CHCR Showcase Conference

7 July 2023

Welcome from the Director of the Centre for Health and Clinical Research

Thank you for attending the CHCR showcase conference. The feedback from the conference last year was outstanding and it was clearly apparent that those attending welcomed the opportunity to come together in person to hear about current research and network with colleagues. Based upon the positive feedback from previous CHCR conferences we have once again provided a long lunch break to ensure that you have sufficient time to network. I would encourage you to take this opportunity to seek out any colleagues that you have not connected with recently as well as individuals that you have not met previously.

There is a record number of 45 posters being presented by UWE staff, postgraduate research students and postgraduate taught students as well as individuals external to UWE. Please do take the time to view the posters and engage in discussion with the presenters. There will be a prize for the best student and best non-student poster awarded at the end of the day so please do stay to find out the winners. Judging of the posters will be taking place between 1330 and 1400 so please do give the panel some space to engage with the presenters.

A superb line up of speakers will be presenting from each of our themes and I am sure that you will enjoy hearing about their recent research activities. I am delighted that we will also be launching our new theme in Palliative and End of Life Care to be led by Dr Alison Llewellyn. In keeping with this topic Dr Lucy Selman, Associate Professor in Palliative and End of Life Care at the University of Bristol, will be sharing her experiences of research in this area, including some of the challenges and rewards. Even if this is not your area of research, I am sure that there will be something for all of us to learn.

As a research Centre we have had another successful year with continued to grow and further positive enhancement of our regional, national and international reputation. Please do help us to promote the Centre via social media and tweet using our conference hashtag - **#CHCR2023**. Finally, I would value your feedback on the day and ask that you complete the form that will be made available and leave it in the collection box at the reception desk. I do hope that you enjoy the day.

Professor Fiona Cramp

Director of the Centre for Health and Clinical Research

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Conference Agenda

Venue: EP1, Frenchay Campus

0930-1000	Registration and Poster Viewing	Coffee, tea, water & fruit available
1000-1010	Welcome from CHCR Director	Prof Fiona Cramp
1010-1020	Welcome from Prof Marc Griffiths	Pro-Vice Chancellor & Executive Dean
1020-1130	Theme Showcase 1	Introduction to the ACTIoN & EC themes from the Chairs 6x10 minutes *see below for details Chairs: Dr Praveen Kumar & Prof Sarah Voss
1130-1200	Coffee break	Tea, Coffee and biscuits
1200-1245	Keynote Lecture:- Dr Lucy Selman***, Associate Professor in Palliative and End of Life Care: "Research in palliative and end-of-life care and bereavement: Challenges and rewards"	Chair: Dr Alison Llewellyn
1245-1300	Knowledge Mobilisation and Evaluation	Prof Nicki Walsh & Dr Vincent Singh
1300-1430	Poster viewing/judging, networking and lunch	Including evaluation break out session 1400-1430 chaired by Dr Vincent Singh
1430-1540	Theme Showcase 2	10 min intro to the MAMBO & CYPF themes from the Chairs 6x10 minutes **see below for details Chairs: Dr Toity Deave & Dr Caroline Flurey
1540-1600	Closing Remarks and Poster Prizes Awarded	Prof Olena Doran, Associate Dean (Research & Enterprise)

* <u>Theme Showcase 1 (1020-1130)</u>

1030 Knowledge Mobilisation & Evaluation (KME): Dr Zoe Anchors - Evaluation of the Additional Roles Reimbursement Scheme in Primary Care

1040 End of Life and Palliative Care (EoL&PC): Dr Alison Llewellyn - Understanding death literacy in a local community: results from a population survey

1050 Children, Young People and Families Health (CYPF): Ruben McNeil Walsh: 'The patient agenda is often completely different': providing support for young men with inflammatory arthritis'.

1100 Assessment, Care, Treatment In Neurology (ACTIoN): Dr Praveen Kumar - Engagement with South Asian Communities for co-designing language specific exercise resources for people with stroke

1110 Emergency Care: Dr Scott Watkins "Using a smartphone application to randomise cardiac arrest patients for a clinical trial in hospitals: AIRWAYS-3"

1120 Musculoskeletal Management, Measurement, Behaviour Change and Outcomes (MAMBO): Dr Mwidimi Ndosi - Knowledge translation in a time of change: the intersection of health, politics, religion and culture

** <u>Theme Showcase 2 (1430-1540)</u>

1440 MAMBO: Dr Anne-Marie Sweeney - 'Specialist Care with Compassion': Defining nurse-led care for people with early rheumatoid arthritis.

1450 Emergency Care: Prof Sarah Voss - Paramedics in General Practice - hitting the target? The READY study

1500 ACTIoN: Dr Natasha Woodstoke - "Everyone says that thinking about death is unthinkable. But I think dementia is a bit unthinkable too. How can you think about losing your mind?": A thematic analysis of adapting the LivDem model of talking about dementia for families

1510 EoL&PC: Dr Ilhem Berrou - Advance Care Planning for Care Home Residents - The role of the care home

1520 KME: Prof Nicola Walsh – Impact Accelerator Unit

1530 CYPF: Emma Douglass: Supporting women with learning disabilities to make infant-feeding decisions.

*** Keynote Speaker

Dr Lucy Selman is Associate Professor in Palliative and End of Life Care at the University of Bristol, where she co-leads the research group. Specific current research interests include treatment decision-making and communication; family care-giving and bereavement; widening access to services; and public health approaches in bereavement. She has published over 100 peer-reviewed papers and regularly contributes to discussions about end-of-life care and bereavement in the media. In 2020 she founded Good Grief Festival, a public engagement initiative which has now reached over 27,000 people; in May 2023 the team put on their first in-person festival in Weston-super-Mare, Good Grief Weston.

Student Abstracts

1 *Shortlisted for the student poster prize

Barriers and facilitators to the use of Mechanical Insufflation-Exsufflation (MI-E) in intubated patients across adult UK Intensive Care Units: exploration of clinicians’ views

Ema Swingwood [1,2], Lyvonne N Tume [3], Jeremy Bewley [4], George Ntoumenopoulos [5], Louise Rose [6,7], Sarah Voss [1], Fiona Cramp [1]

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[2] Adult Therapy Services, University Hospitals Bristol and Weston NHS Foundation Trust, Bristol, UK
[3] School of Health and Society, University of Salford, Manchester, UK
[4] Department of Intensive Care, University Hospitals Bristol and Weston NHS Foundation Trust, Bristol, UK
[5] School of Physiotherapy, Australian Catholic University, Sydney, Australia
[6] Florence Nightingale Faculty of Nursing, Midwifery and Palliative Care, King’s College London, London, UK
[7] Department of Critical care and Lane Fox Respiratory Unit, Guy’s and St Thomas Foundation NHS Hospital Trust, London UK

Background
Implementation of Mechanical Insufflation-Exsufflation (MI-E) in UK intensive care units (ICU) is limited, despite emerging evidence of efficacy and safety(1) with intubated patients. A UK survey of ICU respiratory physiotherapists highlighted barriers to device use including the need for training and experience; resource availability and team culture(2).

Aim
To further explore barriers and enablers for MI-E use in the acutely intubated, critically ill patient group, as perceived by ICU clinicians.

Methods
Semi structured online interviews were conducted with doctors, nurses and physiotherapists working in ICU.
An interview guide was developed based on the Theoretical Domains Framework (TDF)(3) and piloted. Interviews were recorded and transcribed verbatim.
Descriptive statistics described demographic data. Interview transcripts were analysed using content analysis, assigning quotes to TDF domains. Links across domains were considered.

Results
There were 29 interviews completed (18 physiotherapists, six doctors, five nurses). Clinicians had been qualified for 12(2-32) years (median(range)) with 7(1-21) years in a static ICU position. Interviews were 31(16-52) minutes duration.

Knowledge and skills were important determinants of MI-E initiation. Differences across professions regarding knowledge and skills impacted profession specific roles for MI-E use and the decision-making process.
Culture was influential for MI-E initiation and ongoing use, having positive and negative outcomes. Professional hierarchy had negative consequences on device implementation, exposure and subsequent development of skills and knowledge.
A positive opinion of future MI-E use was demonstrated for the acutely intubated population. A collaborative approach was important to enable clinical progression regarding MI-E use in ICU.

Conclusions
This study highlights barriers consistent with previous literature. The influence of knowledge and skills suggest education strategies should consider learning needs and profession specific roles prior to initiation. A collaborative multidisciplinary team approach was important to overcome negative culture and hierarchy and to optimise future MI-E implementation outcomes.

References

1.Martínez-Alejos R, Martí J-D, Li Bassi G, Gonzalez-Anton D, Pilar-Diaz X, Reginault T, et al. Effects of Mechanical Insufflation-Exsufflation on Sputum Volume in Mechanically Ventilated Critically Ill Subjects. Respir Care 2021;66(9):1371-1379.
2.Swingwood E, Tume L, Cramp F. A survey examining the use of mechanical insufflation-exsufflation on adult intensive care units across the UK. J Intensive Care Soc 2019.
3.Cane J, O'Connor D, Michie S. Validation of the theoretical domains framework for use in behaviour change and implementation research. Implement Sci 2012;7:37.

Statement of ethical approval
Yorkshire and Humber Leeds East REC: 22/YH/0042, IRAS project ID: 303674 (approval 11.4.22); UWE ethics: HAS.22.06.123

Funder
NIHR Clinical Doctoral Research Fellowship (NIHR300504)

2

What are the roles and experiences of informal caregivers providing care to a person with Non-Malignant Respiratory Disease at the end of life from the perspectives of the caregiver and recipient of care? A Qualitative Evidence Synthesis Protocol

Kathy Rogers [1], Alison Llewellyn [1,2], Candy McCabe [1,2], Natasha Bradley [1]

[1] School of Health and Social Wellbeing, University of the West of England, Bristol, UK
[2] Dorothy House Hospice Care, Winsley, UK

Background and Aims
The role of caregivers in supporting people with Non-Malignant Respiratory Disease (NMRD) is worthy of attention for many reasons. As populations age, the number of people living for longer with chronic conditions such as NMRD, and the demand for informal care, will increase (Farquhar, 2016). Informal or unpaid care provided by family

members and friends is fundamental to the current model of health and social care in the UK. The increasing reliance on caregivers, and the economic contribution made by caregivers, makes sustaining this role of great importance to patients, families and the health and care system. The role of caregivers during the end of life (EoL) stage of NMRD is of particular interest as inequalities in provision of palliative and EoL care exist for this patient group (Butler *et al.*, 2020) and these inequalities may impact the experiences and needs of caregivers as well as the people they care for. Exploring the experiences of caregivers will deepen understanding of the roles they perform and what needs they have; this will aid in developing suitable support for caregivers.

This review aims to systematically source, analyse and synthesise qualitative data relating to the experiences of caregivers, and the roles they play, when caring for person with NMRD at the end of life.

Methods

A systematic search of electronic bibliographic databases has been undertaken to locate relevant qualitative primary research. Data will be extracted and appraised, then analysed according to Thomas and Harden's thematic synthesis approach (2008) to qualitative evidence synthesis.

Results

Searches have been carried out and screening of articles is underway. Results will be prepared and presented at the CHCR conference.

References

Butler, S., Ellerton, L., Gershon, A., Goldstein, R. and Brooks, D. (2020) Comparison of end-of-life care in people with chronic obstructive pulmonary disease or lung cancer: A systematic review. *Palliative Medicine* [online]. 34 (8), pp. 1030–1043.

Farquhar, M. (2016) Supporting Informal Carers. In: Bausewein, C., Currow, D. and Johnson, M. eds (2016) Palliative Care in Respiratory Disease. Sheffield: European Respiratory Society, pp. 51-69.

Thomas, J. and Harden, A. (2008) Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology* [online]. 8 (45).

Statement of ethical approval

Ethical approval was not required for this study.

Funder

UWE Bristol.

3

Patient Experience of Fatigue with Malignant Primary Brain tumour: a study protocol

Rachael Simms-Moore [1], **Fiona Cramp** [1], **Neil Barua** [2], **Emma Dures** [1]

[1] School of Health and Social Wellbeing, UWE Bristol
[2] North Bristol NHS Trust

Background: Fatigue is a common debilitating symptom among patients with malignant primary brain tumours (MPBT), significantly affecting quality of life. Understanding patient’s physical and psychological experience of fatigue is essential to develop effective interventions.

Aim: This study aims to investigate the experience of fatigue in patients with MPBT, exploring their views regarding potential interventions.

Methods: A qualitative approach, recruiting up to 20 participants from brain tumour charities. Ideally recruiting a range of men and women representing different age categories, ethnicities, treatment journeys and higher tumour grades 2-4. Inclusion criterion will be adults diagnosed with a MPBT, in active monitoring, at least 3-months post active treatment, experiencing fatigue as a primary symptom. Exclusion criteria will be those lacking capacity to consent to take part in the interview and unable to communicate verbally in English. A topic guide to guide the interviews will be developed by the researcher, with input from two patient research partners, the supervision team and literature. Semi-structured interviews via video/phone or face-face will be conducted according to patient preference Interviews will be audio-recorded, transcribed verbatim and uploaded into NVivo Qualitative Data Analysis Software. These data will be analysed using a reflexive thematic analysis, allowing a depth and richness of data to be included, important for capturing salient themes (Braun and Clarke, 2019).

Results: Reflexive thematic analysis results will be presented with themes and subthemes highlighted and supported by relevant patient quotes, providing context and illustrating findings. This analysis will identify factors contributing to fatigue and how it affects patients' daily lives.

Conclusion: Findings will aid understanding of the impact of fatigue on patients with MPBT. The data will inform the development of interventions helping patients manage fatigue and potentially improving quality of life. The findings may also guide healthcare professionals in offering better support to patients experiencing fatigue.

Reference:
BRAUN, V. & CLARKE, V. 2019. Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health,* 11**,** 589-597.

Statement of ethical approval
Prior to commencing recruitment ethical approval will be sought from the UWE Research Ethics Committee.

Funder
This scoping review is funded as part of a PhD studentship by UWE Bristol and Somerset, Wiltshire, Avon and Gloucestershire (SWAG) Cancer Services held by RSM. The funders had no role in this scoping review protocol.

