Tess Marshall-Andon

**A Systematic Review of Post-COVID-19 Rehabilitation Guidelines**

**Aim/Background**

Due to the novel nature of post-COVID-19 syndrome, there is a lack of clarity over best practice for the rehabilitation of patients with ongoing or new symptoms following acute COVID-19 infection. We conducted a systematic review of clinical and service guidelines for post-COVID-19 rehabilitation to investigate this area.

**Methods**

The review was reported according to PRISMA guidelines. We included guidelines formally published or endorsed by a recognised professional body, covering the rehabilitation of people with symptoms following resolution of acute COVID-19 infection. Medline, Embase, PsychINFO, CINAHL, Web of Science, NHS Evidence, MedRxiv, PsyArXiv, and Google were searched for terms related to COVID-19, rehabilitation, and guideline. Two reviewers independently screened articles for inclusion, data extracted, and quality assessed using the AGREE II and AGREE-REX tools for clinical guidelines, and the AGREE-HS tool for service guidelines. We included guidelines of sufficient quality in a narrative synthesis.

**(Preliminary) Results**

We identified 12,790 articles, of which 37 guidelines were included. Guidelines covered a range of countries, rehabilitation types, populations, and rehabilitation settings. Synthesis of clinical guidelines (n=4) was structured to follow the patient pathway, from identification, to assessment, treatment, and discharge, with consideration of specific patient groups. Synthesis of service guidelines (n=8) was structured according to the Donabedian framework.

**Conclusion**

Though the available post-COVID-19 rehabilitation guidelines were generally of poor quality, there was a high degree of consensus regarding the breadth of symptoms, the need for holistic assessment by a broad MDT, and person-centred care. There was less clarity on management options, measuring outcomes, and discharge criteria.
Nazifa Ullah

Using social media as data to explore the discourse on Covid-19 vaccination and ethnicity

Aim/Background

The rising use of social media as an interactive health information ecosystem, has led to the spread of vaccine hesitancy in an unprecedented manner. However, more research is needed looking at the role of social media in the public discourse around the Covid-19 vaccine, particularly amongst ethnic minority groups who have been shown to have the highest rates of vaccine hesitancy. Consequently, the aim of this study is to provide a broad overview of the discourse around the Covid-19 vaccine amongst ethnic minority groups on the popular platforms Twitter and YouTube.

Methods

A Boolean search strategy consisting of keywords and relevant hashtags will be used to collect data over a 3-month period from Twitter and YouTube, using interfaces Netlytics and YouTube Data tools. An analytical coding framework will be created to identify key topics obtained from the data extracted. Further sentiment analysis via a sentiment coding framework will be done, where the sentiment in each post will be annotated based on each post’s stance towards the Covid-19 vaccine.

(Preliminary) Results

Preliminary results suggest the current conversation has shifted from fewer worries about the safety of the vaccine itself but rather concerns over the exclusionary nature of proposals such as vaccine mandates and passports. Key conversations around barriers to access and mistrust towards institutions amongst minority groups still remain.

Conclusion

Concerns remain about the Covid-19 vaccination programme in the UK. Understanding the current conversation is critical in framing future vaccination campaigns that will address concerns from ethnic minority groups and improve Covid-19 vaccine uptake.
Alaa Alghamdi

The Impact of COVID-19 on Patient Engagement with Primary Healthcare: Lessons from Saudi Primary Care Setting

Aim/Background

Despite the significant achievement in controlling COVID-19 in Saudi Arabia (SA), the WHO showed that health services had been partially or completely disrupted in many countries, including SA. The COVID-19 pandemic has dramatically changed primary healthcare services (PHC) delivery. This might be creating adverse perceptions among patients likely to impact their overall medical care. Thus, this study explores the patients' views and experiences of PHC services during the pandemic.

Methods

A total of 25 patients were interviewed. Thematic analysis of the data has produced four themes: The role of online health services, Fear of visiting PHC, Concerns around preventive screening for non-COVID conditions, and Perception of better care.

(Preliminary) Results

A profound impact of COVID-19 on patients was observed among patients, which contributed to the fear of exposure to COVID-19 or breaking the lockdown rules. The government efforts were noticed mainly in the massive immersion of online health services. However, there was a lack of awareness of the availability and use of online health services. Preventive screening for non-COVID conditions was a concern, especially for patients with long-term health conditions. Reducing the waiting time in the PHC centres and the healthcare providers' communication and empathy provided the patients with a perception of better care.

Conclusion

Prioritising COVID cases for pandemic control have other health consequences and demand responses to all health needs. While there are advantages to adopting online health services, lessons from this experience are important to inform e-health initiatives. Patients' positive experiences should be considered for appropriate engagement with PHC services.
Becky MacGregor

Exploring the experiences of women of Black or Asian ethnicity who delivered a baby during the Covid-19 pandemic: a qualitative study

Aim/Background

To explore the experiences of women of Black or Asian ethnicity who gave birth to a baby during the COVID-19 pandemic.

