily Donovan, Primary Care & Population Sciences, University of Southampton**

Dr Miriam Santer, Dr Shereen Elboray, Dr Merlin Willcox.

**Background/aims** Antibiotics confer little benefit in uncomplicated respiratory tract infections (RTIs) yet remain widely used, contributing to rising levels of antibiotic resistance. Identifying alternative strategies to manage RTIs may help address this. We aimed to synthesise the qualitative literature on views about using complementary and alternative medicine (CAM) for RTIs.

**Methods** We searched MEDLINE, EMBASE, PubMed, CINAHL, Amed, WoK and COREHOM databases to find relevant qualitative studies. We included studies reporting qualitative research relating to use of CAM for RTI where participants were either patients or parents of patients, health workers or the general public. We excluded studies relating to pneumonia, chronic respiratory conditions, such as tuberculosis and chronic obstructive pulmonary disease/emphysema. There were no language or date restrictions. We conducted a thematic synthesis to identify key themes running within and between the selected studies that met the inclusion criteria.

**Results** From 964 studies identified by the searches, only 8 fulfilled the inclusion criteria (3 from high-income and 5 from low-income countries). Patients and the public viewed CAM to be safe, more natural, affordable and accessible and CAM practitioners as more approachable than other healthcare providers. There was also a lay perception that CAM treated underlying causes rather than symptoms of disease. Health care practitioners had concerns about safety of CAM and felt uncomfortable discussing these, even where they were aware that patients were using them.

**Discussion/Conclusions** Few studies have examined patients’ and practitioners’ views on CAM as an alternative to antibiotics for RTIs. As there seems to be a positive public perception of CAM for RTI, it is important to research whether CAM can help to reduce use of antibiotics for non-serious RTIs.
Management strategies for chronic rhinosinusitis: A qualitative study of GP and ENT specialist views of current practice (elevator pitch)

Dr Jane Vennik, University of Southampton

Dr Caroline Eyles, University of Southampton  Professor Mike Thomas, University of Southampton  Professor Claire Hopkins, Guy’s and St. Thomas’ NHS Foundation Trust  Professor Paul Little, University of Southampton  Dr Helen Blackshaw, University College London  Professor Anne Schilder, University College London  Professor Carl Philpott, Norwich Medical School

Background/aims: Chronic rhinosinusitis (CRS) is a common inflammatory condition of the paranasal sinuses which significantly impacts on patient quality of life. There are uncertainties about best management and it is unclear how well guidelines are being implemented. The aim of this study is to evaluate GP and ENT specialist views of current treatment strategies for CRS and care pathways through primary and secondary care. Methods: Semi-structured qualitative telephone interviews were conducted with a purposive sample of 12 GPs and 9 ENT surgeons from different regions of the UK. Recordings were transcribed verbatim, managed using NVIVO 11 software and analysed using inductive thematic analysis.

Results: GPs describe themselves as confident in recognising CRS, however, specialists report common misdiagnoses when patients are referred to ENT clinics. Uncertainties can arise in general practice due to limited ENT training and lack of available diagnostic tests. Steroid nasal sprays provide the foundation of treatment in primary care, although local prescribing restrictions can affect treatment choice and poor adherence can lead to inadequate symptom control. Symptom severity, poor response to medical treatment, and patient pressure drives referral, although there is lack of clarity about optimal timing. ENT referral letters are a valuable information source for GPs, and ENT training courses are useful but infrequent. Treatment decisions in secondary care are based on disease severity, polyp status, prior medical treatment, and patient choice. Surgery is an important treatment option for patients with severe symptoms or with nasal polyps, although timing of surgery remains uncertain and its benefits need balancing against potential risks.

Conclusions: Uncertainties about diagnosis, best treatment and referral criteria may affect early CRS patient management and access to evidence-based care. Better communication between general practice and ENT specialists, including a more defined treatment pathway, will ensure best practice and result in better outcomes for patients.
Exploring variation in antibiotic prescribing in primary care practices (elevator pitch)

Dr Beth Stuart, University of Southampton

Ms Hannah Brotherwood, University of Southampton  Dr Alastair Brown, University of Southampton  Dr Sue Smith, University of Oxford  Mrs Susan Broomfield, University of Southampton  Dr Ann van den Bruel, University of Oxford  Professor David Mant, University of Oxford  Professor Michael Moore, University of Southampton  Professor Paul Little, University of Southampton

Aims: This study aims to describe antibiotic prescribing for sore throat and LRTI in UK general practice in relation to illness severity and to explore the extent of and variation in potentially inappropriate prescribing by GP practice.

Methods: Data is taken from the Descarte cohort for sore throat (12,829 participants) and the Cough Complications Cohort Study (28,883 participants). We describe variations in prescribing rates according to severity of patient illness at baseline. Accounting for individual patient baseline presentation, sociodemographic characteristics and practice-level deprivation, we calculated the median odds ratio to quantify the practice-level variation in prescribing rates. The median odds ratio represents the probability that two randomly selected practices will prescribe to an identical patient.

Results: There was substantial variability in prescribing rates by practice. For sore throat the range was 0%-97% (median 46%, IQR 33%-61%) of patients receiving an immediate antibiotic. For cough, the range was 7%-100% (median 62%, IQR 47%-75%). There was some evidence that higher prescribing practices saw a higher proportion of unwell patients. At the individual level, more severely ill patients are more likely to receive a prescription but prescribing levels for those will low severity scores are still high – 30% of sore throat patients with a Centor score 0 or 1 received a prescription and 50% of those with no signs/symptoms associated with adverse outcome for cough. The median odds ratio was 2.5 in the sore throat dataset and 2.8 in the cough dataset. This suggests that there is substantial practice-level variation, which cannot be explained by the illness severity of the individual patients.

Conclusion: Higher prescribing practices do see more unwell patients. However, this does not fully explain the differences that we observed in prescribing rates. The odds were substantially higher of an identical patient receiving an immediate prescription in some practices. Focusing on patients with low risk of adverse outcome and where antibiotics are very unlikely to provide benefit could result in substantial reductions in prescribing.
K Methodology

A systematic mapping review of the methods used to evaluate implementation fidelity in primary care trials

Dr Peter Edwards, Centre for Academic Primary Care, Bristol Medical School, University of Bristol

Ms Catherine Jameson, CAPC, University of Bristol  Ms Cindy Mann, CAPC, University of Bristol  Dr Alyson Huntley, CAPC, University of Bristol  Dr Alison Heawood, CAPC, University of Bristol  Dr Rebecca Barnes CAPC, University of Bristol

Title: A systematic mapping review of the methods used to evaluate implementation fidelity in primary care trials  Authors: Edwards PJ, Jameson C, Mann C, Huntley A, Heawood A, Barnes RK

Background: Implementation fidelity has been described as the extent the intervention-as-planned matches the intervention-as-delivered. Many primary care trials are complex, with multiple intervention components being delivered by multiple providers. The aim of this review was to map the extent to which implementation fidelity has been evaluated across trials and the range of methods in use.

Methods: A search strategy was developed with input from information specialists, trial managers, and the extant literature. The following databases were searched: Medline, Embase, and Cumulative Index to Nursing and Allied Health Literature. To be included in the review studies had to: be reporting on a randomised controlled trial of a primary care intervention; state in the title or the abstract that they had assessed implementation fidelity; and have been published between 2006-2016.

Results: Title and abstract screening of 6246 citations was performed by two reviewers. Discordant decisions were discussed and where necessary referred to a third reviewer. 6054 studies were excluded. Full papers were extracted for 192 studies. Following the completion of full paper screening, data extraction will be performed by one reviewer and checked by a second. Mapping will include information on study design, the planned intervention, the nature and extent of implementation fidelity assessment including aims, methods of data collection and analysis.

Discussion: We will discuss the strengths and limitations of our methodological review and in light of the evidence produced, what practical steps we might recommend regarding the evaluation and reporting of implementation fidelity in the design of future primary care trials.
The At-Risk Registers Integrated into primary care to Stop Asthma crises in the UK (ARRISA-UK) trial: progress and plans for the nested mixed-methods process evaluation

Dr Jane Smith, University of Exeter Medical School

Background: Most deaths and hospitalisations due to asthma are preventable. The ARRISA-UK trial is investigating whether, compared to usual care, a practice-level intervention decreases the proportion of at-risk asthma patients who experience asthma-related crisis events over 12 months. This presentation describes progress and plans for the nested process evaluation.

Methods: The ARRISA-UK study is an ongoing cluster-randomised controlled trial aiming to recruit 262 GP practices across the UK covering 9,000+ patients deemed at high risk of asthma-related hospitalisations, A&E attendances or death. The intervention involves identification and flagging of these patients’ records and web-based training to support implementation of practice-wide actions in response to the flags. As per MRC guidance, building on a logic model developed to describe the intervention, a mixed-methods process evaluation will explore implementation, mechanisms of action and the influence of contextual factors (e.g. practice characteristics). This will take a sequential exploratory approach to analysing data from questionnaires, training software, practice action plans, and focus groups and interviews with practices, staff groupings and patients.

Findings: By mid-November 2017 184 practices had been recruited, 10 in the South West, with 31 intervention practices completing the training and implementing flagging. There have been problems with implementation on certain software systems, barriers to receptionists completing training, and variation across practices in agreed actions in response to the flags. However, initial data from post-training questionnaires and phone calls suggest the training, flagging and ability to customise aspects of the intervention to suit each practice have been well-received. Ways in which the process evaluation will further explore key issues will be discussed.

Discussion: The ARRISA-UK intervention represents a pragmatic, primary-care led approach to improving outcomes for at-risk asthma patients. The process evaluation will ensure that variations in implementation and effectiveness across practices and reasons for its success, or otherwise, are fully explored.
Developing, and exploring the acceptability and feasibility of an intervention to prevent oral disease in high risk child populations.

Dr Cath Quinn, Community and Primary Care Research Group, Plymouth University
Peninsula Schools of Medicine and Dentistry

Dr Jo Erwin, Plymouth University  Mrs Alex Gude, Plymouth University  Prof Adrian Taylor, Plymouth University  Prof Elizabeth Kay, Plymouth University

Background/aims: Tooth decay is the most common reason for children to be admitted to hospital in England. Tooth extraction under general anaesthetic is expensive and is concentrated in the most socially deprived sectors of the population. The 5 behaviours required to avoid this are clearly evidenced in NICE guidelines. The reasons that more socially marginalised sectors of the population are less likely to carry out these behaviours for their infants, and how to overcome this, is unclear.

Methods: Three-stage intervention development. Participants were recruited through a south-west Family Nurse Partnership (FNP) who work with socially marginalised young mums. 1) Exploratory interviews with 10 mums of infants up to 2 years. Thematic analysis produced a deeper understanding of the main issues and challenges. 2) Up to 3 visits, to 15 mums with infants aged 4-12 months, to test home visiting to talk to them about oral health (feasibility) and if they were comfortable about the ways we were doing that (acceptability). Data from field notes, semi-structured participant (10) and Family Nurse (2) interviews were combined in a framework analysis. 3) Findings presented to, and refined by, participants.

Results: We learnt the best ways to arrange initial visits, prompt contacts for subsequent visits, the most appropriate timing for visits, the content of visits and the style of delivery. We identified that some behaviours were more challenging than others and developed additional support. We also learnt how to negotiate a variety of life situations and improved the ways in which an oral health worker could interact with the FNP team.

Discussion/Conclusions: The intervention now needs to be tested to see if it does achieve the desired outcomes (effectiveness). The next stages of the work include developing our ability to deliver to larger groups, over more than one site, and select appropriate outcome measures.
Internet forum discussions regarding IBS: a qualitative study

Dr Hannah Clarke, Southampton University, Department of Primary Care and Population Sciences
Dr Hazel Everitt - Southampton University - Department of Primary Care and Population Sciences
Emma Teasdale - Southampton University - Department of Primary Care and Population Sciences
Nick Chen - Southampton University, Medical Student

Background/aims  Irritable Bowel Syndrome (IBS) affects around 15% of the UK population with many people having ongoing troublesome symptoms. Existing literature highlights the significant impact on quality of life and lack of perceived support by professionals. Unsurprisingly, patients seek counsel from other sources (e.g. internet forums) yet little is known about the information discussed in these. This project aims to explore forum discussions regarding managing IBS symptoms.

Methods  Using an internet search engine three highly active, IBS-relevant forums that did not require registration for access were identified. Searches retrieved relevant discussions on symptom management and for each 3 pages were reviewed: 122 related threads were identified and exported. These threads were inductively coded, thematically analysed and key themes identified. Ethics approval was granted by University of Southampton Faculty of Medicine Ethics Committee.

Results  Emerging themes are requests for and provision of emotional support as well as informational support. Within emotional support three sub-themes are apparent: expressions of empathy/sympathy including symptomatic reassurance; confidence-boosting/encouragement and expressions of thanks. Informational support sub-codes include: diet; fluids; medication; exercise; dietary supplements; holistic measures and psychological therapies. The advice offered is very wide-ranging, often contradictory and perceived with differing levels of scrutiny and hope. Diet is the most frequently discussed management option and is the most optimistically perceived potential cure.

Discussion/Conclusions  Whether the support sought by IBS sufferers through forums is due to a lack elsewhere, or is an adjunct to available services, is unclear. Yet although there are many contradictions and inaccuracies within the informational content, there is an overall impression of a wide-ranging supportive online environment. Exploring these forums has the potential to provide healthcare professionals and researchers with a greater understanding of the concerns and unmet needs of people with IBS and to help focus the development and provision of appropriate supportive resources.
GP Wellbeing: A Qualitative Study

Dr Marylou Murray, Centre for Public Health School of Medicine, Dentistry and Biomedical Sciences Queen’s University Belfast

Professor Michael Donnelly Centre for Public Health School of Medicine, Dentistry and Biomedical Sciences Queen’s University Belfast

Background The burgeoning empirical evidence on the antecedents and implications of burnout contrasts starkly with the limited research base for wellbeing in GPs. Little is known about how GPs’ experience and sustain personal wellbeing. Addressing this research gap could positively impact on building and sustaining primary care in the future. Research questions How do GPs define wellbeing? What do GPs consider promotes and challenges wellbeing?

Method Thematic analysis was selected as the most appropriate methodology to capture the meaning of wellbeing for GPs. Maximum variation sampling was sought via ‘snowball’ sampling with the assistance of GP volunteers identified in an earlier study. Data analysis and data collection took place concurrently and iteratively. Semi-structured interviews were performed in face to face and by telephone. Interviews were audio-taped and transcribed verbatim by a GP researcher (MM). Themes were sought in an inductive manner (data driven) using a semantic rather than latent approach.

Results 11 semi-structured interviews were conducted with GPs in various roles, career stages and settings in Northern Ireland. Wellbeing was defined in terms of ‘thriving not surviving’ which encompassed work engagement, having a positive outlook and adaptability and ‘being at peace with yourself’ which extended beyond absence of anxiety to include stillness and self-acceptance. Challenges included workload, organizations and change. Promotors included resilience, social support and practice culture.

Conclusion Adaptability and stillness are aspects of wellbeing that are of particular relevance to GPs. Barriers identified concur with recognised drivers of burnout. Practice culture may be an important source of mental health promotion for GPs. Safeguarding the workforce is fundamental to the future of general practice. These findings make a significant contribution to the evidence base for GP-specific mental health promotion and mental disease prevention.
What are the barriers and enablers to collaborative working between GPs and practice-based pharmacists?

Dr Polly Duncan, University of Bristol

Dr Matthew Ridd, University of Bristol  Dr Christie Cabral, University of Bristol  Prof Chris Salisbury, University of Bristol

Background/Aims: Stopping medicines requires clinicians to balance issues of potential loss of clinical benefit against reducing risk of harm caused by medication errors and prescribing burden (Duncan P, 2017). One opportunity to reduce harmful prescribing is to undertake a yearly medication review. The quality of these reviews has been questioned and one approach to improve this is to expand the role of practice-based pharmacists (Roland M, 2015). The purpose of this study was to explore GP and pharmacist views on: the usual practice of medication reviews; the 3D Study approach to medication reviews; and the barriers and enablers to collaborative working between GPs and pharmacists.

Methods: This is a sub-study of the 3D Study, a randomised controlled trial for patients with multimorbidity. As part of the intervention, a pharmacist conducted a remote medication review and made recommendations to the GP to discuss with the patient. Semi-structured interviews were conducted with 10 pharmacists and 13 GPs. Interviews were based on topic guides and case study patients grounded the interviews. These were audio-recorded, transcribed and analysed thematically.

Results: Four key themes were identified: 1. Resources and competing priorities - pharmacists reduced GP workload, but some GPs highlighted the time and cost required to train them. In most practices, competing priorities meant that the pharmacists were not involved in medication reviews. 2. Professional boundaries – some GPs valued the expertise of pharmacists and others questioned their clinical decision-making skills. 3. Responsibility – several GPs were reluctant to lose control of prescribing decisions, but others felt overwhelmed by the complexity of prescribing and were grateful to share this responsibility. 4. Effectiveness of the recommendations - GPs valued recommendations that improved the safety of prescribing or reduced the number of tablets. Recommendations relating to changes in guidelines were less valued.

An exploration of resilience with General Practice Trainees (elevator pitch)

Dr Sarah Ansell, Plymouth University

Dr Marie Bryce. Research Fellow, Dr James Read. Honorary Research Fellow Collaboration for the Advancement of Medical Education Research & Assessment (CAMERA). Plymouth University Peninsula Schools of Medicine and Dentistry.