4 *Shortlisted for the student poster prize

"I think our young people get a second-class service": caring for young men with inflammatory arthritis

Ruben McNeil Walsh [1], **Fiona Cramp** [1], **Christopher Eccleston** [2], **Paul Galdas** [3], **Jo Robson** [1], **Caroline Flurey** [1]

[1] **College of Health Sciences and Society, University of the West of England**
[2] **University of Bath**
[3] **University of York**

Background:
This is the second study of a PhD exploring the experiences of young men (16-30) living with inflammatory arthritis (IA). Study one focused on the lived experiences of patients. Study two explored four key themes in detail with Health Professionals (HPs) caring for this patient group. The aim was to understand views on issues raised by young men, identify similarities and differences, and explore HPs approaches to supporting patients.

Methods:
Online semi-structured interviews. Data were analysed using framework analysis with four themes derived from previous patient interviews.

Results:
14 participants; physiotherapist (4), medical doctor (6), nurse (4)
Key findings from each theme:
Psychosocial burden: HPs understood why young men felt unsupported and expressed frustration at the lack of available services: *"... that's where our service is rubbish - we haven't got a clinical psychologist".*
Experiences of care: HPs reflected on how young men experience care settings compared to other groups, and flagged that rheumatology professionals are often female: *"it's mother figure, nagging getting them to do things. I wonder whether they feel less welcome".*
Masculinity: This had not been given extensive thought by HPs: *"I hadn't really - if I'm honest - given a lot of thought to gender differences in terms of how we approach what we do in the clinic".*
Selective disclosure: HPs spoke at length about patients experiencing difficulties sharing their experiences, particularly young men: *"I would say 8 out of 10 would rather not discuss their diagnosis with their friends or school."*

Conclusion: HPs seem well aligned with young male patients regarding challenges and priorities. There are examples of good practice working with this patient group, that could be implemented elsewhere following future work. Next steps are to bring together both sets of findings as a PhD thesis, with findings disseminated by publication and conferences.

Statement of ethical approval
UWE REC REF No: HAS.21.07.072.

Funder
ESRC and UWE Bristol.

5

The 'TELL ME HOW' Study – Top agEweLL MEthods for HOusebound Wellness

Donna Thomas [1]

[1] **UWE Bristol**

Introduction

Empowering patients to 'age well' (NHS England Long Term Plan, 2019) has become a key driver to meet the rising demand for healthcare. Despite a growing body of evidence regarding ageing well and the benefits of patient empowerment there remains confusion regarding applied meaning for the spectrum of older persons health. This research will consider public, clinician and expert view on the topic of 'ageing well' interventions for the housebound population who are arguably a vulnerable and little researched population.

Method

This research study will incorporate a systematic literature review alongside patient and carer focus groups to inform initial questionnaire design for a modified Delphi panel of mixed professional experts. The overall aim will be to gain a consensus expert view to fulfil the research aims of identifying a conceptual framework to be further validated in a post-doctoral study.

Results

The results of the study will inform a defined model of intervention to guide community practitioners in preventative care for frail housebound individuals.

Conclusion

At the time of the conference, this research study will be at data collection stage. The opportunity to showcase the study progress and network with participants to gauge potential interest and feedback on the ageing well research focus would be a valued way to contribute to ongoing aims of the study.

Statement of ethical approval
In process HRA REC 22.05.23.

Funder
Sirona Care and Health.

6

Challenges in Conducting Qualitative Interviewing for Adapting an ESCAPE-pain Programme for Knee Osteoarthritis in Rural Thailand: A Fieldwork Perspective

Sasithorn Saengrueangrob [1], Mary Cramp [1], Alice Berry [1], Nicola Walsh [1]

[1] Centre for Health and Clinical Research, UWE Bristol, UK

To develop or adapt the ESCAPE-pain programme to ensure it is culturally relevant and acceptable for Thai society, interviews with Thai people living with knee osteoarthritis are essential. We are conducting interviews with people who have/have no experience of self-management and exercise to understand their beliefs, cultures, and experience of health services in rural Thailand. This paper will address the experiences and reflections of a researcher regarding the practical challenges of face-to-face qualitative interviewing in rural Thailand, aiming to share learning and experience that may inform future research in overseas countries.

A qualitative study is being conducted using face-to-face individual semi-structured interviews with open-ended questions to provide participants' space and time to narrate their opinions, sensitive issues and expectations of an intervention. The interviews are conducted by a native Thai researcher with a background as a physiotherapist in three rural locations in Thailand. Up to 20 people with knee osteoarthritis and 20 health care staff will be interviewed.

To date, fieldwork experience in rural Thailand has identified four major challenges. These are: 1) the processes of participant recruitment; 2) the physical and social environments when conducting interviews; 3) researcher knowledge of locality and local dialects, and; 4) the difficulties experienced by interview participants in understanding the cross-cultural materials.

Sharing experiences and challenges of qualitative interviewing may help other researchers to gain a better understanding of the issues when conducting cross-cultural research. In turn this should assist with the design of other studies in the future.

Statement of ethical approval
Ethical approval was obtained by the University of the West of England Faculty Research Ethics Committee (UWE FREC; REF No. HAS.22.11.038) on 19th January 2023.

Funder
This research is supported by the Impact, Collaboration, Evidence (ICE) from the University of the West of England, the Anglo-Thai Society, and the Royal Thai Government International Student Scholarship.

7

Racial variation among those undergoing a primary total knee replacement for the treatment of osteoarthritis: A systematic literature review

Monica Gibbs [1], **Phoebe Turner** [1], **Sofia Saville** [1], **Elle-Jade Silvester** [1], **Daniel Cade** [1], **Lindsay Smith** [1]

[1] **UWE Bristol**

Background
The prevalence of knee osteoarthritis (OA) has doubled since the mid-twentieth century (Wallace et al., 2017) and has been associated with significant pain and loss of function. Total knee replacement (TKR) is the most common treatment for end-stage knee OA (Steinhaus et al., 2017). Data on age and gender within the end-stage knee OA population are commonly recorded within national joint registers. However, the proportion of racial variation which exists in those undergoing primary TKR is not known.

Aims
To investigate the proportion of racial variation in those undergoing primary TKR for the treatment of OA.

Design
Systematic literature review.

Methods
The databases CINAHLplus, MEDLINE, AMED, and Embase were searched. Studies investigating primary TKR for the treatment of OA which discuss racial differences/disparities were included. Data on study characteristics, primary, and secondary outcomes was extracted. Study quality was assessed using the Critical Appraisal Skills Programme checklists. A descriptive analysis was conducted to determine the review outcome.

Results
Of the 121 identified articles, 3 retrospective cohort studies were included. A lower utilisation of primary TKR for the treatment of OA in all non-White ethnic groups, when compared to White groups, was identified in all 3 studies. Additionally, non-White patients were more likely to have poorer outcomes following their procedure. Overall, the quality of the studies was high.

Conclusion
A lower utilisation rate of primary TKR for the treatment of OA in all non-White ethnic groups, when compared to White groups, is evident. However, existing literature described North American populations. Future research is required to investigate this pattern in the UK and explain why these disparities exist. This could facilitate initiatives to reduce healthcare inequalities which, as outlined within the NHS Long Term Plan (2019), is central to NHS policy.

References

NHS Long Term Plan (2019) Chapter 2: More NHS action on prevention and health inequalities [online]. England: NHS. Available from: https://www.longtermplan.nhs.uk/online-version/chapter-2-more-nhs-action-on-prevention-and-health-inequalities/ [Accessed 27 April 2023].

Steinhaus, M.E., Christ, A.B., Cross, M.B. (2017) Total Knee Arthroplasty for Knee Osteoarthritis: Support for a Foregone Conclusion? HSS Journal [online]. 13 (2), pp. 207-210. [Accessed 27 April 2023].

Wallace, I.J., Worthington, S., Felson, D.T., Jurmain, R.D., Wren, K.T., Maijanen, H., Woods, R.J., Lieberman, D.E. (2017) Knee osteoarthritis has doubled in prevalence since the mid-20th century. Proceedings of the National Academy of Sciences of the United States of America [online]. 114 (35), pp. 9332-9336. [Accessed 27 April 2023].

Statement of ethical approval
Not required.

Funder
Not applicable.

8

Exploring patient experience of rehabilitation within the surgical pathway for lower limb soft tissue sarcoma at a specialist sarcoma centre

Lucy Dean [1,2], Siobhan Cowan-Dickie [2], Pauline Humphrey [1], Fiona Cramp [1]

[1] UWE Bristol
[2] The Royal Marsden Hospital

Introduction
Soft tissue sarcoma is a cancer arising from the soft tissues. Surgery, the primary treatment for localised disease, can result in functional impairments (Gerrand and Furtado, 2017). Rehabilitation is key (National Institute for Health and Clinical Excellence, 2006), yet guidelines are lacking, and patient experience of current service provision is unknown. This study aimed to explore the rehabilitation experiences of patients that had undergone lower limb sarcoma surgery at a specialist sarcoma centre (SSC).

Methods
A qualitative, descriptive phenomenological study was undertaken to explore rehabilitation experiences. Data were collected through semi-structured interviews with patients who had undergone lower limb sarcoma surgery at a SSC. Data were analysed inductively using thematic analysis (Sundler *et al.,* 2019).

Results
Eight patients were interviewed with three main themes identified:

- *Accessing the right services at the right time:* Participants described good access to rehabilitation on the ward post-operatively. Post discharge those who continued their rehabilitation at the SSC typically experienced quicker access and a smoother transition than those referred to another provider. Rehabilitation gaps pre-operatively and later in the pathway were described;
- *The importance of person-centred rehabilitation:* This helped to keep patients motivated and engaged;

- *"Communication is key" - providing knowledge and support to navigate uncertainty:* Clear communication supported expectation management, and contact with the SSC helped patients to access services.

Conclusion

Findings suggest that there is good access to inpatient rehabilitation immediately after surgery which patients viewed positively. In contrast, gaps and delays identified at other timepoints were reported to have physical and psycho-social consequences, with missed opportunities to enhance preparation and recovery. Variables influencing recovery and rehabilitation pose challenges to managing expectations and continuity of care. A multi-disciplinary, person-centred approach to rehabilitation from diagnosis, with improved support to navigate services and return to meaningful activities, is needed.

References

Gerrand, C. and Furtado, S. (2017) Issues of Survivorship and Rehabilitation in Soft Tissue Sarcoma. *Clinical Oncology* [online]. 29 (8), pp.538-545. [Accessed 22 April 2023].

National Institute for Health and Clinical Excellence (NICE) (2006) *Guidance on Cancer Services Improving Outcomes for People with Sarcoma. The Manual* [online]. London: National Institute for Health and Clinical Excellence (NICE). Available from: improving-outcomes-for-people-with-sarcoma-update-pdf-773381485.pdf [Accessed 22 April 2023].

Sundler, A.J., Lindberg, E., Nilsson, C. and Palmér, L. (2019) Qualitative thematic analysis based on descriptive phenomenology. *Nursing Open* [online]. 6 (3), pp. 733 – 739. [Accessed 24 November 2022].

Statement of ethical approval

Ethical approval was granted by the Royal Marsden Hospital's Service Evaluation Committee (SE1243) and the University of the West of England's Research Ethics Committee (HAS 22.12.043).

Funder

This study was self-funded.

9

Cognitive Multisensory Rehabilitation, a novel rehabilitation approach for Complex Regional Pain Syndrome: Case series

Marc Aureli Pique Batalla [1,2], **Jennifer S. Lewis** [1,2]

[1] Royal United Hospital Bath NHS Trust, Bath, UK
[2] University of the West of England, Bristol, UK

Introduction: Body Perception Disturbances (BPD)[1] is a phenomenon often present in people with Complex Regional Pain Syndrome (CRPS) that hinders rehabilitation outcomes. BPD include altered perceptions, thoughts and feelings about the affected limb. For example, CRPS patients describe that the painful limb does not feel part of their body (i.e., loss of self-ownership) and they even want to have it amputated. It is likely that BPD are due to the suppression of sensory and motor activity in the painful limb, which has been linked to maladaptive reorganization of the Central Nervous System[2]. Cortically-directed sensorimotor interventions aim to normalize sensory and motor processing related to the painful limb. Cognitive Multisensory Rehabilitation (CMR)[3] is a cognitive and sensorimotor intervention originally developed for stroke rehabilitation by Professor

Perfetti that targets cognitive, somatosensory and multisensory functions through sensory discrimination tasks. In this case series report, we described how we adapted CMR to treat BPD in CRPS.

Methods: Data were obtained from four non-consecutive Type-I CRPS adult patients reporting BPD when admitted to the Complex Regional Pain Syndrome Rehabilitation Service for a two-week, CRPS-specific, interdisciplinary residential rehabilitation program at the Royal United Hospital in Bath, UK from June 2022 until August 2022, where CMR is an essential component.

Results: After the rehabilitation program, all four participants displayed a reduction of BPD measured with the Body Perception Disturbance Scale (BPDS)[8]. Specifically, there was a normalization on the perception of the affected limb and a reduction of the loss of self-ownership and amputation desire related to the painful limb.

Discussion: We propose that CMR is an advanced rehabilitation approach that targets altered cognitive processing related to affected limb, to improve CRPS-related features, including BPD. Further research is required to test CMR against other routine CRPS treatments to determine whether it is effective in treating BPD in CRPS.

References

1. Lewis J, McCabe C. Body perception disturbance (BPD) in CRPS. Practical Pain Management. 2010 Apr 1.
2. Swart, C. K., Stins, J. F., & Beek, P. J. (2009). Cortical changes in complex regional pain syndrome (CRPS). European journal of pain, 13(9), 902-907.
3. Van de Winckel, A., De Patre, D., Rigoni, M., Fiecas, M., Hendrickson, T. J., Larson, M., ... & Lim, K. O. (2020). Exploratory study of how Cognitive Multisensory Rehabilitation restores parietal operculum connectivity and improves upper limb movements in chronic stroke. Scientific reports, 10(1), 1-11.

Statement of ethical approval

No ethical approval was required for this manuscript.

Funder

The author(s) received no financial support for this manuscript.

