

## Ben Ainsworth

University of Southampton

### **Developing acceptable and feasible mindfulness-based interventions to improve outcomes for patients with asthma**

The association between chronic respiratory disease and psychological dysfunction has become increasingly apparent in recent years through epidemiological studies; it is associated with poor outcomes of all types. Research and treatment guidelines increasingly emphasise the need to improve functional outcomes, and psychological interventions may well be a cost-effective way to do so. We use findings from two feasibility studies of mindfulness for patients with asthma to explore mechanisms through which psychological treatments can benefit asthma outcomes, and inform further treatment development.

The first mixed-methods study used pre- and post-test measures of quality of life, anxiety/depression and asthma symptom severity to explore the impact of a 4-week group mindfulness course in 18 patients from the Wessex Asthma Cohort, as well as conducting interviews and focus groups at 3-month follow up. The second study uses a similar mixed-methods approach to explore the impact of Headspace (a 30-day online mindfulness intervention) in 120 asthma patients from primary care (80 intervention vs. 40 control).

In study one, qualitative findings that patients found mindfulness a beneficial treatment were complemented by some evidence of improved quality of life and reduced anxiety. Uptake and adherence to the intervention was low (9 of 17 participants attended all/most intervention sessions), which was explored in follow-up interviews. In study two we will explore whether online mindfulness can address barriers to adherence and increase intervention uptake while maintaining patient benefit.

Findings will inform the development of a disease-specific mindfulness intervention for patients with asthma (and psychological interventions for asthma more broadly).

## Charlotte Albury

University of Oxford

### **Using conversation analysis to review and improve brief opportunistic interventions for weight loss'**

#### BACKGROUND

Brief interventions for weight loss in primary care have been shown to be effective. Results from the brief intervention for weight loss (BWeL) trial has shown that patients who were offered a free referral to a commercial weight management service (CWMS) by their GP lost an average of 2.4kg at 12 months. However, GPs report a number of barriers to delivery, and there is sparse evidence regarding how to deliver effective opportunistic interventions.

#### AIMS

Audio recordings from the BWeL trial show that there were vast differences in the way interventions were delivered, and that different delivery strategies had varying efficacy. We aimed to identify patterns of communication which result in patient satisfaction, and attendance at at least one CWMS session. This information will build an evidence base of effective practice which will be used to create a video-mediated training resource for GPs.

#### METHODS

Conversation analysis (CA) was applied to these audio recordings to explore how doctors formulated the offer of a free CWMS referral, and how patients responded. Patient responses were then compared with CWMS attendance, to see if verbal responses to intervention delivery could be associated with future action.

#### CONCLUSIONS

Results from these data demonstrate an association between speech practices and longer-term patient outcomes. This provides vital evidence for GPs on how to deliver effective opportunistic interventions. This study highlights the importance of CA in identifying effective communication which can improve practice.

## Kieran Ayling

### University of Nottingham

#### **The development and evaluation of a brief, positive affect (mood) intervention for older adults for use in and around primary care**

##### INTRODUCTION

In a recent study, we found that positive affect (mood) on the day of vaccination significantly predicted antibody responses to influenza. Continuing this program of research we are developing and testing a novel mood intervention that can be delivered close to the point of vaccination, is suitable for older adults and practical for use in primary care.

##### METHODS

- 1) A systematic review of the existing brief positive mood interventions and their influence on immunity;
- 2) Focus groups with older adults to understand approaches to promoting positive mood are most acceptable to patients;
- 3) Telephone interviews with HCPs to gain perspectives on positive mood interventions that would be appropriate in primary care, and barriers to implementing such interventions.
- 4) A feasibility RCT of the developed intervention in primary care (in progress)

##### RESULTS

A wide variety of intervention forms that reliably induced positive mood change and corresponding improvements in immune function were identified. However, most were unsuitable, in their current form, for primary care. Focus groups highlighted the importance of age-appropriate content and high arousal stimuli. Telephone interviews with healthcare professionals emphasised the importance of brevity and scalability. The current iteration of the developed intervention consists of a 15 minute video package including elements of age-appropriate comedy, music and positive imagery, which was developed based on patient preferences.

##### DISCUSSION

The intervention is currently being feasibility tested in an SPCR funded trial focusing on influenza vaccination response in older adults.

## Fay Bradley

### University of Manchester

#### **Workforce re-design in primary care: the role of the general practice pharmacist**

In response to the national GP workforce shortage, a growing number of GP practices in England are now employing pharmacists to help manage their workload. Whilst the GP pharmacist role is not necessarily new, NHS England has recently invested in a scheme to enable more GP practices to employ pharmacists in patient-facing roles. Introduction of a new team member may involve a period of adjustment as negotiations and decisions are made about the pharmacist's scope of practice. For example, decisions will need to be made about which tasks can be re-allocated to the pharmacist from the GP/nurse practitioner (delegation and substitution) and which additional tasks the pharmacist could perform that were not previously conducted by the existing workforce (complementary). My research, forming the basis of an NIHR post-doctoral fellowship application, will examine different models of task (re)allocation in general practice following the introduction of a pharmacist, assessing impacts on patients and the existing GP workforce. Using a case study approach, involving observations and interviews at four general practices, the study will explore how different models of task (re)allocation are decided and negotiated, drawing on negotiated order theory. The study will also examine the impact of these different models on the existing GP workforce (workload, job satisfaction and stress levels) and explore patient acceptability and preference for different models of task (re)allocation using a discrete choice experiment.