Background A Masters’ dissertation for the Plymouth University Clinical Education Programme, this project aimed to understand the views and experiences of general practice trainees on psychological resilience with a view to informing the development of appropriate learning opportunities for doctors in training to develop their resilience and promote career sustainability.

Methods A qualitative research project utilising focus groups with trainees in the South West training scheme for General Practice (GP) and iterative thematic analysis to understand how Specialist Trainees in General Practice view and experience resilience. Results Themes were identified in four main areas: 1. Challenges experienced 2. Responses used to enable positive function to be maintained. 3. Factors perceived to aid or hinder resilience; these built on the strategies above and included internal factors which trainees can employ and external factors which depend on the organisational culture and policies. 4. Suggestions of how to develop resilience

Conclusions Interpretation of the material produced resulted in the development of a new model which can be used to help promote resilience in medical practitioners and highlights organisational as well as personal factors. Engagement of both individuals and organisations is important in initiatives to enhance the ability of medical practitioners to adapt positively in the face of the challenges of clinical practice and maintain a robust healthcare workforce.

Pre-registration nurse placements in general practice: the picture so far (elevator pitch)

Ms Beth Hawkes, Primary Care Nurse Lecturer, University of Plymouth

BACKGROUND: A global shift of health services from secondary into primary care has necessitated a growth in numbers of primary care nurses and expansion of the roles that they undertake. In general practice, there is a serious shortfall between supply and demand of practice nurses (PNs). With an ageing PN population, and many due to retire, a potential crisis is looming. It is therefore imperative that we examine the picture so far, in order to inform workforce planning and attract pre-registration nurses into PN roles.

METHODS: This was a scoping review of literature published within the last ten years examining various aspects of pre-registration nurse placements, including the perspectives of students and nurse mentors.

RESULTS: Seven papers were included in the review. All of the studies utilised surveys and varied in quality and rigour. The findings of the studies of lesser quality did not contradict those of higher quality, so therefore could be viewed as supporting the general body of evidence. All of the post placement studies revealed that student, mentor, general practitioner (GP) and patient views of pre-registration placements were overwhelmingly positive.

DISCUSSION: Despite the general belief that lack of funding is one of the main barriers involved with pre-registration nurse placements, synthesis of the evidence so far suggests that there are several other contextual elements at play.
The role of learning networks in clinical learning (elevator pitch)

Dr Alex Harding, University of Exeter

Medical students spend a considerable proportion of their studies undertaking clinical learning but there has been comparatively little detailed analytical investigation. This work therefore seeks to further the understanding of clinical learning. The study adopted a focussed ethnographic approach using quasi-participant observation of third-year medical students over a period of two years. Observations revealed repeating types of learning episodes, which are presented as vignettes.

These vignettes are analysed using Actor-Network-Theory (ANT), a branch of material semiotics. ANT seeks to account for both the social and material aspects of learning relevant to complex socio-technical environments such as healthcare environments. Although theoretically attractive, socio-material approaches such as ANT have been difficult to operationalise for empirical use. I have developed a number of bespoke methodological and analytic approaches that are clearly articulated to enable critique and future use.

Analysis suggests that clinical learning can usefully be conceptualised by learning networks that produce varying opportunities for learning. The networks comprise human and material participants (or actors), interacting in complex but definable ways. The material actors figure prominently, and often inhibit network formation. Within learning networks, differing actor combinations generate a range of learning processes that produce a corresponding variety of learning opportunities.

The networks are time consuming to initiate, fragile and short-lived. When operational, networks can contribute to learning technical proficiency, but opportunities to learn clinical skills are rare. The analysis contributes towards the understanding of medical education by identifying new material and human actors. The analytic process also introduces a systematic way of describing how the actors interact to produce learning. Identification of new actors and relationships has led to opportunities to improve clinical learning at the observations site and generated several opportunities for further research.
Supporting students to become shared decision makers through reflection *(elevator pitch)*

**Dr Rachel Leyland, Plymouth University Schools of Medicine and Dentistry**

Professor Hilary Neve, Plymouth University Schools of Medicine and Dentistry  Dr Veronica Maynard, Associate Professor, Plymouth University Schools of Medicine and Dentistry

**Background** Shared decision making (SDM) is increasingly recognised as important in healthcare (Elwyn 2011), is an NHS priority (DoH 2010) and can enhance patient safety and quality of care (Godolphin 2009). Newly qualified doctors often struggle with SDM, perhaps because their education is more focused on disease and treatment rather than the patient perspective (Corke, Stow et al. 2005). We have introduced a new learning topic “shared decision making” into our Year 3 Small Group curriculum. Students review literature around SDM and its benefits, explore the concepts in discussion groups, then reflect on examples of SDM observed in clinical settings, including general practice.

**Aims** To explore how guided reflection on clinical consultations influence students’ understanding and perceptions of SDM. To identify lessons learnt for future teaching and learning.

**Methods** Students reflected on their SDM experiences using an SDM template, which they posted on their group e-discussion board; key themes were analysed from the templates to identify learning.

**Results** 32 student volunteers submitted reflective templates, most of which described appropriate examples of SDM. Preliminary findings suggest that being able to analyse specific behaviours and communication skills seemed to lead to deeper reflection and sometimes a shift in perspective. Some students appeared to appreciate the importance of SDM as “a meeting of experts” while others felt some patients might make an “irrational”, “wrong” or “unsafe” decision. Students raised the importance of time for SDM and also questioned whether all patients want SDM.

**Discussion** Structured reflection on placement experiences can help students learn about SDM. Our findings suggest that certain factors e.g. exploring potential models and benefits of SDM may improve their understanding. We will describe how we will use the findings to improve this intervention.

M Clinical Care

Emollient bath additives for the treatment of childhood eczema (BATHE): multi-centre pragmatic parallel group randomised controlled trial of effectiveness and cost-effectiveness

Dr Miriam Santer, University of Southampton

Dr Matthew Ridd, University of Bristol  Dr Nick Francis, Cardiff University  Ms Kate Rumsby, University of Southampton  Dr Beth Stuart, University of Southampton  Dr Taeko Becque, University of Southampton  Dr Maria Chorozoglou, University of Southampton  Mrs Amanda Roberts, University of Nottingham  Mrs Lyn Liddiard, University of Bristol  Ms Claire Nollett, Cardiff University  Mrs Julie Hooper, University of Southampton  Mrs Martina Prude, University of Southampton  Professor Kim S Thomas, University of Nottingham  Dr Emma Thomas-Jones, Cardiff University  Professor Hywel C Williams, University of Nottingham  Professor Paul Little, University of Southampton

Background/aims  Childhood eczema is common and usually managed in primary care. Emollient bath additives are widely prescribed for childhood eczema yet evidence for their benefit is lacking. We aimed to determine the clinical and cost-effectiveness of including bath additives in the standard management of childhood eczema.

Methods  BATHE was a pragmatic randomised, open-label, multi-centre superiority trial with two parallel groups. Participants were recruited through mail-out and opportunistic recruitment from 96 practices in Wales, West of England and Southern England. Children were eligible to participate if aged over 12 months and less than 12 years, fulfilling UK Diagnostic Criteria for Atopic Eczema. Children with very mild eczema were excluded, as were children who bathed less than once per week or whose parents/carers were not prepared to accept randomisation. The intervention group were prescribed bath additives by their usual clinical team and were asked to use them regularly for 12 months. The control group were asked to use no bath additives for 12 months. Both groups were advised to continue with standard eczema management, including regular leave-on emollients and topical corticosteroids when required. The primary outcome was eczema control, measured by Patient Oriented Eczema Measure (POEM) weekly for 16 weeks. Secondary outcomes included eczema severity over 1 year; quality of life and adverse effects.

Results  482 children were randomised with 76.7% of participants completing at least 12 (80%) of the first 16 weekly questionnaires for the primary outcome. Reported adherence to randomised treatment allocation was over 92% in both groups. The report has been submitted to NIHR HTA and the results will be available for presentation at the conference.

Discussion/Conclusions  If bath additives are shown to be ineffective, this would alter advice for parents/carers with an emphasis on using more effective treatments and would lead to significant cost savings for the NHS.
ACTIB trial (Assessing Cognitive behavioural Therapy in Irritable Bowel): a multicentre randomised controlled trial

Dr Hazel Everitt, University of Southampton

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Background: Irritable Bowel Syndrome (IBS) is a common chronic gastrointestinal condition, characterised by abdominal pain, bloating and change in bowel habit. Medications have limited benefit and many patients experience ongoing symptoms which significant impact on quality of life. Cognitive behavioural therapy (CBT) for IBS can help and is recommended in NICE guidelines but NHS access is very limited. The aim of this trial was to determine the clinical and cost-effectiveness of therapist telephone delivered CBT and web-based CBT self-management with minimal therapist support compared to treatment as usual in adults with refractory IBS.

Methods: ACTIB is a National institute for Health Research (NIHR) funded multicentre randomised controlled trial. Participants were recruited over 23 months from primary and secondary care in the south of England and London. Adults (≥18 yrs) with refractory IBS who had been offered first-line therapies (eg, antispasmodics, antidepressants or fibre based medications) and had continuing IBS symptoms ≥12 months were eligible. The main outcome measures were IBS Symptom Severity Score (IBS SSS) and Work and Social Adjustment Scale (WASAS). Baseline and follow up data was patient reported and collected on-line at 3, 6 and 12 months.

Results: 558 participants were randomised, 75.8% (423/558) were female; mean age 43 yr (SD 13.2); mean duration since diagnosis was 10.4 yr (SD 9.7) 10.2% had seen a GI consultant; mean IBS-SS score was 276.85 (SD 95.5)) indicating moderately severely IBS; mean time from start of symptoms to diagnosis was 6.1 years (SD 7.5). The trial arms were well balanced at baseline.

Conclusion: To our knowledge this is the largest trial of CBT for IBS worldwide. Recruitment above target was achieved. Trial results will be available at the conference.
How are group-based interventions delivered for patients with severe obesity? A scoping investigation of current weight management practice *(elevator pitch)*

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Dr Mark Tarrant, University of Exeter. Prof Jonathan Pinkney, Plymouth University

**Background** Severely obese patients (BMI>40, or >35 with co-morbidities) may be referred from primary care for specialist multi-disciplinary weight management support. Referrals have increased dramatically in recent years as the prevalence of obesity in England has grown. In response to this rising demand many NHS providers have developed group-based programmes. However, there is limited information on how groups are used in these services, or evidence on the optimal structure and delivery of these approaches. In order to begin to address this knowledge gap we undertook a scoping study to describe the current use of group-based approaches in Tier 3 specialist services for severely obese patients.

**Methods** We contacted Tier 3 services by e-mail through the Association for the Study of Obesity, requesting information about their service configuration. For services using group-based sessions we followed up by telephone. Using a checklist we gathered quantitative and qualitative data on how group programmes were delivered.

**Results** Of the 23 organisations contacted, 9 responded, indicating that they offered Tier 3 services using groups. The objectives, methods, structure and content of group activities varied widely between these centres. Duration of individual sessions ranged from 40 minutes to two hours, sometimes including physical activity. Some programmes explicitly based content on behavioural change theory, whereas others took a more pragmatic approach, incorporating ongoing content development. Some centres provided group approaches for selected indications (e.g. eating disorders, pre- and post-surgery), whereas other routinely adopted group-based approaches for all patients.

**Conclusions** A range of highly innovative uses of group-based activities and interventions was observed. However, there was substantial variation in use, design and delivery. The optimum design and best practices for these potentially important interventions in Tier 3 weight management are not yet established. When referring patients with severe obesity for specialist support, local services may differ significantly.
Clinicians’ beliefs and experiences about introducing point of care (POCT) blood tests into a primary care out of hours home (OOH) visiting service (PrOBe) (elevator pitch)

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Professor Daniel Lassersson, Institute of Applied Health Research, University of Birmingham
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Background/aims: Out of hours (OOH) primary care involves high risk decision making, as clinicians assess patients presenting with acute symptoms without prior knowledge of the patient and limited access to diagnostic tests. Allowing access to POCT (which give results within minutes when assessing patients at home) might improve clinicians’ ability to decide on the most appropriate course of management and the need for admission. However in order to successfully implement this type of innovation it is essential to understand the perspective of clinicians working within the service.

Methods: 16 semi-structured qualitative interviews with clinicians’ undertaken throughout the service innovation period, and three different study areas.

Results: Findings include: what clinicians identified as appropriate or clinically meaningful uses of POCT was an important factor determining whether and when they chose to use POCT. In addition to using POCT to support clinical assessment, clinicians identified a role for POCT in facilitating shared decision making and supporting communication, with both patients and professionals. How the information that point of care tests offer integrates with the process of managing the uncertainties and risks of out of hours primary care home visiting was a key area of reflection for clinicians.

Discussion/Conclusions: There was a largely positive response to POCT from the clinicians we spoke to, however not all professionals chose to use POCT when they were available and some concerns were raised. Gaining understanding of clinicians’ priorities, concerns and experiences could support the development of tailored educational and support processes to facilitate introducing POCT into practice.

Capturing shared decision making in clinical practice: the challenges of measurement (elevator pitch)

Dr Denitza Williams, Cardiff University

Dr Natalie Joseph-Williams, Division of Population Medicine, College of Biomedical & Life Sciences, Cardiff University
Dr Fiona Wood, Division of Population Medicine, College of Biomedical & Life Sciences, Cardiff University
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Background There is strong policy support for shared decision making (SDM) in practice, and consideration of incentives for SDM. However, little is known about how to accurately measure
SDM. We aimed to measure SDM in two clinical settings and compared different measurement tools: SureScore, a dyadic self-reporting measure and OPTION5, an observer-rated measure.

**Methods** We recruited a purposive sample of patients considering treatment options from breast cancer and renal clinics in Cardiff and Vale University Health Board. Clinicians and patients rated their experiences of SDM after their consultations using SureScore, and consultations were audio-recorded and scored using observer OPTION5.

**Results** 22 breast and 21 renal consultations were scored. SureScore indicated that both clinicians and patients felt SDM was occurring, but showed ceiling effects. There was some mismatch with the OPTION5 score data, which showed that each consultation lacked at least some elements of SDM. Highest scoring items for OPTION5 were “incorporating patient preference into decisions” for the breast team (mean 92.5, range 62.5-100, S.D. 11.96) and “eliciting patient preferences to options” for the renal team (mean 80.76, range 50-100, S.D. 17.40). Where OPTION5 scores were low for a particular item, it was not known whether discussion about this item had occurred in previous interactions.

**Conclusion** Patients completing self-report measures need clear guidance on what (and how many encounters) and who they are scoring. One-time observational measures do not capture the ‘distributed’ SDM process, or more implicit and nuanced tasks. When measuring SDM, it is important to ask about the elements and processes of SDM, as well as overall perceptions. Scoring one consultation might not capture the SDM process, which can be distributed over multiple consultations. Findings are important for consideration of measuring SDM in settings characterised by long term condition management over several consultations, and with multiple staff members.

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**A comparison of bath emollient prescribing guidelines for eczema and other skin diseases across Clinical Commissioning Groups and Local Health Boards in England and Wales (elevator pitch)**

**Miss Grace Boyd, Fifth Year Medical Student, University of Bristol**

Mr Jonathan Chan, Third Year Medical Student, University of Bristol  Dr Matthew J Ridd, Centre for Academic Primary Care, University of Bristol, Bristol, U.K

**Background:** Eczema (atopic eczema/dermatitis) is common and characterized by dry and itchy skin. Emollients to restore and preserve skin moisture can be applied directly to the skin or added to bath water (bath emollients). However, there is a lack of evidence to support these treatments.

**Aim:** To describe the number and type of recommendations made regarding bath emollients according to prescribing guidelines for Clinical Commissioning Group (CCG) and Local Health Boards (LHB) in England and Wales respectively.

**Methods:** Emollient prescribing guidelines were obtained, mostly via individual CCG/LHB websites. Data on prescribing recommendations were extracted onto an Excel spreadsheet. A 10% random sample of the data was independently verified. Descriptive analysis was carried out using Excel and Stata.

**Results:** 102 emollient guidelines were identified across 209 CCGs in England and 7 LHBs in Wales. 84/102 guidelines recommended the use of bath emollients, 7/102 did not mention bath emollients and the remaining 11/102 did not recommend their use. A total of 34 bath different emollients were
recommended. The five most commonly prescribed bath emollients were: Oilatum, Hydromol, Balneum plus, Oilatum plus and Dermol 600. The rationale behind recommendations varied but where given, most commonly related to cost, patient preference and efficacy.

**Conclusions:** We found a wide variation in the recommendations and rationale between guidelines on the prescribing of bath emollients across England and Wales. In the absence of good evidence demonstrating the clinical or cost effectiveness of this treatment, the reasons for these differences are unclear. The findings from the BATHE trial (comparing bath additives with usual care in children with eczema, HTA report in preparation) should improve consensus between formularies in the future.

The importance of patient input when constructing a new quality of life measure: The Severe Asthma Questionnaire *(elevator pitch)*

Mr Joseph Lanario, Plymouth University Peninsula Schools of Medicine and Dentistry

Michael Hyland, Rupert Jones, Plymouth University, UK  Mathew Masoli, Plymouth Hospitals NHS Trust, UK

**Background/aims:** Existing asthma quality of life questionnaires fail to measure the burden of oral steroids that are used in severe asthma. According to Federal Drug Administration (FDA) guidelines, patient input is key to achieving content validity. Aim: to describe the role of patient input in constructing a new questionnaire to measure quality of life in severe asthma including the burden of treatment.

