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MEETING ABSTRACTS

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P1

GERONTE Project: Development of a Framework to support implementation of Complex InterventiOns using Technology (Clo-uT): An Action Research study as part of multisite Randomised Controlled Trial

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Implementation Science 2023, **18(Suppl 1):**P1

Background

GERONTE is an EU funded project designed to improve the quality of life for older cancer patients with comorbidity by designing, implementing, and testing a novel technology-supported care pathway. Achieving efficiency and personalised care requires complex change to healthcare systems. Information Technology can support needed coordination (data sharing, communication, safety checks) on a large and sustainable scale. Implementing change into existing systems has high failure rates, due to patient and organisational-related complexity, highlighting the need for tailored, agile implementation plans. Implementing Science has established core theories and frameworks, but limited evidence on frameworks for complex interventions using technology.

Method

The aim is to co-create a framework to support widespread sustained implementation of the GERONTE intervention by identifying the: 1) intervention's mechanism of action; and the 2) contexts and strategies that impact implementation. An Action Research approach, using analysis and synthesis of qualitative and quantitative data, collected from the literature, and interviews, observation, and surveys with stakeholders, to co-design, test and refine the framework.

Results

The framework is at the co-creation stage, with analysis across stakeholders and contexts, to identify key factors that impact GERONTE's design, adaption, and implementation. The CLO-uT framework will build on, and apply, existing Implementation Science knowledge to support the implementation of innovative solution in line with changing healthcare needs and technological developments.

Conclusion

CIO-uT will provide a practical user-friendly framework to support the implementation of complex technology-supported interventions GerOnTe: Streamlined Geriatric and Oncological evaluation based on IC Technology for holistic patient-oriented healthcare management for older multimorbid patients.

Trial Registration: Non applicable

Consent to publish
Non applicable

P2

Co-design of an implementation plan for a digital holistic assessment and decision support framework for people with dementia care in care homes

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Implementation Science 2023, **18(Suppl 1):**P2

Background

Positive findings around the use of eHealth to support dementia care in care homes are unfortunately insufficient to ensure its adoption in routine practice. A key strategy to promote uptake of eHealth is to co-design the intervention and implementation plan with users and

relevant stakeholders. The aim of this study was to develop a plan with people with dementia, family carers and health and social care professionals to implement an eHealth intervention in care homes.

Method

An iterative co-design method was applied through a series of workshops which focused on co-developing implementation strategies, in response to identified determinants of implementation. Participants included family carers of people with dementia and practitioners with direct experience of working in care homes. A deductive thematic analytic approach was taken, guided by the constructs of the Normalisation Process Theory (NPT). Where data did not align, an inductive approach was taken.

Results

Implementation strategies which promoted the constructs of the NPT were selected. To target 'coherence', strategies focused on developing materials to promote the value of the eHealth intervention. 'Cognitive participation' was targeted through strategies which aim to maximise engagement with the intervention, including identifying champions and engaging care home managers. To promote 'collective action', strategies centered around maximising compatibility between routine practice and the intervention, and providing sufficient training and built-in user prompts. Strategies around ongoing adjustment and evaluation of the plan targeted 'Reflexive monitoring'.

Conclusion

Implementing eHealth into such a complex system is a multifaceted process involving multiple stakeholders. Collaborating with stakeholders provided unique insight and perspective which can only be gained through lived-experience, and allowed us to co-develop a credible implementation plan with real world relevance. The theoretically informed strategies target the constructs of the NPT; mechanisms previously demonstrated to shape implementation process and outcomes. The plan is now ready for feasibility testing in care homes.

Trial Registration

Non applicable

Consent to publish

Non applicable

O3

Maximizing knowledge from systematic reviews of complex interventions

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Implementation Science 2023, **18(Suppl 1):**O3

Background

Well-conducted randomized controlled trials (RCTs) are the gold standard for estimating intervention effects, and systematic reviews (SRs) of trial evidence are cornerstone to informing evidence-based practice, policy, and research. However, understanding the effects of complex interventions using standard SR approaches is challenging given the diversity of intervention content, delivered in diverse ways, evaluated in diverse designs using diverse outcomes. We describe methodological adaptations to standard review processes to enhance the informativeness of complex interventions SRs.

Method

The adaptations described are drawn from experiences in conducting 3 large SRs over the past 10 years.

Results

Question formulation - we adopted a modest and multivariable approach to inference. We assume true causal inference is not viable nor appropriate, but principled learning about associations between factors of interest and outcomes may be feasible. Data collection - contacting authors for additional details about interventions is feasible to supplement trial reports and authors are twice as likely to respond to requests if contacted by telephone vs email (1). Constructing a posterior distribution of intracluster correlation coefficients (ICC) is feasible and offers a principled approach to imputing missing ICCs among cluster RCTs that fail to account for unit of analysis errors (2). Data extraction – we have operationalized standardized taxonomies to code intervention content (3) to ensure robust (i.e., clinically or theoretically meaningful) coding. Data synthesis – we have found multivariable meta-regression models offer a feasible and informative approach to estimating the association between factors of interest and outcomes (4). Data reporting – we have adopted transparent reporting of our methods of data collection, manipulation, imputation, and analysis to complement the interpretation of our findings. We suggest complex interventions reviews are optimally suited to a living review framework (5).

Conclusion

Methodological adaptations of standard approaches may help enhance the informativeness of complex intervention SRs.

Trial Registration: Non applicable

Consent to publish

Non applicable

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O4

Using behaviour change theory to assess intervention effectiveness in audit and feedback trials: A method for classifying and analysing interventions

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Implementation Science 2023, **18(Suppl 1):**O4

Background

Audit and feedback (A&F) is a frequently used quality improvement strategy to improve the implementation of evidence-based practice in healthcare. There is consistent evidence that A&F interventions deliver

modest, variable, but significant improvements in clinical outcomes [1]. We are in the process of conducting an updated Cochrane review comprising 293 randomized trials of A&F. As part of this update, we examined intervention content to better understand which components are associated with greater effect sizes. We have used the behaviour change technique (BCT) taxonomy to content analyse the trials and leverage existing behaviour change theories to highlight key constructs relevant to A&F. The aim of the present study was two-fold: (1) to map key constructs of selected behaviour change theories relevant to A&F to BCTs; and (2) to describe the extent to which randomised trials of A&F incorporate theory-informed BCTs.

Method
We selected five behaviour change theories relevant to A&F: Goal Setting theory, Control theory, Feedback Intervention theory, Health Action Process Approach and Social Cognitive theory. For each theory, theoretical constructs were identified and linked to BCTs. For cross-validation, two separate processes were applied: theory experts cross-checked the BCT mapping onto constructs and A&F experts judged these BCTs for their relevance to A&F practice. Theory-informed BCTs were compared with BCTs identified in the analysis of the A&F trials included in the forthcoming Review.

Results
Preliminary results yielded 58 BCTs linked to constructs in one or more theories. The most frequently identified BCTs in theories were: 'goal setting (behaviour)', goal setting (outcome)', 'action planning', 'review behaviour goal', and 'review outcome goal'. In contrast, the most frequently identified BCTs in the A&F trials included in the review revealed 'feedback', 'instruction', and 'social comparison' to be the most frequently used.

Conclusion
Methodological considerations as well as implications for A&F research and practice will be discussed.

Trial Registration: Non applicable

Consent to publish
Non applicable

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P5

Implementation and dissemination of home and community-based interventions for informal caregivers of people living with dementia: a systematic scoping review

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Implementation Science 2023, **18(Suppl 1):**P5

Background
Informal caregivers of people with dementia (PwD) living at home are often the primary source of care, and, in their role, they often experience loss of quality of life. Implementation science knowledge is needed to optimize the real-world outcomes of evidence-based interventions (EBIs) for informal caregivers. This scoping review is the first to systematically synthesize the literature that reports implementation strategies employed to deliver home- and community-based EBIs for informal caregivers of PwD, implementation outcomes, and the barriers and facilitators to implementation in the research context.

Method
Embase, MEDLINE, Web of Science and Cochrane Library were searched from inception to March 2021; included studies focused on "implementation science", "home- and community-based interventions" and "informal caregivers of people with dementia". Titles and abstracts were screened using ASReview (an AI-based tool) and data extraction was guided by the ERIC taxonomy [1], the Implementation Outcome Framework [2], and the Consolidated Framework for Implementation Science Research [3]; each framework was used to examine a unique element of implementation.

Results
67 studies were included in the review. Multi-component (26.9%) and eHealth (22.3%) interventions were the most commonly found in included studies, and 31.34% of included studies were guided by an implementation science framework. Train and educate stakeholders and provide interactive assistance clusters had the most commonly employed implementation strategies, and acceptability (65.67%), appropriateness (70.14%) and penetration (58.21%) were the most frequently reported implementation outcomes. Design quality and packaging (intervention component suitability) and cosmopolitanism (partnerships) constructs, and patient's needs and resources and available resources (infrastructure) constructs, contained the most frequently reported barriers and facilitators to implementation, respectively.

Conclusion
Future dementia studies must prioritize implementation science for more contextually-valid findings and examine how implementation partners can strategically leverage existing resources and regional networks to streamline local implementation. Mapping the evidence ecosystem will facilitate structured implementation planning.

Trial Registration: Non applicable

Consent to publish
Non applicable

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P6

A co-creation approach to implementing eHealth applications in care organizations: lessons learned from multiple cases

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Background
The uptake of eHealth technology in care organizations is low, considering the large supply of available eHealth applications. This study follows the implementation attempts of 18 European eHealth products

(of several SME) in two health-care organizations to study the challenges during implementation, particularly in relation to acceptance, integration and scaling.

Experiences of health-care professionals were the primary focus of this study. This study is based on existing practical implementation guidelines [1], the five-phase model [2] and a co-creation approach.

Method

Three different sources were used to study implementation: 1) Four focus group sessions with health-care professionals, eHealth product developers, and policy makers within health-care organizations. 2) Informal and formal meetings of product evaluations. 3) Regular project meetings in a co-creation setting between all stakeholders to facilitate interaction.