## Danielle Burke

Keele University

### Exercise therapy for osteoarthritis – does one size really fit all?

Osteoarthritis (OA), particularly of the knee and hip, is one of the leading causes of disability worldwide. Therapeutic exercise is recommended as a core treatment for patients with knee and hip OA, however, its average effect sizes for improving pain and function are small to moderate, can decline over time, and only approximately 50% of participants achieve a clinically important treatment response. This may be due to either insufficient targeting of exercise to specific subgroups of patients who are most likely to respond, or sub-optimal content of exercise programmes. This systematic review and meta-analysis aims to identify subgroups of patients with knee and hip OA that respond differently to therapeutic exercise in order to better target interventions within the spectrum.

A previous comprehensive systematic review is being updated to identify all randomised controlled trials that compare the effects of therapeutic exercise for participants with knee and hip OA on pain and function, to a non-exercise control. The investigation of factors that may cause differential response to treatment, or to components of exercise therapy, requires the original individual participant data (IPD), which will be synthesised in an IPD meta-analysis. Therefore, lead authors of trials included within the review are being asked to share their original trial data.

The results will be the first in this field to use IPD to shed light on whether the one-size-fits-all approach can be improved for exercise therapy in osteoarthritis.

## Claire L. Burton

Keele University

### The epidemiology and prognosis of carpal tunnel syndrome in primary care

#### BACKGROUND

Carpal tunnel syndrome (CTS) is a symptomatic compression neuropathy of the median nerve at the level of the wrist. This research has aimed to describe epidemiological patterns of CTS and predict risk of a surgical episode.

#### METHODS

Descriptive analyses and a retrospective cohort study were conducted in the Clinical Practice Research Datalink (CPRD). Individuals with evidence of an existing (prevalent) or new (incident) diagnosis of or treatment for CTS were identified, using coded data. Joinpoint regression was applied to determine any change in the underlying trends.

Individuals with evidence of an incident episode of CTS were used to form a cohort. Cox regression analysis was used to investigate the value of previously identified candidate prognostic factors (PF) in predicting carpal tunnel release surgery.

#### RESULTS

The standardised prevalence of CTS increased from 26.3 per 10,000 person years (95% CI 26.1 to 26.4) in 1993 to 35.5 (95% CI 35.3 to 35.6) in 2013. The percentage of prevalent individuals having surgery increased from 19.4% in 1993 to 27.4% in 2013.

91,420 incident patients formed the cohort. The following variables were included in an optimal model for predicting surgical intervention: age; obesity; alcohol drinker; smoker; neck condition; inflammatory condition and multi-site pain. The C-Statistic was 0.5883.

#### CONCLUSION

The prevalence of CTS increased between 1993 and 2013. The proportion of patients receiving surgery also increased. A future surgical episode was difficult to predict using the studied variables in the consultation database. Further research, using patient reported outcomes, may provide additional insight into the prognosis of CTS.

## Nathan Davies

University College London

### Providing online support for family carers of people with dementia at the end of life

Caring for someone with dementia is one of the most difficult and stressful caring roles. Research has demonstrated increased levels of depression, strain, and emotional distress in carers of people with dementia compared to carers of older adults with physical impairments. However, few carers make use of sources of support outside the home due to the difficulty of leaving their relative. The aim of this Fellowship was to understand what family carers find challenging towards the end of life, their views of receiving support for their caring role online, and develop a prototype online support tool (website).

This Fellowship consisted of three phases: 1) systematic review of internet interventions for carers of people with dementia; 2) semi-structured interviews with current and former family carers of people with dementia, to explore challenges at the end of life and the potential role of the internet to support carers; 3) co-design development and user testing of prototype support website.

Carers discussed several challenges; the meaning of end-of-life, managing medical decline, adapting to a caring role including the taboos of incontinence and sexuality, and a lack of openness. Carers expressed a lack of understanding about what to expect towards the end-of-life including, when end-of-life begins and practical issues such as eating and nutrition. Through an iterative user-testing, co-design approach a prototype website has been developed.

The internet is seen as helpful and acceptable as a source of support for carers, however it requires the active involvement of professionals and supplemented with face-to-face support.

## Kate Ellis

University of Cambridge

### Development and pilot evaluation of a postnatal physical activity intervention: PROTOCOL

#### BACKGROUND

Being physically active during the postnatal period (<12 months following birth) is beneficial for physical and mental health, yet many mothers report lower activity levels than women without children and report being too tired, a lack of time and childcare duties as the top three barriers to physical activity. Evidence-based interventions to increase postnatal physical activity are needed.

#### AIM

To conduct formative research to inform the development and pilot evaluation of a postnatal physical activity intervention.

#### METHODS

A systematic review will aim to determine the efficacy of existing postnatal physical activity interventions and to identify the characteristics associated with effective interventions. A multi-methods study will recruit women from children's centres and mother and baby groups. Semi-structured interviews based on the COM-B model of behaviour will explore what factors influence postnatal physical activity. A questionnaire will determine the relative importance of each identified factor on physical activity behaviour. Intervention development: The findings from the formative research will inform the development of an intervention designed to increase physical activity among inactive postnatal women. Acceptability and feasibility pilot evaluation of a postnatal physical activity intervention will recruit a small number of women to test the acceptability and feasibility of the intervention.