Methods

A qualitative, descriptive study was designed to explore the experiences of new parents, from Black, Asian and Minority Ethnic backgrounds, in Coventry, during the Covid-19 Pandemic. Participation was open to new parents living in Coventry and whose baby had been born between February 2020 and May 2021. Semi-structured interviews were conducted with twelve women from Black and Asian backgrounds living in Coventry. Thematic analysis was used and video artists were employed to translate the research findings into a short film.

(Preliminary) Results

There were six themes that emerged during the analysis. These were: ‘impact of the pandemic on wellbeing and experiences’, ‘concerns and fears’, ‘support’, ‘information and resources’, ‘coping strategies’ and ‘positive experiences during the pandemic’. A deterioration in mental health, feelings of isolations, the ability to have a partner present during their health care visits and access to postnatal care were particular areas of concern for the women we spoke to. The need for reliable information and better access to support networks were also noted.

Conclusion

The participants experienced challenges as a result of the pandemic, especially in regard to a loss of support from healthcare services and their wider social networks. These experiences need to be further explored in the wider population, so that they can be used to inform future research and policies that appropriately address their concerns and meets their needs.
Daniel Butler

“What’s your experience?” An interpretative phenomenological analysis of how GP’s experience work in the most socio-economically deprived Practices across Northern Ireland

Aim/Background

Northern Ireland has the highest proportion of its population living in deprivation compared to the rest of the UK. Previous work shows GPs working in areas of deprivation experience increased demand, are more stressed, with more patients registered per GP. There is little work around the impact on GPs in Northern Ireland (NI) despite it being the most deprived of the four UK nations. This study explores the lived experiences of GPs at the ‘Deep End’ of General Practice in NI, investigating the key issues faced and opinions around possible solutions.

Methods

A qualitative study, using a virtual, semi-structured interview design, inviting GPs who work in the most deprived General Practices within NI to participate voluntarily. Interpretative phenomenological analysis (IPA) is being used to identify common themes from the data.

(Preliminary) Results

Preliminary results show emerging themes of increasing personal workload due to the high mental health burden, increased disease pathology and delayed clinical presentation. Experiences of the COVID-19 pandemic are of the negative impact on personal resilience, high levels of reliance on external support, increased demand for controlled drug prescriptions and challenges surrounding patient expectation of medications. As well as difficulties and safety concerns with telephone consulting in deprived areas. Solutions emerged such as, increased multiple disciplinary support and the need for more ‘drop in’ services, with current service provision deemed to be difficult for many to access.

Conclusion

Data collection is ongoing and further interviews are required before developing conclusions. Early analysis shows emerging themes and suggestions for approaches to improve health delivery in the highest need areas. This is timely as society is looking to 'level up' and 'build back fairer' following the COVID-19 pandemic.
Kathryn Dixon

**End of life care in Gypsy and Traveller communities: A qualitative analysis of interviews with Travellers and healthcare professionals from Suffolk, UK**

**Aim/Background**

Gypsy, Traveller and Roma communities are Europe’s largest minority ethnic group and experience significant health inequalities in multiple areas of health and social care. A recently published systematic review of palliative and end of life care within these communities found only four studies reporting on clinical practice in the UK. Further research into the exact and varied health needs of each travelling community would therefore add weight or comparison to the review conclusions.

**Methods**

The charity OneVoice4Travellers recorded a focus group discussion with local Gypsies and Travellers, interviews with hospice and hospital staff and a round table event discussion between both parties in 2018. These recordings are freely available online but not formally analysed or published.

Ethical approval to analyse these recordings was granted by Cambridge Psychology Research Ethics Committee in December 2021. Thematic analysis will be used due to its flexibility, enabling application to three different data collection methods (interviews, focus group and round table discussion) within one analysis. Thematic analysis is a useful method when attempting to understand experiences and perspectives across participants in order to identify both similarities and differences, whilst also allowing the generation of unanticipated insights.

**(Preliminary) Results**

We aim to present preliminary results in March 2022.

**Conclusion**

Analysis of the audio recordings will expand the existing knowledge base of only four UK based studies focusing on palliative and end of life care in travelling communities. We aim to increase awareness and understanding of palliative and end of life care needs within travelling communities to improve clinical practice.
Yvette Pyne

**Natural Language Processing of Primary Care Consultations**

**Aim/Background**

Artificial Intelligence (AI) is an exciting and innovative technology beginning to solve problems in all fields of human existence including medicine. Natural Language Processing (NLP) is the intersection between AI and linguistics where computers begin to understand human language. NLP could be deployed in Primary Care as a 'Digital Scribe'; it would listen in to a consultation, create consultation notes, and offer useful evidence-based suggestions; this frees the human doctor to concentrate on their patient fully and empathically.

**Methods**

Using a £10,000 grant, this joint medicine and computer science project, used the "'One in a Million' dataset" (a collection of 300 real GP consultations) to train an NLP tool. It aims to identify the relevant International Classification of Primary Care codes associated with a consultation using only the audio-transcript of the consultation and suggest appropriate NICE CKS Health Topics.

**(Preliminary) Results**

Despite working with a very small dataset, and with still only preliminary results, we have found that the tool performs significantly better than chance in determining what type of problem the consultation is about. A simple "Naïve Bayes Classification Tool" produced results 6 times better than chance, and the "BERT" tools pre-trained on the PubMed database produced results 7 times better than chance (0.7 to 0.9 ROC-AUC).