**Methods:** A draft severe asthma questionnaire (SAQ) was constructed using qualitative input from 23 severe asthma patients who undertook in depth interviews. Themes which arose were coded and used to inform the construction of the preliminary questionnaire. In four iterative focus groups, 16 people with severe asthma completed the draft questionnaire, discussed the wording and structure and suggested changes that were incorporated into the final version.

**Results:** Patients found it difficult to distinguish between asthma symptoms and steroid side effects as originally intended. A recall period of two weeks was acceptable but fails to reflect the patients’ desire to express the variability of severe asthma. Patients suggested improvements to the wording of the draft questionnaire, including splitting some items in two, combining two items in one, and changes to some of the words in individual items and the response scale.

**Discussion/conclusions:** The new step of co-developing a questionnaire with patients produced a substantially improved version compared to one constructed using only qualitative reports from patients and clinician guidance. When treated as partners in the questionnaire construction process patients make valuable contributions to the content, wording and design.
N Organisation/Policy

Patient experience – how much of a role do CCGs play?

Dr Mayam Gomez Cano, University of Exeter

Prof. John Campbell, University of Exeter Dr Gary Abel, University of Exeter

Background/aims Patient experience is routinely measured in UK general practice and is increasingly seen as being as important as clinical quality of care. Findings from the national GP Patient Survey are used make assessments of the quality of general practices, and form the basis of a number of key metrics used at local and national level including monitoring by the Quality Care Commission. However, it is unknown what influence CCGs have in determining the quality of patient experience in general practice when compared with the role of practices in determining such quality.

Methods National data was used for the 2015/16 GP patient survey. Hierarchical linear regression models were used to model seven measures of patient experience including access, continuity of care, receptionists, GP communication, out of hours care and overall satisfaction. In models, patients were nested within practices which were nested within CCGs. Adjustment was made for patient age, gender, ethnicity and deprivation.

Results We restrict our interpretation to the variance components attributable to practices and CCGs (ignoring the residual variance). For the two out-of-hours questions, the organisational variation was mostly attributed to the CCG (57% of organisational variance in both cases). For the questions addressing in-hours care only a minority of variance was attributable to CCGs. This varied from 5% of organisational variance in the case of continuity of care to 17% in the case of GP communication.

Conclusions For aspects of care not under the control of individual practices (such as out-of-hours care) CCGs have greater influence over the experience of patients than do practices. For aspects of care directly under the control of general practices, CCGs continue to have an influence, which, although small, is non-ignorable. This suggests CCGs are not driving patient experiences but may have some impact, possibly, for example, through attracting high quality staff.

Demonstrating Organisational Change for Person Centred Coordinated Care Using the P3C-OCT Implementation Tool

Dr Helen Lloyd, Community and Primary Care Research Group, Plymouth University Peninsula Scholls of Medicine and Dentistry and NIHR CLAHRC for the South West Peninsula (PenCLAHRC)

Ben Fosh, James Close, Jane Horrell, Richard Byng

Introduction Developing high-quality efficient healthcare is a priority due to the growth in healthcare costs associated with an aging population often requiring complex multi-agency care (1, 2). The clinical importance of both person-centred and coordinated care (P3C) in improving health outcomes and reducing costs in this group has been demonstrated (3-10). Despite this, organisations are often left without any mechanism to identify where, how, or what improvements to care can be made. To address this gap, the P3C Organisational Change Tool (P3C-OCT) was developed (11).
Methodology The P3C-OCT comprises of 29 questions, with objective and subjective components, to be completed by senior organisational and clinical staff. The P3C-OCT probes patient-practitioner relationships, practitioner collaboration, and organisational/IT systems supporting P3C delivery. On completion, the practice is given an online feedback dashboard identifying the extent of P3C within their organisation. Information is provided through graphical, visual, and textual feedback. Time-series feedback is available for periodic users. The dashboard highlights where improvements can be made while providing information on how other practices address similar issues.

Results The P3C-OCT shows statistically significant increases in care quality across both person centred care and care coordination with average scores increasing approximately 20% above practice baseline in a sample of 36 matched practices from the South West.

Discussion Conceptual ambiguity and a lack of guidance and support has hampered the delivery of P3C in primary care (11) (12). The P3C-OCT provides a practical ‘how to’ tool capable of supporting personalised care over time. It provides a mechanism for organisations to change, share, and learn from each other. The P3C-OCT is a practical exemplar of the principles outlined in NHS policy calling for more efficient and high quality integrated care. The interactive dashboard has proved a valuable mechanism for engaging organisations and demonstrating the value of the P3C-OCT.

Embedded and engaged scholarship and new models of care: emerging findings on pathways to real world impact using the researchers in residence (elevator pitch)

Dr Felix Gradinger, Plymouth University

Julian Elston, Plymouth University  Sheena Asthana, Plymouth University  Susan Martin S, Torbay and South Devon NHS Foundation Trust  Dawn Butler, Torbay and South Devon NHS Foundation Trust  Richard Byng, Plymouth University

Background/Aims: Services in South Devon and Torbay are known for innovations in integrated health and social care. The recently formed Integrated Care Organisation (ICO) and partner organisations have started implementing around 30 service innovations as part of its new care model. Developing useful theory of unpredictable systems in flux, while also learning from natural experiments within them requires a timely bringing together of theory, research, innovation and evaluation.

Methods: We explore how the applied model of ‘researcher-in-residence’ can create impact locally and nationally. The overall study approach includes researching the ICO ‘case’ with a mix of combining stories and numbers, building on existing service evaluations, doing additional research interviews, observations and workshops, and looking at documents. This will be conducted by researchers-in-residence, i.e. University researchers with honorary status based permanently and co-located with teams in South Devon and Torbay.

Results: Research is ongoing and we will present early findings in relation to 1. generating immediate feedback about individual innovations and the whole system to service leaders and innovators in order to support improvement work.  2. To using and develop the method of embedded researchers seeking to mobilise evaluation findings and other evidence addressing complex and shifting questions in a rapidly changing health services setting. This will include methodological, ethical, and conceptual reflections about best practice lessons around how to co-produce and broker knowledge and act as boundary spanner between all stakeholders vertically and horizontally in the system.

Discussion/Conclusion: This project addresses several key problems facing the NHS including how to marry evidence based practice with practice based evidence in applied and transferable health services research models, as well as how to effectively and efficiently transform service provision for increasingly complex health needs and ageing populations.
Make the Future EPIC! Primary Care themes emerging from the Ehealth Productivity and Innovation in Cornwall and the Isles of Scilly project (elevator pitch)

Dr Inocencio Daniel Maramba, Ehealth Productivity and Innovation in Cornwall and the Isles of Scilly University of Plymouth

Professor Ray Jones, University of Plymouth

**Background/aims:** Ehealth Productivity and Innovation in Cornwall and the Isles of Scilly is a collaborative project partly funded by the European Regional Development Fund and the South West Academic Health Science Network. Our aim is to improve the health and wellbeing of the people of Cornwall through the use of digital technologies for health and social care, also known as Ehealth. Our objectives are to explore innovative ways of implementing Ehealth, in collaboration with patients, health professionals and Cornish small and medium enterprises (SMEs), and to grow the Cornish economy in this sector through a £600k “Challenge Fund” which will fund the development of Ehealth applications by Cornish SMEs.

**Methods:** In September of 2017, the EPIC project organised eight workshops across Cornwall, involving 223 participants (patients, healthcare professionals, developers), to identify areas to discuss which problems that could be addressed by Ehealth. Participants in the workshops then voted on which health challenges were the most important and which were most likely to have a solution that could be developed by a Cornish SME. The results of the workshops were presented at the first EPIC Conference, held on the 1st of November.

**Results:** Of the 22 Challenge areas that were identified, these are related to primary care: Patient Empowerment and Self-Management, Clinical Workloads, Better Social Prescribing, Capturing and Sharing Information, Rurality (Telehealth), Safer Medication, and Staff Training and Resilience. Self-management and clinical workloads were rated as top priority areas by the conference delegates.

**Next Steps:** We are now organising the working groups that will bid for funding to develop Ehealth solutions in the challenge areas. If you want to try to improve health and social care in Cornwall and contribute to the development of the EHealth sector please join the working groups and make your future EPIC! Contact us at epic@plymouth.ac.uk.
The good the bad and the ugly – what we really do when we identify the best and the worst general practices? *(elevator pitch)*

**Dr Gary Abel, University of Exeter**

**Background/aims** A number of platforms/dashboards exists for examining Quality indicators in general practice. Indicators are used for a number of purposes, from pay-for-performance to quality monitoring/improvement, and reflective practice. Sometimes practices are classified according to simple ranks. However, the role of chance is often recognised, and methodologies such as funnel plots or z-scores used (thus accounting for overdispersion) to identify the best and worst practices. Such approaches acknowledges that small practices inherently display more variability than larger ones.

**Methods** We used a simulation approach based on 100,000 units (representing general practices). We assume a normally distributed underlying unit performance (i.e. the performance that would be measured without noise, or with a very large unit sample size). Nine simulations are performed whereby noise is added to each unit, representing different sample sizes, such that the reliability of practice scores varies between 0.1 and 0.9 in steps of 0.1. We examine the distribution of underlying scores flagged as outliers using an overdispersed z-score methodology.

**Results** When reliability was low, most practices flagged as outliers had an underlying performance in the core of the distribution (e.g. for reliability=0.2, 62% of flagged units were within 1SD of the overall mean). As reliability increased, larger numbers of correctly identified extreme practices were flagged as outliers. However, reliability had to be at least 0.7 for the majority of practices flagged as outliers to have an underlying performance greater than 1.96SD from the overall mean.

**Conclusions** Quality indicators are often used with little regard to reliability. It is frequently assumed that use of a funnel plot or z-score methodology adequately accounts for chance variation. Our simulations show that this is not the case. Overdispersed z-scores provide a good description of data, but do not avoid false detection.
Voluntary Sector Wellbeing Coordination across South Devon and Torbay: Partnership working and impact assessment (elevator pitch)

Dr Julian Elston, Plymouth University, Torbay and South Devon NHS Foundation Trust

Caroline Lilley Woolnough, Torbay and South Devon NHS Foundation Trust  Susan Wroe, Teignbridge Voluntary and Community Services  Helen Harman, Age UK Torbay  Simon Sherbersky, Torbay Community Development Trust  Allice Hocking, SERIO, Plymouth University  Felix Gradinger, Plymouth University

Background/Aims: Social prescribing is advocated in national policy as a way to improve the health and wellbeing of older people with long-term conditions by focusing on what matters to patients. In-so-doing, the aim is to reduce demand for primary and secondary care. However, the evidence to support social prescribing is weak, with studies often having insufficient patient follow-up, a narrow range of outcomes and lack of service activity data and a control group, potentially leading to over-estimates of effect. In Torbay and South Devon, the voluntary sector, TSD NHS FT, CCG and researchers from Plymouth University have been working closely to strengthen the evaluation of the Well-being Co-ordination service, with the aim of developing a controlled before and after observational study, as well as undertaking qualitative, formative evaluations to support service improvement.

Methods: Since September 2016 we have developed a multi-partnership Evaluation Steering Group. This has involved resolving information governance issues, technical approaches and cultural barriers to cross-organisational evaluation. We have developed an evaluation framework that seeks to measure health and wellbeing, activation to self-care, social isolation and participation using validated measures (WEMHBS, PAM, DeJong) before and after working with the Well-being Coordinators (3 months). We are also collecting health and social care activity data and costs (acute admissions and attendances, use of community services, size of social care packages and GP contacts) over a 12-month period before and after programme entry.

Results: Research is on-going but an early formative analysis of 40 patients showed promising improvements in patient health and well-being in South Devon (22% WEMBS; 25% PAM; 49% social connection, and positive user stories). Data will be presented on 200 cases exploring correlations between service use, activation level and health outcomes and the role of partnership in achieving this.

Discussion/Conclusion: Our evaluation is using a mixture of quantitative and qualitative data collection methods. We are taking a participatory approach that involves staff and patients in co-producing the findings i.e. through interviews and focus groups. This will not only provide a summative evaluation, but also a formative evaluation that can be used for service development locally, regionally and nationally.
“We are the communication gateway from clinicians to patients, we are key to the running of the surgery:” A survey of the roles of the GP receptionist (elevator pitch)

Mr Michael Burrows, Institute of Applied Health Research, University of Birmingham

Prof. Sheila Greenfield, University Institute of Applied Health Research, University of Birmingham  Dr Ian Litchfield, University of Birmingham  Dr Nicola Gale, HSMC, University of Birmingham

Background The receptionist is the focal point of general practice, traditionally undertaking clerical and patient facing duties. However primary care is changing rapidly and little research has explored receptionists’ work in modern GP practice.

Aims We aimed to increase and update understanding of receptionists’ current roles and interactions with patients, colleagues and practice systems.

Methods A questionnaire was distributed online via a link sent to CCGs, and posted to a selection of 100 practices in England. It included open/closed questions on training, role, job satisfaction, use of technology and the validated ‘Work Design Questionnaire’ which measures autonomy, knowledge characteristics, social characteristics and work context. Closed questions were statistically analysed with thematic/content analysis for open questions.

Findings 72 completed questionnaires were returned, respondents were 98% female, 60% were aged 18-49 and 69% had at least GCSE/CSE levels. Preliminary analysis revealed 60% described undertaking work they considered clinically orientated e.g. telephone triage, prescriptions and medical advice. 90% received training, usually in-house, most often telephone skills and customer service. 39% were unsatisfied with their training and some described feeling undervalued e.g. “The GP receptionist is often the scapegoat for any problems...” and “…[we] get very little to no respect from the patients, doctors and managers...”

Discussion This is the first UK study in 40 years, to look in detail at receptionists’ roles. It shows receptionists undertake a number of clinically oriented duties with apparently limited and unsatisfactory training, which can have obvious effects on patient safety and satisfaction.
O Mental Health (B)

The development of theory: a collaborative care intervention for psychosis in England delivered from Primary Care

Dr Ruth Gwernan-Jones, University of Exeter Medical School

Dr Elina Baker, University of Exeter Medical School  Prof Nicky Britten, University of Exeter Medical School, UK  Dr Jon Allard, Plymouth University Peninsula Schools of Medicine and Dentistry  Mrs Laura Gill, Plymouth University Peninsula Schools of Medicine and Dentistry,  Dr Helen Lloyd, Plymouth University Peninsula Schools of Medicine and Dentistry  Mr Tim Rawcliffe, Lancaster Care NHS Foundation Trust  Mr John Gibson, University of Birmingham Primary Care Clinical Sciences  Dr Mike Clark, Personal Social Services Research Unit, London School of Economics  Dr Vanessa Pinfold, McPin Foundation  Dr Siobhan Reilly, Faculty of Health and Medicine, Lancaster University  Prof Linda Gask, Faculty of Life Sciences, University of Manchester  Richard Byng, Plymouth University Peninsula Schools of Medicine and Dentistry  Maximillian Birchwood, University of Warwick Medical School

Background: Medical Research Council guidance on the evaluation of complex interventions argues that identification of causal assumptions underlying an intervention is an important aspect of an evidence base that can be applied across new contexts by policymakers. However, there is a need to explore how intervention theory is developed. In this paper we describe theory development for a complex intervention.

Methods: We developed a model for collaborative care for people with psychosis in England delivered from Primary Care, drawing from systematic reviews of collaborative care, a review of personal recovery, telephone interviews (11) with key leaders, focus groups with service users (6), stakeholder workshops, Lived Experience Advisory Panels, and theory from a similar complex intervention. We theorised the model using a realist approach that identified potential causal pathways. We developed a parallel platform from which to practice the intervention by writing manuals for practitioners and service users.

Results: Our theory developed along three modes: a detailed directory of ‘why’ our model would involve particular components and how these would work using Realist synthesis; shared understanding involving both broad and more detailed conceptions about model components in response to ongoing exposure to data and discussion amongst the research team; and finally, pragmatically, in response to existing local contexts. Multiple unexpected occurrences required adaptation across modes.

Discussion: Theory development processes allowed us to design an intervention model that was evidence based, supported us to communicate the intervention consistently and in detail to stakeholders and participants during recruitment and training, informed outcome measures and provided us with a framework to analyse data during later evaluative stages. However, the process of theory formation did not always match our initial plans due to pragmatic considerations. The need to expect the unexpected, and be ready to adapt in response when developing complex intervention theory, is discussed.
“That’s what helps us get better; that relationship”: Patients’ Experiences of Seeking Help for Psychological Distress in Primary Care

Miss Daisy Parker, University of Exeter Medical School

Professor Rose McCabe: The University of Exeter Medical School  Professor Richard Byng: University of Plymouth  Professor Chris Dickens: The University of Exeter Medical School

Background/aims: Person-centred care (PCC) is considered to be the gold standard of care; however, it is an ill-defined concept which has proven difficult to operationalise in practice. There is evidence to suggest that the principles of person-centred care are effective because they facilitate good doctor-patient communication and therapeutic alliance. PCC is arguably even more important when managing patients that are experiencing depression and anxiety, due to the increased emphasis on interaction. 90% of those who seek help for depression and anxiety are managed solely by their general practitioner. Therefore, this study aimed to explore how PCC is achieved in general practice by carrying out focus groups to explore patients’ experiences of seeking help for psychological distress from their GP.

Methods: Eighteen participants with lived experience of seeking help for psychological distress participated in four focus groups using a semi-structured topic guide. Transcripts were analysed using thematic analysis.