10 *Shortlisted for the student poster prize

The development of clinical recommendations to improve the experiences of cancer survivors living with chronic pain after cancer treatment

Julie Armoogum [1], Candy McCabe [1,2], Diana Harcourt [1], Claire Foster [3], Alison Llewellyn [1,2]

[1] UWE Bristol
[2] Dorothy House Hospice Care
[3] University of Southampton

Cancer survivors can experience debilitating long term and late effects of cancer and its treatment, including chronic pain[1]. Yet it can be challenging for cancer survivors access support with their chronic pain following cancer treatment[2,3].

Aim: To develop clinical recommendations to improve the experiences of cancer survivors living with chronic pain after cancer treatment.

Methods. Draft clinical recommendations were developed from published literature and the findings of three PhD studies: a qualitative evidence synthesis, a qualitative interview study with cancer survivors and a survey with healthcare professionals. Draft recommendations underwent a two-phase expert review: 1) Initial review 2) Expert review panels. The expert review panels were conducted using a qualitative descriptive design and were analysed using qualitative content analysis. Final recommendations were produced.

Results: Phase 1: Discussion with four Professorial academics. Consensus that findings make important contribution to knowledge. Complexity of implementing recommendations acknowledged. Phase 2: Expert review panels with 16 participants comprising public contributors, cancer clinicians, researchers and educators. Four group (1.5 hours) and two individual discussions (20-45 minutes) took place. Overall, the draft clinical recommendations were positively received, and the expert review panels resulted in four categories of findings, namely: 'communication is key', 'well-informed patients and healthcare professionals making good decisions together', 'not seeking a perfect system, but an improved system' and, 'make the recommendations fly'. Amendments were made to draft clinical recommendations following the expert review panels. Final recommendations include 1) listening and acknowledging 2) diagnosing and explaining 3) educating and raising awareness of healthcare professionals 4) preparing and informing people with cancer 5) accessing and signposting to rehabilitation and support.

Conclusion and clinical implications:
Clinical recommendations have been produced from research findings and expert review to offer guidance to improve the experiences of cancer survivors living with chronic pain after cancer treatment.

References:
1. Emery, J., Butow, P., Lai-Kwon, J., Nekhlyudov, L., Rynderman, M. and Jefford, M. (2022) Management of common clinical problems experienced by survivors of cancer. *The Lancet*. [online]. 399 (10334), Elsevier Ltd, pp.1537–1550. Available from: http://dx.doi.org/10.1016/S0140-6736(22)00242-2.
2. Armoogum, J. (2023) Chronic pain after cancer treatment: Insights from cancer survivors and healthcare professionals in England, UK to consider how cancer survivors' experiences can be improved *(Under review)* University of the West of England.
3. Fitch, M.I., Lockwood, G. and Nicoll, I. (2021) Physical, emotional, and practical concerns, help-seeking and unmet needs of rural and urban dwelling adult cancer survivors. *European Journal of Oncology Nursing*. [online]. 53 (April), Elsevier Ltd, p.101976. Available from: https://doi.org/10.1016/j.ejon.2021.101976.

Statement of ethical approval
NHS Research Ethics and Health Regulatory Authority (HRA) approvals (19/NW/0405) and University of the West of England Research Ethics approval (HAS.19.10.043) were obtained for the qualitative interview study with cancer survivors. Ethical approval from UWE Research Ethics Committee was obtained (UWE REC REF No: HAS 21.02.109) for the survey with healthcare professionals.

Funder
UWE Bristol and Macmillan Cancer Support.

11

“I will still fight for the conversion of everybody, because I think it’s the way it’s gonna go”: UK dietitians’ experiences of adopting a non-diet approach to health in private practice

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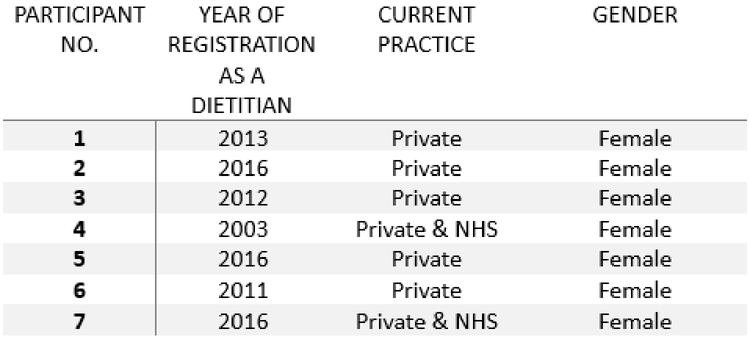
Aim: A novel approach to health is emerging; the non-diet approach (NDA). NDA aims to improve health without a focus on weight management for those at a higher weight. Little is known about UK dietitians’ perceptions of the NDA. This research explored the experience of UK registered dietitians (RDs) who have changed from providing weight management services to adopting NDA.

Methods: Semi-structured, remote interviews with seven RDs were carried out over three weeks in 2021. Interviews were audio recorded and transcribed verbatim. Reflexive Thematic Analysis was used to construct themes.

Findings:
Table 1. Participant Characteristics



PARTICIPANT NO.	YEAR OF REGISTRATION AS A DIETITIAN	CURRENT PRACTICE	GENDER
1	2013	Private	Female
2	2016	Private	Female
3	2012	Private	Female
4	2003	Private & NHS	Female
5	2016	Private	Female
6	2011	Private	Female
7	2016	Private & NHS	Female

Three themes were constructed: ‘Discomfort providing weight management’, ‘Barriers to the NDA in mainstream practice’, and ‘Championing the NDA as the future of healthcare’. All participants reported having experienced strong discomfort whilst providing weight management services. They reflected on the distress they perceived it caused patients or its poor outcomes. This led to seeking further learning and feeling “blown away” by discovering the NDA. Most reflected on a difficult period of self-learning whilst understanding the role weight stigma has on health, as it countered their dietetics training, and there was little support/guidance for the NDA in the UK. Most faced barriers implementing the NDA in their roles at the time, and for some this resulted in leaving to establish a private practice to solely offer the NDA. The NDA was championed by all interviewees, who perceived it as beneficial to their clients and themselves, and advocated for it to be the future of healthcare.

Conclusions: Disillusionment with the effectiveness of weight-management services and the inability to offer the NDA within mainstream practice may be motivating RDs to leave their roles and establish private practices. More understanding and awareness of the NDA is needed in dietetics training and within regulatory bodies, to support dietitians who want to offer it.

Statement of ethical approval
The University of Bristol School for Policy Studies approved this research.

Funder
A self-funded Master’s dissertation project.

12

Exploring experiences and preferences of people with rheumatoid arthritis (RA) for digital interventions (DI) to promote physical activity (PA)

C. Gerlis [1], A. Berry [1], S. Halls [1], M. Loizou [1], C. Swales [1], F. Cramp [1]

[1] University of The West of England

Background: Physical activity (PA) is effective for managing symptoms of rheumatoid arthritis (RA) but people with RA are less active than their healthy counterparts. A digital intervention (DI) to promote PA, designed with input from people with RA, is a potential solution.

Aims: 1. Identify digital technology currently used by people with RA to support PA. 2. Understand the preferences of people with RA for potential DI delivery.

Methods: A survey was developed to address these aims. A patient research partner and ‘think aloud’ pilots contributed to development. The survey was circulated once to members of the National Rheumatoid Arthritis Society in November 2022

Results: 1178 people consented to take part (86% female, 64% aged 55-74). The majority used digital technology every day (96%). Only 33% were using technology to support PA; mostly an app without HCP interaction (42%) or internet videos (40%). A further 28% had tried technology to support PA but discontinued, and 39% had never tried.

84% anticipated using a potential DI to support PA with an app (58%) or website (43%) as the preferential platform. A potential DI delivered by planned HCP interaction was rated highest for general acceptability by the most participants (28%), followed by automated responses (24%), ad-hoc HCP interaction (22%) and no interaction (17%).

Conclusion: Using a DI to support PA is acceptable to people with RA but only a third are currently using technology to support PA. An app or website platform with HCP interaction are the preferred platforms.

Statement of ethical approval
Approved by the National Health Service Research Ethics Committee (reference 22/NE/0158).

Funder
Versus Arthritis.

13

Clinical Frailty Scale - can it be reliably used within an existing service as a predictor for discharge destination for elderly patients admitted for bed-based rehabilitation? A service evaluation

Moira Rahmanzadeh-Asl [1], **Lindsay Smith** [1]

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Background:
Several studies have evaluated the impact of frailty on acute illness by using the Clinical Frailty Scale. However, it is not known if the score of a patient entering inpatient rehabilitation is predictive of discharge destination and if this would assist planning of their care.

The aim of this study is to determine if there is an association between the Clinical Frailty Scale and discharge destination for elderly patients admitted for bed-based community rehabilitation.

Methods:
A prospective cohort study was undertaken. Information was collected from existing records of consecutive patients over a 17-week period. Data included Clinical Frailty Scale on admission, age, gender and living arrangements. Discharge destination was recorded. Statistical analysis included descriptive statistics and Fisher Exact tests of association.

Results:
A total of 58 patients from a single rehabilitation ward were included in this study, 71% were female. Age range: 65 to 102, mean 84 years old. 97% living at home pre-admission; 60% living alone. 67% were admitted following a fall; 33% for medical reasons. The Clinical Frailty Scale ranged from 1 to 7, median of 5. At discharge, 67% were discharged to their own home with varying levels of care.

Statistical analysis found no significant association between Clinical Frailty Scale and discharge destination, $P = 0.551$ ($p \leq 0.05$ for significance). Patients living with family/carers were more likely to be discharged home ($p=0.049$). Patients privately funding care were less likely to be discharged home ($p=0.007$).

Conclusion:

These findings highlight the complexity of factors that cab influence the discharge destination for elderly patients admitted for bed-based rehabilitation. The results of this service evaluation will be used for patient care and support and to plan factors that might affect discharge destination. Increased understanding has the potential for shared informed decision making and service planning in the inpatient elderly rehabilitation setting.

References:
Biram, R., Romero-Ortuno, R., Wall, J. and Wallis, S. (2015) Association of the clinical frailty scale with hospital outcomes. *An International Journal of Medicine* [Online]. 109 (12), pp943-949. [Accessed 22 March 2022].

Braude, P., Deakin, H., Ibitoye,S., Rickard, F., Shipway, D., Thompson, J., and Walton, B. (2021) The Clinical Frailty Scale predicts adverse outcome in older people admitted to a UK major trauma centre. *Age and Ageing* [Online]. 50, pp891-897. [Accessed 15 January 2023].

Dorevitch, M., Low, S. and Wee, E. (2021) Impact of place of residence, frailty and other factors on rehabilitation outcomes post hip fracture. *Age and Ageing* [Online]. 26, 50(2), pp423-430. [Accessed 22 March 2022].

Statement of ethical approval

UWE Ethics approval provided by supervisor.

Funder

This Service Evaluation was supported by CSH Surrey (Central Surrey Health).

Non-Student Abstracts

14

Theory of Change – An Impact Logic Model: Developing a Route to Impact

Ben Mitchell [1], Amanda Longley [1]

[1] UWE Bristol

15

ICB embedded Impact Accelerator Unit

Paul Roy [1], Nicola Walsh [2]

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[2] UWE Bristol

The challenges of implementing new evidence into healthcare are well-documented, with sources suggesting a hiatus of up to seventeen years from the generation of research evidence to embeddedness in practice.

The reasons are multi-faceted and include but are not limited to:

- reduced awareness of evidence;
- misalignment to system priorities;
- insufficient project management resource to affect change; and
- lack of understanding between researchers and the systems they seek to influence.

In collaboration with the University of the West of England and the University of Bristol, the Bristol North Somerset and South Gloucestershire (BNSSG) Integrated Care Board (ICB) have established an Impact Accelerator Unit (IAU). The IAU seeks to overcome these recognised implementation challenges by:

- establishing key stakeholder communities of practice throughout the research project lifespan;
- provide short periods of funding for clinical and project management champions to drive evidence informed service improvement;
- integrate IT support to update clinical pathways and medical information systems;
- develop and deliver implementation training; and
- collect systems level data on the impact of implementation and innovation.

Whilst the IAU is still in its infancy, it has obvious benefits to the healthcare system, but also supports academic partners in maximising the impact of their research, a requirement of the Research Excellence Framework, and provides greater return on investment for research funders.

Our poster explains the context and benefits of an Impact Accelerator Unit based in the system it is trying to influence.

Statement of ethical approval

N/A

Funder
Partnership between UWE Bristol, University of Bristol and BNSSG ICB.

16 *Shortlisted for the non-student poster prize

Prehospital birth: neonatal temperature measurement and management in the South West of England

L. Goodwin [1], K. McNee [2], R. McKeon-Carter [3], E. Beach [1], A. Bedson [2], S. Black [2], T. Deave [1], K. Kirby [1,2], H. McAdam [4], G. McClelland [5], N. Miller [1], R. Osborne [2], H. Taylor [6], S. Voss [1], J. Benger [1]

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[2] South Western Ambulance Service NHS Foundation Trust
[3] University Hospitals Plymouth NHS Trust
[4] University of Sunderland
[5] North East Ambulance Service NHS Foundation Trust
[6] University Hospitals Bristol and Weston NHS Foundation Trust

Background: Neonatal hypothermia (<36.5°C) is an important risk factor for babies born before arrival at hospital (BBA). In the prehospital setting babies can become hypothermic within minutes. Research from the UK and abroad suggests that paramedics do not routinely record neonatal temperature following BBA. We conducted two service evaluations in the South West of England to examine which groups of women are most likely to experience BBA, what proportion of BBA babies have a neonatal temperature recorded by the ambulance service, what proportion of BBA babies are hypothermic on arrival at hospital, and what barriers exist for prehospital temperature measurement/management.

Research: Two service evaluations were carried out, covering the South Western Ambulance Service NHS Foundation Trust (SWASFT) and six NHS Hospital Trusts. Anonymised extracts from electronic patient care records (January 2017-January 2021), and interviews with 20 paramedics, were analysed using simple descriptive statistics and thematic analysis.