**Conclusion**

A digital tool that can understand a GP consultation would not only ease the administrative burden on the GP but could improve the standard of care through recommendations of pertinent guidelines. This work is currently an academic proof-of-concept but has the potential for widespread translational opportunities.
Aim/Background

1.7% of the UK population reported long-COVID in September 2021. Meanwhile, 3.0-11.7% of the 40,000 daily COVID-19 cases will convert to long-COVID. General practice is the first contact for these patients, meaning the commissioning and funding of general practice long-covid services is imperative; ideally acting to mitigate the disproportionate impact some of our society have had from the pandemic.

Methods

A descriptive analysis of NHS England's long-COVID enhanced service combined with ONS COVID data was performed, focussing on geography and deprivation.

(Preliminary) Results

NHS England’s enhanced service is the only additional funding in general practice for long-COVID; designed to support education, pathways and coding activity. Funding uses an unweighted capitation payment of £0.495 per patient upon completion of the service specification.

Estimated long-COVID rate varies throughout the country, but the funding mechanism does not reflect this, causing an inequitable distribution. For example a practice of 9000 patients would receive £4455, but in Dorset they would have 75 patient compared to the 264 in Blackburn and Darwen. Similarly, rates increase with deprivation with the most deprived areas getting £23.81 per case, compared to £36.82 in the least deprived. Further, regions have different rates with the North-East getting £18.50 per case compared to £34.31 in the South-East.

Conclusion

There may be more equitable ways of funding long-COVID in general practice. For example fee-for-service potentially using the number of cases identified, weighting of the capitation payment or linking the payment to the local authority COVID-19 case rate; although there are limitations to these funding mechanisms.
Aim/Background

Mass immunisation is effective in reducing mortality and morbidity from transmissible diseases, and has been a cornerstone of the public health response to the ongoing COVID-19 pandemic. Most immunisation occurs in primary care, which faces other resource pressures. As demand for immunisation increases, efficiency in vaccination delivery is critical.

This project aimed to demonstrate the utility of "lean" process improvement techniques commonly employed in manufacturing, including value-stream mapping and "single-minute exchange of die" methodologies, in optimising vaccination processes at a large GP practice.

Methods

The existing process was observed and broken down into appropriate work elements. These were categorised as value-adding or wasteful, and value-adding elements were subcategorised according to whether they needed to be done contemporaneously. Time studies were conducted on vaccinators by an external observer. Results were discussed with the team and changes implemented. The process was repeated to evaluate their effect. Qualitative input was sought from patients and staff.

(Preliminary) Results

For the existing vaccination process, 60% of clinician time was categorised as wasteful. Improvements reduced waste by 78% (2m20s to 33s), reducing average cycle time by 47% (4m10s to 2m13s). The process was repeated and tasks were identified which could be completed asynchronously, reducing clinic time by a further 29%. Different approaches were selected for different age groups, with clinicians moving between patients for older cohorts and patients moving to clinicians for younger cohorts.

Conclusion

Process improvement techniques based on lean manufacturing methodology can be applied in primary care and can substantially improve efficiency of repetitive tasks such as vaccination.
Kerrie McConnell

**Chronic Pain and Fibromyalgia: A Review of the Literature**

**Aim/Background**

We completed a literature review on chronic pain, with a focus on fibromyalgia. We examined the epidemiology, aetiology, diagnosis, management, and the impact of fibromyalgia on an individual and societal level. This will form the foundation for further research by our team on fibromyalgia from the doctor and patient perspective, with the ultimate aim of developing a health service intervention that will facilitate better diagnosis and management of fibromyalgia in primary care.

**Methods**

The MEDLINE online database was used to search for the current literature on chronic pain and fibromyalgia. Other sources such as government reports and NICE guidance were also reviewed.

Our future research will comprise of a scoping review of the diagnosis and management of fibromyalgia in primary care. We will also undertake qualitative research with service users (including patients, health professionals and charities/support groups) to assess their views on the scoping review findings.

**(Preliminary) Results**

Our literature review has shown that fibromyalgia remains poorly understood by both patients and physicians. Clinicians are not confident in diagnosing and managing this condition. Furthermore, patients can often struggle with the concept that there may not be a reversible cause or specific treatment for their pain resulting in difficult therapeutic relationships. More work is needed to enhance the diagnosis and treatment of this condition for both doctors and patients.

**Conclusion**

Our literature review has identified key areas for future research, focusing on fibromyalgia from both the clinician and patient perspective, with the aim of developing better diagnosis and management of fibromyalgia in primary care.
“I wasn’t keen to go through that again”: How past experiences affect contraceptive choices in women over 40

Aim/Background

Women in their later reproductive years have different priorities and concerns when choosing contraception. Women over 40 also have one of the highest rates of abortion compared to live births, suggesting an unmet need for contraception. The study aims to explore the experiences and attitudes of women over 40 in choosing and using contraception, to inform how contraceptive counselling for this age group could be improved.

Methods

Fourteen women aged 40-52 from across England were recruited through social media for an online semi-structured interview. Interviews were recorded and transcribed using video conferencing software. Data was analysed using thematic analysis.