Results: Themes at three levels were defined: societal, institutional, and the GP-patient consultation. Societal level processes included stigma and help-seeking. Institutional level processes included time pressure, GP training and expertise, accessing care, and physical and environmental resources. GP-patient consultation level processes included the therapeutic relationship (doctor as drug), negotiating roles and responsibilities, and patient expectations of the GP as a detective. Societal and institutional level processes provided the contextual backdrop for the consultation.

Discussion/Conclusions: Care for depression and anxiety does not have a one size fits all solution; different patients have different understandings, values, prefer different roles, and prefer different treatments. Patients consider the therapeutic relationship to be an active drug, and societal and institutional level processes can act as barriers or bridges to this relationship.
Barriers and facilitators to discontinuing antidepressants: patient and health professional views in UK primary care (Work Stream 2 of The REDUCE Programme)

Samantha Williams, presented by Hannah Bowers, University of Southampton

Ms Wendy O'Brien, University of Southampton Dr Hannah Bowers, University of Southampton Dr Adam Geraghty, University of Southampton Dr Emma Maund, University of Southampton Professor Geraldine Leydon, University of Southampton Professor Carl May, University of Southampton Professor Tony Kendrick, University of Southampton

Background Antidepressant prescriptions have risen steadily since 1990, and surveys suggest that 30-50% of people on long-term treatment have no evidence-based indication for their use. The aim of the REDUCE programme is to identify feasible, safe, effective, and cost-effective ways of helping patients taking long-term antidepressants withdraw from treatment if appropriate. Intervention development has included individual qualitative interviews with patients, and focus groups /interviews with Health Professionals (HPs) to explore barriers and facilitators to discontinuing antidepressants with patients in UK primary care.

Methods 19 patients took part in semi-structured qualitative interviews and 37 HPs (GPs, Nurse Prescribers, and Psychological Therapists) participated in four focus groups /semi-structured interviews between January and June 2017. Data were analysed using a thematic analysis. Normalisation Process Theory was utilised to provide additional analysis to all data relating to implementation of a potential intervention.

Results Five themes emerged from the patient interviews: patient-practitioner interactions, factors that impact on antidepressant discontinuation (personal, medication and health care factors), the impact of patient belief and perception, the influence of others, and the intervention. Many patients would like help to stop long-term treatment, but stopping is not easy, due to fear of relapse and withdrawal symptoms. Four themes emerged from the HPs data analysis: patient-practitioner interactions, health professional roles, factors that impact antidepressant discontinuation (HP, organisational and patient factors), and the intervention. Without a specific intervention to change patient and practitioner behaviours, many patients may continue antidepressants unnecessarily.

Discussion/conclusions Both groups highlighted barriers and facilitators to antidepressant discontinuation, and factors that influence the decision to withdraw, such as lack of support /fear of relapse. Patient-practitioner interactions, the questions raised within a consultation as well as the facilitating roles of HPs, are important facilitators to consider. Each group highlighted information to include in the potential REDUCE intervention and how to encourage use over time.
Exploring the use of a C-reactive protein point of care test (CRP POCT) to help target antibiotic prescribing to patients with acute exacerbations of chronic obstructive pulmonary disease (AECOPD) in primary care: a qualitative process evaluation for the PACE study

Ms Helen Stanton, Cardiff University

Background: This was a qualitative study as part of an imbedded process evaluation for the PACE randomised controlled trial which sought to establish whether a CRP-POCT can be used to target antibiotics for AECOPD in primary care to patients most likely to benefit. The aim of the qualitative process evaluation was to examine patient and clinician attitudes towards the CRP-POCT, understand how the CRP-POCT was implemented in practice, and reveal possible mechanisms for study outcomes.

Methods: Semi-structured telephone interviews were conducted with 20 patients who received the CRP-POCT, and 20 clinicians who had used the CRP-POCT or the reading to inform their prescribing decisions. Clinicians and patients were purposively sampled across four UK study regions. The aim was to understand whether the intervention was acceptable, how it was used, and to identify possible facilitators and barriers to implementation. Interviews were audio-recorded and transcribed verbatim. Data were analysed using a framework approach.

Findings: Patients felt the CRP-POCT was useful in detecting infection and targeting treatment more appropriately. It was quick and easy to use, and patients did not report any significant barriers to its use. Clinicians reported enhanced confidence around decision-making, reduced decisional ambiguity when withholding antibiotics, and felt the CRP-POCT was a useful tool in communicating with and reassuring patients. Some clinicians questioned the validity of CRP to rule out severe illness, indicating continued reliance on symptoms and examination outcomes. Cartridge preparation time and cost of the equipment presented a significant barrier when implementing the test.

Implications for future practice: The CRP-POCT was generally well accepted by patients and clinicians. There were no major barriers to implementation from the patients’ perspective. However, for this to be implemented widely by clinicians the protracted cartridge preparation time would have to be reduced, and availability of funding for the equipment would need be considered.
Quantitative evaluation of the implementation of a pulmonary rehabilitation programme in rural Crete

Dr Rupert Jones, Plymouth University Peninsula Schools of Medicine & Dentistry

Andrew Barton(1), Ioanna Tsiligianni (2), Antonios Bertsias (2), Christos Lionis(2), Jill Pooler (1), Marilena Anastasaki (2)

(1)Plymouth University Peninsula Schools of Medicine and Dentistry (2) University of Crete, Greece

Aim: Despite the rising burden of chronic obstructive pulmonary disease (COPD) and grade A evidence to support pulmonary rehabilitation (PR), there is virtually no PR in hospitals and none in the community in Greece. The aim was to measure the impact of a six-week pulmonary rehabilitation (PR) programme on quality of life and exercise capacity for patients with chronic respiratory diseases (CRD). The programme was established in a primary healthcare centre in rural Crete, Greece.

Methods: Patients were recruited from primary care with chronic lung diseases, including COPD. Suitable patients were invited take part in a six-week, twice-weekly programme of exercise and education on CRD and its causes, and self-management education. The programme was run in a rural clinic with patients referred by GP; the team included GP, nurses and physiotherapists. Outcome measures included the Clinical COPD questionnaire (CCQ), the COPD Assessment Test (CAT), and the St George’s Respiratory questionnaire (SGRQ); depression was measured by the patient health questionnaire 9 (PHQ9); exercise capacity was measured by the incremental shuttle walking test (ISWT).

Results: In three groups, 31 patients completed the programme and six-week follow-up. 52% male, mean age was 67.5 years, 16% current smokers. The primary diagnosis was 32% COPD, 29% asthma, 39% other. The mean forced expiratory volume in the first second (FEV1) was 1.8, mean, FEV1% predicted was 79%. Improvements in all outcomes variables were seen (Table 1).

Table 1. Results of mean (Standard deviation) tests of exercise capacity and quality of life questionnaire scores before and after PR

<table>
<thead>
<tr>
<th></th>
<th>ISWT (metres)</th>
<th>CCQ</th>
<th>CAT</th>
<th>PHQ9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>57.5 (91.2)</td>
<td>16.1 (5.75)</td>
<td>16.3 (7.76)</td>
<td>4.7 (4.69)</td>
</tr>
<tr>
<td>End of PR</td>
<td>314 (151.4)</td>
<td>10.6 (7.27)</td>
<td>10.2 (5.43)</td>
<td>3.6 (3.5)</td>
</tr>
<tr>
<td>Change</td>
<td>56.5</td>
<td>-5.5</td>
<td>-6.1</td>
<td>-1.1</td>
</tr>
<tr>
<td>MCID</td>
<td>48</td>
<td>-0.4</td>
<td>-2</td>
<td>-5</td>
</tr>
</tbody>
</table>

Conclusion: In a period of austerity, these results highlight that evidence-based and low-cost PR programmes may constitute an effective approach to improve patient related outcomes for people with CRD in primary care.

Clinical Trial Registry: NTR5759 FRESHAIR
http://www.trialregister.nl/trialreg/admin/rctsearch.asp?Term=23332
Declaration of Interest: Dr. I. Tsiligianni serves as IPCRG president-elect. Rupert Jones is supported by PENCLAHRC
Funding EU Horizon 2020
Rehabilitation Enablement in Chronic Heart Failure Self-management Intervention: Qualitative evaluation of the impact on caregivers

Dr Jennifer Wingham, Research, Development and Innovation, Royal Cornwall Hospitals NHS Trust and Primary Care Research Group, University of Exeter Medical School

Dr Jennifer Wingham, Dr Julia Frost, Prof Nicky Britten, Ass Prof Colin Greaves, Prof Charles Abraham, Prof Rod Taylor, Ass Prof Hayes Dalal on behalf of the REACH-HF research group

Royal Cornwall Hospitals NHS Trust 2 Primary Care Research Group, Institute of Health Research, University of Exeter Medical School 3 Third Gap Group, Institute of Health Research, University of Exeter Medical School 4 Institute of Health Research, University of Exeter Medical School

**Background** The Rehabilitation Enablement in Chronic Heart Failure (REACH-HF) is a bespoke facilitated 12 week home-based intervention for patients and caregivers. It includes a specific component to support caregivers. This study aims to evaluate the experience of caregivers in a randomised controlled trial (RCT) who were using the REACH-HF intervention.

**Methods** 20 caregivers in the intervention group were purposively sampled from the REACH-HF RCT. The caregivers were interviewed immediately after the end of the intervention and again at 12 months from randomisation. Data were analysed using thematic analysis.

**Results** The intervention materials included a Heart Failure Manual, a Family and Friends Resource and a progress tracker. The home based intervention was facilitated by health professionals who had specific training in working with caregivers. Many caregivers were positive about REACH-HF and keen to share their expertise about the cared for person. Most caregivers expressed increased confidence in their role, were more able to identify the signs and symptoms of heart failure, and knew when to appropriately call for primary care when self-management strategies failed.

Caregivers’ mental wellbeing was associated with the health and wellbeing of the cared for person. Caregivers in employment however, received sub-optimal contact with the facilitators. Some caregivers described resistance from the cared for person especially when attempting to encourage physical activity. Disengaged caregivers were often balancing multiple roles or recognised the condition was life limiting. Some concentrated more on making positive memories with the cared for person than engaged with self-management. The RCT questionnaires gave caregivers an opportunity to reflect on their role and the impact of caring on their health.

**Conclusions** The REACH-HF intervention helps caregivers to develop the skills for supporting a person living with heart failure. There is scope for adapting the intervention to meet the needs for working caregivers or those with their own problems.


A new questionnaire to measure quality of life in severe asthma (SAQ): preliminary validation

**Mr Joseph Lanario, Plymouth University Peninsula Schools of Medicine and Dentistry**

Rupert Jones, Michael Hyland, Plymouth University UK  Matthew Masoli, Plymouth Hospitals NHS Trust, UK

**Background/aims** Existing Health Related Quality of Life (HRQoL) scales have poor content validity for severe asthma as they fail to measure the different burdens experienced by the severe asthma population compared to those with mild or moderate asthma, in particular, the side effects of oral corticosteroids (OCS). A new severe asthma quality of life questionnaire (SAQ) has been designed using patient input in qualitative studies as per FDA guidelines. The questionnaire has 16 questions rated on a 1-7 Likert scale and a 100 point global quality of life scale (SAQ-global) similar to the EQ-5Ds 100 point visual analogue scale (VAS).

**Methods** Consecutive consenting patients attending the severe asthma clinic in Plymouth were invited to participate in a cross sectional survey. Patients completed three questionnaires the SAQ, mini Asthma Quality of Life Questionnaire (miniAQLQ) and the EQ-5D. Maintenance OCS dose was obtained from clinic records.

**Results** 102 participants (64 female, mean age = 51 years range 18 – 79 years), of whom 38 were on maintenance OCS consented to take part. Correlations between the three questionnaires were all above 0.65. The SAQ-global score correlated with the EQ-5D’s VAS at 0.73. The SAQ was significantly better than the miniAQLQ at predicting the HRQoL of patients taking > 10mg OCS a day (p < .05 vs p = .88). These questionnaires had parallel results for doses up to 10mg but above that only SAQ provided differentiation between patients.

**Discussion/Conclusions** Preliminary results indicate that the SAQ may be a more valid measure of HRQoL in severe asthma than existing questionnaires. The SAQ maps onto a pre-existing health economic measure, the EQ-5D. Furthermore the SAQ has greater sensitivity to differences in OCS dose compared to the AQLQ. The SAQ will be assessed further in a larger validation study.
Q LTC and Prevention (B)

“Who Cares?” The experiences of unpaid caregivers providing care for adults living with Heart Failure or COPD or Coronary Artery Disease. A mixed methods systematic review.

Miss Miriam Noonan, University of Exeter Medical School

Dr. Jenny Wingham  F37, Research Design and Innovation, Knowledge Spa, Royal Cornwall Hospital, Truro, Cornwall, UK  Professor Rod Taylor  Institute of Health Research (Primary Care), University of Exeter Medical School, South Cloisters, St. Luke’s Campus, Heavitree Road, Exeter, UK EX1 2LJ

Introduction Unpaid caregiving is a global occurrence; approximate numbers of unpaid caregivers are 43.5 million in the USA, 2.86 million in Australia and 6.5 million in the United Kingdom.1 From 2001 to 2011 the number of unpaid caregivers in the UK grew at a faster rate than population growth.2 Government policy recognises the importance of caregivers with the 2014 Care Act3 which, stipulates caregivers’ right to a carer needs assessment. Additionally, the National Institute for Health and Care Excellence (NICE) clinical guidelines for heart failure (HF) (CG108)4 and chronic obstructive pulmonary disease (COPD) (CG101)5 both recommend that family members/caregivers are provided with support and included in discussions about care.

Methods A mixed methods systematic review was conducted to examine the experiences of caregivers caring for individuals with heart failure (HF) or chronic obstructive pulmonary disease (COPD) or coronary artery disease (CAD). Detailed searches of a number of electronic databases were conducted up to August 2017. These included CINAHL, Embase, Medline, Medline in process, PsychInfo, Web of Science and Assia. Grey literature was also searched via Proquest and the British Library.

Results A total of 8,024 publications were identified. 57 publications (54 studies -21 qualitative, 32 quantitative and 1 mixed) including a total of 26,453 caregivers were included for detailed data synthesis. Caregivers were primarily female with an average age of 62 years. Narrative synthesis yielded six concepts from qualitative and quantitative studies: caregiver mental health, caregiver role, support for caregivers, lifestyle change, relationships and knowledge. Four additional concepts were identified in only qualitative papers: vigilance, shared care, time and expert by experience.

Conclusion Caregiving is life altering and complex with significant health implications for caregivers. Health professionals should consider how they can support caregivers who in turn facilitate the care recipient to manage their long term condition.
Can a complex intervention based on education and a risk prediction tool increase testing and diagnosis of Hepatitis C - interim results of a cluster randomised controlled trial in primary care

Dr Kirsty Roberts, University of Bristol

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Background: General practice is the single most important setting for HCV testing and for identifying positive patients (>30% of all patients detected). Targeted case finding in primary care is estimated to be cost-effective, but there is no robust RCT evidence of specific interventions. This study aims to develop and evaluate a complex intervention to increase HCV case-finding of high-risk individuals and increase onward referral of newly diagnosed patients for HCV treatment.

Methods: A cluster randomised controlled trial is currently underway in which practices are randomised 1:1 to a complex intervention. The intervention includes: Educational training on HCV for practice staff; Poster/leaflets displayed in waiting rooms; A HCV risk prediction algorithm based on risk markers in the electronic patient record and run using Audit+ software (Informatica Systems Ltd). Control practices are following usual care.

Results: Data collection and analysis are currently underway. The effectiveness of the intervention will be measured by comparing rates of HCV testing, the number and proportion of patients testing positive, onward referral, rates of specialist assessment and treatment in control and intervention practices. Intervention costs and health service utilisation will be recorded to estimate the NHS cost per new HCV diagnosis and new HCV patient initiating treatment. Health care workers’ experiences and acceptability of the intervention will be explored through semi-structured qualitative interviews.

Discussion: This trial has the potential to make an important impact on patient care and will provide high quality evidence to help general practitioners make important decisions on HCV testing and onward referral. If found to be effective and cost-effective the intervention is readily scalable and can be used to support the implementation of NICE recommendations on HCV case-finding.
Blood pressure in pregnancy: a discourse analysis of official, informal and online information for pregnant women (elevator pitch)

**Dr Lisa Hinton, Oxford University**

Beth Jakubowski  Dr Alison Chisholm  Dr Katherine Tucker  Carole Crawford  Professor Sheila Greenfield  Professor Louise Locock  Professor Richard McManus

**Background** Raised blood pressure (BP) affects between 3 and 10% of pregnant women. It is associated with pre-eclampsia which, worldwide, is a major cause of maternal death and premature births. Diagnosis of pre-eclampsia involves monitoring of BP and urine, typically by midwives in antenatal clinics. As part of work to test self-monitoring of blood pressure (SMBP) in pregnancy, we were interested in women’s awareness of and knowledge about BP during pregnancy. Women’s health beliefs and knowledge come from multiple sources, not only health professionals but also formal and informal sources accessed online and through real-world contacts. Women are encouraged to educate themselves through formal sources (e.g. information leaflets, pregnancy guides, parent education classes). Informal stories of pregnancy and birth are routinely told between women. But little is known about pregnant women’s use of health-related social networking sites and how this influences decision-making in pregnancy. We seek to understand better what information women are given, what information they seek out and exchange with others and the predominant discourses within them.

**Methods** We identified a range of sources of professional- and user-generated information available to pregnant women including professionally produced websites and leaflets, books, magazines, apps, social media, discussion fora and v/blogs. We took a critical discourse analytical approach to the data.