Results: Ambulance service data (1582 records): Neonatal temperatures were recorded in 2.7% (43/1582) instances of paramedic-attended BBA, 72.1% (31/43) were below 36.5°C. Barriers to temperature measurement included: unsuitable equipment, prioritisation of other care activities, lack of exposure to births, and a lack of awareness regarding the importance of temperature measurement.

Hospital data (184 records): 35% (64/184) of babies conveyed to hospital by the ambulance service were hypothermic on arrival. Characteristics associated with BBA included safeguarding concerns and late booking. Mothers of hypothermic babies were less likely to have had a previous birth, and more likely to have reported a disability.

Impact: SWASFT set up a series of Neonatal Quality Improvement meetings which led to: a staff-facing winter campaign on neonatal hypothermia; an audit of axillary thermometers; and an application for funding to update the electronic patient care system

to include a new 'care of the newborn' tab, highlighting neonatal temperature measurement and management.

Statement of ethical approval
Ethical approvals for these evaluations were obtained from the Health Research Authority (IRAS ID: 291125) as well as the University of the West of England (UWE Bristol) Faculty of Health and Applied Sciences Research Ethics Committee (HAS.20.11.038 and HAS.22.01.061). Participants gave informed consent to participate in the evaluations before taking part.

Funder
Service evaluation one (ambulance service data) was supported by a Vice Chancellor's Early Career Researcher Development Award from the University of the West of England, Bristol. Service evaluation two (hospital data) was funded by the South West Academic Health Science Network's Perinatal Health Equity Programme.

17

Strategies to enhance physical activity in people with Rheumatoid Arthritis: a Delphi survey

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[2] Patient Research Partner

Introduction
Managing symptoms, resisting functional decline and maintaining health and independence are key motivators for people with Rheumatoid Arthritis (RA) who successfully engage with physical activity (PA) [1]. The aim of this study was to determine whether the broader RA population share these beliefs and strategies regarding PA.

Methods
A modified two-stage Delphi approach. Two hundred patients with RA from four NHS sites were sent a postal questionnaire containing statements relating to engagement with PA derived from interviews with physically active individuals with RA undertaken previously [1]. Patients were asked to rate the statements on a Likert scale, with those rated as agree or strongly agree by >50% retained. In stage two, respondents rated and prioritised potential PA intervention components.

Results
Questionnaire one received 49 responses (11 males, 37 females, 1 unknown), mean age 65 years (range 29-82). Low levels of PA were reported by 60% of respondents. Questionnaire two responses (n=36) indicated that a PA intervention should include information about prevention of RA symptoms worsening and benefits of PA for joints, and pain management support and self-management support to feel in control of their RA. For PA maintenance it was important that symptoms were controlled with medication, and PA instructors understood RA to ensure safety.

Conclusions
Education from a knowledgeable instructor should underpin PA programme delivery for people with RA, alongside effective medication. It appears that the broader RA population share similar beliefs to those that are effectively engaging with regular physical activity.

1. Thomas, R., et al (2019) Keeping physically active with rheumatoid arthritis: semi-structured interviews to explore patient perspectives, experiences and strategies. Physiotherapy 105:378–384.

Statement of ethical approval
Ethical approval: Oxford C Research Ethics Committee (ref. 13/SC/0418).

Funder
This work was supported by The Chartered Society of Physiotherapy Charitable Trust (PRF/12/28).

18

Supporting people with arthritis or joint pain from minority ethnic communities to engage with physical activity: A Realist Synthesis

Alice Berry [1], Terence Brady [2,3], Adaku Onuegbu [3], Emma Dures [1], Nicola Walsh [1]

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[2] Race Equality North Somerset (RENS)
[3] UWE Public Contributor

PROBLEM: The number of people affected by musculoskeletal (MSK) conditions is growing. Many are physically inactive, despite the benefits on MSK health. Certain groups (such as minority ethnic communities) are disproportionally impacted by greater levels of pain and are less likely to be active compared to more advantaged groups, contributing to growing health inequalities.

AIM: To explore how different contextual factors affect engagement with physical activity (PA). What works for who, how, and why?

METHODS: Iterative process of scoping the literature and stakeholder engagement to develop ‘initial programme theories’.

RESULTS: 17 papers included. 4 x stakeholder workshops (Summer 2022). Four theory areas.
Lack of access to support: Difficult to access translator & language barriers, complex booking procedures, short appointment times. This means that patients are unable to adequately explain symptoms and needs to a healthcare professional.
Shared decision-making? Balancing power and expectations: Mismatched expectations, dismissive attitudes, negative messaging around ageing, not listened to. Decisions are not shared, patients become disengaged and disillusioned with any support received.
Patient-centred care? Trust and positive therapeutic relationships: Lack of consistent care, reliance on single appointments, difficulty establishing a contact for long-term support, history of negative experiences and discrimination. Resulting in lack of trust, avoidance of future engagement, seeking alternative avenues of support when in pain (A&E).
Place-based knowledge and support: Patients do not know about PA opportunities in their communities, advice from healthcare professional and PA opportunities are disconnected. Any local (non-NHS) recommendations do not come from a credible source so not trusted and valued.

CONCLUSIONS: What is needed?

- Accessible translation services
- More time and continuity of care
- Balance of power in shared decision making
- Acknowledging previous negative experiences to rebuild trust
- Understanding ethnocultural values of local communities
- Viable, locally available, and acceptable PA opportunities
- Easy to access, credible, community-based long-term support.

Statement of ethical approval

UWE FREC Approval reference: HAS.22.05.106.

Funder

Bristol, North Somerset and South Gloucestershire Integrated Care Board (BNSSG ICB) Launching Fellowship Award.

19

2023 EULAR recommendations for the management of fatigue in people with inflammatory rheumatic and musculoskeletal diseases

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[21] Department Rheumatology, University of Medicine and Pharmacy Iuliu Hatieganu Cluj, Romania
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OBJECTIVES
Fatigue is prevalent in people with inflammatory rheumatic and musculoskeletal diseases (I-RMDs) and recognised as one of the most challenging symptoms to manage. The existence of multiple factors associated with driving and maintaining fatigue, and the evidence about what improves fatigue have led to a multi-faceted approach to symptom management. However, there are no recommendations for fatigue management in people with I-RMDs. This lack of guidance is challenging for those living with fatigue and health professionals delivering clinical care. Therefore, our aim was to developed EULAR recommendations for the management of fatigue in people with I-RMDs.

METHODS
The EULAR standardised operating procedures for EULAR-endorsed recommendations were followed.[1] A multidisciplinary taskforce comprising 26 members from 14 European countries was convened, and two systematic reviews were conducted. The taskforce developed the recommendations based on the systematic review of evidence supplemented with taskforce members' experience of fatigue in I-RMDs.[2,3]

RESULTS
Four overarching principles and four recommendations were developed. Overarching principles include health professionals' awareness that fatigue encompasses multiple

biological, psychological and social factors which should inform clinical care. Fatigue should be monitored and assessed, and people with I-RMDs should be offered management options. Recommendations include offering tailored physical activity and/or tailored psychoeducational interventions and/or, if clinically indicated, immunomodulatory treatment initiation or change. Shared decision-making about fatigue management should consider the individual's needs and preferences, their clinical disease activity, comorbidities and other psychosocial and contextual factors.

CONCLUSIONS
These 2023 EULAR recommendations provide consensus and up-to-date guidance on fatigue management in people with I-RMDs. It is hoped that routine assessment of fatigue in people with I-RMDs will become more common and that uptake of these recommendations will enhance clinical care by managing a prevalent symptom that is a priority for people with I-RMDs.

[1] van der Heijde D, Aletaha D, Carmona L, Edwards CJ, Kvien TK, Kouloumas M, et al. 2014 Update of the EULAR standardised operating procedures for EULAR-endorsed recommendations. Ann Rheum Dis 2015;74:8–13.
[2] Farisogullari B, Santos E, Dures E, Machado PM. Efficacy of pharmacological interventions: a systematic review informing the 2023 EULAR recommendations for the management of fatigue in people with inflammatory rheumatic and musculoskeletal diseases. RMD Open 2023 (Under Review).
[3] Santos E, Farisogullari B, Dures E, Machado PM. Efficacy of non-pharmacological interventions: a systematic review informing the 2023 EULAR recommendations for the management of fatigue in people with inflammatory rheumatic and musculoskeletal diseases. RMD Open 2023 (Under Review).

Statement of ethical approval
N/A (secondary data analysis)

Funder
This study was funded by the European Alliance of Associations for Rheumatology (EULAR): Project HPR052.

20

A service evaluation of prophylactic respiratory management of acute, in-patient metastatic spinal cord compression patients

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Introduction: Metastatic spinal cord compression (MSCC) is a symptom of advanced cancer, caused by metastatic disease resulting in neurological disability (1). Respiratory complications are the most common cause of morbidity and mortality post-spinal cord injury (2). It would be reasonable to translate these trends to MSCC patients, also bearing in mind other factors, including advanced disease and disease burden.

Aim: To implement and evaluate prophylactic respiratory management of newly diagnosed MSCC patients living with advanced cancer and/or nearing the end of their life.

Method: Set in an acute oncology ward of a large teaching hospital within a regional oncology and haematology centre. Peak cough flow (PCF) measurements were introduced as part of the initial MSCC physiotherapy assessment. Following the PCF assessment, an individual physiotherapist would clinically reason which respiratory treatment technique, if any, was most appropriate. Treatment techniques available included: Active cycle of breathing technique (ACBT), supported cough, suctioning, lung volume recruitment (LVR) bags, and mechanical insufflation-exsufflation (MI-E).

Results: Data for 14 consecutive eligible patients were collected between July 2020 and July 2022. Mean PCF was 257 L/min, with 7/13 (54%) patients measuring below the cut off for effective PCF (270L/min) (PCF not measured with one patient due to exacerbated severe end-stage COPD on long-term oxygen).Fifty percent of patients (7/14) required no active treatment but were monitored for respiratory deterioration. ACBT was used for 5/14 (36%), and 2/14 (14%) required a more assistance, using an LVR bag. No patients were treated with MI-E, supported cough or suctioning.

Conclusion: This service evaluation demonstrated that for our acute oncology service, PCF measurements provide a simple, cheap assessment method for this vulnerable population. Prophylactic respiratory techniques can be easily implemented into standard care for MSCC. Further investigation is required to establish wider benefits and patient acceptability of such assessments and interventions.

1. National Institute for Health and Care Excellence (NICE). Metastatic spinal cord compression in adults: risk assessment, diagnosis and management, Clinical guideline [CG75]; 2008.
2. Berlly M & Shem K. Respiratory Management During the First Five Days After Spinal Cord Injury. The Journal of Spinal Cord Medicine. 2007; 30 (4), 309-318.

Statement of ethical approval
NHS ethical approval was not required for the service evaluation. Relevant Trust parties were informed that a service evaluation was being carried out.

Funder
Nil formal funding required for service evaluation. The service evaluation incurred a small cost in the purchase of peak flow meters which was kindly agreed by the ward in their standard stock orders.

21

Establishing evidence–based management of Complex Regional Pain Syndrome to improve clinical outcomes throughout the care pathway: qualitative findings

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[4] Hand Rehabilitation Unit, University Hospitals Bristol and Weston NHS Foundation Trust, Bristol, UK
[5] PPI Partner, University of the West of England, Bristol, UK

Background and aims

Complex Regional Pain Syndrome (CRPS) is a severely disabling and highly distressing chronic pain condition that is characterised by severe and persistent pain, swelling, dramatic changes in hair and nail growth, skin temperature and skin colour[1]. The condition usually occurs following trauma to a limb.

UK guidelines recommend prompt diagnosis and early referral for therapies that encourage movement and use of the limb[2]. In 82% of English NHS Trusts there is no care pathway or agreed initial management for CRPS[3]. Anecdotal evidence suggests clinicians can lack confidence and competence in diagnosing and treating CRPS due to the rarity of the condition.

The overarching aim is to develop a draft care package that will provide a stratified approach to rehabilitation. The aims of the interviews were to assess the nature of the need for a CRPS care package in non-specialist settings and to describe and document the therapies offered in specialist CRPS practice centres.

Methods

Individual semi-structured interviews were conducted via telephone or online with CRPS patients (n=10) and physiotherapists, occupational therapists and hand therapists working in non-specialist settings in England (n=12). A further n=6 therapists working in specialist practice centres in England were also interviewed. Participants were identified via a prior survey and information gathering exercise, via the CRPS UK registry, and through participating NHS trusts. Purposeful recruitment sought to ensure views were elicited from a heterogeneous sample. Each interview, including the giving of consent, was audio-recorded. Data were transcribed verbatim and anonymised prior to being transferred to QSR NVivo for analysis.

Data will be analysed using thematic analysis to generate descriptive codes and identify patterns across the dataset.

Results and conclusion

Data are currently being analysed and will be prepared for presentation at the CHCR conference.

References

1. Harden, R.N., Bruehl, S., Perez, R.S., Birklein, F., Marinus, J., Maihofner, C., Lubenow, T., Buvanendran, A., Mackey, S., Graciosa, J., & Mogilevski, M. (2010). Validation of proposed diagnostic criteria (the "Budapest Criteria") for complex regional pain syndrome. *Pain*, 150, 268-274. doi:10.1016/j.pain.2010.04.030
2. Goebel A., Barker C.H., Turner-Stokes, L., *et al.* (2018). *Complex regional pain syndrome in adults: UK guidelines for diagnosis, referral and management in primary and secondary care*. Royal College of Physicians. https://www.rcplondon.ac.uk/guidelines-policy/complex-regional-pain-syndrome-adults
3. Gillespie, S., Cowell, F., McCabe, C., & Goebel, A. (2018). Complex regional pain syndrome acute care pathways in England: Do they exist and what do they look like? *Hand therapy*, 23, 95-99. doi: 10.1177/1758998318764182

Statement of ethical approval

Favourable opinion was received from London-Brent Research Ethics Committee, UK (ref 21/PR/1763) on 14th January 2022.

Funder

This study is funded by the National Institute for Health Research (NIHR) Research for Patient Benefit Programme (200753). The views expressed are those of the authors and not necessarily those of the NIHR or the Department of Health and Social Care.