Results

The result is a roadmap that provides guidelines and specific tips and tricks to both caregivers and developers to aid them in the implementation process. The roadmap added a "design and development" phase to the existing implementation model to emphasize the importance of co-creation for the implementation process. In addition to the implementation roadmap, an eHealth product catalog (both in a paper and digital version) and a guide to support the realization of business plans for SME have been developed.

Conclusion

The main conclusion of this study is the importance of engaging all the important stakeholders and to understand each other's goals and needs. In addition, the co-creation approach was highly valued by the different stakeholders. Future work comprises studying the positive effects of this approach on improved eHealth applications, increased acceptance, and a smoother implementation process in care organizations.

Trial Registration: Non applicable

Consent to publish

Non applicable

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P7

The implementation and evaluation of a child weight e-learning toolkit (HealthyWEY) for maternity, health visiting and children's centre workforces

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Background

With childhood obesity reaching epidemic levels [1], barriers to addressing the weight related behaviours of pre-school children have highlighted the need for appropriate training focused on increasing the knowledge, skills and confidence of healthcare professionals [2, 3]. Healthy Weight in Early Years (HealthyWEY) is an innovative training resource that brings together child weight-related information into a single e-learning package. This project explored the implementation of the HealthyWEY toolkit with multi agency workforces at 7 pilot sites across England, with the aim of assessing the effectiveness and feasibility of the resource for upskilling practitioners to support healthy weight-related behaviours during infancy and early childhood.

Method

Drawing on guidance provided in the MRC Process Evaluation Guide [4], a mixed-methods approach was used to assess the toolkit's impact on health professionals' knowledge, barriers, attitudes and motivations for addressing pre-school child weight, with focus groups to explore the acceptability of the e-learning and the barriers/facilitators to implementation. An embedded parent pilot was also conducted to assess the impact of HealthyWEY on parental knowledge and confidence to support a healthy weight in their child/ren.

Results

After engaging with the HealthyWEY e-learning, there were significant reductions in participants' perceptions of the barriers to addressing pre-school child weight, significant increases in their perceived autonomy, competence and relatedness, and a significant increase in autonomous motivation for prioritising child weight management. The study's findings also supported the acceptability of the e-learning among the multi-agency workforces at each pilot site. The impact of HealthyWEY was found to extend beyond the participating workforces, with a sample of parents/carers reporting increases in their knowledge and confidence to support a healthy weight in their child/ren following a consultation with a HealthyWEY-trained practitioner.

Conclusion

The project's findings provide preliminary evidence of the toolkit's effectiveness for upskilling multi-agency professionals to support healthy weight-related behaviours during infancy and early childhood.

Trial Registration: Non applicable

Consent to publish

Non applicable

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P8

Associations between clinical and implementation outcomes of two psychoeducational programmes for type 1 diabetes in an effectiveness-implementation hybrid type 2 clinical trial

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Background

An established blood glucose awareness training (BGAT) was compared to a novel Hypoglycaemia Awareness Restoration Programme despite optimised care (HARPdoc) in a randomised hybrid trial [1,2]. While HARPdoc was not shown to be superior in reducing severe hypoglycaemia (SH) over 12 months, it was effective in reducing cognitive barriers to avoiding SH [3]. We report a comparative analysis of the implementation of HARPdoc to BGAT, and explore whether self-reported implementation outcomes are associated with clinical outcomes.

Method

This was an effectiveness-implementation hybrid type 2 trial (NCT02940873) occurring 2016-2021 in the UK and USA. Both BGAT and HARPdoc arms were rated for acceptability, appropriateness, and feasibility by the programme participants (n=45), their relatives (n=6), and healthcare providers (HCPs; n=27), totalling 48 assessments for HARPdoc and 41 for BGAT. Previously developed scales (AIM, IAM and FIM, respectively; 4 items each with a 5-point Likert scale) [4] were used for these implementation assessments.

Negative binomial regression with adjustment for baseline SH rates was used to examine the relationship between implementation scores and SH rates regardless of treatment. Linear regression was used to examine associations between implementation measures and treatment, and how implementation scores relate to clinical secondary outcomes (e.g., anxiety, depression), adjusted for those measures at baseline.

Results

All study participants rated HARPdoc higher on acceptability, appropriateness, and feasibility. Total implementation scores were significantly higher for HARPdoc (M=3.67, SD=0.80) than BGAT (M=4.22, SD=0.79) for the programme participants (difference=0.86, 95%CI:0.37–1.34, p=0.001) and for all participants (difference=0.55, 95%CI:0.22-0.89, p=0.01). A statistically insignificant 35% decrease in SH events at 12 months with each point increase in implementation rating was estimated. Secondary outcomes were inversely associated with higher implementation ratings.

Conclusion

We found evidence that programme participants, their relatives, and HCPs find HARPdoc more implementable than BGAT. This warrants further investigation of the implementability of the two programmes within a larger sample.

Trial Registration: NCT02940873

Consent to publish

Non applicable

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O9

A standardised method for the economic evaluation of implementation programmes: evaluating national programmes to increase the uptake of magnesium sulphate in pre-term births

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Background

Methods for the economic evaluation of implementation initiatives to increase the uptake of cost-effective healthcare interventions are not standardised. Value of implementation and policy cost-effectiveness are two proposed approaches. This research aims to demonstrate that these are mathematically equivalent and propose a standardised approach. To illustrate this, we evaluated two implementation programmes to increase magnesium sulphate uptake in preterm labour to reduce the risk of cerebral palsy: i) the National PReCePT Programme (NPP) which provided support and funded clinical time in maternity units in England, and ii) the PReCePT enhanced support model (ESP), which was nested within NPP in a cluster RCT.

Method

After summarising value of implementation and policy cost-effectiveness approaches, we show that they are mathematically equivalent, and propose a standardised stepwise method. We apply this method to the NPP (versus pre-existing trends) and the ESP (versus the NPP) calculating incremental cost-effectiveness ratios, net monetary benefits, and probabilities of being cost-effective.

Results

Estimating the cost-effectiveness of implementation programmes depends on the change in the healthcare technology uptake, cost of the implementation, size of the eligible population, and the cost-effectiveness of the healthcare technology. With our standardised stepwise analysis approach, the NPP cost £6,044 to implement per maternity unit and generated a societal lifetime net monetary benefit of £30,247 per unit over 12 months, at a willingness-to-pay threshold of £20,000; the probability of being cost-effective was 98%. In contrast, the ESP cost £16,869 to implement per unit and generated a net monetary benefit of -£28,682 per maternity unit in comparison to the NPP; the probability of being cost-effective was 22%.

Conclusion

Our standardised stepwise method enables the economic evaluation of implementation initiatives and is useful for implementation research. In this case, the NPP was highly cost-effective, but the addition of enhanced support was unlikely to be cost-effective.

Trial Registration: Non applicable

Consent to publish

Non applicable

O10
Withdrawn

O11

Barriers and facilitators to achieving co-production in care home settings: findings from a scoping review

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Background
Co-production involves the public, practitioners and academics working together as equals throughout all research stages [1]. Co-production may help to develop pragmatic, context-specific approaches to implementation which are acceptable to those living and working in care homes [2]. This scoping review aimed to map co-production approaches used in care homes for older adults in previous research, and to identify barriers and facilitators to achieving co-production in this context.

Method
The review was conducted following the Joanna Briggs Institute methodology for scoping reviews [3]. Seven databases were searched for published studies using co-production approaches in a care home setting. Studies were independently screened against eligibility criteria by two reviewers and citation searching was completed. Barriers and facilitators to co-production were synthesised using a deductive thematic analysis approach guided by the NIHR INVOLVE principles of co-production [1].

Results
19 studies were included. The focus and application of co-production approaches varied across the studies.11 studies reported barriers and 13 reported facilitators affecting the co-production process. Barriers and facilitators to building relationships and achieving inclusive, equitable and reciprocal co-production were identified in alignment with the five NIHR INVOLVE principles (Table 1). Practical considerations were also identified as potential barriers and facilitators.

Conclusion
The review has identified key factors which may influence authentic co-production in care home settings. The barriers and facilitators identified will inform the design of further research which aims to co-produce an implementation model for falls management in care homes.

Trial Registration: Non applicable

Consent to publish
Non applicable

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Table 1 (abstract O11). Barriers and facilitators to achieving co-production in care homes

NIHR INVOLVE principle	Barriers	Facilitators
Sharing power	• Burden of supporting resident involvement on care staff • Gatekeeping • Ethical procedures • Delineating roles in the research process	• Creating opportunities to challenge dominant views • Reflexivity of project leads and researchers
Including all perspectives and skills	• Not enough involvement of key stakeholders • Pressures on care home staff and healthcare professionals • Care home resident characteristics • Limited depth of discussion • Difficulties with stretching perspectives	• Care home staff's willingness to participate • Stimulating experiences • Flexible approach
Respecting and valuing knowledge	• Lack of self-confidence • Balancing different forms of knowledge	• Involvement across design stages • Recognising and utilising different forms of knowledge
Reciprocity	• Potential harms of participation	• Providing learning opportunities • Providing support • Clarifying expectations
Building and maintaining relationships	• Relationships with management • Differences between stakeholders • Optimising links with wider stakeholders • Practical challenges	• Project leaders and knowledge brokers • Building and utilising existing collaborative partnerships • Connection through creative approaches • Regular meetings and dialogue • Establishing ways of working • Sustaining relationship through participatory approach
Other: Practical considerations	• Feasibility of scaling co-production	• Logistical arrangements

O12

Application of Normalisation Process Theory in the national scaling of early intervention for eating disorders

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Implementation Science 2023, **18(Suppl 1):**O12

Background

Theories provide evidence-based and flexible tools to evaluate implementation processes. The Normalisation Process Theory (NPT) is a widely used implementation theory with demonstrated utility in supporting process evaluations [1]. This study evaluated the role of NPT mechanisms in the national implementation, embedding, and integration of an early intervention service for eating disorders.

Method

A mixed method evaluation was conducted. Twenty-one clinicians completed semi-structured interviews, and 211 clinicians completed longitudinal NPT questionnaires (NoMAD) administered before and after training and at a 3-month follow-up. For the qualitative data, the NPT was applied to inductively derived themes/subthemes to further evaluate underlying implementation mechanisms. The questionnaire data were analysed using multi-level growth models.