**Results** Women are drawing on multiple sources to understand their blood pressure and privilege lay as well as official sources. The analysis identified themes relating to professional hierarchy and lay knowledge and expertise within pregnancy.

**Discussion** Our analysis will add to understandings of what women know and understand about BP in pregnancy and directly inform the development and testing of self management interventions in pregnancy.
Coastal Deep Dive: Enhanced Intermediate Care and Multidisciplinary Team Working in Torbay and South Devon (elevator pitch)

Dr Julian Elston, Plymouth University

Felix Gradinger, Plymouth University  Sheena Asthana, Plymouth University  Matt Fox, Barton Surgery and Torbay and South Devon NHS Foundation Trust  Dawn Butler, Torbay and South Devon NHS Foundation Trust  Suzanne Skelly, Torbay and South Devon NHS Foundation Trust  Richard Byng, Plymouth University

Background/Aims: National policy is encouraging radical re-design of health and social care services to provide integrated care that is organised effectively around the needs and preferences of the individual (person-centred, coordinated care (PCCC)). It is assumed that these New Models of Care (NMC) will not only reduce demand, but also improve the experience and quality of care. However, the evidence base to support these new models is weak, as many existing studies lack conceptual clarity, are poorly designed, or operate in very different health service contexts. This makes it very difficult to synthesise their findings and identify the key elements required to create effective, PCCC services.

Methods: Mixed method, prospective, case study using primary and secondary data from two service innovations (Enhanced Intermediate Care, Wellbeing Coordination) and the wider health system that form part of the ICO’s NMC. It is using a novel, participatory, action-orientated study design, incorporating the Researcher-in-Residence model.

Results: We report an increase in the degree of vertical and horizontal organisational integration, high levels of staff-reported and patient-reported PCCC and positive outcomes 12 months before and after the introduction of the service innovations. However, key elements of PCCC were wanting (records and telling your story once, care planning, key worker and single point of access). A provisional assessment of the key elements (organisational, team and staff) that have contributed to this impact is presented. We also present emerging findings from system-wide metrics and a heuristic to connect these to the in-depth case study of Coastal Locality.

Discussion/Conclusion: Torbay and South Devon’s NCM is showing early signs of positive impact on patient experience and outcomes, and possible reduction in service use, but further work is required to strengthen some aspects of PCCC as well as understand the key elements that contributed to it.
Physical activity and the prevention, reduction and treatment of alcohol and/or substance use across the lifespan: results from a systematic review (the PHASE review)  

Ms Jane Horrell, Community and Primary Care Research Group, Plymouth University  
Peninsula Schools of Medicine & Dentistry  

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Background/aims  Alcohol and substance use result in economic costs of £21bn and £15bn within the UK respectively. Pharmacological interventions are well researched; however, along with psychosocial interventions relapse rates for substance and alcohol use are as high as 60-90%. Physical activity may offer an alternative or adjunct approach to improving rates of use that is associated with few adverse side effects, is easily accessible, and potentially cost effective. Currently no systematic review exists of physical activity and its effects on all levels of alcohol and substance use across all ages.  

Methods  The objectives of this mixed methods systematic review are to describe and evaluate the quantitative and qualitative research obtained by a diverse search strategy on the impact of physical activity and its potential to: 1. Reduce the risk of progression to alcohol and/or substance use (PREVENTION). 2. Support individuals to reduce alcohol and/or substance use (REDUCTION). 3. Promote abstinence and relapse prevention during and after treatment for an alcohol and/or substance use disorder (TREATMENT). Quantitative, qualitative, service evaluations, and economic analyses will be brought together in a final narrative synthesis that will describe the potential benefits of physical activity for whom, in what conditions, and in what form. Given the broad focus of this review across several sectors and service providers, stakeholder involvement will ensure that we will produce user friendly synthesis and dissemination.  

Results  The key findings from the review will be discussed drawing from the main narrative synthesis, as will work with key stakeholders to assess how what we know can be translated into policy and practice.  

Discussion  This presentation will describe how the review has provided details of what is known about different types of physical activity and the prevention, reduction, and treatment of alcohol and/or substance use for various populations in various settings.
Understanding Telehealth in Heart Failure (*elevator pitch*)

Christine A’Court, Oxford University

Christine A’Court, Sara Shaw, Trisha Greenhalgh

Introduction
Enthusiasts for telehealth extol its potential for supporting heart failure management but randomised trials have been slow to recruit and produced conflicting findings. Roll-out in the real world is slow. Robust business models are lacking. We sought to inform policy by making sense of a complex literature.

Method
Boell’s hermeneutic methodology was used to appraise 23 reviews (including 20 meta-analyses); six ‘mega-trials’; and 10 syntheses of qualitative and mixed-method studies.

Results
A range of technologies employed in experimental trials yielded ambiguous findings dogged by heterogeneity, difficult implementation in real-world settings and widespread resistance among patients and clinicians. We surfaced a number of tensions:

- Between heart failure as an isolated condition and the more prevalent coexistence with co-morbidities impacting on outcomes like hospitalisation and mortality
- Between the hypothetical models of “empowered”, self-managing patients and the fatigued, depressed or confused individuals identified in multiple studies
- Between management as a “cold” biomedical practice based on a modernist vision dominated by objective biometrics versus a “warm”, relationship-based, adaptive practice that engages with the patient’s unique predicament
- A bioengineering view that continuous biomedical data may allow preempting of deterioration versus the probability of a high signal:noise ratio

Discussion
The limited adoption of telehealth for heart failure has complex clinical, professional, institutional and philosophical causes, which are unlikely to be elucidated by adding more randomised trials to an already crowded literature. An alternative approach is needed, based on naturalistic study designs, social and organisational theory, and co-design of new service models.
R Mixed Clinical

Bringing the National Early Warning Score (NEWS) to primary care - Views and experiences of healthcare staff in the West of England

Dr Emer Brangan, The National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care West (NIHR CLAHRC West) at University Hospitals Bristol NHS Foundation Trust, UK / Population Health Sciences, University of Bristol

Jonathan Banks (1,2), Heather Brant (1,2), Anne Pullyblank (3,4), Hein le Roux (3,5), Sabi Redwood (1,2) 1 The National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care West (NIHR CLAHRC West) at University Hospitals Bristol NHS Foundation Trust, UK 2 Population Health Sciences, University of Bristol, UK 3 West of England Academic Health Science Network (WEAHSN) 4 North Bristol NHS Trust 5 Gloucestershire Clinical Commissioning Group

Background/Aims: Early warning scores (EWS) were developed with the aim of improving recognition of clinical deterioration in acute hospital settings. In 2012 the Royal College of Physicians developed the National Early Warning Score (NEWS) to standardise EWS across the NHS and recommended that the NEWS be considered for use outside of acute hospital settings, including primary care[1]. In 2015 the West of England Academic Health Science Network supported the roll-out of the NEWS across a range of healthcare sectors throughout the West of England[2]. There has been limited research on the use of EWS outside acute hospitals. We undertook a qualitative study to explore staff experiences of using the NEWS in these settings; this presentation focuses on experiences in primary care.

Methods: Semi-structured interview study with purposefully sampled healthcare staff from a range of organisations using the NEWS. Interviews were audio-recorded, transcribed, and analysed thematically. Results: Twenty-five healthcare staff were interviewed across a range of healthcare organisations; thirteen worked primarily in/with primary care. Participants reported that NEWS could support clinical judgement and decision-making around escalation of care. NEWS could also be useful in communication, providing a quick means of conveying clinical acuity, and leverage for escalating care. However, use in primary care was seen as challenging: clinicians had to select ‘appropriate’ patients for NEWS; time pressures impeded engagement with the tool; there was a perceived risk of medicalising minor illness; and there were tensions with clinical practices such as history taking and ‘eyeballing’ patients. Overall, GPs were considered the group least likely to be receptive to NEWS.

Discussion/conclusions: NEWS was seen as a helpful tool to support assessment of acute illness and communication regarding escalation of care. However, particular challenges arose in primary care, and participants expressed a desire for further research/validation outside acute hospital settings.

The needs of prisoner being released from prison: a comparison between the health and social needs of prisoners with common mental health problems in prison and those who only experience such problems on release.

Becky Greer, Community and Primary Care Research Group, Plymouth University Peninsula Schools of Medicine and Dentistry

Dr Tim Kirkpatrick and Professor Richard Byng, Plymouth University Peninsula Schools of Medicine and Dentistry

Background Prisoners suffer from a complex mix of health and social problems. Physical and mental health problems are often complicated by chaotic lifestyles, characterised by unstable accommodation, substance misuse, and poor family relationships. For many, prison is a significant stressor, contributing to increased anxiety and low mood. For others, prison is a protective environment that provides the basic needs that can be difficult to secure when in the community, with reports suggesting that such individuals may re-offend after release to return to the relative security of the prison. It is not known whether this latter group differ in terms of the breadth and severity of health and social problems compared to prisoners who experience common mental health problems in prison. Differences between the two groups may have implications for prison and community services working with these individuals.

Aims To compare offenders who experience common mental health problems (CMHPs) in prison to those who do not experience CMHPs in prison but anticipate such problems on release across a range of health (e.g. physical health problems and substance abuse) and social (e.g. accommodation, education, money, and relationships) domains.

Method Participants comprised 280 prisoners recruited into the Engager randomised controlled trial to evaluate a complex intervention for offenders with CMHPs, near to and following release from prison. All participants screened in for the trial by having current CMHPs and/or previous CMHPs in the community that affected their functioning and were likely to be a problem again following release. Participants not reporting CMHPs will be compared to the other participants using one-way ANOVA and chi-square.

Results Data collection has recently been completed and analysis will be undertaken over the next three months.

Discussion Differences between the two groups will be discussed in relation to their needs for successful reintegration into the community.
Cognitive Monitoring in Planned Arthroplasty Surgery Study (elevator pitch)

Dr Emma Parker, Claremont Medical Practice, Exmouth Peninsula Primary Care Research Collaborative

Chief Investigator: Dr Johannes Retief (1,11) Co-investigators: Dr Gary Minto (1,11), Dr Andrew Woodgate (1,11), Dr Lisa Gibbons (2,12), Dr Emma Parker (2,12), Dr Emma Cockcroft (3), Peninsula Public Involvement Group (PenPIG) (4), Dr Tim Warrener (5,11), Dr Tim Bray (6,12), Dr Elizabeth Lyle (6,12), Dr Joseph Butchart (10), Prof Robert Sneyd (1,11), Dr Mark Rockett (1,11), Dr Rupert Noad (8), Dr Craig Newman (8), Ms Helen Brooker (7), Prof Keith Wesnes (7), Prof Lisbeth Evered (9). 1 Department of Anaesthesia, Plymouth Hospitals NHS Trust  2 Claremont Medical Practice, Exmouth Peninsula Collaboration for Leadership in Applied Research and Care (PenCLAHRC)  4 Peninsula Public Involvement Group (PenPIG), a division of PenCLAHRC  5 Department of Anaesthesia, Royal Devon and Exeter NHS Foundation Trust  6 Beacon Medical Group, Plymouth  7 Wesnes Cognition Ltd  8 Department of Psychology, Plymouth University Peninsula School of Medicine  9 Department of Anaesthesia and Acute Pain Medicine, St. Vincent’s Hospital, Melbourne  10 Department of Healthcare for Older People, Royal Devon and Exeter NHS Foundation Trust  11 South West Anaesthesia Research Matrix  12 Peninsula Primary Care Research Collaborative

Background: A decline in cognitive function is common(1,2) and sometimes permanent following major surgery in the elderly. It is uncertain what causes the change, whether a similar decline might occur without surgery(3) and who is at risk. Current literature lacks an accurate picture of pre-operative cognitive trajectories and trajectory in older people who don’t have surgery(3,4). Our aim is to assess the feasibility of serial remote monitoring of cognition with an online tool (CogTrack™)(5) in elderly patients undergoing planned arthroplasty surgery and matched non-surgical controls. Our primary care and anaesthetic trainee research networks will work in collaboration with patients, industry and cognition experts.

Method: Feasibility study testing a prospective observational methodology at a secondary care site and two primary care sites. Serial cognitive testing will be performed with CogTrack™ on 150 surgical patients and 50 matched non-surgical controls over an 11 week window incorporating the surgical episode. The primary outcome measure is feasibility. Secondary outcome measures include CogTrack™ scores and prevalence of factors which may impact on cognition. Patients were involved in refining outcome measures and will contribute throughout.

Results: Recruitment is scheduled for 2018. Summary statistics will be conducted on CogTrack™ data for cases and control groups, and plots constructed to demonstrate trajectory of scores over the 11 week study period. Mixed Model Repeated Measure analysis will be performed to assess the effects of exposure to arthroplasty and adjust for candidate covariates.

Discussion: Our aim in a future multi-centre study is to track the cognitive trajectories of a large number of operated cases and matched controls over a long time period. Over 210 000 arthroplasties are performed annually in the UK on an increasingly ageing population(6), aiming to improve functional capacity. Conversely, permanently altered cognition could impact on patients’ quality of life. Clinical research underpins shared decision-making with patients.


**GPs understanding and awareness of Breast Cancer in Men (elevator pitch)**

**Miss Naomi Fulton, Warwick Medical School**

Dr Emma Scott, Warwick Medical School

**Background:** Men represent only 0.7% breast cancer diagnoses annually in the UK. There is limited research into General Practitioner’s knowledge and experience of breast cancer in men. Male breast cancers are typically diagnosed at a later stage than women’s, hence it is important to understand whether men are presenting later or GPs are less likely to consider breast cancer as a potential diagnosis. The study aims to explore GPs understanding and awareness of breast cancer in men, including aetiology and incidence rates.

**Methods:** GPs nationally were invited to complete a brief online survey. Four main topics were explored: whether GPs had ever seen a case of male breast cancer, awareness of risk factors, knowledge of the local care pathway, and whether they knew approximately how many men were diagnosed per year in the UK. Demographic data (CCG and number of sessions worked) was also collected for analysis.

**Results:** 48 GPs provided complete surveys. Over half of GPs (63%) had seen/referred a case of suspected male breast cancer, and the most were aware of the local care pathway (75%). Many (65%) knew of some risk factors, and 73% of GPs correctly identified approximately 400 men are diagnosed with breast cancer in the UK each year. There was no correlation to practice size or number of sessions worked with whether GPs had seen/referred a case of male breast cancer.

**Conclusion:** With such a rare condition it is difficult to identify correlations between GP awareness and whether they are likely to diagnose a case of male breast cancer. However, by raising awareness amongst GPs, it may be possible to increase likelihood of diagnosis at first presentation and therefore at an earlier stage of disease. Any GP education programme should be complimented by increased patient education to ensure prompt presentation.
The challenges and dilemmas of diagnosing when patients are dying with haematological malignancy (elevator pitch)

**Dr Elizabeth Charlton, Academic Foundation Year 1 Doctor, Torbay Hospital, Torbay and South Devon NHS Foundation Trust**

Professor Rodger Charlton, Professor of Undergraduate Primary Care Education, The Medical School, University of Leicester.

**Aim** - to make GPs aware of the ethical dilemmas in the difficulty of diagnosing when a patient is dying.

**Background** – There is a difficult balancing act between delivering active treatment and good quality palliative care in patients with haematological malignancies. Active treatment aimed simply at increasing longevity raises ethical dilemmas, regarding beneficence and non-maleficence, while switching to a purely palliative approach leaves the physician wondering asking if they have done all they can. This can leave the patient lost somewhere in between. At what point can a treatment be deemed futile, as the patient is dying, and the suffering considerable? Can GPs have a role in talking through these issues with such patients? Are the principles generalisable to other malignancies?

**Methods** Case histories have been analysed qualitatively. Recurrent themes were identified. The many dilemmas which both patients and doctors meet as trainees or GPs were highlighted.

**Results** The case studies illustrate that many treatments aimed at cure reach an as yet undefinable point at which they become futile. It is apparent that a balanced judgment should be made with the patient, their relatives and members of the multi-disciplinary team. The impact of our study will be on showing the need for co-ordinated conversations about dying in primary and secondary care and achieving a ‘good death’.

**Discussion/Conclusions** The needs of dying patients are not only physical but, as the late Dame Cicely Saunders said, about ‘total care’ meaning their physical, psychological, social, emotional and spiritual needs. This holistic approach is where General Practice can excel. The case studies demonstrate that it is imperative that education around ethical dilemmas at end of life, the principles of palliative care and communication with the dying patient, including around DNAR forms, is a key part of the GP curriculum with regards to haematological malignancy.
Availability and use of electronic cancer decision-support tools in UK primary care (elevator pitch)

**Dr Sarah Price, University of Exeter**

Professor Anne Spencer, University of Exeter  Dr Antonieta Medina-Lara, University of Exeter  Professor Willie Hamilton, University of Exeter  On behalf of the Exeter/Bangor/Leeds Cancer Diagnostic Support in Primary Care HTA Group

**Background/aims**  Electronic cancer decision-support tools (eCDS) quantify the probability that a symptomatic patient has undiagnosed cancer.[1-4] They may help to expedite cancer diagnosis, through better selection of patients for investigation.[5] They are available through two GP software packages: Vision (InPractice Systems, London) and EMIS (Egton Medical Information Systems, Leeds), which are found in over 62% of UK practices.[6] A questionnaire was used to quantify aspects of eCDS, including access, training and use.

**Methods**  Data collection occurred in July and August 2017. Questionnaires were posted to 4,600 GPs in 975 randomly selected UK practices. GPs were asked about aspects of eCDS. Descriptive statistics are reported on access to eCDS, and its training and use. Ethics approval was granted by University of Exeter.