#### CONCLUSION

This research will contribute to the evidence on what influences postnatal women to be active and will indicate whether a theory- and evidence-based intervention is feasible and acceptable to test in a larger trial.

**Joanne Emery**

**University of Cambridge**

**Identifying effective ways to increase the uptake of cessation support among smokers: systematic review and meta-analysis**

**BACKGROUND**

Reducing smoking prevalence is a public health goal but rates have fallen little in the last decade in England, standing at around 16% of adults. NHS Stop Smoking Services provide free face-to-face behavioural support plus access to pharmacotherapy that doubles the odds of quitting but is used by less than 5% of smokers (around 40% attempt to quit each year), with uptake halving since 2012. Maximising smokers' uptake of alternative 'distance' support (e.g. mobile phone-based) is also important, especially by those unlikely to use face-to-face support. Interventions to increase smokers' uptake of cessation support have been trialled but the optimal approaches are unclear given the wide range in quality of research evidence. It is also unknown if the same approaches work for face-to-face and distance support.

**AIMS**

To assess the evidence on ways that smokers' uptake of cessation support could be increased. Methods: A systematic literature review and meta-analysis of interventions aimed at increasing the uptake of any freely-available cessation support program among smokers, including SSS, phone quitlines, prescribed NRT and digital support. The primary outcome variable is the proportion of smokers entering into cessation support in each intervention group out of those targeted. We will also describe and, if feasible, estimate the cost-effectiveness of different approaches.

**RESULTS**

Results will be described narratively, categorised by whether interventions target face-to-face or distance support. Results will also be synthesized by meta-analysis of the primary outcome and, if feasible, cost-effectiveness estimates. Conclusions: Targeting the uptake of effective cessation support is vital to maximising its public health impact.

**Rebecca Farndale**

**University of Cambridge**

**Emergency admissions from care home to hospital at the end of life: an analysis of national data 2006-2015 for England**

**OBJECTIVE**

To investigate trends and characteristics of emergency admissions from care home to hospital where death occurred within seven days.

**DESIGN**

Longitudinal and cross sectional analysis of routine data.

**SETTING**

Linked Hospital Episode Statistics with ONS mortality data.

**PARTICIPANTS**

185,830 permanent care home residents aged 25+ who experienced a last week of life emergency admission to hospital (61.5% female). Comparator group 903,175 care home deaths (67.1% female).

**MAIN OUTCOME MEASURE**

Last week of life emergency admission from care home to hospital.

**RESULTS**

Of those in the last week of life in a care home 16.1% had an emergency hospital admission; of whom 91.3% died in hospital. Last week of life admissions contributed 14.6% of emergency admissions from care home to hospital and 9.2% of hospital mortality following emergency admission. Residents who had an emergency admis-

sion in the last week of life were less likely to be female (OR 0.84, CI 0.83-0.85), from older age groups (OR 0.35, CI 0.34-0.37, for 95+ compared with 25-64) or to have dementia (OR 0.37, CI 0.36-0.37). They were more likely to have an underlying cause of death of stroke (OR 2.74, CI 2.67-2.80), heart disease (OR 3.29, CI 3.21-3.36), chronic respiratory disease (OR 3.91, CI 3.81-4.01) acute respiratory disease (OR 5.74, CI 5.61-5.88) or external injury (OR 9.73, CI 9.32-10.16) compared to cancer.

## CONCLUSION

Last week of life admissions are a small, and decreasing, risk for care home residents. There are differences between emergency admissions from care home to hospital in the last week of life and admissions that occur further from death.

## Elizabeth Fergie

### University of Nottingham

#### BACKGROUND

In addition to the standard dangers of smoking to an individual, smoking in pregnancy also poses further risks to both the mother and baby. Although the prevalence of smoking in pregnancy has generally been decreasing in the UK over recent years, around 10.6% of women in England currently smoke during pregnancy which remains of a major Public Health concern.

#### OVERALL AIM

The overall aim of the PhD is to inform a counselling-based behavioural change intervention that stop smoking advisors can use when supporting women to achieve smoking cessation during pregnancy.

#### METHODS

The methods being used are a systematic review, a modified Delphi survey and qualitative interviews.

#### RESULTS TO DATE

The systematic review indicated 5 behaviour change techniques (BCTs) that could be effective in reducing alcohol consumption and 4 BCTs that could be effective for preventing excessive weight gain during pregnancy. These BCTs were different for both behaviours and possibly not transferrable to a smoking cessation intervention.

The first of three questionnaires of the modified Delphi survey has been completed. 16 out of the 34 pre-identified barriers and facilitators that women can face when trying to achieve smoking cessation in pregnancy had reached consensus on being extremely and very important in influencing smoking habits. 6 out of the 34 barriers had reached consensus on being easy to address by stop smoking advisors.

Ten out of the intended twenty interviews for the first set have been completed. The second set are due to commence in Oct 2017.