Results

The inductive thematic analysis yielded six themes and 15 subthemes outlining barriers and facilitators to implementation at the wider system, service, implementation strategy, intervention, clinician, and patient levels. The early intervention service was largely normalising in teams with high levels of sense-making, engagement, collection action, and appraisal work taking place. These NPT mechanisms were more evident for some subthemes (e.g., compatibility/integration) than others (e.g., patient complexity/comorbidities). Insufficient capacity was the main factor inhibiting the normalisation in services. The quantitative data paralleled the qualitative findings. Specifically, NPT mechanisms were high at the outset, especially 'buy-in' and engagement. The training led to significant improvements in the NPT subscales, which continued to improve or remained approximately the same at the 3-month follow-up. The exception to this were the items related to sufficient training and resources, which initially improved post-training, but reduced at the 3-month follow-up.

Conclusion

The NPT characterised key mechanisms that were shaped by and interacted with features of the early intervention service, implementation strategy, and context to facilitate or hinder implementation. However, not all aspects of the implementation were directly captured by the theory (e.g., patient complexity/comorbidity).

Trial Registration: Non applicable

Consent to publish

Non applicable

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O13

Use of routine healthcare data in randomised implementation trials: a methodological systematic review

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Background

Routine healthcare data are increasingly used in randomised controlled trials evaluating health interventions in participant identification, outcome assessment and intervention delivery [1]. Some trials evaluate the effect of strategies designed to improve the uptake of evidence-based practice (implementation trials) [2]. However, little is known about how routine data have been used in implementation trials. This review aims to describe the methodological characteristics, reported rationales, barriers and facilitators of randomised implementation trials conducted using routine data.

Method

We searched MEDLINE (Ovid), Cochrane Methodology Registry and Cochrane Central Register of Controlled Trials from Jan 2000 to Dec 2021, and manually searched protocols from trial registers. We included implementation trials and hybrid effectiveness-implementation trials [3] conducted using routine data. We extracted quantitative and qualitative data and narratively synthesised the findings.

Results

We included 80 implementation trials. Most evaluated multicomponent implementation strategies, as opposed to single strategies. The most frequently implemented evidence-based interventions were clinical guidelines. Most trials assessed adoption as the implementation outcome. The majority of trials used data from electronic health records in the combination of participant identification, intervention delivery and outcome assessment. The main rationales for using routine data were offering results validation, increasing efficiency, assessing outcomes, reducing research burden, improving quality of care, identifying study samples, and assessing representativeness. The most common barriers and facilitators were data quality, data delivery, EHR systems, research governance and external factors.

Conclusion

Identifying the implementation trials was difficult due to poor trial reporting. Further work is required to enhance the adoption of and adherence to existing guidelines on designing and reporting implementation studies [4, 5]. Additional work is needed to harmonise the language used in describing implementation strategies and implementation outcomes. Use of routine data is promising in implementation trials, future research should address barriers such as data quality to improve the employment of routine data.

Systematic Review Registration: PROSPERO CRD42022292321
Trial Registration: Non applicable

Acknowledgments

Consent to publish

Non applicable

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O14

Evaluation of the scale up of remote monitoring in rheumatology outpatients across three NHS trusts in London, UK

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Background

Modern treat-to-target approaches to rheumatoid arthritis (RA) involve frequently monitoring disease activity via patient reported outcome measures (PROMs). Remote monitoring (RM) of PROMs can support care through more timely intervention and fewer unnecessary appointments. This study aimed to evaluate the feasibility of scaled implementation of a RM system for people with RA at three NHS trusts in London, UK.

Method

This was a prospective mixed-methods evaluation with service user involvement throughout. We report on the patient survey and semi-structured interviews with staff and patients exploring perspectives on the RM system. Interview schedule design and analysis for clinician and patient were informed by the EPIS [1] and COM-B [2] frameworks, respectively.

Results

Sixteen staff were interviewed. The system was implemented in two stages: an initial pilot at one trust then roll out to two other trusts. The four EPIS phases (Exploration, Preparation, Implementation and Sustainment) were evident in the pilot trust, but exploration and preparation were less evident at the other trusts. Adoption beyond the pilot trust was low with staff concerned about integration into clinical practice and systems.

Twenty-two patients were interviewed and 163 responded to the survey. Patients were overwhelmingly positive about the RM system. It was easy to use and required no skills beyond those used in their daily life. Patients were motivated to adopt the RM system by an interlinked set of beliefs regarding its use. A key motivator was increased responsiveness and ease of contact with the clinical service.

Conclusion

There was a contrast between the views of patients and staff outside of the pilot trust about RM. The lower adoption and associated concerns of staff about RM beyond the pilot site may be due to insufficient involvement at the Exploration and Preparation phases. The EPIS provides a useful framework for understanding challenges and approaches to scaling effectively.

Trial Registration: Non applicable

Consent to publish

Non applicable

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P15

Implementing patient-centered information tool to increase awareness and utilization of weight-loss surgery among obese Black men in the US

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Background

One size fits all implementation approach often results in implementation failure in marginalized communities. Obesity is one of the leading causes of preventable death in developed countries [1]. Minority patients bear a disproportionate burden of obesity but are less likely to receive surgical obesity treatment compared to Whites [2]. Evidence indicates that primary care providers (PCPs) rarely able to engage minority male patients in discussion about weight management [3]. The aim of this study is to identify culturally acceptable implementation strategies to disseminate accurate information about surgical weight management in minority men, to help men recognize their weight problem and its consequences, activate them to seek solutions, educate them about the safety and benefits of MBS, to help them locate a high-quality bariatric provider and receive insurance authorization.

Method

The study is conducted in partnership with our community advisory committee (CAC) consisting of stakeholders involved in care, services and decision-making for minority populations. Based on the input from the CAC, we design an educational tool using multiple iterative process obtaining feedback from community stakeholders. We pilot the tool among Black men (n=30) for final feedback and modify the tool to ensure cultural competency, effectiveness and acceptability of the end product. CAC and men are also asked about perceived effectiveness of different implementation strategies (e.g., a cartoon played by Black TV and radio stations vs in Black barber shops).

Results

Our study identified lack of role models for successful surgical weight loss as the most important barriers to Black men's unwillingness to consider MBS. Black men expressed a strong preference for autonomy when making important health decisions and favored autonomy-preserving approaches to decision making.

Conclusion

New timely and effective strategies are needed to disseminate accurate information about surgical obesity management using patient-centered approaches as well as settings and social connections that patients trust.

Trial Registration: Non applicable

Consent to publish

Non applicable

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P16
Integrating mental and physical healthcare: Evaluating the implementation of two novel interventions, Physical Health Clinic and Consultant Connect in a UK mental health NHS Trust

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Background
People with severe mental illnesses have poorer physical health and a reduced life expectancy compared to the general population. Two novel interventions, Consultant Connect (CC) and a Physical Health Clinic (PHC), were introduced in June 2020 at South London and Maudsley NHS Foundation Trust (SLaM) to improve integration between mental and physical healthcare systems and patient outcomes.

CC is an App that enables direct telephone access to specialist Consultants in local, acute hospitals for brief advice and guidance. All clinicians working at SLaM have access. The PHC is available to 12 adult mental health wards across SLaM. Referrers can request advice for various physical health complaints. A Consultant Physician responds by e-mail, telephone, or in person.

We report an ongoing prospective evaluation of the implementation and service impacts of the two interventions.

Method
Implementation of both interventions is being assessed by uptake data, validated measures of acceptability, appropriateness and feasibility and qualitative data collected via semi-structured interviews with users, using co-designed topic guides. A sample of users (n=10) will be interviewed per intervention. The ERIC implementation strategies framework will guide the assessment of implementation strategies for both interventions.

Results
From June 2020 to-date, CC has been used >1800 times; there have been >450 user downloads/registrations; >60 specialist services have been contacted. The PHC has received >80 referrals; from 35 referrers (32 medical / 3 nursing); from 12/12 inpatient wards included in the pilot. The above data are being mapped against the ERIC strategies to determine which strategies yielded higher uptake. Qualitative data collection is ongoing. We will update on our findings so far.

Conclusion
Integration of mental and physical health services is one potential approach to reduce the mortality gap in people with SMI. Our results can inform future service developments by providing insights into clinical and implementation effectiveness.

Trial Registration: Non applicable

Consent to publish
SLaM clinical governance and Information governance approvals

P17
Development of the Implementation Science Research Project Appraisal Criteria (ImpResPAC) tool

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Background
The need for quantitative criteria to appraise the quality of implementation research has recently been highlighted to improve methodological rigor [1]. The Implementation Science Research development (ImpRes) tool and supplementary guide provide methodological guidance and recommendations on how to design high-quality implementation research [2]. Here we report the development of the Implementation Science Research Project Appraisal Criteria (ImpResPAC) tool, a quantitative appraisal tool, developed based on the structure and content of ImpRes, to evaluate the conceptual and methodological quality of implementation research.

Method
This study employed a two-stage, prospective mixed-methods design. In stage 1, the 10 domains of the ImpRes tool, guidance and recommendations contained in the supplementary guide and within the literature, were mapped to ImpResPAC. In stage 2, an international multi-disciplinary expert group, recruited through purposive sampling, informed the refinement of ImpResPAC, including content, scoring system and user instructions. We also calculated descriptive characteristics for each domain.

Results
Stage 1:
We developed an initial version of ImpResPAC containing 55 items, indicating high-quality implementation research across 10 domains. ImpResPAC tool users assign a global score from 1-5 to each domain, indicating the quality of an implementation project.
Stage 2:
69 experts, from 8 countries, reviewed and provided feedback, including modifications and suggestions for improvement, on one or more ImpResPAC domains. Across 10 ImpResPAC domains, 50-75% of experts believe that the initial ImpResPAC domain items represented and reflected high-quality conceptual and methodological elements of implementation research. We are currently modifying ImpResPAC based on the extensive expert feedback we have received.