(Preliminary) Results

Fear of pregnancy remained a key motivator in continued contraception use and participants perceived an unintended pregnancy as a major negative life event.

Most participants reported use of the Combined Pill in their earlier contraceptive years. Increasing age, health conditions and side effects had influenced method changes with the majority of participants reporting current use of progestogen only methods.

A range of experiences with emotional impacts from difficult smears, failed inductions and sexual assault, also had a significant effect on the participants chosen methods. In these instances participants were more likely to report hesitancy in choosing and using certain methods.

Conclusion

Women over 40 are still highly motivated to avoid pregnancy. This age group may have more complex medical histories and are likely to have accumulated adverse experiences which can impact on their contraceptive choices. These factors need to be explored by the clinician in order to aid shared decision making.
Eleanor Southgate

**Interpreting safety netting: does it translate? Interpreters’ Perspectives on Safety Netting Advice in GP Consultations**

**Aim/Background**

“Safety-netting”, the practice of giving advice or making proactive follow up plans in cases of diagnostic uncertainty is a widely recognised consultation strategy in primary care.

Previous studies have described how safety-netting is ineffective when it is not well understood and that patients often do not have insight into their GP’s safety netting strategy. In Tower Hamlets, where this study takes place, at least 35% of adults use a main language that is not English. Use of professional interpreting services for GP consultations is commonplace. It is not known what interpreters understand by GPs’ safety netting strategies, yet their grasp is likely to be important to facilitating the patient’s understanding of this vital safety information.

This study aims to add to the existing research base on safety-netting with particular focus on the role of interpreters as key actors in consultations where safety netting advice is given.

**Methods**

A purposive sampling strategy will be used in order to invite 10 individuals working as professional interpreters in primary care to participate in focus group discussions. Data from focus groups will be used to inform interview guides for 5 subsequent semi-structured interviews. Focus groups and interviews will be audio-recorded and transcribed verbatim for inductive thematic analysis.

**(Preliminary) Results**

This work is in progress. By recording interpreters perceptions and experiences of GP safety netting practices this work will explore how interpreters view their contribution to safety netting in primary care.

**Conclusion**

This qualitative work will provide insights into the complexities of safety-netting in language discordant consultation.
Christiane Riedinger

**How can Cancer Risk Communication in Primary Care result in Protection Motivation and Health Behaviour Change?**

**Aim/Background**

Communication of disease risk in clinical consultations is known to be ineffective in triggering improvements in health behaviours. A better understanding of the cognitive processing after risk communication would allow optimisation of persuasive messages incorporating risk communication in Primary Care, such as the NHS Health Check, in order to improve population impact. Using the example of cancer risk communication, this project aimed to analyse the predictions of two major psychological behaviour change theories, the Protection Motivation Theory (PMT) and Extended Parallel Process Model (EPPM), to elucidate proposed mechanisms of message failure and acceptance, and to enable suggestions to optimise the use of cancer risk communications in future Primary Care interventions.

**Methods**

As part of a secondary analysis of an online survey-based randomised controlled trial investigating the effects of cancer risk communication on lifestyle behaviours and psychological measures, Structural Equation Modelling (SEM) was performed to study the effects of cancer risk communication on multiple psychological constructs and the behavioural measures of physical activity and fruit and vegetable consumption.

**(Preliminary) Results**

There was evidence for partial message acceptance in that three of four constructs of cognitive appraisal associated positively with protection motivation, but there was no onwards association with behaviour change. The fourth construct of threat appraisal associated negatively with protection motivation, and message rejection seemed to prevail through multiple additional positive associations.

**Conclusion**

Future interventions incorporating cancer risk communication should therefore attempt to strengthen perceived threat to optimise the hypothesised positive effects on protection motivation, and additionally promote the link between intentions and behaviour change.
Rachel Boscott & Dawnya Behiyat

Are artificial intelligence/machine learning (AI-ML) algorithms ready for implementation in community and primary care settings to facilitate the early detection of skin cancer? A systematic review

Aim/Background

Skin cancers are amongst the commonest cancers worldwide and their incidence is rising. In the UK, patients with skin cancer often present in primary care where early detection is important, as prognosis is linked to cancer type/stage at diagnosis. AI-ML approaches may assist clinicians in the diagnosis of skin cancers but are not routinely used in the UK. We reviewed AI-ML algorithms with potential to facilitate early diagnosis of skin cancer, in particular their application in primary care.

Methods

We searched MEDLINE, Embase, SCOPUS and Web of Science (01/01/2000-09/08/2021, PROSPERO registration: CRD42020176674), including studies of all designs and languages that reported on the use of AI-ML algorithms in early diagnosis of skin cancer. The primary outcome was diagnostic accuracy for skin cancer; secondary outcomes included AI-ML methods, cost-effectiveness and acceptability.

(Preliminary) Results

We identified 14,224 studies and reported data from 272 studies. Mean diagnostic accuracy was 89.5% for melanoma (range 59.7-100%) and 86.7% for keratinocyte carcinomas (70.0-99.7%). Six studies adopted a triage approach, replicating the clinical task in primary care, and only 2 studies used data from low prevalence populations. Incomplete reporting was common and heterogeneity of AI-ML modalities and study designs precluded meta-analysis.