22

A Sensory Training System (STS) for use at home by people with Complex Regional Pain Syndrome in England: a proof-of-concept study

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Background and aims

Complex Regional Pain Syndrome (CRPS) can be a highly disabling and distressing chronic pain condition characterised by a range of sensory, motor, autonomic and trophic symptoms. UK guidelines recommend therapy interventions to help normalise touch perception through self-administered tactile and thermal desensitisation activities1. Interventions have been developed, aiming to help individuals broaden their sensory experience, thereby relieving chronic pain. However, therapy-led interventions often experience practical constraints and poor adherence. In response, a sensory training system (STS) device was designed for unsupervised independent home-use at home. This study aimed to explore whether people with CRPS can use the device at home for 30 minutes a day for 30-days. Secondary aims were to determine whether the STS device will change tactile acuity and perceived levels of pain intensity, pain interference, sensitivity, and feelings towards the affected limb.

Methods

A total of 15 eligible participants were recruited to this proof-of-concept study. Participants were asked to measure tactile acuity using a two-point discrimination assessment, complete an online questionnaire at baseline and day 31, and to complete a daily diary. Upon completion of the 30-day use, participants were invited to take part in a semi-structured telephone interview to explore their experiences of using the device.

Pain intensity and pain interference were measured and scored using the Patient Reported Outcomes Measurement Information System (PROMIS®)2. The remaining questionnaire data, comprising tactile acuity results, and device-use data, including frequency and duration of use, were analysed using descriptive statistics. Qualitative data were thematically analysed.

Results and conclusion

Findings from the study are currently being collated and will be prepared for presentation at the CHCR conference.

References

1. Goebel A, Barker CH, Turner-Stokes L *et al*. Complex regional pain syndrome in adults: UK guidelines for diagnosis, referral and management in primary and secondary care. London: Royal College of Physicians, 2018.
2. Amtmann DA, Cook KF, Jensen MP, *et al*. Development of a PROMIS item bank to measure pain interference. Pain 2010; 150:173-182. doi:10.1016/j.pain.2010.04.025

Statement of ethical approval
London-Stanmore Research Ethics Committee provided a favourable opinion on 19th April 2021 (ref 21/LO/0200). The NHS Health Research Authority, UK approved this study on 7th June 2021.

Funder
This work is supported by Versus Arthritis grant number 22029.

23

Enhancing self-directed arm exercise practice using GripAble gaming device and Lycra arm sleeve in people with stroke: An Evaluative Study (work in progress)

Alex Pearce [1], Virginia Ruiz-Garate [1], Praminda Caleb-Solly [2], Jason Welsby [1], Praveen Kumar [1]

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[2] University of Nottingham

Introduction
Each year 100,000 people have a stroke in the UK and <50% regain upper-limb (UL) function. Loss of UL function is devastating to patients, however the amount of UL therapy available in clinical practice is considered significantly lower than national clinical guidelines.[1] Intensive UL rehabilitation is critical to improve use of the affected arm. Evaluating devices that could augment existing services is crucial. GripAble™ is a self-directed exergaming device that has shown to increase repetitive practice.[2] A Lycra arm sleeve could serve as a reminder and encourage use of the affected arm.[3]

Aim
To combine these two technologies and investigate their effects on self-directed exercises and UL activity in people with stroke (PwS) living in the community.

Objectives
- To quantify bilateral UL activity in terms of intensity and functional activity using wrist-worn accelerometers.
- To compare the effects of using the Lycra sleeve combined with GripAble™ gaming device to using GripAble™ only.
- To evaluate changes in the UL function objectively.
- To understand usability and user experience.
- To inform the design of a larger clinical study.

Methodology
We are recruiting PwS through Bristol After Stroke as part of an evaluative study.
The participants are randomised into two groups:
- GripAble™ device alone
- GripAble™ device and Lycra arm sleeve

All participants wear bilateral accelerometers for the duration of the study (4 weeks) to collect UL activity data.

Primary outcomes
UL outcome measures recommended in stroke rehabilitation (e.g. Action Research Arm Test (ARAT), Motor Activity Log) and Technology Acceptance Model questionnaire are considered for assessing acceptability of GripAble™.

Data analysis
Results will be presented using descriptive statistics. Accelerometer data analyses will help to determine activity levels and enable comparative analysis between both arms and between participants. Data collected by GripAble™ will provide details of rehabilitation exercise time and intensity.

Results
This study is ongoing.

References

1. Stockley R, Peel R, Jarvis K, Connell L. Current therapy for the upper-limb after stroke: a cross-sectional survey of UK therapists. BMJ Open. 2019, 30;9(9):e030262. doi: 10.1136/bmjopen-2019-030262. PMID: 31575573; PMCID: PMC6797388.
2. Broderick M, Almedom L, Burdet E, Burridge J, Bentley P. Self-Directed Exergaming for Stroke Upper Limb Impairment Increases Exercise Dose Compared to Standard Care. Neurorehabilitation and Neural Repair. 2021;35(11):974-985. doi:10.1177/15459683211041313
3. Kumar P, Jones R, Cramp M, Greenwood R, White P and Turton A (2022) Acceptability of Lycra arm sleeve as a treatment for glenohumeral subluxation in people with stroke: patients’, carers’ and clinicians’ perspectives (under review)

Statement of ethical approval
Full ethical approval was given by UWE Faculty of Health & Applied Sciences ethics committee (HAS.22.07.137).

Funder
UWE Bristol Vice Chancellor Challenge Fund 2022-23.

24

Empowering future care workforces: Scoping human capabilities to leverage assistive robotics

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[1] UWE Bristol
[2] University College London
[3] University of Nottingham
[4] University of Oxford
[5] University of Bristol

Background:
Assistive robotics have the potential to augment the capabilities and wellbeing of people receiving care, their professional and informal carers, and their families. Deploying Robotics and Autonomous Systems (RAS) in care settings is not straightforward given the

complexity of the care context. This results in a variability of attitudes towards the adoption, acceptance and trustworthiness of RAS. There is an urgent need to work alongside Health Care Professionals (HCPs), patients/ carers to understand how robots can be integrated into care to create an empowered workforce.

Aim

To understand the skills, knowledge and capabilities required by HCPs, patients and carers for effective use of RAS.

Methods:

Co-designed with a representative steering group, we convened a stakeholder group of ~100 HCP (nurses, therapists; patients, families and robotics experts through three rounds of online workshops.

Results:

The study revealed six sets of capabilities critical for effective adoption.

1. HCPs should have confidence in their ability to use robots (self-efficacy).
2. All stakeholders to be involved in learning from interactions with RAS, and be empowered to implement lessons.
3. Roboticists to recognise and respond to a diversity of values and needs.
4. Organisations to ensure that RAS are fairly procured, distributed and accessible across patient pathways and places.
5. HCPs to have the ability to control infrastructure and environment in which RAS are embedded.
6. All stakeholders to ensure design and implementation is responsible.

Discussion /Conclusion:

Ensuring that these capabilities for the foundation of design, evaluation and institutional embedding of training for HCPs, and for investment in digital care infrastructures is critical. Our study revealed how HCPs value a diverse range of often novel capabilities, and how carer roles and subjectivities in the sector are likely to evolve and adapt, often in ways not wanted by HCPs, patients and carers.

Statement of ethical approval

Ethical approval was sought from the Faculty Research Ethics committee, University College London and UWE.

Funder

This research was funded by UKRI Trustworthy Autonomous Systems (TAS), Grant number: EP/V00784X/1.

25

Feasibility, Acceptability and Usability of FitBees (An emerging Digital fitness technology) to promote physical activity in South Asian people (Work in Progress)

Namasivayam Gnanamoorthy [1], **Faatihah Niyi-Odumosu** [1], **Virginia Ruiz Garate** [1], **Jason Welsby** [1], **Praveen Kumar** [1]

[1] UWE Bristol

Background
The benefits of regular physical activity (PA)/exercise are well established. FitBees is an emerging technology that brings digital fitness to a person's home using sensor monitoring systems with potential to enhance PA. Initial testing of FitBees suggests beneficial effects. People from South Asian (SA) communities represent 7% of the UK population and have high risk of type-2 diabetes and cardio-vascular disease and are less likely to engage in PA. We have co-developed exercise videos with a local SA charity (Dhek Bhal).

Research question
Can FitBees digital technology plus the exercise videos be implemented in the homes of people from SA background allowing them to engage in exercise/physical activity?
Objectives
1. To install FitBees home kit and train service users/family members/carers
2. To create social connections between FitBees participants
3. To run 8 weeks of group exercise classes at Dhek Bhal and provide exercise videos to continue exercises at home
4. To evaluate the acceptability/usability, barriers and facilitators to FitBees.

Methodology
We will recruit 20 older adults from Dhek Bhal. The researcher will visit their home to set up FitBees, provide necessary training and establish connections between users. One hour exercise classes will be delivered by physiotherapist for 8 weeks and participants will receive exercise videos for home use. Standardised outcome measures (physical activity questionnaire, Berg Balance score, 6 minutes' walk test) will be administered at the start and end of 8 weeks. All participants will be invited to participate in a semi-structured interview to explore the acceptability/usability of FitBees after 8 weeks.

Data analysis
Quantitative data will be presented using descriptive statistics. FitBees sensor data analyses will determine activity levels. We will compare pre and post PA questionnaires and objective measures variable scores. Interviews will be transcribed, and data analysed using thematic analysis.

Statement of ethical approval
Ethics application to be submitted early May 2023

Funder
UKRI funded project.

26

Social Support in Palliative Care: Moving Forward from the Covid-19 Pandemic

Alice Jennings [1], Natasha Bradley [1]

[1] Centre for Health & Clinical Research, UWE Bristol.

Background

Social isolation and loneliness in palliative care can contribute to low mood, pain, and suffering towards the end of life. Hospices in the UK provide a range of day and outpatient services to facilitate social support for patients and caregivers. These interventions aim to reduce unmet social need and improve wellbeing and quality of life; but there is limited understanding of the contexts and mechanisms that lead to outcomes.

Aims

This research aimed to develop evidence-based explanations of how social support interventions can improve outcomes in palliative care, for whom, and in what circumstances.

Methods

Initially, qualitative data collection took place in nine independent hospices in England: interviews with hospice service-providers (n=19) and researcher observations of day services (n=12). Sampling of research locations was informed by an online survey[1]. Analysis led to the development of initial programme theories. These were later refined through focus groups with hospice staff (n=30) and interviews with palliative care patients (n=16).

Results

Social isolation may be caused by the physical and social restrictions of life-limiting illness, loneliness arises from constraints on emotional disclosure. Making the choice to attend the day hospice provides opportunities that build personal confidence and over time lead to reciprocal friendships. Permission to speak honestly within a safe group environment helps its members share useful information and emotional support.

Conclusion

The findings detail how and why, in some contexts, giving and receiving social support can help people living with life-limiting illness adapt to change and prepare for the future. Social settings within the hospice day service may be impactful in reducing or preventing distress for patients and alleviating caregiver stress. Reported challenges to service provision since Covid-19 include reduced availability of volunteers and increased complexity of patient need.

Statement of ethical approval

Ethical approval was received from the University of Liverpool Faculty Research Ethics Committee ref. 1266 (initial research) and from UWE Faculty Research Ethics Committee ref. HAS.22.09.016 (recent research).

Funder

Economic & Social Research Council, UWE VC Early Career Researcher Award.

27

Effects of Nature-Based Mindfulness on Pain and Wellbeing for Adults with Persistent Pain: A Systematic Literature Review

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[1] UWE Bristol
[2] UWE Bristol final year physiotherapy students at time of review

Background: Persistent pain (PP) is a complex mechanism affecting 23-62% of adults in the UK and is associated with significant reductions in quality of life. Understanding of PP and how best to treat it has developed over the past 50 years, but there is still a vacuum of research to inform novel applications for self-management. Mindfulness techniques and nature exposure have separately been found to have beneficial effects on general wellbeing and health. The integration of the two could produce much needed self-management strategies, improving quality of life in this patient group.

Objectives: To determine if nature based mindfulness (NBM) interventions improve pain and quality of life in adults with PP.

Methods: Systematic literature review. Seven electronic databases were searched to identify quantitative papers investigating nature-based mindfulness and persistent pain. Included articles were appraised using the PEDro tool.

Results: A total of 362 studies were identified. Of these, three were included in the final review. All studies reported statistically significant improvements in self-reported scores for pain ($p = <0.001 – 0.006$) and depression ($p = <0.001 – 0.000$). Other outcomes, such as stress and fatigue produced mixed results.

Conclusion: Despite showing statistical significance in multiple outcomes, the minimal clinically important difference was not reached across all measures. Heterogeneity of interventions and outcomes, as well as methodological issues of internal and external validity preclude definitive conclusions. Further research is required, employing explicit mindfulness interventions and outcome measures with greater relevance and specificity, as well as further investigation of theoretical mechanisms.

Ethical approval
Not required.

Funder
No funding received.

28

Mixed Methods data integration in realist evaluation – moving from Messy to Meaningful?

Nicky Harris [1], **Trudy Goodenough** [1], **Cathy Liddiard** [1], **Behnaz Schofield** [1], **Justin Jagosh** [1], **Sarah Voss** [1], **Grace Scrimgeour** [2], **Hazel Taylor** [2], **Kirsty Garfield** [2], **Nouf Jeynes** [2], **Will Hollingworth** [2], **Matthew Booker** [2]

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[2] University of Bristol

Primary care services are under increasing pressure due to a combination of a growing and ageing population, increased demands on healthcare, and a reduction in the number of general practitioners[1]. Policy initiatives have driven workforce changes, including the introduction of paramedics working alongside GPs in general practices, but there is considerable variation in how paramedics are employed, supported, and the roles that they provide[2]. The READY study is a realist evaluation of the clinical and cost-effectiveness of paramedics working in general practice in the UK.

The aim of this realist evaluation is to understand what it is about paramedics working in general practice that works, or doesn't work, for whom, under which circumstances, and why. This theory-driven approach combines evidence from relevant literature sources, expertise from a range of stakeholders, and abductive thinking to generate provisional theories which can be tested using qualitative and quantitative investigative techniques. However, although the use of mixed methods is a well-established part of the realist toolbox, little exists in the literature about how to integrate disparate data sources and different research paradigms, and how to integrate these in an iterative manner into the theory-development process[3].