Conclusion
We have developed a quantitative appraisal tool, ImpResPAC, to allow implementation research stakeholders, primarily grant reviewers and educators, to undertake a comprehensive and transparent appraisal of the quality of implementation research. The next step of this research is to evaluate the psychometric properties of ImpResPAC.

Trial Registration: Non applicable

Consent to publish
Non applicable

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P18

An Evaluation of Physical Healthcare within Adult Community Mental Health Teams at South London and Maudsley NHS Foundation Trust (SLaM)

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Background
People living with serious mental illnesses (SMI), such as Schizophrenia, are more likely to die prematurely (as much as 15-20 years earlier) from preventable physical health problems than the average population [1]. Despite this, little is known about how mental health staff perceive their role in providing physical healthcare, nor how these attitudes may impact upon patient care. We report a prospective pragmatic evaluation to explore perceptions, attitudes, and experiences of staff, patients, and carers, regarding physical healthcare within South London and Maudsley (SLaM) Adult Community Mental Health Teams (CMHTs). We aim to identify common barriers or facilitators that impact on clinical practice and patient experience and use insights to develop recommendations to improve future routine practice regarding physical healthcare.

Method
This is a prospective service evaluation in SLaM CMHTs using qualitative methodology. The evaluation involves semi-structured interviews (n=22), focus groups (n=42) and observations (n=10) with staff, patients, and carers. We aim to recruit 64 participants (40 clinical staff, 12 patients and 12 carers). The evaluation will focus on three areas: 1) attitudes, perceptions, and experiences, 2) physical health infrastructure (e.g., screening tools, equipment, patient data), and 3) knowledge, skills, and training. Framework analysis will be used to analyse and synthesise data collected across the data set. Findings will be reviewed via feedback workshops with participating staff to co-develop recommendations for SLaM.

Results
The data collection is ongoing. At the time of the conference, we will report on the evaluation methodology and share early findings.

Conclusion
This evaluation will provide insights into how staff in CMHTs deal with physical health and the main barriers and facilitators for staff, patients, and carers. We will use this to provide recommendations that can better support future routine physical health provision within community mental health services.

Trial Registration: Non applicable

Consent to publish
Non applicable

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P19

Tailoring strategies to support the implementation of Dose Adjustment For Normal Eating (DAFNE), a structured patient education programme for people with Type 1 diabetes

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Background
Evidence-based patient education programmes like DAFNE, which is prioritised for national implementation in Ireland, are recommended as part of diabetes management. However, little is known about current DAFNE implementation and how best to support delivery. Tailoring typically involves determinant identification, prioritisation, and selection of strategies, but how best to combine evidence, theory and stakeholder perspectives during prioritisation and selection is unclear [1,2]. To address this gap, we are 1) working with Irish DAFNE centres to tailor strategies, 2) evaluating the tailoring process, including how clinical stakeholders use evidence and guidance.

Method
To identify potential determinants, we (a) undertook a rapid review of structured diabetes education programmes and coded to CFIR (b) are analysing data from 91 Irish and UK DAFNE centres). DAFNE teams will complete a survey on their site characteristics (implementation culture, climate, readiness) before taking part in three group sessions to identify and prioritise determinants and select strategies. First, participants prioritise determinants and select strategies based on their own assumptions, needs and preferences. Then they will consider guidance (including feasibility of addressing a determinant, importance, ubiquity, chronicity, and criticality), determinant-strategy alignment of strategies, and evidence of strategy effectiveness. Participants' experiences of the tailoring process will be evaluated via research logs, non-participant observation, surveys, and post-tailoring interviews.

Results
During 2019-2021 91 centres delivered 1257 courses (2 to 74 courses across centres) and 6749 people attended; 9.5% dropped out. Determinants identified included: lack of available resources (e.g., staff schedules), access to knowledge and information (e.g., staff preparation) and networking and communication (e.g., staff experience working with one another). For the next stage, we have invited 18 sites to participate in the tailoring process.

Conclusion
This study will advance our current understanding of tailoring, including clinical stakeholder decision-making during the process, and what is feasible and sustainable for them in practice.

Trial Registration: Non applicable

Consent to publish
Non applicable

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P20
Withdrawn

P21
Expert consensus on multilevel implementation hypotheses to promote uptake of youth care guidelines: A Delphi study

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Background
The implementation of evidence-based youth care guidelines remains a complex process. Several frameworks to aid the identification and specification of implementation determinants and effective strategies have been developed [1-4]. However, how specific determinants are influenced by specific strategies is not yet clear. There is a need for clarity on which active ingredients of strategies, called Behavior Change Techniques (BCTs) [5], elicit behavior change, and in turn, implementation outcomes. With this knowledge, we are able to formulated detailed, evidence-based implementation hypotheses. We aimed to identify 1) relevant determinants to the implementation of youth care guidelines and 2) feasible and effective implementation hypotheses to address these determinants.

Method
A four-round online Delphi study was conducted. In the first round, experts rated determinants on their relevance. In the second, implementation hypotheses were formulated by connecting BCTs and implementation strategies to determinants. In round three, experts reconsidered and finalized their hypotheses based on an anonymous overview of hypotheses formulated by all experts including their substantiations. Finally, experts were asked to rate the implementation hypotheses on potential effectiveness and feasibility.

Results
Fourteen experts completed the first, second, and third round and twelve the final round. Promotion of guideline use, Mandatory education, Presence of an implementation leader, Poor management support, Knowledge regarding use of the guideline, and Lack of communication skills were reported as most relevant. For each determinant, an overview is provided of the implementation hypotheses most often considered as effective and feasible.

Conclusion
Determinants related to knowledge, skills, and engagement of professionals and management were found to be relevant for the implementation of youth care guidelines.. This study provides a set of hypotheses that could facilitate organizations, policy makers, and professionals to guide the implementation process of youth care guidelines to, ultimately, improve implementation outcomes. Their effectiveness in practice remains to be assessed.
Trial Registration: Non applicable

Consent to publish
Non applicable

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P22
Implementation strategies for an Australian school-based mental health prevention program: Realist evaluation

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Background
The United Nations has issued a call to action for schools to deliver evidence-based prevention programs to address the growing burden of mental health, but implementation has failed in real-world settings. There is a need for implementation scientists to develop and trial strategies to address this translational problem.

Method
In this qualitative study, we used realist interviews and focus group discussions with educational staff (N=29) and performed a realist evaluation of a multicomponent implementation strategy called PAX Plus, designed to enhance the adoption of international evidence-based mental health prevention program, PAX Good Behaviour Game, in New South Wales primary schools.

Results
The PAX Plus strategies consistently reported to improve implementation outcomes were having a recognition system for positive reinforcement, leadership support through monthly meetings, training, and distributing support resources. Strategies that did not appear to work but could potentially be reformatted were monitoring progress using self-report methods, distributing e-newsletters with practical tips and having an online peer learning network.

Conclusion
Internationally, school-based practitioners can use findings from this study to develop/adapt their own strategies to improve the implementation outcomes of mental health prevention programs which will improve effectiveness outcomes. Improving the effectiveness of mental health prevention programs is a priority to address Sustainable Development Goal 3.4, to reduce premature death from non-communicable diseases by one third by 2030. This study also highlights to other implementation scientists how realist evaluations can be pragmatically used to improve knowledge translation of evidence-based programs in schools.

Learning Outcomes
We recommend school-based practitioners use recognition systems, training, leadership support and streamlined resources to increase the likelihood a mental health prevention program will be adopted and sustained in schools.
Trial Registration: Australian New Zealand Clinical Trials Registry, ACTRN12621001125819. Registered 23 August 2021 (version 1) – Retrospectively registered, https://anzctr.org.au/Trial/Registration/Trial Review.aspx?id=381346&isReview=true

Consent to publish
Written informed consent for publication was obtained.

P23

Specifying and reporting implementation strategies used in the implementation of matrix support in mental health care in a medium-sized Brazilian city

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Background
Corresponding to a collaborative care proposal, for approximately 10 years matrix support has been consolidated as the Brazilian response to the need to integrate mental health services and primary care [1]. Although studies on its effectiveness are on the rise, to the best of our knowledge, studies focused on the strategies used for its implementation still missing. Thus, our objective was to specify and report the strategies used to implement matrix support in a medium-sized municipality.

Method
After the completion of an implementation process conducted between 2019 and 2021, participants of the Research Management Committee identified, through a consensus approach, the implementation strategies used to deliver the intervention. Strategies identification was supported by the taxonomy of implementation strategies proposed by the ERIC compilation [2], and their reporting followed the implementation strategy reporting guideline proposed by Proctor et al. (2013) [3].

Results
When reviewing the matrix support implementation process, twenty-four discrete implementation strategies were identified. Among the strategies used, those related to the development of relationships between stakeholders, training and education of stakeholders, and the use of evaluative and iterative strategies stood out. The strategies were mostly performed by research team members, managers and workers of local health services and members of partner universities. Strategies were used repeatedly at different times in the pre-implementation and implementation phases of the intervention and were mainly focused on characteristics of the inner context, characteristics of individuals and the implementation process. Among the implementation outcomes most affected by the strategies were acceptability, adoption, adequacy, and fidelity.

Conclusion
We believe that our work provides a source of knowledge that will allow other teams to envision implementation strategies that could be applied when undertaking efforts to implement matrix support in the context of mental health care in the future.
Trial Registration: Non applicable

Acknowledgments

Consent to publish
Non applicable

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P24

Implementing telemedicine at scale in Denmark: Barriers and facilitators at the political-administrative level of the implementation process

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Background
Implementing technology and innovations on a large scale is a continuous challenge in healthcare systems [1]. This challenge is also seen in the case of telemedicine where implementation to practice and scale-up have proven difficult [2]. The political-administrative system plays a key role in the implementation process. Yet, this level of the implementation process remains understudied [3]. To address these gaps, this study will explore the political-administrative level of the national implementation process of TeleCOPD – a home-monitoring telehealth intervention targeting patients Chronic Obstructive Pulmonary Disease (COPD). Denmark is a pioneer country in regards to the implementation of telemedicine on a national scale [4]. This provides a unique chance to study large scale implementation of telemedicine and the role of contextual factors on the implementation process.