## Rachael Frost

### UCL

#### **Non-pharmacological interventions for depression and anxiety in older adults with functional impairments: A systematic review**

#### BACKGROUND

Depression and anxiety are common in later life, particularly when people have multiple health conditions resulting in frailty or disability. There is evidence that this can lead to faster physical and cognitive decline and increased use of primary care services. Prescribed medications may be associated with a higher risk of adverse events, but the community-based psychological therapies currently available are not tailored to frail older adults and their associated mobility and cognitive impairments. We aimed to systematically review effective interventions for older people with depression/anxiety and functional impairments.

## METHODS

We searched Medline, Embase, AMED, Social Science Citation Index, CENTRAL, PsycInfo, CINAHL, Sociological Abstracts, Social Care Online and ASSIA from inception to July 2017. We included randomised controlled trials of non-pharmacological home- and community-based interventions, for symptoms of anxiety or depression in older adults aged 75+ with functional impairments. Two reviewers will assess study quality using the Cochrane risk of bias tool and we will combine studies using meta-analysis or narrative synthesis.

## RESULTS

The review is ongoing and will be completed in October 2017.

## IMPLICATIONS

The results of this review will be synthesised with future qualitative interviews with frail older people with depression or anxiety to inform modifications to psychological therapies for this population.

## Carole Gardener

### University of Cambridge

#### **'I'm Fine': exploring patient and carer assertions of status in advanced COPD and clinical implications**

## INTRODUCTION

Patients can be reluctant to say that they need help and support, telling clinicians they are "fine" despite having unmet needs. Research with patients in mental health settings suggests that when patients do this they are less likely to follow their treatment plans, and that their informal carers may be at a risk of depression. To date these findings have not been explored in patients with advancing physical health conditions or their carers.

## AIM

To explore the presence and role of "I'm Fine" or equivalent assertions for patients with advanced COPD and their carers; and to examine the impact denials of support needs may have on their health and service-use.

## METHODS

Criteria based on Attachment Theory was used to identify 'I'm Fine' cases from the Living with Breathlessness Study (LWB) dataset of 235 patient and 115 carer qualitative interview transcripts. Data will be further analysed to explore discourses within cases using a Framework approach.

## RESULTS

Patients and carers who asserted they were 'fine' and not in need of further clinical support despite unmet needs had a distinct profile. Patients' self-management attitudes and beliefs included minimising the effects and symptoms towards COPD, avoidance of thinking about the future and using stoical language in an attempt to downplay experiences. Carers focused on the needs of the patient whilst downplaying their own problems or distress.

## CONCLUSION

Better understanding of the processes and implications of assertions of status will support future work on interventions to support patients and carers.

## Amy Halls

### University of Southampton

In recent decades there has been an increase in research studies which use a qualitative methodology within primary care, especially studies involving the use of naturalistic data. Discourse is the primary medium of social action within society and words have associated meanings, actions and consequences depending on the access individuals have to different discourses. Discourse analysis and its focus on interaction means it is particularly useful for studying complex phenomena, such as primary care. Many discourse analytic theories originate outside of medicine, thus allowing researchers a different lens for exploring discourse within primary care settings. Many forms of discourse analysis focus on the variability of accounts, and as such it is particularly useful in understanding how participants construct contested issues. My SPCR seed corn funding will enable me to develop a research application focusing on the use of discourse analysis within the primary care setting.

## Doug Hardman

### University of Southampton

#### **What is a placebo? Findings from a meta-ethnographic review of how healthcare professionals and patients understand placebos and their effects in general practice**

Research suggests that a 'placebo' can improve conditions common in general practice including pain, depression, and irritable bowel syndrome. However, uncertainty persists over the definition and clinical relevance of placebo treatments.

With colleagues from the University of Southampton, I conducted a meta-ethnographic, mixed-research systematic review to explore how healthcare professionals and patients understand placebos and their effects in general practice. 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 general practice.

From a total of 34 eligible quantitative, qualitative and mixed-methods articles reporting findings from 29 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. Moreover, 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.

## Sarah Hoare

### University of Cambridge

#### **Dying to be in hospital? Understanding hospital admissions at the end of life**

##### BACKGROUND

Hospital admissions for patients close to the end of life are considered 'inappropriate' in contemporary English health policy. However, almost half of all deaths in England in 2015 occurred in hospital, with a significant minority occurring shortly after admission.

##### AIM

To qualitatively explore why hospital admissions close to the end of life occur.

## METHOD

Sociological analysis of in-depth case-study interviews with healthcare staff and next-of-kin involved in the admission of patients (case-patients) who died shortly after being admitted to a large English hospital.

## RESULTS

Hospital was acknowledged as an emergency place of care for case-patients. Case-patients without obvious need for hospital care were nonetheless admitted because of their recognised need for urgent general care. The need for emergency care reflected difficulties in providing end-of-life care in the community, requiring home adaptations and the organisation of care by healthcare staff. Where patients had care needs that exceeded care quickly and easily available in the community, ambulance help was sought. When called to the case-patients, ambulance staff instituted familiar practices in transferring them to hospital. Hospital was recognised as a default place of care and offered care difficult for ambulance staff to organise in the community.

## DISCUSSION

The admissions of the case-patients represent the best attempts of staff to navigate the tangled practices of end-of-life care. The term 'inappropriate' to describe admissions does not encompass these attempts, and moreover, devalues the significant care provided to case-patients by healthcare staff in the community and hospital.