The READY study has collected quantitative data about practice activity and patient outcomes, questionnaire data from patients (numerical and free-text) about their experiences and perceptions of safety, interview data from a range of patients and staff about their experiences with paramedics in general practice, and routine data from the primary care electronic health record to inform a health economics perspective. Using the READY study as an example we will outline how the study design, data analysis plans, the shared development of provisional theories, and methodological limitations of different approaches influenced the retroductive process of theory refinement and contributed to evidence-informed theory development.

1. NHS England. *Next Steps On: The NHS Five Year Forward View*. London: NHS England; 2017
2. Schofield B, Voss S, Proctor A, Benger J, Coates D, Kirby K, et al. *Exploring how paramedics are deployed in general practice and the perceived benefits and drawbacks: a mixed-methods scoping study.* BJGP Open 2020.
3. O'Cathain, Murphy, Nicholl. *Three techniques for integrating data in mixed methods studies.* BMJ 2010; 341

Statement of ethical approval
HRA REC reference number: 21/YH/0275.

Funder
NIHR HSDR 132736.

29

How do patient allocation systems work in general practice?

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Background: General Practice services are under increasing pressure due to a combination of a growing and ageing population, increased demands on healthcare, and a reduction in the number of general practitioners (GPs). This leads to pressures on appointment booking systems as the number of available appointments is insufficient to meet demand[1]. One solution to improving access to general practice services is to expand and diversify the workforce, redesigning services by developing multidisciplinary teams of highly skilled healthcare staff who work together alongside GPs. New or extended roles in primary care include first contact physiotherapists, paramedics, clinical pharmacists, GP associates, advanced nurse practitioners, mental health workers and social prescribers[2].

Medical receptionists provide the human interface between the patients who request appointments, and the practice staff who provide them. They provide a range of patient-facing services, arranging appointments and dealing with patient queries face-to-face or over the telephone, but are not clinically trained[3]. Traditionally their role has involved triaging patients to identify and prioritise those with urgent or emergency needs, but increasingly receptionists are also expected to make decisions about the type of clinician most suitable to meet the needs of the patient. There is significant variability between practices about how this process occurs, and how this affects patient experience, outcomes, and staff.

Research question: How do patient allocation systems work? How might practices need to adapt and improve them to meet changing demand in primary care?

Methods: A systematic literature review, bringing together perspectives from business and operations (led by MS) and healthcare (led by NH).

Findings: 740 papers were identified, of which 54 have been retained for full paper screen at the time of abstract submission. A selection will require further data extraction prior to completion of the review in June when results will be presented.

1. NHS England. *Next Steps On: The NHS Five Year Forward View*. London: NHS England; 2017
2. McDermott et al *Scale Scope and impact of skill mix change in primary care in England: a mixed methods study* Health and Social Care Delivery Research. 2022: 10(9),1-148
3. Litchfield et al. *Understanding the invisible workforce: lessons for general practice from a survey of receptionists*. BMC Primary care (2022)23:230

Statement of ethical approval
n/a.

Funder
UWE CHSS-CBL Connecting Research Scheme.

30
Pharmacy Role In the proMotion of continencE (PRIME)

N. Cotterill [1], A. Uren A [1,2], S. Dawson [3], D. Chandler [4], A. Williams [5], H. McLeod [3], M. Watson [6]

[1] UWE Bristol
[2] North Bristol NHS Trust
[3] University of Bristol
[4] Patient/Public Lead
[5] Bedminster Pharmacy
[6] Watson Research and Training Ltd.

Background
Incontinence affects millions of people. Disclosure is poor, meaning opportunities for improvement are reduced (1). Pharmacies are 'close to home' with 89% of the English population having a community pharmacy within a 20-minute walk (2).

Aims
This study comprises the first phase of the Medical Research Council's Framework for Developing and Evaluating Complex Interventions to underpin development of a novel Pharmacy Bladder and Bowel Service (PBBS) (3).

Methods and results

Systematic Review
Four studies of continence interventions in community pharmacy met the criteria and were reviewed (PROSPERO: CRD42022322558). Some evidence of self-help advice provision, staff knowledge and acceptability of this approach was highlighted. Barriers included time constraints and inadequate funding.

Community pharmacy survey
A cross-sectional Qualtrics survey explored existing continence practice in community pharmacies and future opportunities. 30 responses were received: 27 reported continence care as a part of their role; 26 and 13 staff reported working in pharmacies that sold urinary and faecal incontinence products respectively. A clear appetite to do more was reported including assessment and provision of conservative interventions with the key facilitators identified as private consulting space, funding, and adequate staffing and training.

Qualitative stakeholder interviews
Semi-structured interviews were undertaken with members of the public who represented potential service users or their carers (n=8), community pharmacists (n=8), bladder and bowel service care staff (n=8), and healthcare commissioners (n=3). Common themes were identified including the need for training and resources, private rooms ensuring sensitivity and privacy, public awareness campaigns, policy drivers and clear service specifications aligned with guidance.

Conclusions
Despite the widespread availability of community pharmacies, the potential for their contribution toward improving continence education, self-management, and care has not been optimised. The PRIME study provides evidence for the development of a co-

produced PBBS, an innovative approach to transforming continence promotion at the heart of communities.

References
1. Cardozo L, Rovner E, Wagg A, Wein A. Incontinence: Proceedings of the Seventh InternationalConsultation on Incontinence, . Seventh. Cardozo L, Rovner E, Wagg A, Wein A, editors. Plymouth:Health Publications Limited; 2023.
2. Todd A, Copeland A, Husband A, Kasim A, Bambra C. The positive pharmacy care law: an area-level analysis of the relationship between community pharmacy distribution, urbanity and socialdeprivation in England. BMJ Open. 2014 Aug 12;4(8).
3. Skivington K, Matthews L, Simpson SA, Craig P, Baird J, Blazeby JM, et al. A new framework fordeveloping and evaluating complex interventions: Update of Medical Research Council guidance.The BMJ. 2021 Sep 30;374.

Statement of ethical approval
Ethical approval was provided for this study by UWE Bristol’s Faculty Research Ethics Committee (HAS.22.06.117 and HAS.22.08.008).

Funder
NIHR Research for Patient Benefit Programme (NIHR202212).

31

A pragmatic approach to intervention evaluations: Procomp service evaluation case study

Alex Round [1], Sam Sutton [1], Richard Lee-Wright [1]

[1] Unity Insights

With Skills for Care reporting an average vacancy rate of 10.7% and 29% turnover rate for the adult health and social care workforce (SFC, 2022), significant pressures are impacting workers, service users, and local authorities (LA). Due to scarce public funding and potential inefficiencies, innovation has the potential to improve utilisation of the current workforce.

Procomp are a Finnish technology company specialising in workforce optimisation and logistical planning. Their strategic optimisation service aims to improve workforce utilisation and operational efficiency by offering alternative planning solutions.

Unity Insights have been commissioned by WEAHSN to independently evaluate the programme, assessing the effectiveness of Procomp’s Strategic Optimisation Service in supporting the social care workforce. The evaluation takes a process-based approach, endeavouring to review the impact on service users, care workers, and the providers to support LAs with decision making.

Key areas identified:
- Workforce satisfaction, retention, and sickness
- Planning, assessment, and brokerage practices
- KPIs including but not limited to:
  - Reduction in miles travelled per care visit
  - Improved workforce utilisation
  - Reduction in overall travel time
  - Reduction in non-renumerated time

To date an interim report has been delivered containing both quantitative and qualitative results through the following methods:

- Survey responses (*n*= 52)
- Semi-structured interviews (*n*= 4)
- Project team learnings log
- Appointment level provider data (*n*= 174,868)

These findings only represent a snapshot of the total data to be analysed, hence, no conclusions regarding performance can be obtained at this stage.

The report will provide insights into barriers to implementation and baseline results for domiciliary care worker perspectives and outcome measures. This may inform what current processes the programme should continue, or seek to change, as well as highlight areas for further investigation.

Analysis methods for the final report will include pre/post implementation and trend analysis, thematic analysis, and health economic modelling approaches.

References:
Skills for Care. (2022). The state of the adult social care sector and workforce in England 2022. https://www.skillsforcare.org.uk/Adult-Social-Care-Workforce-Data/Workforce-intelligence/documents/State-of-the-adult-social-care-sector/The-state-of-the-adult-social-care-sector-and-workforce-2022.pdf

Statement of ethical approval
This was a service evaluation therefore ethical approval was not required.

Funder
West of England Academic Health Sciences Network (WEAHSN).

32

Yate & Frampton Primary Care Network (PCN) New Frailty Service Evaluation – Real World Review

Justin Rocliffe [1], Sam Sutton [1], Richard Lee-Wright [1]

[1] Unity Insights

Yate and Frampton Primary Care Network have implemented a new frailty pathway aimed at providing additional support for patients who are identified through population health management as frail, with a focus on those patients that are housebound. This pathway is designed to support these patients by offering a personalised approach to care. To achieve this, shared decision making is encouraged to empower patients to have more control over their care plan, with more focus on addressing what matters to them.

Unity Insights were independently commissioned to evaluate service, adopting a mixed-methods approach, collecting qualitative and quantitative data, and building a health economic model.

The service saw 149 patients within primary care during the evaluation period, of these, 100 were able to be matched with secondary care data made available by the local Integrated Care Board. This was used to populate the health economic model to help determine the cost-benefit of the pathway. Data were compared against a baseline period and the results displayed as number of appointments, admissions, or A&E attendances per patient.

Surveys were used to capture staff and patient feedback data through Likert scale and free-text questions. Responses were received from 11 staff and 17 patients and feedback was positive.

Findings included:

- Patients reported that the service felt personalised, they felt listened to, and involved in their care decisions
- 66% of patients who experience isolation reported feeling less isolated as a result of the new service.
- 89% of staff were satisfied with their job.
- £32k savings identified in secondary care

Whilst the new pathway did not break-even, due to staff costs and lower than anticipated activity, the benefit to the patients is clear. A further evaluation is being conducted to determine if the service is sustainable long-term and whether it could be spread.

Statement of ethical approval
This was a service evaluation therefore ethical approval was not required.

Funder
Yate and Frampton PCN through the NHS Ageing Well Programme.

33

Cross-condition Validation of the Steroid PRO Questionnaire: International testing of a questionnaire about treatment with steroids for skin, lung or gastric conditions

Susan Bridgewater [1,2], Anne-Marie Tetsche-Sweeney [1,2], Jen Orme [1,2], Emma Dures [1,2], Mwidimi Ndosi [1,2], Pamela Richards [2], Christine Silverthorne [1,2], Joanna C. Robson [1,2]

[1] Faculty of Health and Applied Sciences, University of the West of England - UWE Bristol, Bristol, UK
[2] Academic Rheumatology, University Hospitals Bristol and Weston NHS Foundation Trust, Bristol, UK

Background: Glucocorticoid drugs (steroids) are used to treat a range of diseases[1] but can cause unwanted side-effects[2]. We are interested in measuring the impact of steroids on health-related quality of life (HRQoL), from the patients' perspective. In a previous study, we interviewed people who are treated with steroids for a rheumatic condition, to learn about steroid impact on their HRQoL. We developed a questionnaire (the Steroid PRO) about the topics they identified as being most important[3].

Objective: To test the 15-item Steroid PRO with adults who take steroids for respiratory, dermatology or gastroenterology inflammatory conditions to evaluate its suitability for use in these specialties, through a peer-reviewed, validated assessment of face-validity and acceptability.

Methods: For each of the medical specialties (respiratory, dermatology, gastroenterology), approximately 20 patients (10 in UK and 10 in USA) will be purposively sampled, to include participants with a range of different diseases and demographics. Cognitive interviewing is used to explore face-validity and acceptability of the Steroid PRO.

Results: We report results from the first 20 patient interviews in the UK (respiratory n=9, dermatology n=8, gastroenterology n=3). All patients reported that the Steroid PRO questionnaire was either 'relevant' or 'very relevant' to them and their disease. 70% felt the questionnaire would be 'very easy' to complete at a clinic visit, and 30% felt it would be 'reasonably easy'.

Conclusion: Patients with respiratory, dermatology and gastroenterology conditions find the Steroid PRO an acceptable questionnaire, relevant to their experience of steroids. Continued purposive sampling will increase the range of patient representation in the final sample of 60 patients. Clinicians from the three specialties in the UK and USA will also be interviewed for their perspectives on relevance and acceptability of the questionnaire.

References:
1. Duru N, van der Goes MC, Jacobs JWG*, et al.* EULAR evidence-based and consensus-based recommendations on the management of medium to high-dose glucocorticoid therapy in rheumatic diseases. *Annals of the Rheumatic Diseases* 2013;72:1905-1913
2. Huscher, D., Thiele, K., Gromnica-Ihle, E., Hein, G., Demary, W., Dreher, R., Zink, A., & Buttgereit, F. (2009). Dose-related patterns of glucocorticoid-induced side effects. *Annals of the rheumatic diseases*, *68*(7), 1119–1124.

3. Bridgewater S, Shepherd MA, Dawson J, Richards P, Silverthorne C, Ndosi M, Almeida C, Black RJ, Cheah JTL, Dures E, Ghosh N, Hoon EA, Lyne S, Navarro-Millan I, Pearce-Fisher D, Ruediger C, Tieu J, Yip K, Mackie SL, Goodman S, Hill C, Robson JC. Measuring the impact of steroid therapy on health-related quality of life in patients with rheumatic diseases: international development of a glucocorticoid treatment-specific patient-reported outcome measure. Rheumatology (Oxford). 2023 Feb 25:kead081. doi: 10.1093/rheumatology/kead081.

Statement of ethical approval
Ethical approval has been received from the University of the West of England (HAS.22.11.035) and the Research Ethics Committee (22/NE/0205). The study is conducted in compliance with the approved protocol and adheres to the principles outlined in the Declaration of Helsinki, the Sponsor's SOPs, and other regulatory requirement.

Funder
Sanofi Research and Development.