Method
An in-depth qualitative study of the implementation process at the political-administrative level will be undertaken. Data will be collected through semi-structured interviews with key stakeholders in the implementation process at the national, regional and municipality level. Furthermore, project descriptions and policy documents will be analysed to ascertain how the intervention is implemented across settings. Data will be analysed in accordance with thematic analysis.

Results
Reflections and preliminary results on how to investigate and theorize barriers and facilitators at a political-administrative level of the implementation process will be presented.

Conclusion
The results of this study will generate valuable knowledge about large scale implementation of telemedicine in addition to insights on the role of the political-administrative level in a implementation process.
Trial Registration: Non applicable

Consent to publish
Non applicable

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P25

Evaluating the implementation of Tommy's Clinical Decision Tool, a device for reducing inequity in maternity care

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Implementation Science 2023, **18(Suppl 1):**P25

Background

Poor perinatal outcomes are more common in those living in areas of social deprivation and from ethnic minority groups. Causes of this disparity may be complex, but appear to include variation in care, as stillbirth and preterm birth rates vary between hospitals, even after adjustment for maternal characteristics. To address this variation in care, Tommy's National Centre for Maternity Improvement developed the Tommy's Clinical Decision Tool. This web-based tool assesses risk of preterm birth and placental dysfunction, which can lead to stillbirth, much more accurately than current methods, and recommends best evidenced-based care pathways in a format accessible to both women and healthcare professionals (HCPs). This study is evaluating implementation of the Tool in four early-adopter sites, to inform wider scale-up.

Method

Tommy's Tool development, including determination of risk parameters and care pathways, involved maternity service users and HCPs in equal partnership. This study is evaluating: maternity service user and provider experience; barriers and facilitators to implementation; reach (whether particular groups are excluded and why), fidelity (degree to which the intervention is delivered as intended), and unintended consequences. Data is gathered through interviews, focus groups, questionnaires and through the Tool itself. The NASSS framework (Non-adoption or Abandonment of technology by individuals and difficulties achieving Scale-up, Spread and Sustainability) [1] is informing implementation and data analysis.

Results

Findings to date have informed ongoing developments of the Tool and implementation strategy, including those aimed at addressing digital and social exclusion (e.g. one-to-one support, language translation, animations). Other notable findings include: need for persistent, high-level local leadership, local champions, flexibility in training.

Conclusion

Tommy's Tool has the potential to make providing "the right care at the right time" easier, personalising risk-assessment and care according to best evidence. Findings will inform implementation in scaling up in other settings.

Trial Registration: ISRCTN 13498237

Consent to publish

Non applicable

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P26

Implementing brief and low-intensity psychological interventions for children and young people: A rapid realist review

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Implementation Science 2023, **18(Suppl 1):**P26

Background

Despite research demonstrating that brief and low intensity psychological interventions are beneficial for children and young people with emotional, behavioural or mental health difficulties, there remains a significant implementation gap, leaving many children awaiting treatment. Innovative approaches are needed to develop, disseminate and implement appropriate psychological interventions [1].

Method

We conducted a rapid realist review to understand the barriers and facilitators to implementing brief or low-intensity psychological interventions in children and young people (PROSPERO protocol: CRD42022307367). We searched PsycInfo, EMBASE and Medline from inception to March 2022. Papers included in the review identified methods, factors and/or processes for the adoption, implementation or sustainability of brief and/or low intensity psychological interventions for children and young people (5-25 years) with emotional, behavioural or mental health difficulties. A systematic approach to data extraction using Normalisation Process Theory (NPT) [2] highlighted key barriers and facilitators.

Results

12 papers, including over 350 participants, met eligibility criteria. A variety of brief and/or low intensity psychological interventions were delivered across different settings by a range of individuals and common mechanisms were identified that promoted or impeded implementation. Personal, social, structural and organisational factors were all considered. Barriers included: 1) financial concerns, 2) capacity and time restraints and 3) staff turnover. Facilitators to implementation were 1) demonstrable economic benefit, 2) positive feedback from children and families and 3) specific individuals allocated to champion the intervention.

Conclusion

Our rapid realist review identified mechanisms and factors that need to be considered to optimise the implementation of brief and low-intensity interventions for children and young people with emotional, behavioural or mental health needs. Future research could consider creating a toolkit to help monitor and evaluate uptake into routine practice.

Trial Registration: Non applicable

Consent to publish

Non applicable

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P27

Pragmatic and formative evaluation of the pilot implementation of UCLPartners' Proactive Care Frameworks across multiple primary care sites in England

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Implementation Science 2023, **18(Suppl 1):**P27

Background

The Academic Health Science Network (AHSN) UCLPartners developed the Proactive Care Frameworks (PCF) to support people with long term conditions during the pandemic and support the primary care system with post-pandemic recovery [1]. PCF consists of patient risk

stratification/prioritisation, optimising workforce capacity and utilising digital resources to support self-management, remote support, and personalisation of care. In 2021, we evaluated the pilot implementation of PCF in six regions to derive insights informing ongoing implementation and spread efforts.

Method
The six-month pragmatic evaluation applied a mixed-method comparative case study approach. Guided by a Theory of Change, co-developed with implementation stakeholders, we assessed the impact of PCF implementation on care and work processes, workforce and patient/carer experience, health inequalities, and the implementation process. We analysed quantitative data from a survey among AHSNs and qualitative data from 41 implementation stakeholder interviews at AHSNs, local authorities, and general practices, and observations of nine Communities of Practice.

Results
Risk stratification supported clinicians to be more efficient and prioritise their work, freeing up time for higher skilled clinicians to see more complex patients. Staff reported an improved fit between patient needs and practice workforce, and increased patient knowledge, motivation and self-management skills. Critical learning included the need for realistic timeframes for implementation, dedicated implementation support, and sufficient engagement with both strategic leads and staff on the ground to allow for local adaptation and building ownership.

Conclusion
Rapid and pragmatic evaluation of early real-world implementation provided valuable formative insights to improve ongoing implementation. It also offered the opportunity to generate initial evidence about the potential impact of an innovation lacking an established traditional evidence base. Further rapid evaluation cycles should be conducted to gather direct patient/carer feedback, clinical and cost-effectiveness outcomes information, and identify core functions of PCF to improve local adaptation and spread.
Trial Registration: Non applicable

Consent to publish
Non applicable

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O28
Evaluating Implementation Fidelity to a nurse-led model "INTERCARE": A Mixed-Methods Study
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Implementation Science 2023, **18(Suppl 1):**O28

Background
Implementation fidelity assesses the degree to which an intervention is delivered as it should be. Little is known about how it acts as a moderator between an intervention and its intended outcome(s) and what elements affect the fidelity trajectory over time. We exemplify the meaning of implementation fidelity in INTERCARE, a nurse-led care model that was implemented in eleven Swiss nursing homes (NHs) with the aim of reducing unplanned hospital transfers. INTERCARE has six core elements that were introduced, among them advance care planning and tools to support inter- and intraprofessional communication.

Method
A mixed-methods design was used, guided by the Conceptual Framework for Implementation Fidelity. Fidelity to INTERCARE's core components was measured with 44 self-developed items at 4 time points (baseline, 6, 12 months post intervention, 9 months post-intervention end); fidelity scores were calculated for each component and overall. Notes from NH meetings were used to identify moderators affecting the fidelity trajectory over time. Generalized linear mixed models were computed to analyze the quantitative data. Deductive thematic analysis was used for the qualitative analysis. The quantitative and qualitative findings were integrated using triangulation.

Results
A higher overall fidelity score showed a decreasing rate of unplanned hospital transfers post-intervention (OR: 0.65 (CI=0.43-0.99), p=0.047). Higher fidelity score to advance care planning was associated with lower unplanned transfers (OR= 0.24 (CI 0.13-0.44), p= < 0.001) and a lower fidelity score for communication tools (e.g., ISBAR) to higher rates in unplanned transfers (OR= 1.69 (CI 1.30-2.19), p= < 0.003).

Conclusion
High implementation fidelity to INTERCARE was necessary to achieve a reduction in unplanned transfers. In-house physicians with a collaborative approach and staff's perceived need for nurses working in extended roles, were important factors supporting reaching high fidelity. Further research is needed to understand what supports the effective implementation of single elements.
Trial Registration: Non applicable

Consent to publish
Non applicable

P29
Implementing guideline-based care in people with knee osteoarthritis: Development and evaluation of a patient education and self-management booklet in Tamil language
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Background
Knee osteoarthritis (KOA) is a most common joint problem causing chronic joint pain, stiffness and loss of knee function [1]. KOA is managed by pharmacological and non-surgical treatments before surgery is considered. As per international guidelines [2-4], non-surgical treatments include patient education and self-management on exercises, pain coping strategies, weight reduction, and assistive devices and walking aids.
This study is part of an umbrella implementation project on a guideline-based and culturally-adapted KOA care for Tamil speaking people in Tamil Nadu state (population 77 million), South India. Our aim was to develop a patient education and self-management booklet in Tamil and evaluate its acceptability in routine clinical settings.

Method
A patient booklet was developed based on available research evidence and a needs assessment with patient representatives and physiotherapists. The booklet has simple text, exercise illustrations, photographs and a section on frequently asked questions by patients. Preliminary evaluation was conducted in 50 adults with KOA, carers, and physiotherapists at the SRM medical college hospital and research centre in Kattankulathur, a sub-urban locality in Tamil Nadu. All participants provided signed consent and received a printed or digital

booklet with instructions about using it. One week later, feedback was collected over the telephone using bespoke questionnaires.

Results

21 adults with KOA (4 males; 17 females; average age 59 years), 14 carers (7 males; 7 females; average age 50.3 years), and 15 physiotherapists (7 males; 8 females; average 18 years of work experience) participated.

Overall, participants found the booklet easily readable, useful and acceptable. They recommended some minor modifications to the wording for optimal clarity. A few further suggestions were to reorganise the exercises from easy to difficult levels and add specific exercise advice for the elderly.

Conclusion

Clinical benefits of the booklet will be evaluated in the next stage of this implementation project.