Conclusion

AI-ML approaches demonstrate potential to support skin cancer detection. However, few studies used low prevalence data to train and test their algorithms, therefore widespread adoption into primary care practice cannot currently be recommended. We propose a methodological checklist for use in the development of new AI-ML algorithms, aiming to facilitate their future implementation in primary care.
Qizhi Huang

Assessment of the risk of osteoporosis in men who have prostate cancer and are taking androgen deprivation therapy (ADT): a pilot cross sectional descriptive study using a primary care audit database

Aim/Background

Osteoporosis in men is under-recognised and under-treated. Adjuvant ADT is commonly prescribed in prostate cancer (PCa) and increases the risk of osteoporosis. As men live longer with PCa, more will receive prolonged ADT, but there is a lack of relevant research in primary care. We aimed to evaluate how the risk of osteoporosis was assessed for men with PCa receiving ADT.

Methods

We undertook a cross-sectional study (urban practice, list size 6974) using routine audit data that were extracted by hand-searching records of PCa patients identified using SNOMED codes. FRAXTM and NOGG guidelines were used for fracture risk assessment. The primary outcome was the osteoporosis risk assessment gap: the proportion who required ADT with high risk but didn’t receive a fracture risk assessment or DXA scan.

(Preliminary) Results

Of 53 patients identified with PCa (aged 53-90), half (27 men) have had ADT – 32% (17/53) with current treatment (10 metastasis, 7 localised advanced); 19% (10/53) had previous ADT. The average ADT duration was 35 months.

No documentation of FRAX assessment in any man on ADT. One patient underwent a DXA scan as part of a research project; 4 had DXA scan due to other causes.

The median 10-year probability of fracture was 5.55 (hip) and 10.48 (osteoporotic) in patients receiving current ADT compared with 3.02 (hip) and 7.04 (osteoporotic) without respectively (p<0.05, both). 53% (9/17) men with current ADT were recommended a DXA scan (NOGG amber risk).

Conclusion

There is an unmet need to assess osteoporosis risk and intervene in men with PCa taking ADT.
Shoumik Choudhury

‘Living With’ prostate cancer: A digital health intervention to support patients and healthcare professionals

Aim/Background

In the UK, prostate cancer is the most common cancer. Whilst novel care models have improved clinical outcomes, the new approaches have left healthcare professionals (HCPs) with less time to support patients’ complex needs. We aimed to develop a digital health intervention (DHI) to support prostate cancer patients’ needs, thereby supplementing their care pathway.

Methods

A theory based, multi-disciplinary, iterative co-design approach was used for DHI development. Key user needs were elicited from our systematic review, patient focus group data (n = 24) and HCP interviews (n=7). Patient needs were grouped, using qualitative analysis, into overarching themes and translated into digital solutions by a team of prostate cancer patients, patient and public involvement (PPI), HCPs (Urologists, CNSs, GPs, psychologist), researchers, and computer scientists.

(Preliminary) Results

We developed a patient facing mobile app which connects to a clinician dashboard for direct messaging (appointments; relevant articles/videos) and collation of patient reported outcome measures (PROMS) inputted into the app. The app contains an up-to-date multi-reviewed content library covering a wide range of topics surrounding prostate cancer; a guided programme to support sexual wellbeing and pelvic floor exercises; a symptom tracker; shared experience from patients for patients; an appointment diary function; and a programme to manage and graph PSA (prostate-specific antigen) blood test appointments and results.

Conclusion

The multidisciplinary co-design process of a DHI with the potential to decrease HCPs’ workload whilst leading to improved patient experiences and outcomes was described. A pilot study is planned to explore feasibility, acceptability and impact of the DHI.
Elizabeth Lovegrove

**Low-dose amitriptyline for the prevention of post-herpetic neuralgia (ATHENA): a Study Within A Trial (SWAT)**

**Aim/Background**

Herpes zoster (‘shingles’) is commonly diagnosed in general practice. Antiviral treatment, is most effective when started within 72 hours of rash onset. However, antivirals do not reduce the incidence of post-herpetic neuralgia (PHN). ATHENA is a multi-centre, individually randomised, pragmatic placebo-controlled superiority trial to determine if prophylactic low-dose amitriptyline is clinically and cost effective for the prevention of PHN. This Study Within A Trial (SWAT) is a cluster randomised controlled trial which aims to ascertain if a practice-level educational intervention increases the proportion of patients with shingles who are assessed within 72-144 hours of rash onset, therefore additionally improves recruitment into ATHENA.

**Methods**

Up to 120 GP surgeries, across West of England, Thames Valley and South Midlands and Wessex CRN areas will be recruited and randomised to intervention or control. Intervention practices will receive educational materials, including a poster, desktop background (both to be displayed for four months) and a one-minute animation. Control surgeries will receive only ATHENA trial posters, designed for patients/display in waiting rooms and practice websites. Baseline data, including shingles incidence, will be collected. The primary outcome measure is the proportion of shingles patients seen within 72-144 hours of rash onset, who are therefore eligible for recruitment into ATHENA.