34 *Shortlisted for the non-student poster prize

A qualitative study of rheumatology patients' experiences of COVID-19 shielding to identify associated support needs

Christine Silverthorne [1,2], Bethan Jones [1,2], Mel Brooke [2], Laura C. Coates [3], Jen Orme [1,2], Joanna C. Robson [1,2], William Tillett [4], Emma Dures [1,2]

[1] University of the West of England
[2] Academic Rheumatology, Bristol Royal Infirmary, Bristol, UK
[3] Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford, Oxford, UK
[4] University of Bath and Royal National Hospital for Rheumatic Diseases, Bath, UK

Background
During the COVID-19 pandemic, some patients with rheumatic conditions were classified as clinically extremely vulnerable (CEV) and advised to 'shield' (1). Research has demonstrated that many people with rheumatic conditions found the process of shielding had a negative impact on their wellbeing (2, 3). Three years later, many rheumatology patients have only recently ceased shielding, while some continue to shield.

Objectives
To understand the impact of shielding and associated support needs in patients with rheumatic conditions and to understand how rheumatology teams can meet these needs both currently and in any future pandemics.

Methods
Qualitative data collected via telephone and online semi-structured interviews and analysed using reflexive thematic analysis.

Results
Fifteen interviews were conducted. Three main themes represent the data:

'On the hard shoulder of life' captures changes in patients' self-perception. They felt different to others, vulnerable and left behind. The initial sense of shock was followed by a sense of loss as changes became long-term.

'A long and lonely road' captures patients' psychological isolation due to a perceived lack of understanding and support. This included having to prove themselves and justify their shielding behaviours, which impacted their relationships. At times, they felt abandoned by their healthcare providers.

'You can't just flip a switch' captures the difficulty of getting back to normal after shielding. Patients didn't recognise themselves physically and mentally. They wanted to collaborate with health professionals and identified the need for specific guidance and support to recover.

Conclusion
Patients are dealing with lasting physical and mental effects from shielding and consequences of delayed healthcare. Health professionals need time and resources to ask about patients' wellbeing, identify their health needs, and refer/signpost to appropriate

sources of support. Rheumatology specific guidelines would benefit patients during any future pandemics.

References
1. ONS, 2020: https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronavirusandclinicallyextremelyvulnerablepeopleinengland/22februaryto27february2021#reasons-for-clinically-extremely-vulnerable-people-leaving-their-homes
2. Versus Arthritis, 2020: https://committees.parliament.uk/writtenevidence/18230/pdf/
3. Sloan, M., Gordon, C., Lever, E., et al. COVID-19 and shielding: Experiences of UK patients with lupus and related diseases. *Rheumatology Advances in Practice*, (2021) 5(1). https://doi.org/10.1093/rap/rkab003

Statement of ethical approval
The study was approved by the Health and Applied Sciences Faculty Research Ethics Committee of the University of the West of England (reference: HAS.21.12.047).

Funder
The project was funded by the Bath Institute for Rheumatic Diseases (BIRD).

35

Understanding risk and uncertainty in cervical cancer prevention: A protocol for building meaningful patient and public engagement co-design

Madeleine Tremblett [1]

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Background:
Human papillomavirus (HPV) screening is a standard preventative strategy for cervical cancer. Invites to screening detail the risks associate to HPV. However, this information is hard for people to understand[1]. Screening positive for HPV affects wellbeing negatively[2], which could be mitigated by better pre-screening information. Although communication about HPV is a known problem, few researchers have examined the written information in screening invites. I am developing a body of work to examine this risk communication, of which PPIE will be integral. Co-design with PPIE groups can help develop key research areas, but there is limited guidance on how to run meetings effectively.

Aims:
To evaluate a patient and public involvement and engagement (PPIE) co-design activity to improve risk communication in information leaflets in cervical screening invites. We will examine:
1) How PPIE group members are given space in a meeting to voice their views
2) PPIE group members experience of the co-design process.

Method:
1) Conversation analysis (CA) of the online meeting to examine how participants are given space in the meeting.
2) Survey of participants experience, focusing on what was helpful when they took part and what was challenging.

Results:
The results are anticipated to inform researchers on how to organise meetings inclusively for all participants when co-designing resources with PPIE groups. Analysis of the conversation will give insight into effective ways to allocate turns in meetings. Feedback from the PPIE group will help point to things experienced as challenging in the meeting, which can be unpicked using CA. Feedback may highlight broader elements to develop in co-design experiences (e.g. how useful the resources sent in advance of the meeting were).

Discussion:

Evaluating this protocol will help provide a template for future researchers to understand what is helpful, or not so helpful, when trying to run co-design activities.

[1] Okan, Y., Petrova, D., Smith, S. G., Lesic, V., & Bruine de Bruin, W. (2019). How Do Women Interpret the NHS Information Leaflet about Cervical Cancer Screening? *Medical Decision Making*, *39*(7), 738–754. https://doi.org/10.1177/0272989X19873647

[2] Pinnell, I., & Sanger, K. (2020). How to discuss the human papillomavirus infection with patients in primary care. *Primary Health Care*. doi: 10.7748/phc.2020.e1666

Statement of ethical approval
The evaluation activity has received conditional approval by the UWE Faculty of Health and Applied Sciences Ethics Committee (UWE REC REF No: HAS.23.03.094).

Funder
REISS: Psychological Sciences Research Group.

36

Reducing the impact of digital exclusion on people’s health and well-being: The role of community-based interventions

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[2] Department of Social & Policy Sciences, University of Bath, Bath, UK.

Background:
Digital exclusion occurs when people are less able to benefit from digital technology. They may have limited access, skills, and motivation to use digital technology. Digital exclusion is prevalent among minority ethnic groups, especially older adults. This prevents engagement with digital health services, which could worsen health conditions. Community-based health interventions aim to improve engagement with health services, public health programmes, and digital health tools. However, little is known about how and why these interventions work, for whom, to what extent and in what circumstances.

Aim:
This study explores how a community-based health intervention, delivered by CaafiHealth in partnership with a Primary Care Network, could help to reduce digital exclusion and improve the health and wellbeing of people from minority ethnic groups.

Methods:
A scoping review was carried out to understand the context of digital health exclusion. We then undertook a realist evaluation of a community-based health interventions ran by CaafiHealth. Quantitative data on health screening and management of long-term conditions have been captured to assess intervention outcomes. Qualitative interviews have been carried out with service users, healthcare professionals, CaafiHealth staff, commissioners, and clinical leads. Context-mechanism-outcome configurations will be used to explain the impact of community-based health interventions on digitally excluded communities.

Results:
A total of 43 papers were included in the scoping review. We summarise individual, interpersonal, institutional, and infrastructural factors influencing access to digital health services, and thus the outcomes of digitisation. Data analysis is ongoing. Preliminary findings from interviews (n=20) suggest how and why community-based intervention can address the individual, interpersonal, and institutional barriers affecting access to digital health services.

Conclusions:
Community-based interventions reduce the impact of digital exclusion on health outcomes by facilitating digital access, providing health education, and advocating for patient needs. This serves to build trust between patients and the healthcare system.

Statement of ethical approval
This study has been approved by the University of the West of England Research Ethics Committee Ref: HAS.22.11.037.

Funder
Bristol, North Somerset and South Gloucestershire Integrated Care Board.

37

Did stopping ultrasound surveillance during COVID-19 result in an increase of the dialysis access thrombosis rate?

Karen Allsopp [1], Lindsay Smith [2]

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[2] UWE Bristol

Purpose: The COVID-19 pandemic resulted in cessation and subsequent reduction of routine care including the outpatient ultrasound surveillance of arteriovenous fistulae (AVF). This un-planned service disruption allowed evaluation of effectiveness of ultrasound surveillance in reducing AVF and arteriovenous grafts (AVG) thrombosis.

Methods: This study was a secondary data analysis of monthly access patency for all in-centre patients receiving haemodialysis using an AVF or AVG over a two-year period (April 2019-March 2021). Age, access type, patency and COVID status were measured as variables. Thrombosis rates for the 12 months prior to COVID-19 and then during the first 12 months of the pandemic were also measured. Statistical analysis to assess mean and standard deviation for relevant variables was used. A p-value of <0.05 was deemed significant.

Results: The study included 298 patients. At the end of the study an increase in thrombosis rate (%) in the non-surveillance year was observed (1.20 thrombosis/patient/year in the surveillance group vs 1.68 thrombosis/patient/year in the non-surveillance group). Monthly mean of thrombosed access during surveillance was (M= 3.58, 95%Cl 2.19-4.98, SD = 2.193) and during non-surveillance was (M=4.92, 95% Cl, 3.52-6.31, SD=2.19); t (7148) =2.051, p = 0.038.

Conclusion: Reduction in routine ultrasound surveillance following the COVID-19 pandemic was associated with a significant increase in access thrombosis rate. Further research is needed to unpick whether the associations seen were directly due to service changes, associated with COVID-19 or other factors during the pandemic. This association was independent of SARS-CoV-2 infection status. Clinical teams should consider alternative service delivery options including out-reach, bedside surveillance to balance risks of access thrombosis versus reducing the risk of nosocomial infection with hospital visits.

Statement of ethical approval
Ethical approval not required as service evaluation.

Funder
No funding required.

38
Supporting women with learning disabilities to make infant feeding decisions

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[2] School of Art and Design, UWE Bristol
[3] Centre for Public Health and Wellbeing, School of Health and Social Wellbeing, UWE Bristol
[4] Bristol Medical School, University of Bristol

Background
Women with learning disabilities are less likely to breastfeed than other women. Preparing to feed a baby involves learning new skills and information; especially challenging if this is not in an accessible format. We were interested in how women are supported to make infant feeding decisions; what resources are available and how they are used; little is known about the acceptability of existing resources/visual images.

Methods
This was a three-stage project:
1. Scoping review of literature and resources to support infant feeding decisions (Johnson et al. 2022).
2. Interviews with seven UK health professionals about their experiences of supporting women with learning disabilities in making infant feeding decisions (Dowling et al. 2022).

3. A focus group with women with learning disabilities to understand how they feel about the accessibility of infant feeding resources and alternative representations of infant feeding (written for publication, submitting shortly).
Interview and focus group qualitative data were analysed using reflexive thematic analysis (Braun and Clarke, 2022), whilst a visual analysis of the key images shown to focus group participants was undertaken.

Results/findings
There is little evaluation of the imagery used in existing resources. Health professionals highlighted the importance of unconditional, positive regard, being part of the support network, and the need for an individualised approach. Women with learning disabilities identified the need for a variety of accessible resources, avoiding the one-size-fits-all approach, recognising and embracing differences in terms of understanding, visual literacy and cultural taste.

Conclusion
Women with learning disabilities can make and put into practice infant feeding decisions if they have access to the right support at the right time. Further development of a suite of co-produced resources is needed.

References
Braun, V., and Clarke, V. (2022) Thematic Analysis: A Practical Guide. London; Sage.

Dowling, S., Douglass, E., Lucas, G., & Johnson, C. (2022). Supporting women with learning disabilities in infant feeding decisions: UK healthcare professionals' experiences. Maternal & Child Nutrition, e13432. https://doi.org/10.1111/mcn.13432

Johnson, C., Douglass, E., Lucas, G., & Dowling, S. (2022). Supporting women with learning disabilities in infant feeding decisions: a scoping review. Maternal and Child Nutrition, 18. https://doi.org/10.1111/mcn.13318

Statement of ethical approval
Ethical approval was granted by UWE Research Ethics Committee on 7 October 2020 (review number HAS.20.07.205), with an amendment related to video-call interviewing granted on 20 November 2020.

Funder
UWE, Bristol Vice-Chancellor's Challenge Award, 2020-21; AHRC Impact Accelerator fund.

39

“My Life” Group Evaluation: How a Co-produced Lifestyle Programme can support Individuals with Severe Mental Illness (SMI) to live well

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[1] Gloucestershire Health and Care NHS Foundation Trust
[2] Gloucestershire Hospitals NHS Foundation Trust
[3] Patient representatives
[4] Aspire Sports and Cultural trust, Gloucester

Background: Individuals with severe mental illness (SMI) die 20 years earlier than the general population. This is partly attributable to the development of cardio-metabolic diseases, cancer and obesity, often as a result of sedentary lifestyles and the side effects of prescribed medication. Stigma, social exclusion, a lack of motivation and social support compound these problems. To optimise chances of permanent lifestyle change, interventions are required that promote inclusion, acceptance, and a sense of belonging.

Aim: To improve the physical activity levels of adults with SMI.

Objectives:
1) To educate individuals with SMI in line with "5 Ways to Wellbeing"
2) To promote long term self-management by encouraging sustained increases in physical activity
3) To develop peer-led support networks to motivate, inspire and celebrate success

Methods: A 12-week group programme of education (healthy eating, goal setting, dental health, sleep/relaxation), physical activity, and supported peer discussion was implemented. Baseline measurements included: blood pressure, resting heart rate, height, BMI, 1 minute sit to stand test (STS), BORG rate of perceived exertion scale (RPE), 6-minute walk test (6MWT) and the PROMiS Global 10 questionnaire.

Results: Eight adults (4 male, 4 female), mean age 40 (range 25-50) commenced the programme with a 75% completion rate. There was improvement in muscular and cardio-respiratory endurance with a mean increase of 9 repetitions (range 2-16) in the 1-minute STS test and a mean increase of 186 metres (range 50-340) in 6MWT. Mean improvement in RPE was +4 (range 1-6) in the 6MWT. There was minimal change in weight and BMI. Participants feedback was positive reporting "feeling safe", "trust", "more confidence" to exercise and enjoyed "being pushed". Participants also experienced "a camaraderie which helped to motivate myself and others in the group."

Conclusion: The 'My Life' group programme introduced adults with SMI to supervised physical activity and improved elements of their physical fitness and mental health.

Statement of ethical approval

As a service evaluation, ethical approval was not required but governance and oversight were provided by the Research and Development Unit of Gloucestershire Health and Care Trust.

Funder

The project was not directly funded but was partly undertaken during Research Champion hours at Gloucestershire Health & Care NHS Foundation Trust, a position that was funded through Development Funding secured from the Clinical Research Network West of England to support the promotion and development of research in the Trust.