Trial Registration: Non applicable

Consent to publish

Non applicable

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O30

De-implement, Adapt, Reinvest and Evaluate; introducing the DARE Framework to deliver higher value healthcare

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Implementation Science 2023, **18(Suppl 1):**O30

Background

Many implementation theories, models and frameworks support implementation of health service innovations, and growing attention is directed towards de-implementation approaches. However, an integrated framework that supports pragmatic de-implementation, adaptation, reinvestment and evaluation remains lacking.

This initiative aimed to co-design a framework and toolkit to support de-implementation to reinvest approaches to improve health and care outcomes.

Method

The knowledge-to-action framework underpinned development of the DARE Framework and toolkit for feasibility testing in a convenience sample of allied health services in a single metropolitan hospital.

Results

An initial conceptual framework included synthesised concepts from underlying theories (n=3), process models (n=5), determinant (n=5) and evaluation frameworks (n=3) in August 2021. Iterative co-design with stakeholders (clinicians and managers) between August and October, 2021 applied data from twenty-four nominal group technique workshops, and 3 semi-structured focus groups. Findings were triangulated using informal group discussions, interviews and

meetings to engage stakeholders in the iterative development, implementation, and refinement of the model and toolkit. Full consensus for facilitated rapid action cycle implementation and pragmatic feasibility testing of the draft model across allied health services for a 700+ bed hospital was achieved in November 2021 in response to unsustainable budgetary and service needs. At time of abstract preparation, RE-AIM evaluation demonstrates ongoing iterative adaptation of the model and toolkit, willingness to update and spread to medical and nursing professions, adoption, implementation and embedding of ranked de-implementation and reinvestment opportunities across all core allied health services in the test site. Limited effectiveness testing to date across process measures and quadruple aim healthcare outcomes appears strongly favourable; detailed findings will be presented at the conference as a qualitative case series.

Conclusion

Early data supports consideration of the DARE Framework as a useful approach to support rapid cycle, de-implement to reinvest approaches that deliver higher value health care.

Trial Registration: Non applicable

Consent to publish

Non applicable

P31

Exploration of barriers and facilitators to the implementation of ventilator bundle: a descriptive qualitative study with health care professionals, Nepal

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Implementation Science 2023, **18(Suppl 1):**P31

Background

Low- and middle-income countries, like Nepal, have greater rates of ventilator-associated pneumonia than high-income countries [1]. Effective implementation of ventilator bundle is crucial to reduce the occurrence of ventilator-associated pneumonia [2]. So far, no comprehensive assessment of barriers to sustained, successful implementation of hospitals interventions has been conducted in Nepalese healthcare settings. The main aim of the study is to identify the perceived barriers and facilitators of health care professionals to the implementation of the ventilator bundle. The result of the study will help to develop a tailored made intervention to maximize the adoption of the guidelines in Nepal.

Method

This qualitative study used the semi-structured virtual interview, enrolled twenty-one participants; nurses (n=18) and doctors (n=3) were selected by purposive sampling. The study setting was a general ICU and medical ICU at a tertiary academic hospital, Nepal. All the interview data were transcribed, coded, using thematic analysis, and analysed using the NVivo software.

Results

Provider-related factors, organisational, environmental, and patient factors were the major identified barriers that could affect the implementation of the ventilator bundle. The major barriers were a high rate of nursing turnover, imbalanced nurse-to-patient ratio, heavy workload, time spent on training new employees, lack of knowledge and skills, especially in novice nurses, and lack of motivation and reward. The key facilitators were timely educational training and workshops, ensuring the availability of strong leadership and champions, and providing adequate support at the organisational level.

Conclusion

The findings of this qualitative study revealed that organisational support is critical to the effective implementation of the guidelines. Building on these facilitators and addressing and measuring these barriers

may aid in improving the acceptability and sustainability of the ventilator bundle especially among the nurses.
Trial Registration: Non applicable

Consent to publish
Non applicable

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O32

Using rapid qualitive inquiry for implementation support in a multinational study on infection prevention and control in neonatal intensive care
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Background
The EU Horizon 2020 project NeoIPC aims to identify effective infection prevention and control interventions and corresponding implementation strategies for neonatal intensive care units (NICUs). In preparation of the trial, an implementation needs assessment survey with participating units in several European countries and South Africa was conducted. In the meantime, concerns among health professionals regarding the safety of the planned intervention and study design became apparent. A rapid qualitative approach was chosen to better understand these concerns and inform ongoing trial preparation.
Method
The survey was disseminated online to 22 participating NICUs and collected information regarding barriers and facilitators to the planned intervention based on scenarios with open response options. Two virtual focus groups (FGs) à 90 minutes were held. The FGs were centered around the relevance, efficacy, and safety of the planned intervention and potential concerns regarding the conduct of cluster randomized controlled trials (cRCTs) in NICUs. To quickly integrate the results into the project, data collection and analysis in both assessments were guided by a rapid qualitative approach using the CFIR framework based on [1].
Results
Thirteen NICUs responded to the survey. The FGs were attended by nine pediatricians and neonatologists from six European countries. In both assessments, the evidence base for the planned intervention and aspects of its compatibility with routine practice were deemed primary barriers. Stakeholder engagement strategies were named as potential facilitators to implementation. Including nurses to determine feasibility (i.e., practice fit) of interventions was suggested in the FGs. No concerns regarding the conduct of cRCTs were raised.
Conclusion
In our study, a pragmatic qualitative approach of rapid data assessment and analysis provided valuable information to implementation design and project development. However, the homogeneity in our focus group participants showed a limited insight into routine care practice, which should be complemented by further assessments.

Consent to publish
Non applicable

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P33

Implementing organised colorectal cancer screening programs in a decentralised political system - the case of Switzerland
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Implementation Science 2023, **18(Suppl 1):**P33

Background
In Switzerland, the early detection of colorectal cancer (CRC) has become a priority on cantonal health policy agendas. In 2022, approximately half of the country's 26 cantons had established or were preparing an organised CRC screening program. Through these programs, CRC screening is offered systematically to an entire segment of the residents of a canton, using routine stool tests and/or colonoscopy. Since most organised screening programs in Europe were established in the past ten years, there is limited knowledge about how to best implement and sustain them [1, 2]. The aim of this study is to understand current practices in implementing Swiss CRC screening programs and to inform their further development.
Method
A mixed methods multiple case study design was developed, including the use of an adapted Implementation Mapping approach (IMA) [3] and the conduct of an integrative systematic literature review [4]. In phase 1, representatives for all established/planned CRC screening programs were interviewed to explore the key characteristics of program implementation. In phase 2 (ongoing), the implementation of four programs will be examined in detail, based on the IMA and additional key stakeholder interviews, and focus groups. While implementation mapping is generally conceptualised as a tool to prospectively guide implementation, the adapted IMA was developed for use with existing implementation practice [3].
Results
A unique overview of key program implementation characteristics was generated, reflecting the challenges that emerge from CRC program implementation within the highly decentralised political structure of Switzerland. These and additional results to be gathered during phase 2 will be presented, including experience with the use of the adapted IMA.
Conclusion
This study will contribute to the still scarce knowledge base on implementing organised CRC screening programs and will be of relevance to key decision makers initiating, establishing, and maintaining these programs in Switzerland and beyond.
Literature Review Registration: The literature review included in this study was registered on PROSPERO CRD42022306580.
Trial Registration: Non applicable

Consent to publish
Non applicable

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O34

Using a modified Delphi process to develop a programme theory and inform programme transformation

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Implementation Science 2023, **18(Suppl 1):**O34

Background
Programme theory can guide evaluation of programmes and streamline the implementation of programmes by different providers. We aimed at developing and applying a systematic process to elucidate and foster a common understanding of the programme theory and focussing on the functions of core elements involving relevant stakeholders of the programme. The health promotion programme follows the WHO health promoting school approach guidelines and aims at enabling representatives of different schools to create a healthy school environment.

Method
We conducted seven qualitative interviews with relevant stakeholders (i.e., programme's providers and lead). Furthermore, we interviewed twelve middle school teachers being responsible for the implementation of the programme in their schools. Two researchers analysed the results applying a thematic analysis [1]. We focused especially on the definition of the functions of the core elements of the programme. These core elements' functions were then used in a Delphi process involving the same stakeholders. The Delphi process involved four different steps: 1) presentation and clarification of the functions, 2) rating of the functions' relevance, 3) second rating of the functions' relevance based on the results of the first rating, and 4) discussion and clarification of remaining functions with stakeholders.

Results
Overall, the modified Delphi process enabled to identify 40 relevant out of 107 defined functions for 14 core elements of the programme.

Conclusion
This process enabled a fruitful discussion between the programme's providers and lead about the programme theory. Furthermore, it sharpened the programme theory by focusing on core elements and their most relevant functions. Based on these results, the programme theory was finalised. This process highlighted the necessity of changing our approach to develop a programme theory considering the difficulties of the development from an already existing programme with different providers. Furthermore, this process supported the planning of the evaluation.

Trial Registration: Non applicable

Consent to publish
Non applicable

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O35

A facilitation intervention to increase uptake of an adverse drug event prevention intervention: ActionADE

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Implementation Science 2023, **18(Suppl 1):**O35

Background
Adverse drug events (ADE) are a leading cause of emergency department visits and hospital admissions in Canada [1,2]. ActionADE aims to prevent repeat ADE by enabling clinicians to document and communicate standardized ADE information across care settings. We describe a 5-month facilitation intervention to promote uptake of ActionADE in four hospitals in British Columbia, Canada.

Method
In this multiple case study, we used a four-step iterative facilitation process [3]: i) conduct formative evaluation to identify barriers to use, ii) generate site-specific implementation plan using the Consolidation framework for implementation research-Expert Recommendations for Implementing Change (CFIR-ERIC) implementation strategy matching tool [4], iii) co-create functions and forms [5] of the implementation strategies with site champions, and iv) execute, monitor process and evaluate outcomes. Implementation outcomes included the number and types of implementation strategies, changes in the number of monthly ADE reports and active users before (Jun to Oct 2021) and after (Nov 2021 to Mar 2022) the facilitation process.