**Results**  Responses were received from 972 GPs in 225 practices (practice-level response rate: 23%, GP-level response rate: 10%). 64% of the 225 practices used EMIS (n=112) or Vision (n=32), reflecting national patterns. 472 GPs responded, the majority (291/472, 62%) of whom had been practising for >11 years.  eCDS was accessible at 42/225 (19%, 95% confidence interval 14-24) practices: 32/112 (29%) using EMIS, and 10/32 (31%) using Vision.  In 15 (36%) of these 42 practices, at least one GP had integrated eCDS into their clinical practice (Vision: 5/10, 50%; EMIS: 10/32, 31%).  GP-level responses in these practices indicated that eCDS was most useful for assessing cancer risk in patients with multiple symptoms (n=21/57, 37%). Training was uncommon, received in 2 of the 5 Vision practices, and 4 of the 10 EMIS practices.

**Conclusions**  eCDS is downloaded/activated in one-fifth of UK GP practices, but used in only one-third of these, equating to approximately 6% of all practices. The potential of eCDS to help clinicians assess risk of undiagnosed cancer is not being realised. Increased levels of training may improve this.

(1) Trials and tribulations: case study of procedural and governance issues for setting up a complex intervention trial

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Prof. Richard Byng, Plymouth University, Prof. Max Birchwood, University of Warwick, Dr Vanessa Pinfold, McPin Foundation, Dr Siobhan O’Reilly, Lancaster University

BACKGROUND

With increased focus on individualised care and the need to redesign roles and systems of care, complex care interventions are becoming increasingly important. By nature, such trials involve multiple institutions, and require more flexibility in approach to ensure their success. Conversely, bodies which facilitate health research, such as the CTU, NIHR, HRA, ethics boards, ensure ethical and legal compliance are becoming more specialised and risk avoidant.

METHODS

PARTNERS2 is a complex care intervention trial for individuals with a diagnosis of bipolar, schizophrenia or other psychosis, in which a secondary care practitioner (the ‘Care Partner’) works collaboratively with the patient, in the GP Practice, to improve experience of care and health outcomes. The internal pilot RCT involves 8 universities, three trusts, a social enterprise, three CRN sites, and aims to recruit 24 GP practices and 120 patients. We describe the intricacies and delays during the 16 month start-up.

FINDINGS

- NHS financial environment resulting in a Trust’s approval for involvement being rescinded.
- Complex permission cycles: secondary care trusts needing HRA approval before signup.
- Engaging a social enterprise as a partner: having a limited research team.
- A substantial ethics amendment required to overturn initial ethics approval for CRN staff to access clinical records
- Mergers, restructuring and approval procedures at the trials unit

CONCLUSIONS

Ironically, in a trial of a flexible model of care for mental health, logistical difficulties caused by rigid processes have resulted in delays, wastage of researcher and practitioner time, energy and morale. With future trials relationships need to be managed and reviewed to ensure approaches that will allow research to happen.
(2) Ethnic variations in the use of primary care among men with symptoms suggestive of prostate cancer: a multi-methods study

Dr Tanimola Martins, University of Exeter

Professor William Hamilton - University of Exeter Professor Fiona M. Walter - University of Cambridge

Background: Black men have poorer outcomes of prostate cancer compared to men from other ethnic origins. We previously showed in a vignette-based study that Black men were less likely than White men to accept Prostate Specific Antigen testing or digital rectal examination once they had seen their GP. This reduced willingness for investigation may contribute to diagnostic delay in black men, although we are uncertain whether when in real disease situation patients would choose as they did in that study or do otherwise. This study, therefore, aims to investigate ethnic differences in; a) medical help-seeking; b) primary care investigation; and c) time to diagnosis of possible prostate cancer.

Methods: Multi-methods study, comprising a survey, review of selected patients’ records, and semi-structured face-to-face interviews with men with urinary symptoms. The present abstract focuses on the survey. We aimed to survey 600 men (aged at least 40 years) who recently presented urinary symptoms to their general practices in London area. Participant recruitment is still ongoing. Preliminary analysis used simple descriptive statistics and multiple regression models.

Results: 116 men from 23 practices have been recruited: 10 (9%) Asian, 18 (16%) Black and 85 (73%) White men. Nocturia (66%) and erectile dysfunction (61%) were the commonest reported symptoms while haematuria (17%) was the least common symptom. Most men in our cohort consulted their GP within the first 3 months of symptoms onset, with 66% of cases with haematuria seeking help within a week of onset. However, a third of men delayed consultation for more than 1 year regardless of symptoms. There appears to be no difference by ethnicity in time to diagnosis.

Conclusion: These are initial findings, and so should be interpreted with caution. More comprehensive analysis will be performed close to the conference.
Primary care Management of lower Urinary tract Symptoms in men: The PriMUS Study
Developing and validating a diagnostic and decision-making aid.

Miss Bethan Pell, Centre for Trials Research, Cardiff University

Bethan Pell1, Emma Thomas-Jones1, Lucy Marsh1, Harry Ahmed2, Alison Bray4, Joy Allen5, Michael Drinnan4, Yemisi Takwoingi5, Marcus Drake6, Tom Schatzberger7, Robert Pickard4, Jon Deeks5, Kerry Hood1, Natalie Joseph-Williams2, Chris Harding3, Adrian Edwards2, 1 Centre for Trials Research (CTR), College of Biomedical & Life Sciences, Cardiff University  2 Division of Population Medicine, College of Biomedical & Life Sciences, Cardiff University  3 Urology Department, Freeman Hospital, Newcastle upon Tyne Hospitals NHS Foundation Trust  4 Medical Physics, Newcastle upon Tyne Hospitals NHS Foundation Trust  5 NIHR Diagnostic Evidence Co-operative Newcastle, Newcastle University  6 Public Health, Epidemiology and Biostatistics, University of Birmingham  7 Translational Health Sciences, University of Bristol  8 NHS England North of England Commissioning Support

Background/aims  Lower Urinary Tract Symptoms (LUTS) are common in men and can have a detrimental impact on Quality of Life (QoL). Currently, GPs have no readily available assessment tools to accurately diagnose common causes of LUTS and consequently advise patients on treatment or management options. Men are referred to urology specialists who often recommend treatments that could have been initiated in primary care, if GPs had access to better diagnostic tools. The main aim of this study is to develop a ‘clinical decision tool’ to help GPs accurately diagnose and effectively manage male LUTS.

Methods  The study aims to recruit 880 males through three regional hubs across England and Wales. All patients will undergo a series of simple, non-invasive (index) tests, following standard practice (set out in NICE Guidelines) and a urodynamics test (the reference standard test). The results of the index tests, will be compared with the results of the reference test in order to identify which combination of index tests give the best prediction of urodynamic result. This will allow us to develop and validate a diagnostic decision tool with two separate participant cohorts, so that simple tests can be used in primary care to obtain an accurate diagnosis.

Results  This study is still in set-up and so we do not yet have available data. However, we will develop and validate a diagnostic decision aid (report due at the end of April 2020), which will assist GPs in making a practical diagnosis of LUTS and likely management options.

Discussion/Conclusions  An accurate, and acceptable decision aid could potentially improve the diagnostic approach to men with LUTS in primary care. It would lead to more men being given the correct advice or treatment sooner, meaning lower rates of treatment failure, re-consultation, and specialist referral, and more timely and effective management of bothersome symptoms for patients.
A study into the development of an acceptable tool to use as part of identifying behaviour discrepancies, in smoking reduction in lower socioeconomic groups.

Isabelle Newman-Cooper, Plymouth University Peninsula Schools of Medicine and Dentistry

Smoking is the largest health inequality in lower socioeconomic groups [1]. Existing services focus on cessation, which can be overwhelming to this demographic and discourage access altogether. Motivational Interviewing (MI) is the intervention, for smoking reduction in the EARS study [2]. The sample were all adults who had smoked a minimum of ten cigarettes per day for at least one year. Interviews were conducted by health trainers and transcribed verbatim and anonymised. Deductive thematic analysis [3] identified overarching themes which correlated with underlying principles of MI [4] Highlighting behaviour discrepancies within MI can positively change behaviour by identifying differences between current and desired outcomes [4]. A smoking diary self-monitoring tool was offered to participants however, often caused confusion and resistance [5]. This may be due to inconvenience and factors associated with this demographic, including education and poor compliance.

By proposing the use of a simple visual aid, it is thought that these barriers may be overcome. The proposed study aims to develop an acceptable self-monitoring MI tool, using the TARS study, a development of the original EARS study.

A mixed methods approach will be used to gain numerical data of how often the proposed tool was accepted, and qualitative interviews demonstrating participants’ attitudes towards its use. Deductive thematic analysis will then explore the acceptability of the tool by establishing overarching themes. Clinically, the implications of developing an effective MI self-monitoring tool, will increase the accuracy of goal setting, identification of behaviour discrepancies, and ultimately the likelihood of smoking reduction. The tool may then have the potential to be used in other areas of dependence including alcohol and drug use.

4. Newman-Cooper, I. How was motivational interviewing used in the EARS study for smoking reduction in lower socioeconomic groups? Poster presented at: Special Study Unit Contact Session Week 2. Tuesday 4th April 2017; Plymouth.
(5) Be Aware Every Day - Promoting self-awareness in adolescents

Miss Harriet Berry, Plymouth University Peninsula School of Medicine and Dentistry

Background  Mental illness is becoming increasingly prevalent across the population, especially in children and adolescents. (1,2,3) Despite this mental health still carries high levels of stigma, to the extent that many of those struggling are reluctant to seek help. (3) To reduce stigma, we need to increase awareness and encourage people to prioritise mental health as much as physical health.

Method  I chose to target my resource at adolescents as many mental illnesses start during the teenage years. (1,2) I used two focus groups to gather information about the target group. I used the information gathered to plan a resource formulated around tracking mood as a means of increasing self-awareness. My hope was for users to improve their ability to recognise changes in their mental health and also develop insight into the cause of these changes.

Outcome  I created a self-awareness planner based on a conventional homework planner. This involves a diary with a daily mood rating-scale, information pages on different mental illnesses and how to recognise them, and a section of resources on mental health and how to access further support. There is also a 'how to use this planner' section to explain the concept of self-awareness. This resource has since been selected to be used in Plymouth schools as a sustainable intervention for health and wellbeing education.


(6) A multi-centred Trial of physical Activity assisted Reduction of Smoking (TARS): Study Protocol

Dr Tom Thompson, Community and Primary Care Research Group, Plymouth University Peninsula Schools of Medicine and Dentistry

Background/aims  Smoking remains the main cause of preventable morbidity and premature death in England. 50% of smokers claim to be cutting down and interest in reduction is strongest among those who don’t want to quit. Smoking reduction offers an approach to engage and support smokers who otherwise would not engage with traditional services. There is evidence that physical activity can support smoking reduction and cessation through a variety of mechanisms and improve smoking cessation outcomes. The pilot trial (EARS) recruited 99 smokers not wishing to quit into a study aimed to support smoking reduction using increased physical activity. The message of reduction was found to be appealing, the study methods and intervention found to be acceptable, and the outcomes showed promising effects on smoking reduction and number of quit attempts compared to control.

Methods  A multi-centre, two arm, parallel group, definitive randomised controlled trial will recruit people (n=900) who smoke but do not wish to quit across four sites (Plymouth, Oxford, London, and
Nottingham). Participants will be randomised on the individual level to either (1) The TARS intervention plus usual care; or (2) brief advice plus usual care. Recruitment will take place through GP practice invitation. The TARS intervention consists of one-to-one motivational support (delivered by a Health Trainer) to help people cut down their smoking whilst increasing their physical activity over eight weeks. Additional support and signposting will support participants who wish to make a quit attempt.

**Results**  Data on smoking, physical activity, and other outcomes will be collected at baseline, 3, 9, and 15 months to assess the effect of the TARS intervention on smoking cessation rates compared to control.

**Discussion/Conclusions**  TARS will examine the effectiveness (and cost-effectiveness) of an intervention delivered through primary care to help reduce smoking rates among those who do not wish to quit.

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(7) **Patient Reported Outcome Measures for Acne: Mixed Methods Validation Study**

**Miss Samantha Hornsey, Primary Care and Population Sciences, Faculty of Medicine, University of Southampton, Southampton, UK.**

Dr Ingrid Muller, Primary Care and Population Sciences, Faculty of Medicine, University of Southampton, Southampton, UK.  Dr Miriam Santer, Primary Care and Population Sciences, Faculty of Medicine, University of Southampton, Southampton, UK.  Senior Author: Dr Beth Stuart, Primary Care and Population Sciences, Faculty of Medicine, University of Southampton, Southampton, UK.

**Background:** Acne vulgaris is a very common condition amongst adolescents and adults and it can have a negative social and psychological impact. Research is needed to clarify which topical and oral treatments are most effective, however, trials to date have used a wide range of different outcome measures. This hinders interpretation of research findings and the lack of consensus over suitable outcomes needs to be resolved in order to carry out robust future trials. This study therefore aims to assess the acceptability and validity of an appropriate patient reported outcome measure (PROM) for acne.

**Method:** This study will evaluate the acceptability, validity and reliability of two acne PROMs, the Skindex-16 and COMPAQ, comparing them with Acne-QoL. People with acne aged 18-50 are currently being recruited to the study through primary care. Participants are also being recruited opportunistically through secondary care in dermatology clinics or through community advertising. 200 participants will be recruited to this validation study, completing the questionnaires at baseline, 24 hours and 6 weeks later. Qualitative think-aloud interviews will also be conducted with 15-20 participants to explore the acceptability and face validity of the measures.

**Findings:** To date, 77 participants have been recruited for the validation study. Recruitment will continue until March 2018, after which data analysis will focus on internal consistency, construct validity, reliability, responsiveness to change and interpretability. Qualitative interviews will be transcribed verbatim and analysed using inductive thematic analysis.

**Discussion/Conclusions:** This analysis will inform the choice of outcome measure in future acne studies and the results will be fed back to the ACORN core outcomes initiative to help inform their recommendations regarding outcome measures in acne.
(8) GPs’ experiences of providing help for psychological distress

Miss Daisy Parker, University of Exeter Medical School

Professor Rose McCabe: University of Exeter Medical School  Professor Richard Byng: University of Plymouth  Professor Chris Dickens: University of Exeter Medical School

Person-centred care (PCC) is considered to be the gold standard of care; however, it is an ill-defined concept which has proven difficult to operationalise in practice. While PCC is emphasised by the NICE guidelines, many patients do not receive guideline concordant care, suggesting difficulties with the current guidelines.

PCC is arguably even more important when managing patients that are experiencing depression and anxiety, due to the increased emphasis on the interaction. GPs are the largest providers of mental healthcare in the UK.

The aim of this study is to explore GPs’ experiences of providing help for patients experiencing depression and anxiety. This study aimed to identify the methods that GPs’ have developed, informed by their considerable expertise by experience, that may be different from the guidelines, that support them in managing patients with depression and anxiety. Seven GPs took part in three focus groups using a semi-structured topic guide which focused on GPs’ experience, practice, and priorities for improvement. Transcripts will be analysed using inductive thematic analysis. Themes identified from the analysis will be presented in the poster. It is clear that what is outlined in the guidelines is not always what is seen in practice.

The aim of this study is to outline ‘practice based evidence’ that highlights how PPC is achieved in consultations about depression and anxiety, in order to develop possible methods of supporting GPs when managing these patients in the future.
(9) Can adding web-based behavioural support to primary care Exercise Referral Schemes increase physical activity in the long term? A randomised control trial of Exercise Referral Schemes augmented with the ‘e-coachER’ support package.

**Professor Adrian Taylor, Plymouth University Peninsula School of Medicine and Dentistry**

Rod Taylor 2  Nana Anokye 3  Lucy Yardley 5  Kate Jolly 6  Nanette Mutrie 7  John Campbell 2  Sarah Dean 2  Colin Greaves 2  Mary Steele 4  Jeff Lambert 2  Chloe McAdam 7  Ben Jane 8  Jennie King 1  Ray Jones 1  Paul Little 4  Anthony Woolf 9  Jo Erwin 9  Wendy Ingram 1  Douglas Webb 1  Nigel Charles 2  Rohini Terry 2 

1 Plymouth University Peninsula School of Medicine and Dentistry 2 University of Exeter Medical School, Exeter 3 Brunel University, London 4 Southampton University 5 Nuffield Department of Primary Care Health Sciences, Oxford University 6 University of Birmingham 7 University of Edinburgh 8 University of St Mark and St John, Plymouth 9 Royal Cornwall Hospitals NHS Trust

**Background**  Physical activity (PA) is recommended for improving health amongst people with certain common chronic conditions. One approach to promoting PA is via primary care exercise referral schemes (ERS) but there is little evidence for long-term changes in PA[1]. This study will determine whether augmenting ERS with a web-based, interactive, behavioural support package (called e-coachER) will result in improved levels of sustained PA.

**Methods**  Patients with diabetes, obesity, hypertension, osteoarthritis, or depression were approached to participate by primary care practitioners at the point of referral to the ERS. Patients (n=450) were consented by a researcher and randomised to receive either e-coachER plus usual care (intervention) or usual care alone (control). At baseline, four and twelve months, participants wore an accelerometer for one week and completed self-reported PA, quality of life, and health economic measures. The primary outcome is minutes of moderate/vigorous (MVPA) recorded objectively by accelerometer, over one week at twelve months.