40

Paramedic use of the Gold Standards Framework Proactive Identification Guidance in screening patients for End of Life: A mixed methods study with explanatory sequential design

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[2] South Western Ambulance Service NHS Foundation Trust
[3] NHS Bristol, North Somerset and South Gloucestershire Integrated Care Board
[4] University of Bristol

Background
The role of the Emergency Medical Service (EMS) in End of Life (EOL) is often overlooked. The Gold Standards Framework Proactive Identification Guidance (GSFPIG) is an evidence-based screening tool to identify patients nearing EOL. We conducted a quantitative investigation using the GSFPIG to determine how often paramedics attend EOL patients with and without Advance Care Planning (ACP) in place followed by a qualitative interview study of paramedic perspectives on the usability and acceptability of the GSFPIG.

Methods
A mixed methods explanatory sequential design was used. Thirty-five paramedics were recruited from one EMS in England. Paramedics were trained in study procedures and asked to apply the GSFPIG to every patient they attended, aged 65 and over, and to record EOL status and ACP presence. Data was analysed using descriptive statistics. Ten paramedics were purposively selected for an individual interview to explore their experiences of using the GSFPIG and the concept of paramedics referring EOL patients to the GP to implement ACP. Framework analysis was used to analyse interview data.

Results
Almost half (119/244;48.8%) of patients identified as EOL had no ACP in place. Where ACP was in place 37% of patients had a Do Not Attempt Resuscitation Order only, 50% a Recommended Summary Plan for Emergency Care or Treatment Escalation Plan and 13% unknown ACP type.

Analysis of ten paramedic interviews identified three key themes: Participant experiences of using the GSFPIG; Putting a screening and referral tool into practice; Paramedic views on ACPs.

Conclusions
Paramedics are well placed to identify patients who would benefit from an ACP. The GSFPIG has utility in EMS and paramedics found it easy to use. Paramedics report that good quality ACP allows them to provide treatment and care in line with patient preferences.

Statement of ethical approval
This study received Health Research Authority approval (IRAS 315715) and UWE ethical approval (UWE REC REF No: HAS.22.06.12).

Funder
Research in Emergency Care, Avon Collaborative Hub (REACH).

41
Examining the Occupational Stress Experienced by Ambulance Staff: A Mixed-Methods Stress Audit

Zoe Anchors [1], Lee Moore [2], Rachel Arnold [2], Helen Nicholson [1], Nicola Walsh [1], Sarah Voss [1]

[1] University of the West of England, School of Health and Social Wellbeing
[2] University of Bath, Department for Health

Objectives: UK ambulance staff are the most burnt out in the NHS and work stress is a key reason for staff absence. Work stressors such as lack of manager support and poor work-life balance have previously been identified for ambulance staff. The current study will investigate which specific stressors have the most negative impact on health, well-being, performance, and intention to leave; whether these impacts are mediated by cognitive appraisals or coping strategies; and which ambulance staff are most at risk of stress-related problems.

Methods: A mixed-methods stress audit will be conducted amongst ambulance staff in Southwest England (n = 7045), comprising an online survey and individual interviews. The survey will assess the entire stress process (stressors, appraisals, coping), key outcomes (mental health, well-being, performance, and intention to leave), and stress management preferences. Semi-structured interviews (n = 8) will explore stress experiences and future stress management intervention ideas.

Results: Data collection will begin in May 2023. Multiple regression analyses will be used to examine the relationships between predictors (e.g., stressors) and outcomes (e.g., well-being). ANOVAs and t-tests may also be used to explore differences between groups (e.g., lone vs. team responders). A full thematic analysis of all qualitative data will be conducted.

Conclusions: Findings will: (1) identify which stressors are having the most negative impact on ambulance staff, (2) understand why this impact may occur, and (3) which staff are most at-risk. This vital information will inform the effective development and delivery of tailored stress management interventions.

Statement of ethical approval
Ethical approval was received by the University of the West of England University Research Ethics Committee [reference: HAS.23.02.082] and by the Health Research Authority (HRA) [Date: 16.03.23, IRAS ID: 325567].

Funder
Bristol, North Somerset and South Gloucestershire Integrated Care Board (BNSSG ICB) Research Capability Funding.

42

Using observation of physiotherapists' practice with stroke patients to inform the development of soft wearable exoskeletons for rehabilitation of mobility

Leah Morris [1], **Mary Cramp** [1], **Ailie Turton** [1]

[1] **University of the West of England, Bristol**

Introduction: Each year in the UK 100,000 people have strokes. Stroke can cause one-sided weakness of the body and difficulties with physical functions. Physiotherapy aims to improve the mobility individuals, with repetitive movements crucial for re-learning motor functions. Physiotherapy sessions are restricted by staffing capacity and therapist fatigue. Exoskeletons may ameliorate these challenges; however, rigid exoskeleton development has been poorly informed by clinical expertise and uptake is poor.

Aim: inform the development of soft exoskeletons for use in stroke rehabilitation through observation and analysis of physiotherapist and patient treatment sessions targeting mobility training.

Methods: Physiotherapy sessions with 15 patients with stroke that concentrated on sit-to-stand/stand-to-sit and walking were video recorded. Audio was transcribed and researcher observations recorded. Follow-up interviews with physiotherapists were carried out within 10 days. Interviews involved reviewing videos, discussing therapists' clinical reasoning and the potential for assistance from a soft wearable device. Biomechanical data and clinical measurements were collected from a subset of stroke participants who could attend a movement laboratory.

Analysis: Framework Methods. Researchers approached analysis with pre-existing ideas, informed by a review paper and consultation with Clinical Partners. Relevant video sections were cross-referenced with interview data. Codes were generated inductively from the data, predominantly by one researcher. After the coding of three transcripts, triangulation was undertaken, and three researchers agreed on an Analytic Framework that was applied across cases (Indexing). In a process similar to Charting, codes regarding patient context, therapist facilitation and clinical reasoning were linked, and raw data presented. Cases were analysed collectively, through listing all themes and identifying overarching themes. Mapping connected cases and themes, creating an explanation of data and concepts. Biomechanical data was analysed descriptively and used to further understand patient mobility challenges and physiotherapists' clinical reasoning.

Findings: Analysis is ongoing, however, findings will be available by the conference date.

Statement of ethical approval

The study was granted NHS and REC ethical approval (IRAS ID 264069, 27 July 2020) as well as approvals from the University of Bristol and University of the West of England, Bristol's ethics committees.

Funder

Engineering and Physical Sciences Research Council.

43

Embedding lived experiences of chronic pain throughout the research process: developing a network of public contributors

E. Readman [1], **L. Austin** [3], **C. A. Chew-Graham** [4], **S. Grieve** [1,2], **R. Harrison** [4], **A. Higginbottom** [4], **C. McCabe** [1], **N. Shivji** [4], **I. Taverner** [3], **C. Wilkinson** [3]

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[2] Royal United Hospitals Bath NHS Foundation Trust, Bath UK
[3] University of Bath, Bath, UK
[4] School of Medicine, Keele University, Newcastle, Staffs, UK

Background and aims
The Consortium to Research Individual, Interpersonal and Social Influences in Pain (CRIISP) is a collaboration of nine UK universities investigating how thoughts and feelings, personal relationships and lifestyle can affect chronic pain. This work was supported by equal investment from UKRI and Versus Arthritis through the Advanced Pain Discovery Platform initiative. Within CRIISP, we have a public involvement (PI) workstream, co-led by people with lived experience, which aims to establish a network of public contributors (PCs) to work in equal partnership with researchers across all workstreams.

Methods
Targeted advertising via pain organisations invited adults with chronic pain, or caring for someone with chronic pain, to apply for PCs roles. An inclusive recruitment strategy promoted diversity including gender, age, ethnicity, and prior experience of PI work. Interested individuals were provided with a role outline and access to a bespoke website with 'Find Out More' video content. Governance documentation was produced by the PI team to ensure data protection and safeguarding safe practice. The leadership and contribution of the PC's were integral to all processes.

Results
28 PCs were appointed. Induction training sessions were delivered as a recorded video or 'live' via Microsoft Teams.

Conclusions
The PI network has successfully begun working in collaboration with the CRIISP research teams to ensure the voices of people with chronic pain are heard in all aspects of CRIISP. Working in partnership with people with lived experience of pain, will fully embed their contribution across all workstreams. We will evaluate all processes to inform future PI involvement.

Statement of ethical approval
Not applicable.

Funder
UKRI & Versus Arthritis.

44 *Shortlisted for the non-student poster prize

Exploration of barriers and enablers to shoulder rehabilitation exercises

Vincent Singh [1], Alice Berry [1], Fiona Cramp [1]

[1] University of the West of England, Bristol

Introduction: Shoulder pain is a highly prevalent complaint and prescribed exercises are the main non-surgical intervention. However, little is known about the factors influencing patient adherence. Therefore, the aim of this study was to identify appropriate behaviour change techniques from the Theoretical Domains Framework (TDF) to propose a theoretically informed intervention aimed at enhancing adherence to shoulder rehabilitation exercises.

Methods: Eleven semi-structured interviews were conducted with people who had rotator cuff related shoulder pain. Data was analysed using content analysis and the TDF.

Results: The following themes were identified and assigned the TDF domain. Previous experience with physiotherapy exercises had an impact of future beliefs with those who had successful treatment experiences believing that physiotherapy worked (TDF beliefs). Those who did not previously do the physiotherapy exercises believed that it does not work. Some, for whom the physiotherapy exercises did not work, believed that there was something else wrong which was subsequently confirmed with further investigation. There was a disconnect between the patient care guidelines and patient expectancies (TDF environmental context). Several patients believed that they should have an investigation first to guide the treatment (TDF belief expectancy). During the initial consultation patients valued knowing what the problem was and being reassured that it will get better by doing the rehabilitation exercises (TDF knowledge of condition, optimism). Patients were more inclined to do the home exercises if they felt improvements and incorporated them into their daily routine (TDF environmental context, knowledge, belief about consequence, self-confidence, competence, professional confidence and skill development). Patient education needed to include a clear diagnosis and specify the physiotherapy exercise prescription (TDF knowledge, skill development).

Conclusion: Knowing these factors that influence people's adherence to shoulder rehabilitation exercises will inform the development of interventions designed to improve adherence and thereby improve clinical outcomes and reduced costs.

Statement of ethical approval

Ethical approval was granted by HRA and Health and Care Research Wales Approval 14th April 2022 REC reference: 22/NS/0049.

Funder

UWE Vice Chancellor's Early Career Researcher Award.

45

Voices in a Pandemic (VIP): exploring young children's perspectives and experiences during COVID-19 'recovery'

Toity Deave [1], **Lindsey Jo McEwen** [2], **Verity Jones** [3], **Luci Gorell Barnes** [4], **Amanda Weber** [5], **Sara Williams** [2], **Laura Hobbs** [5], **Laura Fogg-Rogers** [5], **Deepak Gopinath** [2]

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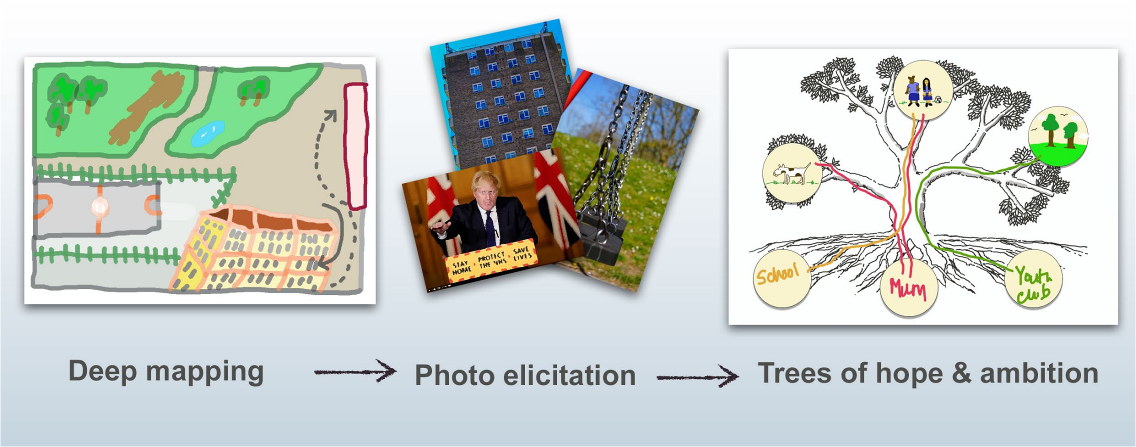
[3] Primary Education, UWE Bristol
[4] Socially-engaged artist, Bristol
[5] Science Communication Unit, UWE Bristol

Understanding recovery from the COVID-19 pandemic has been particularly problematic in the case of young children because their voices have been largely unheard, even though they were significantly affected by COVID-19 mitigation measures. There has been a dominance of adult-led responses and the impact of complex social settings on young children was unknown. The VIP-CLEAR project set out to gather and critically evaluate the worldviews, perceptions and experiences of young children (6-11 year-olds) in socially disadvantaged settings in multicultural Bristol, UK so that this evidence could support their involvement in 'recovery'. Working with a socially engaged artist and four partner schools located in areas of social disadvantage, we employed a sequence of creative, child-focused, participatory methodologies.

In the first stage we engage children in a mapping process to explore questions of 'What is your world like now?' Secondly, we worked with a photo activity, children used images of people, places and objects to explore their feelings and experiences of the pandemic. Thirdly, the 'Voices in the Trees' activity, supported each child to explore hopes and ambitions. Analysis was multi-disciplinary combined with thematic visual-narrative analyses followed by paired interdisciplinary group discussion; a series of themes were identified. Overall, there were a diversity of experiences of lockdown and emergence on various continua: (re)connection – disconnection; presence-absence/loss; real-imagined.

Based on the three stages above, we developed a free children's book, '*Learning to live with fog monsters*', with accompanying teachers' notes. It aims to engage and enable children in key stage 2 (ages 7–11), while supporting teachers to deliver high-quality, research-informed lessons, thus making a difference to children's well-being, resilience and understanding of challenging times.

The poster will describe and represent the project and a summary of our findings using artwork that the children created during the sessions (see below).



Statement of ethical approval
The research received ethics approval from the UWE Research Ethics Committee.

Funder
Arts and Humanities Research Council.