Results
Through the facilitation process, we identified four functions (create tension for change, support integration, provide access to intervention information and increase clinician's awareness, knowledge and skills) and 4 to 8 corresponding forms for each site (e.g., engage and prepare additional champions, 1-on-1 follow-ups). Sites' responses to the facilitation process varied. The number of monthly ADE reports increased substantially in sites A (+700%) and B (+84%) and declined in sites C (-29%) and D (-8%). The number of active users increased in site A (+47%) and D (+68%) and declined in sites B (-7%) and C (-23%). Contextual factors that influenced the facilitation process (e.g., staff shortage, roles of champions) also varied by site.

Conclusion
This study illustrates a systematic process for researchers and stakeholders to prospectively co-create core functions and forms of implementation interventions according to local contexts' characteristics.

Trial Registration: Non applicable

Consent to publish
Non applicable

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P36

Development and implementation of educational prescribing resources to mental health pharmacists to improve the physical health of people with severe mental illness

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Implementation Science 2023, **18(Suppl 1):**P36

Background
People with serious mental illnesses (SMI) live on average 15-20 years less than the general population, partly due to physical health comorbidities. Improving the physical health knowledge of mental health pharmacists could assist in reducing the mortality gap in people with SMI. We describe the development and implementation of educational materials for mental health pharmacists at a large UK mental health trust.

Method
Physical health training needs were identified using a survey with pharmacists. We implemented (1) monthly, educational webinars covering different physical health topics, and (2) specific physical health guidelines, circulated to all mental health trust pharmacists. Questionnaires and interviews were undertaken with pharmacists to evaluate impact and implementation.

Results
106 individual staff attended the webinars. Common themes from the questionnaire (n=15) and interviews (n=8) were that the webinars were 'good-refreshers', concise and provided appropriate level, pharmacy specific information. Common barriers for webinar attendance were high workload and other work commitments. 50% of the interviewed pharmacists were not aware of the guidelines and only two pharmacists had read them. The implementation evaluation further revealed that the co-design approach with pharmacists enabled interprofessional relationships (i.e. acute and mental health pharmacists) and tailoring of educational content. Trust-wide pharmacy leadership buy-in and administrative support also boosted implementation.

Conclusion
These barriers reflect the challenges of developing interventions in a pressurised hospital setting. To overcome these barriers, co-designing with expert pharmacists is key. Regular meetings, establishing role clarity and accountability, building a relationship with the acute hospital pharmacy team, and dedicated funding enabled this.
Continual education for clinicians is key to ensuring service users experience the best available care including physical healthcare expertise. To sustain the interventions, dedicated administrative and leadership resource is required to establish accountability and responsibility. We also identified the need to publicise implementations and improve access to resources.

Trial Registration: Non applicable

Consent to publish
SLaM clinical governance and Information governance approvals

P37

Beyond input-output: Applying dynamic systems theory to the complexity of implementing mental health interventions in non-western cultures

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Background
Global dissemination of western mental health interventions across widely diverse cultures leaves a potentially large implementation gap for non-Caucasian people [1]. Central to the uptake of mental health interventions are the extent to which they align with the cultural and personal values of local cultures, organisations, staff, individuals and their families.

Method
We explore the potential of integrating components of the Pragmatic Robust Implementation and Sustainability Model (PRISM) [2] within a dynamic system of cultural adaptation [3]. We model the complementary and contradictory perspectives on cultural concepts of distress and healing, highlighting how successful implementation depends on navigating the 'best fit' between these concepts and evidence based psychological techniques.

Results
Figure 1 shows the resulting model for the implementation of culturally adapted psychological interventions. We model the dynamic nature of the overlap between an individual's coping mechanisms, their family's, alongside organizational capacity to implement interventions and existing cultural and evidence-based practices to support mental health.

Conclusion
Integrating components of the PRISM within a dynamic system model of cultural adaptation allows us to represent the uncertainty and unpredictability of adapting mental health interventions more accurately in non-western cultures. Importantly, it also models the tension between self, other and organizational values, which may be particularly critical in collectivist cultures, or across generations in countries experiencing rapid development. Our case example suggests how we might navigate these uncertainties and complexities through a lens of 'best fit' rather than input-output.
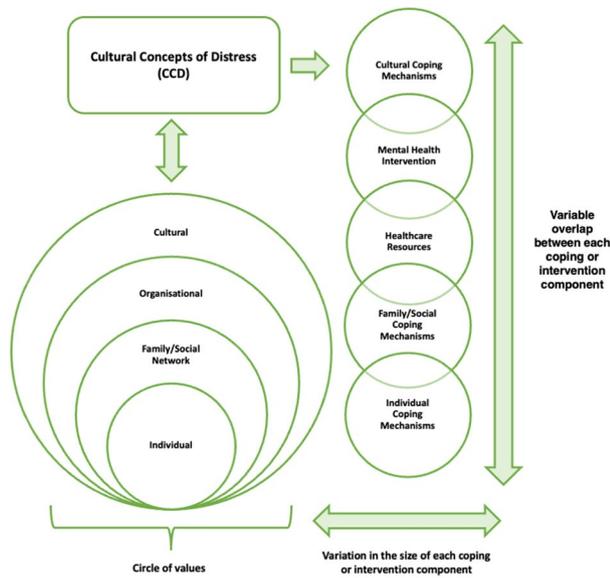
Trial Registration: Non applicable

Consent to publish
Non applicable

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Fig. 1 (abstract P37). Combining the PRISM with dynamic mental health coping and intervention components

O38
Challenges to implementing person-centred outcome measures into routine paediatric palliative care

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Background
To successfully implement a newly developed measure into clinical practice, the challenges to implementation must be understood [1]. Previous research has focused on disease-specific or generic Quality of Life measures in paediatric healthcare, or the use of outcome measures in adult palliative care [2-4]. Evidence identifying the perspectives of all key stakeholder groups is needed to ensure successful implementation of new person-centred outcome measures (PCOMs) in the paediatric palliative care context.
Method
Semi-structured interviews with purposively sampled key stakeholders. Children with life-limiting or life-threatening conditions (LLLTC), parents/carers and siblings of children with LLLTC, and health and social care professionals (HSCPs) caring for children with LLLTC were recruited from 9 UK sites. Commissioners of UK paediatric palliative care services were recruited via a non-governmental organisation or direct recommendations. Verbatim transcripts were analysed using a Framework approach analysis and inductive coding in NVivo.
Results
103 interviews were conducted with 106 participants (26 children, 40 parents/carers, 13 siblings, 15 HSCPs, and 12 commissioners). Potential challenges identified by HSCP and commissioners included: (1) gatekeeping by family members and (2) added workload for already stretched services. Potential challenges identified by children

included: (1) trusting who administered the measure and (2) privacy concerns around who could access the results. Family members also identified potential challenges relating to (1) added workload for HSCP and (2) privacy concerns around who could access the results.
Conclusion
Whilst some challenges were identified as concerns across multiple stakeholder groups, other challenges identified were unique to specific stakeholder groups. Understanding these different and overlapping perspectives of the perceived challenges is essential for the development of concomitant strategies for implementation of a new PCOM into paediatric healthcare practice. Which in turn helps to support uptake of a PCOM into routine practice.
Trial Registration: Non applicable

Consent to publish
Non applicable

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P39
"Mindfulness for parents who care" or "Mindfulness for parent carers"? Re-framing a mindfulness course to align with parent carer's identity as a parent before a carer increases uptake: A formative evaluation

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Background
Parent carers of children with special educational needs have an increased risk of mental and physical ill-health [1,2]. It remains problematic to engage parent carers in wellbeing support [3], with many parents not perceiving themselves as 'carers' [4]. Following low uptake to our Mindfulness for Parent Carers (MPC) group we carried out a formative evaluation and utilised ecological theory aligned with public health goals as outlined by Atkins et al [5]. We examined whether expressions of interest (EOI), and applications to, the MPC group were increased by aligning the promotion of the group with parent carer's identity and through settings that support that identity.
Method
For intake one, the course was promoted as 'Mindfulness for Parent Carers' via email, poster and telephone contacts to local carer charities, NHS services, and the voluntary action mailing list (a reach of 1,300 individuals). For intake two the course was promoted as 'Mindfulness for Parents who Care' via local workplace settings (18) and primary and secondary schools (397 including 15 special needs schools).
Results
For the EOI questionnaire, fourteen people completed the EOI questionnaire for intake one, and seventeen people for intake two. The difference was not significant ($c^2(1) = 0.29$ p = 0.59). For full applications, intake one had one application; intake two had six applications. There were significantly more applications made in intake two than intake one $c^2 (1) = 3.57$, p = 0.05.

Conclusion
Aligning intervention promotional material with both parent carer's primary identity (ie a parent first), and setting (ie schools/workplace) resulted in a significantly greater number of applications to the MPC group. However, numbers were low across both intakes, and thus more work is needed to understand how to work with parent carers and offer support how and when they need it.
Trial Registration: Non applicable

Consent to publish
Non applicable

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P40
Implementation of home practice support strategies for older adults attending an online mindfulness based cognitive therapy course: An adaptive intervention protocol
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Implementation Science 2023, **18(Suppl 1):**P40

Background
Mindfulness based cognitive therapy (MBCT) is a NICE recommended treatment for recurrent depression [1]. Daily home practice is an essential part of MBCT to promote clinical change [2,3], but is inconsistently completed our course participants. Using self-report data from an online MBCT course for older adults we describe a formative evaluation to develop an adaptive intervention protocol with the aim of improving home practice compliance.

Method
Participants (n = 55) attended an online MBCT course and were issued with audio files from which to practice daily between sessions. Weekly questionnaires were completed where participants recorded frequency of practice ($\bar{x}$ = 3.68, SD = 1.69 days) and what impacted on their ability to complete daily practice. Focus groups were held after each course (four in total) and thematic analysis identified successful strategies alongside challenges faced with home practice.

Results
The behaviour change wheel (BCW) [4] was used to map out participant's experiences of home practice. Figure 1 shows the resultant framework, with quotes from participants illustrating key themes from the focus groups. The strategies to be used in the second arm of our adaptive intervention are shown in the 'intervention functions' column.