**Results**  The study is in progress. Follow-up at four months is complete; accelerometer wear-time is encouraging. Participants’ engagement with the intervention meets pre-set criteria, with only occasional technical support requested. MVPA at twelve months, uptake of and adherence to ERS will be compared between the groups. Key intervention components will be determined via usage profiling, mediation analysis and qualitative interview. Results are expected Autumn 2018.

**Discussion**  Recruitment from primary care was a challenge, despite high prevalence of target population and provision of service support costs (SSC). Referral rates declined during the trial due to challenging Public Health finances for subsidised services and competition with disease-specific care pathways. To mitigate, measures were introduced to encourage referrals from primary care (increase SSC), increase the sources of referral (direct referral from ERS provider), incentivise patients to participate (£60 shopping voucher). If effective, the intervention is likely to be cost-effective and scalable.

An interpretative phenomenological analysis of the family carer experience of providing nutritional care to people living with dementia at home

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Eating and drinking can become a problem for people living with dementia for many reasons, including forgetting to eat, loss of appetite, taste changes, and difficulty swallowing. Unplanned weight loss and nutritional deficiencies are known to be associated with further deterioration of dementia (Lee et al., 2009), therefore maintaining an individual’s nutritional status is particularly important. Two thirds of people with dementia live at home, with about 670,000 family and friends taking the role of primary carer (Martin et al., 2014), but little is known about carers’ ability to address problems related to nutrition. The relationship between the caregiver and person with dementia with regards to nutritional care is of particular importance (Mole, under review).

The aim of this study is to explore how family carers make sense of the experience of providing nutritional care to someone living with dementia at home.

Semi-structured interviews were conducted with five family carers, who also completed a two-week diary recording their experiences of providing nutritional care.

Interviews and diaries were transcribed prior to analysis.

This study was approved by the Faculty of Health & Human Sciences ethics committee (Ref 16/17-778). The study is currently in progress so the results will be presented following analysis. Interview transcripts and family carer diaries will be subjected to interpretative phenomenological analysis, and the participant’s accounts of their experiences presented, along with any emergent themes common across all participant accounts.

This study will present the unique experiences of five family carers who provide nutritional care for someone living with dementia at home. The results will be used to develop training resources and recommended strategies to support family carers in their caring role. It will also provide insight for healthcare professionals who work with this group, and provide recommendations for future research in this area.

References
(11) Antidepressants and Sleep: A Concise Guide to Antidepressant Effects on Sleep Architecture

Dr. Michael M. Buczek MD, GP Trainee (ST3), South West Peninsula Deanery

Background: Sleep is essential to physical health and emotional well-being. In patients who are depressed, sleep architecture is grossly disturbed. Depression has been shown to increase the time required to fall asleep, prolong the time in the REM state, an increase in the frequency of awakenings and sleep disturbances after sleep onset, and increase early morning awakenings. These disturbances in sleep can exacerbate the physical and psychological symptoms of depression. Understanding these changes and tailoring therapy to target them can potentially improve certain symptoms of depression. The aim to understand the changes in sleep architecture of depressed patients and how different anti-depressants influence those changes. The goal was to present these findings in a clear and concise manner that primary care physicians could use to choose the most appropriate anti-depressant for their patients.

Method: A systematic review of studies with various antidepressants which measured effects on sleep architecture. Where possible more than one study was chosen to confirm findings for each different class.

Results: There is a notable difference among the various classes of anti-depressants in their impact on sleep architecture. Some classes can exacerbate these disturbances while some are effective at restoring sleep architecture to normal patterns and there can even be variability among medications in the same class.

Conclusion: Sleep is a crucial physiological function and improving sleep quality in depressed patients could potentially improve symptoms and lead to better outcomes. Understanding the sleep abnormalities and how different anti-depressants influence them could lead to a more informed choice when prescribing medication patients depending on their presenting symptoms. Moreover, a clear and concise resource to refer to would likely improve the chances of primary care physicians taking this into consideration when making treatment choices.

References:
The diagnostic potential of ‘high normal’ platelet counts for identifying cancer in primary care.

Dr Sarah Bailey, University of Exeter
Ms Emily Ankus, University of South Florida  Dr Sarah Price, University of Exeter  Dr Obi Ukoumunne, University of Exeter  Prof Willie Hamilton, University of Exeter

Background  Identifying risk markers of cancer can help GPs select patients for diagnostic testing. An abnormally elevated platelet count (thrombocytosis, >400×10⁹/l) is a recently discovered risk marker of undiagnosed cancer which far exceeds the 3% risk threshold for further investigation. Patients with a platelet count in the high-normal range may also be at an increased risk of cancer. This study aimed to quantify cancer risk in patients with a platelet count of 325 – 399 x 10⁹/l.

Methods  Clinical Practice Research Datalink (CPRD) records of 10,000 patients with a platelet count of 325 – 399 x 10⁹/l, stratified by count: cohort 1: 325 – 349 x 10⁹/l; cohort 2: 350 – 374 x 10⁹/l; cohort 3: 375 – 399 x 10⁹/l. New cancer diagnoses in the year following the platelet count were extracted using electronic records supplemented by National Cancer Registration Service (NCRS) data. One-year cancer incidence was estimated for men and women in each cohort.

Results  Cohort 1 (325-349: 328 males and 1,111 females): one-year cancer incidence 4.6% (95% CI 2.6-7.4) in males and 2.1% (95% CI 1.3-3.1) in females. Cohort 2 (350-374: 164 males and 615 females): one-year cancer incidence 7.3% (95% CI 3.8-12.4) in males and 2.8 (95% CI 1.6-4.4) in females. Cohort 3 (375-399, 118 males and 368 females): one-year cancer incidence 8.5% (95% CI 4.1-15.0) in males and 4.1% (95% CI 2.3-6.6) in females. Colorectal and lung were the most commonly diagnosed cancers.

Conclusions  Men with a platelet count of >350 x 10⁹/l have at least a 3% risk of an underlying cancer; further investigation may be warranted even though this value is in the ‘normal’ range. Clinicians should review reported symptoms, clinical history, and reasons for blood testing. Further study with a larger sample is needed to explore the platelet-cancer association further, and how it differs by cancer site.
(13) Attitudes and experiences of members of the primary care team to Social Prescribing: A Qualitative Study.

Miss Kate Gregory, Cardiff University

Dr Freya Davies, Division of Population Medicine, Cardiff University  Dr Fiona Wood, Division of Population Medicine, Cardiff University  Dr Carolyn Wallace, University of South Wales

Background/Aims Social prescribing has garnered increasing amounts of attention in recent years. Its purpose is to improve patients’ wider health determinants, such as social, environmental and economic factors. It is hoped that this may make the provision of primary care services more sustainable. Social prescribing involves connecting patients to non-medical sources of support in the community, ranging from social clubs to housing support services. Despite social prescribing schemes being increasingly promoted as a valuable resource in primary care there is currently little literature on social prescribing from the point of view of primary care team members. The aim of this study is to explore the attitudes and experiences of members of the primary care team to social prescribing and how this influences their use of the service. This may help us to understand the variable way in which social prescribing is currently promoted and utilised in different GP practices.

Methods Semi structured interviews, based around an interview topic guide, will be conducted with 10-12 primary care team members, recruited from GP surgeries in one Welsh local authority area where a social prescribing service has been introduced over the past two years. Staff will be purposively sampled from practices with both high and low rates of service usage. The interviews will be analysed using thematic analysis to identify and explore themes arising in relation to their attitudes and experiences of social prescribing.

Results This study is currently in progress, with a completion date of March 2018.

Conclusion The study will provide valuable data on attitudes amongst members of the primary care team. This will form part of a wider evaluation of the current service and aims to influence successful implementation of social prescribing schemes in other parts of Wales.
(14) Determining when a hospital admission of an older person can be avoided in a sub-acute setting: A scoping systematic review and guide to admission avoidance definition and decision-making

Dr Alyson Huntley, University of Bristol

Ben R Davies (1)   Nigel Jones (2)   Sarah Purdy (1)   Helen Baxter (1)   1. Centre of Academic Primary Care, Population Health Sciences, University of Bristol.   2. North Bristol NHS Trust.

Background & Aim  It is important that we can identify those older people who need care but do not have a medical need requiring hospital admission. It is clear that there are some older patients for whom care in the community is safe. We aimed to conduct a scoping systematic review to determine when a hospital admission for an older person can be safely avoided in subacute setting.

Methods: Standard systematic review methodology. Searches were conducted in Medline, Embase and Cinahl (January 2006 -June 2017). Study data were narratively presented and concept analysis used to investigate definitions of admission avoidance (AA).

Results: Ten studies described AA criteria and nine papers provided a definition of AA (n=18 papers). Seven studies described the general older patient and three described patients with specific conditions. Definitions of AA found were discussed and a model definition proposed by authors. Studies were divided into a) Home-based: hospital-in-the-nursing-home (HINH) schemes (n=3) paramedic schemes (n=1) b) Facility-based: short-stay subacute care (n=3), day-hospital (n=1), outpatients (n=1) and general practice (n=1). HINH schemes involved nursing staff using monitoring to detect deterioration. Staff were trained, supported and co-ordinated by acute hospital nurses. The paramedic study used a falls-specific protocol. Facility-based services were clinician-driven and time-driven. General older patients were assessed using general and/or geriatric triage, and patients with specific conditions by clinical risk tools. Hospital admission and mortality outcomes are limited by study quality, but support higher evidence that AA schemes are comparable to acute hospital admission.

Discussion: AA interventions conducted in sub-acute settings include different approaches to decision making. We conclude that whilst it is difficult to define when an AA has been achieved, it is possible and perhaps more practical to define when it is safe and appropriate to treat an older person outside the acute hospital.
The role of health professionals’ involvement in the development of the ADvisor intervention to support practitioners withdrawing patients from long-term antidepressant use

*Mrs Marta Glowacka, University of Southampton*

Dr Hannah Bowers, University of Southampton  Dr Adam Geraghty, University of Southampton  Mrs Samantha Williams, University of Southampton  Dr Geraldine Leydon, University of Southampton  Prof Carl May, University of Southampton  Rebecca Laine, University of Southampton  Dr Nadja van Ginneken, University of Liverpool  Prof Yvonne Nestoriuc, University Medical Centre Hamburg-Eppendorf  Prof Gerhard Andersson, Linkoping University  Prof Tony Kendrick, University of Southampton

**Background:** Antidepressant prescriptions have increased since 1990 due to longer treatment duration. However, 30-50% of patients have no evidence-based indication for long-term use. Many patients would prefer to stop treatment but have reported continuing it because their GP/nurse has not suggested withdrawal. REDUCE aims to identify feasible, safe, effective, and cost-effective ways of helping patients taking antidepressants long-term to withdraw from treatment when appropriate. It consists of a web-based intervention with phone support for patients and a web-based intervention for GPs.

**Methods:** A prototype intervention was developed to support GPs withdrawing patients from antidepressants. Primary qualitative interviews with health practitioners and a qualitative meta-synthesis were conducted to explore health professionals’ views on barriers and facilitators to withdrawal and their role in the process.

**Results:** Barriers included selecting the right candidate, consultation skills, initiating the discussion and beliefs about depression. Facilitators included managing patient expectations, integration of psychological services, standardised advice about antidepressants and prior knowledge of the patient. This work informed the initial draft content. A wider team consisting of academics, general practitioners and PPI colleagues reviewed the drafts and a prototype intervention to be used by GPs alongside the patients’ intervention. In the next stage health professionals will take part in think-aloud interviews. These aim to elicit views about the intervention, its feasibility and acceptability. The feedback will be incorporated into further iterations of the intervention. In the final stage of development a feasibility study testing all elements of REDUCE will be conducted before a full trial of the intervention.

**Discussion:** Understanding health professionals’ perspective was central in designing the intervention which would help them support their patients through antidepressant withdrawal. Maintaining health professionals’ involvement at all stages of the intervention development may lead to increased willingness of the GPs to use and/or recommend the programme.
(16) Performance of clinical prediction scores for acute sore throat among children in a Low or Middle Income Country (LMIC) and the likely impact of Rapid Antigen Detection Tests (RADTs)

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Background/aim: Clinical prediction scores have been used to guide the management of streptococcal sore throats in developed countries. Little is known about their validity in LMICs (Low-and-Middle-Income-settings), where the routine use of throat cultures is not possible, but where Rheumatic fever is still very common. This study aimed at estimating the validity of three previously published clinical scores (FeverPAIN, Adapted Centor, Steinhoff) to predict streptococcal infection among children, and the likely impact of Rapid Antigen Detection Testing (RADTs).

Methods: A prospective diagnostic study conducted from October 2015 to June 2016 in two Family Medicine Clinics in Cairo, Egypt. 206 children aged ≥ 3 years with acute sore throat for less than 2 weeks and who had not previously had tonsillectomy were recruited in the study. Following a detailed history and physical examination throat swabs were taken to detect Group A Streptococcal infection. The three scores were calculated and tested against throat culture as gold standard. The Area under the Receiver Operator Curve (AUROC), Sensitivity, Specificity, Predictive values, and the estimated improvement when applying the known performance of RADTs in the local setting for intermediate scores (3 for FeverPain, 3 for Adapted Centor score; >=2 for Steinhoff) were calculated.

Results: 62 children (30%) had positive Lancefield group A streptococci cultures, but 168 (82%) received antibiotics. The Area under the Received Operator Curve (AUROC) was 0.57, 0.51 and 0.50 respectively for FeverPAIN, Adapted Centor, and Steinhoff scores. A cut off of >=3 provided moderate sensitivities (69,69,72 respectively) and low specificities (41,34,31). Adding the performance of RADTs mostly resulted in better sensitivities (98,100,55) and specificities (93,81,95).

Conclusions: Clinical prediction scores alone may be of little use for children in LMICs where Rheumatic fever is common. If more appropriate targeting of antibiotics is to occur the targeted use of RADTs will be needed.
SO ACTIVE. Exploring significant other experiences of undergoing ACTIVE surveillance for prostate cancer: an exploratory study.

Mrs Stephanie Hughes, University of Southampton

Dr Becky Band, University of Southampton  Dr Sam Watts, University of Southampton  Dr Hazel Everitt, University of Southampton

Background: Men with localised, slow growing prostate cancer (PCa) are increasingly being offered active surveillance (AS). AS involves closely monitoring the cancer with a view to delaying or avoiding radical intervention and the associated side effects. Research suggests that men on AS may have heightened levels of anxiety, concern and distress due to living with an untreated cancer. A previous study (PROACTIVE) explored providing a support intervention for men on AS. Qualitative interview findings with the men during PROACTIVE indicated that partners/significant others (SOs) are important to PCa decisions both practically and emotionally but research in this area is limited.

Aims: SO ACTIVE aims to explore the associations between significant other beliefs, anxiety and responses to AS, and patient outcomes including anxiety, depression and quality of life. Relationship factors such as dyadic communication and relationship quality will also be explored in relation to outcomes.

Methods: Mixed methods; men and their SOs will complete validated questionnaires regarding anxiety, depression, quality of life, dyadic communication, dyadic relationship quality and illness perceptions, and a nested qualitative study. Sample: 404 dyads will be recruited, 808 participants in total. Dyads consist of men with a biopsy confirmed diagnosis of prostate cancer managed with AS, and their significant others (who may be a partner or other close relative or friend).

Recruitment: Participants are being recruited through adverts placed by relevant charities such as Prostate Cancer UK, Prostate Cancer Support Organisation (PCaSO) and Tackle Prostate Cancer.

Analysis: Quantitative component: correlation, partial-correlation and regression analyses. Qualitative interviews: thematic analysis. Progress to date: Recruitment is ongoing and preliminary interim findings will be available at the conference.
Development of the ADvisor intervention to support patients withdrawing from long-term antidepressant use (Work Stream 3 of The REDUCE Programme)

**Dr. Hannah Bowers, University of Southampton**

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3 Linkoping University

**Background:** Since 1990 antidepressant prescriptions have increased due to patients being prescribed longer courses. However, 30-50% of patients have no evidence-based indication for long-term use. Many patients would prefer to stop treatment, though there are a number of barriers to withdrawing. The REDUCE programme aims to identify feasible, safe, effective, and cost-effective ways of helping patients taking long-term antidepressants withdraw from treatment when appropriate.

**Methods:** As part of Work Stream 3, a prototype web-based intervention was co-developed to support patients who are considering withdrawing from antidepressants, using a mixed-method, person-based approach. The development process incorporated the COM-B model of behaviour change and social cognitive theory within its theoretical framework. Primary qualitative work with patients as well as a qualitative meta-synthesis were carried out exploring barriers and facilitators of antidepressant withdrawal.

**Results:** Fear of relapse and withdrawal symptoms appear to be key barriers. Further considerations included social support, stigma, beliefs about depression and antidepressants, and the role of health professionals. This work informed the initial draft content. These drafts were reviewed by team members consisting of academics, general practitioners and PPI colleagues to create a prototype intervention.