**(Preliminary) Results**

Trial set-up and ethical approval is complete, and practice recruitment underway. Intervention format and content, the challenges of this SWAT and initial figures regarding implementation will be presented.

**Conclusion**

This will provide evidence on whether a practice-level educational intervention improves the timely assessment of shingles patients, and trial recruitment.
Ben Bowers

Understanding community anticipatory medication care: A longitudinal interview study with patients, informal caregivers and their clinicians

Aim/Background

The prescription of injectable anticipatory medications (AMs) is a common end-of-life care intervention. Practice is largely based on clinicians’ beliefs that the availability of AMs in the patient’s home offers reassurance and effective control of symptoms. Patients and informal caregivers’ views and experiences of AMs have been insufficiently studied.

Aim: To explore patients’, informal caregivers’ and clinicians’ views and experiences of decisions to prescribe and use AMs.

Methods

A multi-perspective, longitudinal, qualitative interview study based on 11 patient cases, with three-month follow-up. Cases included 21 participants: six patients, nine informal caregivers and six clinicians. Semi-structured interviews (n = 28) were audio recorded and analysed inductively using constant comparison and thematic analysis.

(Preliminary) Results

Three themes were identified: 1) 'Living in the present whilst making plans': AMs were used as a practical tool in planning for uncertainty, whilst patients and informal caregivers tried to concentrate on living in the present; 2) 'Future images of dying': Discussion of the process of dying and the role of AMs in controlling symptoms was often vague, inadequate or even absent; 3) 'Accessing appropriate care': Getting AMs administered posed a significant challenge for families. Although administered AMs generally helped symptom control, some informal caregivers reported difficulties in persuading nurses to administer them to patients.

Conclusion

AMs are not as reassuring as the existing evidence suggests. Prescriptions need careful discussion and tailoring to the preferences and experience of patients and families. Nurses’ decisions to administer medication should consider informal caregiver insights into patient distress, especially when patients can no longer communicate.
Aim/Background

Primary Care Networks (PCNs) are groups of local practices covering 30,000-50,000 patients. Established in March 2020, their priorities include medicines’ optimisation. PCN pharmacists work across practices, focusing on polypharmacy and medication reviews.

This study investigates whether PCNs reduce variation in prescribing.

We have chosen 5 drug classes with national focus to reduce prescribing rates: Opioids, Gabapentinoids, Benzodiazepines/Anxiolytics, non-steroidal anti-inflammatory drugs (NSAIDs) and Antibiotics. For comparison we consider lipid-modifying drugs.

We hypothesise similar prescribing rates in neighbouring practices, with PCN formation further reducing variation.

Methods

Prescribing data for three Integrated Care Systems (ICSs) will be downloaded from OpenPrescribing.com in monthly epochs (January 2016 to March 2021), aggregated at practice and PCN level, and subsequently assessed for changes in variation over time. An adjusted model will use GP profile data from Fingertips.PHE.org.uk to examine the impact of practice level factors.

(Preliminary) Results

Prescribing rates will be calculated for each drug class. Time-period summaries will be presented overall and by GP practice, PCN and ICS. Changes over time will be examined using scatter plots.

Results will be available for presentation in March 2022.

Conclusion

Whether PCNs affect prescribing variation will influence how policymakers target medicines’ optimisation in primary care, such as implementation of antimicrobial stewardship programmes and prescribing feedback campaigns. Implications for cluster randomisation in trials include staff working across PCN practices potentially creating contamination between arms.

Future work includes a time series analysis comparing variation in prescribing rates with PCN formation and during the Covid-19 pandemic.

Limitations of our study include potentially incomplete data sources.
Asli Kalin

Direct and indirect evidence of efficacy and safety of rapid exercise tests for exertional desaturation in Covid-19: a rapid systematic review

Aim/Background
Even when resting pulse oximetry is normal in the patient with acute Covid-19, hypoxia can manifest on exertion. We summarise the literature on the performance of different rapid tests for exertional desaturation and draw on this evidence base to provide guidance in the context of acute Covid-19.

1. What exercise tests have been used to assess exertional hypoxia at home or in an ambulatory setting in the context of Covid-19 and to what extent have they been validated?
2. What exercise tests have been used to assess exertional hypoxia in other lung conditions, to what extent have they been validated and what is the applicability of these studies to acute Covid-19?

Methods
AMED, CINAHL, EMBASE MEDLINE, Cochrane and PubMed were searched to September 2020. Studies where participants had Covid-19 or another lung disease and underwent any form of exercise test which was compared to a reference standard were eligible.

(Preliminary) Results
Of 47 relevant papers, 15 were empirical studies, of which 11 described an attempt to validate one or more exercise desaturation tests in lung diseases other than Covid-19. None had been designed as a formal validation study. Only one validation study (comparing a 1-min sit-to-stand test with reference to the 6-min walk test) contained sufficient raw data for us to calculate the sensitivity (88%), specificity (81%) and positive and negative predictive value (79% and 89% respectively).