## Emily Johnston

### Nottingham University

#### Vaping whilst breastfeeding? Motivators and barriers from online parenting forum discussions

##### BACKGROUND

Increased popularity and research concerning Electronic Nicotine Delivery Systems (ENDS) suggests the potential use as harm reduction from smoking. Little is known about ENDS use, especially in the postpartum period. Postpartum relapse is a public health concern; both for mother/child. Although continuing to breastfeed and smoking is preferable to not breastfeeding and smoking, breastfed infants are exposed to harmful tobacco substances via breastmilk. ENDS are shown to have significantly lower levels of harmful substances, around 1000th of those found in cigarettes. ENDS may be a safer alternative to smoking for nursing mothers, but before interventions can be considered, we must understand the acceptability and motivators towards ENDS use as a nursing mother.

##### METHODS

A template approach to thematic analysis will be used to qualitatively analyse online parenting forum discussions. Data will be collected via google searches. The use of forum-data offers naturalistic data which less biased by social construction.

##### IMPLICATIONS

This research will increase our understanding of ENDS use and perception amongst this demographic of women. As we know one of the biggest risk factors for smoking is having a parent who smokes, finding ways to reduce postpartum relapse not only improves health outcomes during infancy, it reduces the likelihood of smoking during adulthood. This may highlight miscommunication to the public regarding ENDS and assess whether they are currently being used by nursing mothers. If indeed women are using ENDS, or are open to considering their use, this can provide the foundation for interventions to be developed.

## Nadia Khelaifat

### University of Bristol

##### INTRODUCTION

Migrant women exposed to domestic violence face barriers (e.g. language) when seeking healthcare. Domestic violence is often surrounded by silence; migrant women do not disclose for fear of the consequence (e.g. deportation, loss of children) and healthcare professionals often do not ask, for several reasons including lack of training.

## AIM

To gain insights into abused migrant women's experiences of healthcare and support needs, including identification of barriers and facilitators.

## METHODS

A systematic review and synthesis of qualitative research and semi-structured interviews (n=19) with migrant women and professionals were conducted. For the qualitative synthesis, relevant qualitative papers were synthesised using the methods of meta-ethnography, including identification of second-order constructs and development of third-order constructs through a process of translation across studies, to produce a line-of-argument synthesis. The interviews were purposively sampled, recorded, transcribed and analysed using thematic analysis and the constant comparative method.

## RESULTS

In the synthesis, three over-arching (third-order) constructs emerged: (1) constrained help-seeking and help-receiving, (2) triggers and conditions for disclosure of abuse, (3) person-centred care (experienced and needed). My interviews revealed barriers in healthcare such as language, fear of the consequences and coercive control.

## DISCUSSION

This is the first synthesis of qualitative research on the experiences and healthcare needs of migrant women exposed to domestic violence. This study breaks new ground as this group of women is under-researched, as is the role of healthcare; it provides evidence that should inform interventions to improve the healthcare response to these populations.

## Gemma Mansell

### Keele University

My research is focused on examining the best study designs to investigate the causal mechanisms of behavioural interventions (mediation analysis). Understanding why and how treatments work will help to improve future interventions by focusing on key aspects to target in order to have the biggest effect on outcome. My PhD explored challenges in carrying out treatment mediation analysis to improve outcomes in psychological interventions for musculoskeletal pain, and added to recommendations for how best to design intervention studies to test for causal mechanisms. Areas for improvement included: identifying factors thought to be key in changing outcome prior to the study commencing; having a clear theoretical rationale for the variables thought to be mediators; and incorporating data collection points to obtain data on mediator(s) and outcome(s) during as well as before and after treatment. Over the past year I have been building on this work by publishing several applied examples of potential causal mechanisms in intervention studies, and have contributed to a systematic review of mediation analysis methods as part of an Australian collaboration. All of these publications have aimed to highlight the current problems in mediation analysis research and how these can be addressed, both through stronger statistical analysis methods and through better study design. My planned future work involves continuing to test the recommendations for how best to design studies for mediation analysis using applied examples from developing interventions.

## Yumna Masood

### University of Manchester

#### 'User testing methods to improve readability and understanding of participant information sheet for ethnic minorities in research'

## BACKGROUND

People from ethnic minorities have been reported to have higher rates of mental health problems and are less likely to take part in mental health research. Previous research indicates that participant information sheets (PIS) are complex and in turn hampers participant recruitment. This highlights the need for the researchers to devise cultural sensitive research procedures. Testing the readability of patient information is a recent method and is done through User Testing method. This involves potential participants reading the information, and then being

asked to find and show understanding of 12-15 items of information. Our study aims to assess the quality of PIS in lay South Asian people using performance based user testing

## METHOD

The performance of the original ROSHNI-2 trial PIS will be tested in South Asian people speaking Urdu. There will be two rounds of testing including 30 participants in total - with the information revised according to its performance after the first round. The study will explore the understanding of 21 key facts under four categories: the nature and purpose of the trial; processes and meaning of consent; study procedures and effectiveness of the intervention.

No results available at this stage

## DISCUSSION

Combining user testing by lay South Asian people when designing study design and information material will result in a greater proportion of participant's ability to understand information about the trial and assure valid consent process. This in turn will improve evidence base about ethnic minority recruitment to trials.