**Discussion:** An intervention prototype was developed. To develop the intervention further, think-aloud interviews will be conducted with patients, whose feedback will be incorporated into further iterations of the intervention. A feasibility study will be conducted before a full trial of the web-based patient intervention in conjunction with other tools to encourage withdrawal (i.e. a web-based intervention to support GPs and telephone support for patients).
A Primary Care Audit supported by CRUK Facilitators in collaboration with SW SCN to estimate possible demand for Faecal Immunochemical Testing (FIT) in a population fulfilling NICE referral guidelines for being at “low risk, but not no risk” of colorectal cancer

Dr David Seamark, University of Exeter

Mrs Rachel Byford - Cancer Research UK  Miss Rachel Norman - Cancer Research UK  Ms Jill Ireland - Cancer Research UK  Mr Jonathan Miller - Peninsula Cancer Alliance

Introduction and aims: The NICE Guidance for Suspected Cancer 2015 (NG12) contains a recommendation for symptomatic patients who do not meet the criteria for referral on the Suspected Cancer Pathway for colorectal cancer to be offered a faecal occult blood test, the results of which will inform the GP regarding referral. This has recently been restated in Quantitative Faecal Immunochemical Test to Guide Referral for Colorectal Cancer in Primary Care (DG30). Currently we do not know what the demand for this test will be. The aim of this audit was to provide information about the number of patients in Devon who would be eligible for this test and how they are currently managed.

Method: 14 practices in Devon were recruited to this audit. They were asked to Read code any patient that presented with the eligible symptoms for a period of 3 months. Data were collected from the practices on a monthly basis.

Results: 217 patients were identified as eligible for this test during the 3 months that the audit ran. This gives a mean rate of 14/1000 patients per year per practice. A significant number of these patients were referred into secondary care: 48% on a 2WW pathway and 21% routine referral.

Conclusion: currently GPs are restricted in their choices about what to do with this group of patients and so are tending to make non-guidance compliant referrals onto cancer pathways in a number of cases. Offering FIT to these patients could potentially reduce the burden on secondary care services and improve the management of this group of patients.
Oral prednisolone for acute lower respiratory tract infection in patients suspected to have clinically unrecognised asthma: an exploratory analysis of the ‘OSAC’ randomised control trial

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Professor Alastair D Hay, Miss Grace J Young MSc (both Center for Academic Primary Care, NIHR School for Primary Care Research, School of Social and Community Medicine, University of Bristol), Professor Paul Little, Professor Michael Moore (both Primary Care and Population Science, NIHR School for Primary Care Research, Faculty of Medicine, University of Southampton. Professor Paul Little FMedSci, Grace J Young MSc, Professor Michael Moore FRCPG.

**Background/Aims:** Acute lower respiratory tract infection (ALRTI) is often inappropriately treated in primary care with antibiotics. Although oral corticosteroids are an increasingly used alternative, the recently published ‘OSAC’ randomised controlled trial did not find evidence for their use in adults. As corticosteroids are effective in acute asthma, it was hypothesised that they could be beneficial for patients identified as having unrecognised asthma within the OSAC sample.

**Methods:** Exploratory subgroup analysis in patients responding yes to the presence of the following International Primary Care Airways Group asthma symptoms in the last year: wheeze and/or at least two of nocturnal cough/chest tightness/dyspnoea. This combination has been identified as having a high sensitivity and specificity for predicting asthma. A sensitivity analysis was conducted for those who answered yes to wheeze and at least two of the three nocturnal symptoms. As in the OSAC trial, primary outcomes were duration of moderately bad or worse cough and mean symptom severity on days 2-4 (scored from zero [not affected] to six [as bad as it could be]). Secondary outcomes (duration and severity of ALRTI symptoms, duration of abnormal peak flow and antibiotic use) were compared in the main subgroup only.

**Results:** Forty (10%) of the OSAC sample met criteria for the main subgroup analysis: mean age 49 (SD, 17.9). Median cough duration was 3 days in both prednisolone (interquartile range [IQR], 2-6 days) and placebo (IQR, 1-6 days) groups (adjusted hazard ratio (HR), 1.19; 95% CI, 0.39-3.75; P=0.75). Mean symptom severity was 1.83 in the prednisolone and 1.95 in the placebo groups (adjusted HR, 0.02; 95% CI, -1.01 to 1.07; P=0.95). Similar findings were found in the sensitivity analysis. There was no evidence to suggest a difference in secondary outcomes between prednisolone and placebo.

**Conclusion:** In a small sample of patients identified as having clinically unrecognised asthma, there was no evidence to support the use of corticosteroids in reducing duration or severity of ALRTI symptoms, or to support the therapeutic use of steroids to unmask asthma in patients with ALRTI.
Reviewing patients on long term oral bisphosphonate therapy: a practice-based quality improvement project

Dr Katherine Pitt, Bristol University

Ms Louise Byrne-Jones, Bristol Clinical Commissioning Group  Dr Andrew Cordell, Bristol Clinical Commissioning Group  Dr Anna Graham, Bristol Clinical Commissioning Group

Background: Patients on oral bisphosphonates for > 5 years should be reviewed, according to the National Osteoporosis Guidelines Group (NOGG). Low risk patients may benefit from drug holidays (1). Bisphosphonate benefits, namely reduced bone turnover and increased bone mineral density, are maintained for a period after treatment cessation. The risk of serious side effects, such as osteonecrosis of the jaw and atypical femoral fractures, increases over time.

Aim: Introduce reviews for patients on oral bisphosphonates for >5 years at a large suburban practice in Bristol.

Methods: Electronic patient records were searched for patients on oral bisphosphonates. Interventions consisted of: presentations to clinicians, an electronic template, an intranet resource folder, and tasks divided by personalised list. The search was repeated five months later. Outcomes were disseminated at a practice meeting.

Results: 50 patients had been oral bisphosphonates for > 5 years without a review, with treatment duration extending beyond 14 years. Following the interventions 29 patients had a bisphosphonate review. Review outcomes included: stopping the drug (9), starting a drug holiday (5), continuing the drug (6), requesting a DEXA scan (7), and specialist referral (2). The number of patients on oral bisphosphonates for greater than 10 years declined from 13 to 4. Proposals to sustain the intervention included: adding duration to new prescriptions, repeated task allocation by the medicines management lead, and enlisting a new practice development pharmacist.

Conclusions: A substantial number of patients in the study practice were on oral bisphosphonates, without a review, for longer than recommended by NOGG. Education and system interventions prompted reviews, facilitated by a personalised list system. Outcomes reflected both the NOGG guidelines and de-prescribing due to frailty. Sustaining the intervention has implications for workload and skills mix. Bisphosphonate reviews may reduce medication expenditure, pill burden, and adverse events associated with prolonged use. Reference (1) National Osteoporosis Guideline Group (NOGG). Clinical guideline for the prevention and treatment of osteoporosis. 2017. Available from: https://www.sheffield.ac.uk/NOGG/NOGG%20Guideline%202017.pdf [Accessed 24 October 2017].
Rapid cycle innovation within an established evidence-based programme operating at scale

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Background: Family Nurse Partnership (FNP) is an evidence-based home visiting programme for young mothers (‘clients’). In 2015 a major RCT in the UK found no impact on primary outcomes but was promising in relation to some important secondary outcomes.

Since then, the FNP National Unit and the Dartington Service Design Lab have sought to respond constructively to these findings in the ADAPT project (Accelerated Design and Programme Testing). This involves adapting the programme and testing those adaptations in 10 FNP sites.

Methods: Adaptations were co-produced by nurses, commissioners, subject experts and, to a lesser extent, clients. The approach incorporated user experience, practice knowledge, insights from the science of child development and evidence on ‘what works’.

We are collecting qualitative data (via interviews and focus groups with nurses and supervisors) and quantitative data (via nurse/client online surveys) on both clinical and system adaptations. The data concern outcomes, implementation and acceptability. Data are analysed between monthly and quarterly in order to inform further adaptation as part of an iterative process.

Results: The clinical adaptations seek to improve outcomes for attachment, breastfeeding, smoking cessation, intimate partner violence, maternal mental health and neglect, and involve changing programme material and delivery approaches.

The system adaptations involve helping nurses to personalise FNP by changing the eligibility criteria, flexing visit content, adjusting delivery intensity and allowing some clients to exit the programme early. A bespoke assessment tool was developed to support nurse/client decision-making as part of these changes.

We are conducting thematic analysis of interview and focus group data and analysing change over time in outcomes and, where possible, making comparisons with non-ADAPT sites and historical data.

Discussion/Conclusions: The approach has strengths and weaknesses, and offers valuable lessons for others seeking to do similar work – innovation, adaptation, service improvement – in a climate of austerity and commissioning threat.
On the ‘optimal’ number of IAPT sessions for patients diagnosed with depression or anxiety.

*Dr Doyo Enki, Plymouth University Peninsula Schools of Medicine and Dentistry*

Dr William Lee, PUPSMD  Dr Adam Qureshi, Edgehill  Prof Richard Byng, PUPSMD

**BACKGROUND:** Improving Access to Psychological Therapies (IAPT) programme is a stepped care model of ‘talking treatments’ which implements National Institute for Health and Clinical Excellence (NICE) guidelines for people suffering from depression and anxiety disorders. The aim of this study was to identify the number of IAPT sessions a patient attends before moving to recovery, to potentially use IAPT resources more efficiently by offering patients who need more sessions more and patients who need fewer, fewer.

**METHODS:** Using anonymised IAPT data from the SW of England, we used only data for patients who attended two or more sessions with complete data who also had recovered by their last session.

**RESULTS:** 14,668 episodes of care were included. In all patients, the rate of symptomatic improvement decreased with increasing session number, and patients scoring higher of depression and anxiety needed more sessions to move to recovery (expected number of sessions needed varied from 3 to 6), as did younger patients. Few patients gain very much beyond session 6.

**DISCUSSION:** Varying the number of IAPT sessions initially offered, between patients according to expected need, may allow for more efficient use of IAPT resources.
(24) Increasing mental health awareness

*Dr Pippa Le Page, Beacon Medical Group; Plymouth University*

Plymouth and District MIND Young Devon Zone Youth Enquiry Service

**Aims:** During my leadership and excellence extension of GP training (LEET), my project aimed to raise awareness and start changing people’s perceptions of mental health.

**Background:** The current direction and action on mental health was only established in 2011, but is a growing area of need, with 1 in 10 children aged 5-16 years having a diagnosed mental health problem, 50% of which start by age 14; 75% of young people are worried about telling their friends about their mental health condition. Project Together with Plymouth University Students as part of their doctors as educator’s projects, we delivered sessions in local secondary schools surrounding self-care of mental health. Beacon Medical Group also delivered a Children’s takeover day, inviting year 9 students into the practice. This gave a better insight into their needs, and how best to communicate and share resources with them, leading to a specific youth page on the website. Finally, I spearheaded collaboration between NHS and charitable organisations, securing funding from NHS England, to provide education surrounding vulnerable young people who are more at risk of developing mental health conditions. ‘Progeny Plus’ is currently providing specialist training to professionals working in local schools, community and voluntary services, and primary care staff.

**Conclusion:** Tackling mental health is not going to be solved overnight, but a cohesive and sustainable approach can be achieved by working in partnership with schools, university, and multiple organisations. This approach is not limited to mental health, and collaborative working is key for the future of the NHS.

**Acknowledgments and thanks to Progeny Plus:** Zone Youth Enquiry Service Plymouth and District MIND Beacon Medical Group Young Devon
A Randomised Controlled Trial of a Facilitated Home-Based Rehabilitation

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Introduction: Home-based models of cardiac rehabilitation may overcome suboptimal rates of participation. This study sought to assess the feasibility and acceptability of a novel healthcare professional facilitated home-based comprehensive self-management REACH-HF rehabilitation intervention for patients with heart failure with preserved ejection fraction (HFP EF) and their caregivers.

Methods and results: Patients were randomised 1 to the REACH-HF intervention plus usual care (intervention group) or usual care alone (control group). Outcomes were collected at baseline, 3 and 6 months post-randomisation. Outcomes were also collected in caregivers. We enrolled 50 symptomatic patients with a left ventricular ejection fraction ≥45% (mean age: 73.9 years, 54% female: 96% in NYHA II/III) and 21 caregivers. Study retention (90%) and intervention uptake (92%) were excellent. At 6 months, a number of patient outcomes showed a potential direction of effect in favour of the intervention group, including the primary outcome of Minnesota Living with Heart Failure Questionnaire total score (between group mean difference: -11.5, 95% confidence interval: -22.8 to 0.3). A total of 11 (4 intervention, 7 control) patients experienced a hospital admission over the 6 months follow up with 4 (all control patients) of these admissions being HF-related. Improvements were seen in a number intervention caregiver mental health and burden compared to control.

Conclusions: Our findings support the feasibility and rationale for the delivering the REACH-HF facilitated home-based rehabilitation intervention for patients with HFP EF and their caregivers and progression to a full multicentre randomised clinical trial to test the clinical effectiveness and cost-effectiveness of this novel intervention.
(26) Learning from national patient safety incident reports to reduce diagnostic error in the emergency department: mixed-methods cross-sectional study

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Background/aims: As a point of first access to healthcare, Emergency Departments (EDs) provide an increasingly important part of primary care, which is under pressure with rapidly rising demand. Diagnostic errors occur more frequently in the ED than the recorded 10-15% of in-patient hospital stays, or 2-3% in general practice, and are high-risk environments for patient harm. Our aim was to characterise incident reports about reported diagnostic errors in EDs in England and Wales to identify priority areas for safety interventions.

Methods: Cross-sectional mixed-methods analysis, through explorative descriptive and thematic analyses of Patient Safety Incident (PSI) reports from EDs. Primary data were extracted from the National Reporting & Learning System. 1,451 reports were filtered for diagnostic errors (reporter’s classification), for the ED and for 2013 (2014 to follow). We analysed the primary safety incident, chain of incidents, contributory factors and harm outcomes.

Results: We identified 695 reports of confirmed diagnostic error with 45.5% resulting in a delay in management and 20% resulting in repeated healthcare visits. 21.6% of patients had recorded harm, 4.2% of patients had serious harm or death. A third were due to misinterpretation or miscommunication of diagnostic investigations. Common contributory factors included 207 incidents with staff mistakes, 87 relating to inadequate clinician skillset and 68 incidents where staff failed to follow protocols. Themes emerging include those of clinician mistakes in interpreting radiographs and patient assessments. Fractures were the commonest source of diagnostic error (260 reports), with cervical-spine and pelvic fractures the commonest sub-groups; over half of these included misinterpretation of x-rays. Diagnostic error occurred in 55 reports of myocardial infarctions and 44 of stroke. Analysis of underlying reasons continues

Conclusions: Understanding the nature and reasons for diagnostic error in this urgent care setting, and harm caused, will provide the basis for improvement priorities at system and staff levels.
(27) Can Nursing Students Support Citizen Contacts to use the Internet for Health while gaining Person-Centred Skills?

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**Background:** Digital health services may benefit service users (1, 2), by providing access to reliable health information and ways to communicate health issues, thus fostering greater engagement in self-care. Plymouth University’s nursing students study ‘Digital Professionalism’, introducing e-health into the nursing curriculum. The University seeks to benefit the local region through direct community action. This study aims to explore the feasibility of implementing a citizen contact model for nursing students to enhance the use of Internet for health, and providing an opportunity for students to understand citizens in their social context.

**Method:** Using collaborative action research (CAR) to work with students, academics, health professionals and the public. This project is developing and trialling a model of citizen contact with nursing students. This involves supporting citizen contacts with one or more long-term conditions, to learn about and use the Internet for health, in a non-clinical setting. A combination of workshops, an online survey, reflective logs and consultations have informed the ongoing implementation phase.

**Results:** Six workshops were undertaken, there was general agreement introducing citizen contacts into the nursing curriculum was a good idea. An online survey further explored the thoughts of workshop participants and collaborators, of which all 57 survey respondents agreed students would better understand the thoughts and experiences of citizen contacts from taking part, whilst 52 (out of 57) respondents agreed citizen contacts would learn about health services. However, a number of concerns were raised such as, recruitment of citizen contacts, safeguarding of participants and workloads. Raised concerns have been acknowledged, explored and addressed. Three second year adult nursing students and five citizen contacts are currently participating in the implementation phase.

**Discussion:** Revalidation provides an opportunity to develop a novel framework that mutually benefits both students and citizen contacts, and can feasibly be built into the nursing curriculum.

(28) Attitudes and Preferences of People regarding Long-term Antidepressant Use for Depression: The APPLAUD Study

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Background  Between 2009 and 2013, the number of antidepressant prescriptions rose by 36%, while the prevalence of depression rose by only 3.9%, due to the rise in long-term use. Some patients have no evidence-based indications to continue long-term antidepressants, and could stop treatment. However, many are prepared to continue indefinitely due to fear of relapse. Patient beliefs, attitudes, and behaviours towards antidepressant treatment may be important in determining their use and subsequent depression management.

Aims: The PhD aims to investigate constructs of the Theory of Planned Behaviour and other psychological models of health behaviour in predicting the intentions of individuals with depression to continue or stop their long-term use of antidepressants, and whether these intentions are translated into actual behaviour. It aims to elicit patient beliefs about long-term antidepressant use and long-term depression management in primary care.

Methods: Approximately 400 patients from primary care practices receiving antidepressant treatment for 2 years or more will complete postal questionnaires concerning their beliefs about long-term antidepressant use, and their intentions to stop or continue treatment. Qualitative interviews will be conducted with a purposive sample of patients who complete the questionnaires, to further explore their understanding and views of their depression and current treatment.

Results: The recruitment of practices in Wessex and the West of England is currently under way. Structural equation modelling will analyse the relationships between measured variables and latent constructs, to see if the theoretical models can explain patients’ behaviour towards long-term antidepressant use. Thematic analysis of the qualitative interviews will be conducted to further explore patient views and experiences of long-term antidepressant use for depression.

Conclusions: The findings will illustrate patients’ attitudes and behaviours towards long-term depression management in primary care. Findings may suggest strategies to reduce inappropriate antidepressant prescribing and encourage greater self-management of the illness.