Conclusion
More research is needed on the prognostic value and clinical utility of exertional desaturation tests in all settings in the context of Covid-19.
Hannah O’Hara

Gestational diabetes in Northern Ireland during the COVID-19 pandemic: a data linkage study of multidisciplinary healthcare records

Aim/Background
Gestational diabetes (GDM) is associated with pregnancy complications as well as Type 2 Diabetes Mellitus and cardiovascular disease in later life. The onset of the COVID-19 pandemic prompted significant alterations in antenatal screening practices for GDM. Reports of the effect of these alterations on rates of GDM diagnosis and pregnancy complications have been varied, with studies often applying criteria retrospectively to pre-pandemic populations. This study aims to explore the effect of changing GDM diagnostic techniques secondary to the COVID-19 pandemic on rates of GDM diagnosis within Northern Ireland, rates of perinatal complications of GDM, and quality of recommended follow up for women with GDM.

Methods
This is a retrospective cohort study of women using maternity services in Northern Ireland in the 5 years preceding, and throughout, the COVID-19 pandemic. It is a data linkage study using pseudonymised routinely collected healthcare data. The Northern Ireland Maternity System (NIMATS) is a region-wide clinical database that collects detailed obstetric information throughout pregnancy and labour, capturing approximately £25,000 births annually. Information contained within NIMATS will be linked with laboratory and General Practice records to describe rates of GDM diagnosis and associated pregnancy complications, as well as rates of post-natal follow-up, before versus during the pandemic.

(Preliminary) Results
Implications of the results of the study will be discussed.

Conclusion
This study will add to the body of literature describing the effect of pandemic-induced changes in GDM diagnostic criteria on diagnostic and complication rates.
A pilot questionnaire to assess self-reported adverse reactions to food(s) in two inner city GP practices in Greater Manchester

Aim/Background
A pilot study to assess the prevalence of self-reported adverse reactions to foods from two inner-city General Practices (GP) in Greater Manchester.

Methods
A postal questionnaire was sent to all adults aged 16 and over from two inner city GP practices. Frequency of self-reported adverse reactions to food were calculated. A chi squared test was used to assess association between a self-reported adverse reaction to food and underlying atopic condition.

(Preliminary) Results
Of all those invited 33% (n=3710) responded, 51% of the respondents were >55 years old and 53% female. Of respondents, 15.4% (n=573) reported an adverse reaction to food and 2% (n= 75) had a doctor diagnosis of food allergy. The most reported foods were milk, nuts, wheat, egg, shrimp and fruits. Symptoms which may be associated with IgE mediated food allergy were reported in 54% (n=314). Of those who reported a problem with food 53.6% (n=307) had hay fever or eczema compared to 30.8% (n=924) of those without, p=0.001. Of those who gave consent to look at records (n= 2943), 18.7% (n=90) of those reporting a problem with food were on the asthma registry in comparison to 10.4% (n=255) of those without, p=<0.001.

Conclusion
A high percentage of patients, particularly those with underlying atopic conditions, reported a problem with specific food(s). Following this pilot study, the PAFA study (Prevalence of Adult Food Allergy in the UK), funded by the Food Standards Agency (FSA), is being undertaken to assess the prevalence of IgE mediated food allergy in the UK.
Diving into the Deep End: a scoping review on how to start?

Aim/Background
General Practitioners working in deprived areas face unique challenges to ensure patients access and receive care based on need. All-cause mortality rates are higher in more deprived areas, as are COVID-19 mortality rates. This situation has persisted in the 50 years since Dr Tudor-Hart’s publication of the ‘Inverse Care Law’ paper. The General Practice ‘Deep End’ projects have spent the last decade addressing inequalities and inequities in the most deprived populations and areas.

Methods
Using a scoping review methodology, as laid out by Arksey and O’Malley, to map the key processes required in establishing a 'Deep End' group. Searching MEDLINE, EMBASE, Web of Science and CINAHL databases, as well non-peer reviewed publications, to extract articles published since 2009 and in the English language.

(Preliminary) Results
Sixteen studies were included. To start a ‘Deep End’ group, the key steps are, quantifying General Practices in areas of deprivation and establishing GP led objectives at an initial meeting. Followed by regular steering groups with close collaboration between academic and frontline General Practice, as well as the wider multi-disciplinary team and adopting a ‘Deep End’ Logo.

Conclusion
The current ‘Deep End’ groups have made advances to reduce the health inequality and the health inequity gap through General Practice initiatives. The findings and key themes identified in this scoping review help other interested parties start the journey to do the same in their geographical area.
Students’ and GP tutors’ experiences of remote ‘student-led’ consultations in undergraduate primary care medical education

Introduction
Face-to-face consultations were the norm in primary care. The COVID-19 pandemic caused a shift towards remote consulting. Consequently, medical students undertake more remote consultations than face-to-face. Previous research explored the impact of GP-led remote consultations, but not student-led remote consultations in medical education.

Aims
To describe the experiences of GPs and medical students, in using student-led remote consultations in education. To identify the opportunities and barriers of remote consulting in education.

Methods
This qualitative, explorative study was conducted collaboratively between the University of Glasgow, Newcastle University, Queen Mary University of London and University College London medical schools. Recruitment was via purposive sampling. Semi-structured interviews were undertaken, using a collectively-developed interview schedule. An iterative approach was taken to grouping the codes and defining the key themes.