## Julie McLellan

### University of Oxford

#### **The impact of small studies with small sample sizes in large systematic reviews**

Systematic reviews and meta-analyses are well established as the highest level of evidence in health care, but can be costly in time, money and labour. Historically, meta-analyses have advocated 'more is better' to achieve the true effect. However, restricting the number of studies in meta-analyses could reduce review methods. It has been suggested that sample size is an indicator of effect estimate and larger studies have estimates closer to the true effect.

Objective: To investigate whether it is possible to generate a universal threshold number of studies, based on sample size, to use in meta-analyses without comprising their overall conclusions.

Method: Using a derivation dataset from the Cochrane library, meta-analyses were ranked by sample size. Individual meta-analyses were reworked to obtain a threshold number of larger studies where the change in the width of the summary estimate confidence interval had stabilised and was minimal. This threshold number of studies was tested for concordance between the original meta-analysis and the restricted meta-analysis in a validation dataset of meta-analyses.

Results & Conclusion: Initial findings suggest where studies are ranked by sample size, nine studies are sufficient to draw the same meta-analysis conclusion in terms of direction of effect and statistical significance as obtained in the full meta-analysis. Further analysis will describe any implications restricting the number of studies on other characteristics such as heterogeneity. This suggests it is possible to truncate review methods and that the striving to find all possible small studies may be unnecessary.

## Amy O'Donnell

### Newcastle University

#### **Impact of the introduction and withdrawal of financial incentives on the delivery of screening and brief alcohol interventions in English primary health care: an interrupted time series analysis**

## BACKGROUND

Despite substantial evidence for their effectiveness, the implementation of alcohol screening and brief interventions in primary care remains inconsistent. Financial incentives were introduced in England between 2008-15 to encourage their delivery. Under the national Directed Enhanced Service for alcohol, practices were paid £2.38 for each newly registered adult patient they screened to identify risky drinking. Local Enhanced Service schemes were also introduced, varying in their scope and reimbursement rates. There is limited published data on the ex-

tent to which such Enhanced Service schemes were successful. This study aims to assess the impact of financial incentives on rates of screening and brief alcohol intervention delivery in English primary health care.

## METHODS

Using a large primary care database (THIN - The Health Improvement Network), we will use interrupted time series methods to quantify the impact of the introduction and subsequent withdrawal of financial incentives on rates of: (1) eligible patients aged 16+ screened for an alcohol use disorder; (2) screen positive patients who received a behavioural alcohol intervention. Patients will be stratified by registration status: new (under one year) and existing (registered 1+ year). Potential confounding factors (calendar month and other key patient characteristics) will be fitted as covariates.

## DISCUSSION

The study is ongoing. This poster will present descriptive analyses summarising practice performance against our primary outcomes of interest, along with emerging results from the time series study. The findings will improve our understanding of whether financial incentives were effective at increasing rates of alcohol intervention delivery in English primary care.

## Jamie Ross

## UCL

### Increasing patient uptake of diabetes education

#### BACKGROUND AND RATIONALE

Patient self-management of type 2 diabetes is a key NHS priority and can improve health outcomes and reduce the risk of diabetes related complications. However, patient uptake of education is less than six per cent despite 75% of patients being referred to education by primary care services. There is therefore a real need to understand reasons for low uptake by patients and to develop strategies to increase uptake.

#### AIMS

- 1) To understand the reasons for patient non-uptake of diabetes education and strategies to overcome this.
- 2) To explore how diabetes education is offered to patients during NHS consultations.
- 3) To develop an intervention to increase patient uptake of diabetes education.

#### METHODS

- 1) A systematic meta-ethnography to synthesise the findings of previously published work on reasons for non-uptake of diabetes education
- 2) Interviews with patients with type 2 diabetes who have not attended group based education or declined use of online diabetes education
- 3) Analysis of consultations between health professionals and patients where self-management and education are discussed
- 4) Quantitative analysis of patient health records to describe who are offered diabetes education, when and how many times.

#### IMPACT

This research will inform the development of an intervention to increase uptake of diabetes education. The findings from this study will have relevance to practice, policy-makers and commissioners. Increasing uptake of diabetes education would prove cost-saving to CCGs providing diabetes education and would have direct benefit to patients through the improved clinical and psychological outcomes that attendance at education provides.

## Rachel Ryves

### University of Southampton

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

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. Patient beliefs, attitudes, and behaviours towards antidepressant treatment may be important in determining their use and subsequent depression management.

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.

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. 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. 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.

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.

## Fabian Sailer

### UCL

#### INTRODUCTION

Sexually transmitted infections (STI) affect the sexual health and general wellbeing of patients. STIs do not operate in isolation and patients with one STI are likely to have a secondary simultaneous infection. The early detection of STIs and interventions tailored to high risks groups can decrease the disease burden and health care expenses. Disease modelling helps to evaluate these interventions. I found that a majority of published STI models does not examine multiple STIs and their interactions simultaneously.

#### METHODS

To overcome this problem I set up a multi-STI model. I will embed this model in a user friendly computer program. Therefore, everyone interested in understanding the landscape of STIs in a certain cohort can easily conduct analyses. My model uses a discrete event simulation approach to model different STIs and connected sequelae at the same time. This enables the user to evaluate the total arising costs and outcomes for all modelled STIs.

#### RESULT

The model is designed in a flexible way so that it can easily be adapted as changes in medical knowledge emerge.