(Preliminary) Results
Emergent themes include: concerns about the inability to examine during remote consultations, missing non-verbal cues, and difficulties in building rapport with patients. Perceived benefits of remote consulting include: the ability to look things up during consultations, the ability to conduct more consultations remotely, and more time to debrief. There was a recognition that learning how to consult remotely is important.

Conclusion
A prevailing feeling was that students should learn to conduct both remote and face-to-face consultations. Factors facilitating learning during remote consultations included: availability of a suitable environment, GPs tutors familiar with running the sessions, and patients pre-triaged for suitability. Possible applications for this study include: the creation of training materials and guidelines for tutors.
Coping and psychological well-being in Inflammatory Bowel Disease: insights from a national survey

Aim/Background
Inflammatory bowel disease (IBD) is a multisystem disorder that adversely affects quality of life and well-being. Research looking at coping and life satisfaction in IBD is limited by small sample sizes. The aim of this work was to identify factors associated with coping and life satisfaction in a large population of IBD patients.

Methods
A national postal and online survey was conducted by the charity Crohn’s & Colitis UK of its members in 2018 to assess the seven hallmarks of Health-related quality of life related to IBD. The survey collected demographic and disease-related information as well as Likert item responses to questions relating to well-being, including coping. To examine factors associated with coping, ordinal regression analysis was performed.

(Preliminary) Results
Demographic factors and disease related factors were significantly associated with coping and life satisfaction. Adjusted analyses focussing on psychological factors show participants who reported having more control over their IBD reported better coping and life satisfaction (OR 0.78, 95% CI 0.73-0.83 and OR 1.26, 95% CI 1.20-1.33 respectively) Participants who reported more involvement in decisions about their care were more likely to report better life satisfaction (OR 1.12, 95% CI 1.07-1.18). Those participants with a greater disease understanding were more likely to report better coping and life satisfaction (OR 0.89, 95% CI 0.84-0.94 and OR 1.14, 95%CI 1.08-1.20 respectively)

Conclusion
Disease activity, female gender and a number of well-being factors were significantly associated with coping and life satisfaction in the survey. Further work using validated measures is needed to better understand the relationships.
How has the COVID-19 pandemic impacted medical student perception of General Practice? A qualitative research proposal

Aim/Background
The COVID-19 pandemic has affected healthcare delivery across all specialities, particularly primary care. General Practice has been affected by negative publicity, and the increasing pressure on General Practitioners (GPs) has affected morale. Healthcare delivery has had to adapt to pandemic-induced restrictions, including the growing use of virtual appointments and reduced capacity for caring for chronic conditions. Medical students on General Practice placements have been affected, having experienced a different form of primary care delivery. It is important to understand how these changes have shaped their views of General Practice as a future career, particularly in light of GP shortages and the growing need to encourage medical students to consider becoming GPs. The proposed study aims to explore the views and perceptions of medical students on General Practice and to understand whether the pandemic has affected their career choice.

Methods
A case study approach is proposed to explore the views of Year 4 medical students at one University who have completed their GP placement during the COVID-19 pandemic. Data collection will be undertaken using focus groups of between 6-10 students, to gather qualitative data until data saturation is reached. All focus groups will be audio-recorded and transcribed, enabling content analysis to identify key themes. Ethical approval will be sought and data protection procedures will be followed.

(Preliminary) Results
It is anticipated that the pandemic will have negatively affected students' perceptions of General Practice.

Conclusion
The results will be used to inform GP recruitment initiatives. Further work could include a larger scale questionnaire across different universities.
Stuart Stewart

**Analysing prescribing trends of SGLT2 inhibitors across England using Open Prescribing Data**

**Aim/Background**
Chronic kidney disease (CKD) is a global public health threat. Two of its greatest risk factors are diabetes mellitus and hypertension. The early stages of CKD are usually asymptomatic however as the disease progresses it is associated with significant morbidity and mortality. CKD is predicted to become the 5th leading cause of death worldwide by 2040. National CKD audit data in 2017 highlighted the highly variable nature of CKD detection, diagnosis, monitoring and management in UK primary care. The audit highlights the significantly underutilised cost-effective medication that can slow and halt CKD development and progression. This is especially true for the sodium-glucose cotransporter (SGLT2) inhibitor medications which are licensed for the management of type 2 diabetes. This class of medications not only offer glucose-lowering effects, but robust research shows they can significantly reduce future cardiovascular events - a major risk for patients with diabetes and CKD. This research aims to identify and measure prescribing trends in SGLT2 inhibitors across England using Open Prescribing data from NHS Digital.

**Methods**
Mixed methods will be used to measure trends, including an interrupted time-series analysis and multivariate linear regression.

**(Preliminary) Results**
Early analysis has shown SGLT prescribing in Greater Manchester
- at a CCG level is not correlated with indices of multiple deprivation.
- at a practice level may be correlated with proximity to Secondary Care.

**Conclusion**
Identifying and measuring prescribing patterns around SGLT2 inhibitors could help to shed light on why these medications are underutilised, and support strategies that overcome barriers and leverage enablers to prescribing these powerful medications.