I currently develop user interfaces in cooperation with end-users. This inclusive development process guarantees to customize the computer program to the needs of potential users.

#### DISCUSSION

The final easy-to-use tool will support decision makers to find interventions tailored to the specific needs of certain cohorts. Hopefully this will help to optimize interventions so that limited health care resources are no longer occupied by preventable cases of STIs.

## Gemma Spiers

Newcastle University

### **Exploring the relationship between access to social care and healthcare utilisation by older adults: a systematic review and secondary analysis of cohort data**

Adult social care in England faces increased pressures due to funding restrictions, whilst the over 65 population continues to grow. A common argument is that that poor access to social care creates increased demand for healthcare. However, the evidence for this relationship is unclear. This is a highly relevant topic with policy and funding implications across both sectors. Clear and robust evidence is essential. The aim of this research is to examine the relationship between access to social care and healthcare utilisation by older adults.

A systematic review was undertaken to examine evidence for this relationship. Access was defined using Guilliford et al.'s (2002) model.<sup>1</sup> Healthcare utilisation included primary and secondary care. Systematic searches of published and grey literature were carried out, and criteria applied to study selection. A narrative synthesis was conducted. Greater availability and supply of social care was associated with reduced use of secondary care. There was mixed evidence about the relationship between older adults' use of social care and use of healthcare. Little evidence about the influence of equitable access to social care on healthcare utilisation was identified. Primary care outcomes were underrepresented.

Implications: the availability and supply of social care may act as a mechanism to moderate healthcare demand. Research is needed to understand the role of personal wealth and area deprivation in equitable access to social care and healthcare utilisation, and the impact on primary care outcomes. A series of studies using secondary analysis of existing datasets will address these gaps.

## Sarah Stevens

University of Oxford

### **Should measures of blood pressure variability be used to predict risk of cardiovascular disease? A derivation and validation study using the Clinical Practice Research Datalink**

#### INTRODUCTION

Increased visit-to-visit blood pressure (BP) variability is predictive of cardiovascular disease (CVD), independently of mean BP. This study determined whether CVD risk score accuracy could be improved by including a measure of visit-to-visit BP variability.

#### STUDY DESIGN

Derivation and validation cohort study in the Clinical Practice Research Datalink.

#### POPULATION

Derivation and validation cohorts included 102,996 and 96,823 patients registered at English practices, aged 40-74 on 1/1/2005, respectively. Patients currently taking statins, previously prescribed antihypertensive medication or with a history of CVD were excluded.

#### OUTCOME

CVD event within 10 years.

#### STATISTICAL ANALYSIS

BP variability was calculated over six readings. CVD risk scores were derived in the derivation cohort with and without a term for variation independent of the mean (VIM) of BP (reference and variability models) and their calibration and discrimination was assessed in the validation cohort.

#### RESULTS

In the derivation and validation cohorts, 4562 and 5105 CVD events occurred over a median follow-up of 7.1 and 7.3 years respectively. VIM of BP could only be calculated across all six readings in 10% of patients and was imputed for the remaining patients. VIM of BP was independently associated with CVD (adjusted HR = 1.02 per mm Hg). Calibration and discrimination statistics in both the reference and variability models were similar (expected/observed calibration statistic = 0.94 and c-statistic = 0.74 for both).

## CONCLUSION

Consideration of BP variability does not improve the accuracy of CVD risk predictions. Lack of repeat BP measurement limits the utility of BP variability in practice.

## Siobhan Stynes

### Keele University

Sciatica due to lumbar disc herniation is generally associated with poorer prognosis and higher health care costs than low back pain alone. Epidural spinal injections (ESI) are a recommended intervention in the treatment of sciatica. Despite conflicting conclusions from systematic reviews, use of epidural injections has increased and UK clinical guidelines recommend their use for severe sciatica. What is not clear from the literature or clinical practice is which patients respond more favourably to epidural injections; they seem to work for some patients but not for others. Identifying patients most likely to benefit from ESIs may enhance the success rate of ESIs while avoiding unnecessary injections, as well as the associated potential complications.

This work aims to determine if certain patient and spinal imaging characteristics identify patients with disc related sciatica who respond more favourably to ESIs.

Individual participant data (IPD) of participants in clinical trials evaluating ESI for sciatica will be obtained. Candidate treatment effect moderators (prognostic factors) will be identified a priori through a systematic review of the literature and consensus workshops with clinicians. Work with patient groups will help to define a “favourable outcome” from ESIs. Statistical analysis planned in advance will determine difference in the odds of treatment success between patients with and without certain characteristics.

To date SPQR funding has allowed time to focus on developing this research question and methodology with the help of experts in the field. Further thoughts and suggestions to enhance this proposed study would be most welcome.

## Brooke Swash

### Cambridge University

#### BACKGROUND

Current NHS End of Life Care policy favours raising the proportion of deaths that occur at home, using place of death as an indicator of ‘good’ end of life care. Currently death at home only occurs in 23.4% of the total. Although it has been argued that most people would like to die at home, research has shown that people’s preferences are influenced by the progression of their illness, how much support is available and their social circumstances.

#### AIMS

The aim of the study was to clarify for whom home death is “good” and for whom it is not, and to ascertain whether the focus on place of death is helpful.

#### METHODS:

Using a mixed-method approach, data was collected from the clinical records (General Practitioner and Community Nurse) of 400 recently deceased patients from 20 GP practices in the East of England, and the perceptions of their GPs, community nurses and bereaved carers were explored to generate an understanding of patterns of care need, and pathways of care provision at the end of life.

Seed corn funding from the NIHR SPQR has facilitated the write up of the CAPE Study. In this presentation, I will give an overview of the aims and design of the study, discuss some of the challenges associated with conducting the research, and report on some of the key findings.

## Paul Teed

### University of Bristol

#### Requesting Medical Records for an Assisted Death: The Doctor-Patient Relationship

A qualitative exploration of clinical encounters which involve a patient requesting a medical report or a copy of medical records with the intention of using them to receive an assisted death abroad. This information is requested by organisations abroad that provide an assisted death (e.g. Dignitas) as verification of the patient's condition.

The numbers of British citizens who are members of these organisations, and the annual rates of assisted deaths received by them, continue to rise. Patients are advised by these organisations not to divulge their plans to doctors through fear of obstruction or refusal. Meanwhile, doctors report uncertainty and a lack of confidence regarding these requests.

Writing a medical report to enable an assisted death may constitute a GMC fitness to practice issue. However, giving copies of medical records (even when the intention for their use is known upfront) is not an act that the GMC defines as a fitness to practice issue.

Focusing on England and Wales where legislation is clearer, this study will explore the experiences and tacit decision-making processes of both doctors and patients who have been involved in these encounters. The clinical relationship within these requests remains under-examined, limited in the main to assertions cast by partisan lobbyists within the debate.

To aid recruitment a novel protocol will be utilised to provide full anonymity for participants (whilst using face to face interviews) to encourage engagement and honesty surrounding practices which may breach professional guidelines.

## Edward Tyrrell

### University of Nottingham

#### The changing incidence of poisonings amongst young people in England, 1998-2014.

##### BACKGROUND

Most medically-attended self-harm episodes in young people are poisonings. However, accurate and up-to-date population level data on poisoning incidence are lacking. Recent linkage of English primary care, hospital and mortality data allows these to be quantified to inform service delivery and reduce self-harm.

##### METHODS

An open cohort study of 1,736,527 young people aged 10-24 between 1998-2014 was conducted using linked Clinical Practice Research Datalink, Hospital Episode Statistics and Office for National Statistics mortality data. INCIDENCE RATES BY POISONING INTENT WERE CALCULATED BY AGE, SEX, DEPRIVATION, SUBSTANCE AND YEAR.

##### RESULTS

Total poisoning incidence rates increased by 25% from 1998/99-2013/14 (adjusted incidence rate ratio (aIRR) 1.25, 95%CI 1.20-1.30). Two-thirds (66%) were intentional. Intentional poisoning rates increased by 52% while unintentional rates remained unchanged. Intentional rates increased almost exclusively among females, gradually between 1998/99 and 2013/14 among 16-18 (88% increase) and 19-24 (36% increase) year olds but among 10-15 year olds only in the last 2 years (79% increase). A two-fold increased poisoning risk for the most compared to least deprived quintile persisted over time (aIRR 2.21, 95%CI 2.02-2.23). The greatest increases for specific substances over time were seen amongst females aged 16-18 in which paracetamol poisonings increased three-fold, NSAID poisonings 2.7 fold, and opiate/psychodysleptic poisonings 13.6 fold.

##### CONCLUSIONS

Commissioning of services needs to address the growing problem of intentional poisonings among young people, especially among females and more deprived groups. GPs should limit supplies of medication, for both psychiatric and non-psychiatric conditions, while being mindful of at risk groups when prescribing.

## Stephen Weng

University of Nottingham

### Development and evaluation a novel inference-based decision making tool to improve risk stratification of familial breast cancer (FAMBrC)

#### BACKGROUND

Familial breast cancer risk stratification to inform appropriate decision-making and referral is challenging, despite clinical guidelines. Inference-based decision-making incorporating expert opinion into guideline pathways could improve this stratification.

#### OBJECTIVE

To develop and evaluate a new inference-based decision tool (FAMBrC) to improve risk stratification of familial breast cancer in primary care.

#### METHODS

Expert opinion from specialist cancer services, based on reviewing family histories of women with unclear risk levels were collated. Case-notes were “mined” for arguments to “support” or “refute” specialist decisions for referral enabling construction of an “argument map” combining expert opinion with current NICE guidelines.

To evaluate FAMBrC, a random sample of 518 family pedigrees were used from women risk-assessed in the NIHR-SPCR Familial Breast Cancer (FBC) Study. A research assistant, blinded to the outcomes of referral, entered pedigrees into FAMBrC. The results from FAMBrC were then compared to decisions made by patients’ clinical care teams.

#### RESULTS

A working prototype of FAMBrC tool has been developed incorporating seven key additional expert “arguments” for interpreting more complex family histories. Preliminary findings indicate a 99% agreement rate between FAMBrC and specialists decisions for referral in the FBC Study. There was a significant reduction in uncertain risk stratification from 15% to 3% ( $p < 0.05$ ).

#### CONCLUSION

A novel tool incorporating expert opinion in combination with clinical guidelines can potentially improve risk stratification for familial breast cancer. The feasibility of this approach warrants evaluation in an exploratory trial.