Conclusion
The BCW provided a good fit for mapping participant's experiences of home practice. Quantitative and qualitative data on home practice

from the second arm of the adaptive intervention will be used to evaluate the feasibility and acceptability of proposed strategies.
Trial Registration: Non applicable

Consent to publish
Non applicable

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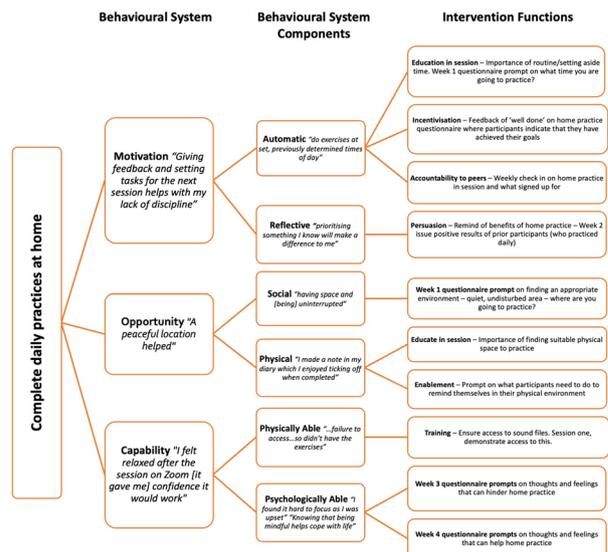
Fig. 1 (abstract P40). A Participant's experiences of home practice applied to the BCW alongside adaptions to the intervention

O41
Development of implementation strategies to overcome barriers when implementing a combined lifestyle intervention for community-dwelling older people in community-care settings
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Background
ProMuscle is a combined lifestyle intervention that has shown to be effective in improving muscle mass, muscle strength, and physical functioning in community-dwelling older adults. Potentially, it could facilitate older people in maintaining their functional independence.
To increase the likelihood of successful implementation of ProMuscle, this study aims to develop appropriate implementation strategies targeting previously identified barriers to implement ProMuscle in community-care.

Method
A theory-informed approach was adopted to develop appropriate implementation strategies, consisting of four subsequent steps. First, previously identified barriers for implementation were categorized into the constructs of the Consolidated Framework for Implementation Research (CFIR) [1], including the underlying theoretical constructs. Second, the CFIR-ERIC matching Tool linked barriers to implementation strategies. Behavioral change strategies were added from literature. Third, evidence for implementation strategies was sought in literature. Fourth, in co-creation with involved healthcare professionals and implementation experts, implementation strategies were operationalized to practical implementation activities following the guidance of Proctor. Lastly, an implementation plan that can be tailored to individuals' context was developed, prioritizing implementation activities over time.

Results
A total of 654 barriers were categorized to the CFIR framework. The majority of barriers were related to the CFIR domain outer setting. Subsequently, the identified barriers were linked to 37 unique strategies. As many strategies affected multiple barriers, strategies were assigned in eight overarching themes: assessing the context, network internally, network externally, costs, education, process, champions, content of the intervention, and behavioral change of the end-users.
Co-creation sessions with professionals and implementation-experts resulted in tangible implementation actions, processed into an online implementation toolbox that supports healthcare professionals chronologically during the implementation process.

Conclusion
The theory-informed approach in combination with co-creation led to the development of practical multicomponent implementation strategies to implement ProMuscle. Next step is to evaluate the implementation strategies including the implementation toolbox regarding the implementation of ProMuscle in community-care.
Trial Registration: Non applicable

Consent to publish
Non applicable

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O42

Experiences and perceptions of evidence use among senior health service stakeholders: A qualitative study
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Implementation Science 2023, **18(Suppl 1):**O42

Background
The importance of using robust evidence to inform policy and decision-making in health is widely acknowledged. Nevertheless, the evidence-to-policy and practice gap continues to persist. The aim of this study was to: examine senior health service stakeholders' experiences and perceptions of evidence us; identify barriers to and facilitators of research use; and identify recommendations to support research use among health service stakeholders.

Method
A qualitative study was undertaken using semi-structured one-to-one interviews with a sample of senior health service stakeholders in Ireland. Interviews were conducted in late August 2021 to January 2022, and ethical approval for the study was granted by the university ethics committee. Purposive sampling was used, and inclusion criteria were national-level senior management involved in making decisions regarding strategy, planning, development and delivery of health services. Interviews were analysed using thematic analysis.

Results
A total of 17 interviews were conducted (response rate 38%). Participants reported using a range and mix of evidence types to inform their work and decision-making, and they had a strong appreciation of the importance of research. Key barriers to research use included lack of time, relevance and quality of the research, organisational culture, and other stakeholders' lack of understanding or interest in research. Key facilitators included the organisation's library service, activities to improve the dissemination of research findings, and links with universities.

Conclusion
The study concludes that health service stakeholders have a broad conceptualisation of evidence, viewing research as one type of evidence and recognising the value of evidence in informing work and decision-making. Despite this, the study underlines key areas for improvement, including the need for a more strategic approach to research and for more resources to facilitate research use. Knowledge translation strategies have the potential to facilitate greater research use in the organisation, defined according to 'push', 'pull' and 'exchange' efforts.
Trial Registration: Non applicable

Consent to publish
Non applicable

O43

Understanding How Approaches to Implementation Support Have Evolved Over Time to Advance Improved and Equitable Outcomes in Human Service Systems
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Implementation Science 2023, **18(Suppl 1):**O43

Background
Implementation support has become a frequently used approach to strengthen organizational efforts to sustainably use evidence. In utilizing implementation support, agencies and funders collaborate with implementation support practitioners (ISPs) whose explicit role it is to support the implementation of evidence-informed practices [1-3]. The goals of this study were to understand what experienced ISPs have learned about supporting evidence use in service systems, and how their approach to providing implementation support has shifted over time as a result of this learning.

Method
A purposive sample of 17 experienced ISPs participated in in-depth interviews. A semi-structured interview guide was used to ascertain participants' perceptions about various aspects of their work providing implementation support. Data were analyzed using a narrative analysis approach, focusing on broad elements that highlighted the trajectory of respondents' professional journey in the context of providing implementation support. A team engaged in data coding and analysis in an effort to triangulate observations and maintain consensus with respect to emerging findings.

Results
Respondents foregrounded the development of five main components to their approach in supporting evidence use: (a) supporting participatory learning; (b) engaging in co-creation; (c) building trusting relationships; (d) understanding context and community perspectives;

and (e) supporting communication, coordination and collaboration. Interviewees described a necessary evolution in their approach to supporting evidence use. Three main shifts in implementation support practice were observed: (a) didactic to participatory approaches, (b) expert-driven to co-creation approaches, and (c) framework-based to relationship-focused approaches

Conclusion
Respondents highlighted the need to move away from top-down approaches towards a model of multi-level support focused on co-creation, peer learning, and collaborative work. At the heart of this work is development of trusting relationships. All interviewees reported that high quality relationships between ISPs and stakeholders was the most critical factor for achieving implementation results.

Trial Registration: Non applicable

Consent to publish
Non applicable

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O44

Competencies for supporting evidence use: The role of trusting relationships in implementation

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Implementation Science 2023, **18(Suppl 1):**O44

Background
There is an increasing call for the advancement of a workforce capable of integrating implementation research – models, frameworks, and strategies – into practice to support evidence use, advance equity, and achieve improved population outcomes. Studies have identified plausible competencies for implementation practice [1-3]. This William T. Grant funded study explored the use of competencies by professionals who support evidence use in human service systems and the conditions under which specific implementation strategies were perceived as most effective.

Method
A hybrid purposive-convenience sampling approach resulted in a sample of 17 individuals, each with more than 15 years' experience providing implementation support. Data were collected via in-depth, semi-structured interviews. Core research questions included: What implementation support strategies are used to support the use of evidence? Under what conditions have specific implementation support strategies contributed to supporting evidence use? Data were analyzed using a qualitative content analysis approach.

Results
Respondents reported using a range of strategies across domains to support evidence-use. Trusting relationships emerged as a ubiquitous fixture of the implementation support process. Respondents described trusting relationships as directly associated with successful implementation and use of evidence and bidirectionally associated with (and reinforcing of) all other implementation strategies.

Conclusion
Findings reflect that implementation support is a multi-faceted endeavor that requires a broad range of skills. Respondents enacted technical strategies (e.g., frequent interactions), while simultaneously carrying out relational strategies (e.g., empathy-driven exchanges). Relationships appear to be as important as technical strategies and may explain why perfectly offered implementation support at times remains unsuccessful in leading to sustained evidence use. Building a workforce capable of supporting evidence-use will require developing skills for building trusting relationships. Findings from this study have resulted in a model for trust building being tested by NJ's Division of Children and Families with funding from the W.T. Grant Foundation.

Trial Registration: Non applicable

Consent to publish
Non applicable

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O45

Developing an initial programme theory of prehospital feedback in an ambulance service setting: A mixed-methods study

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Implementation Science 2023, **18(Suppl 1):**O45

Background
Evidence exists for the effectiveness of feedback in changing professional behaviour and improving clinical performance across a range of healthcare settings, but this has not yet been explored within the prehospital context [1]. The aim of this study was to understand how UK ambulance services are meeting the challenge of providing feedback and generate an initial explanatory programme theory to capture the implicit mechanisms by which prehospital feedback results in desirable outcomes.

Method
This mixed methods study combines a realist evaluation framework with an explanatory case study design. The study consisted of a national cross-sectional survey to identify active and historic feedback initiatives in UK ambulance services, followed by 4 in-depth case studies of these initiatives. Case studies were purposively selected from survey responses using a sampling framework stratified by feedback type and context, and each involved 4-5 semi-structured qualitative interviews and documentary analysis.

An initial programme theory was developed using the survey data and findings from our previously conducted systematic review and exploratory interview study. It was informed by existing theories on audit and feedback, behaviour change and implementation science: Clinical Performance Feedback Intervention Theory [2], Theoretical Domains Framework [3] and Implementation Outcomes Evaluation Framework [4].

Results

Fitting the descriptive survey data of prehospital feedback initiatives to the CMO framework gave rise to an initial programme theory for prehospital feedback, which is depicted visually in a logic model (Figure 1).

Conclusion

Our initial programme theory will be further refined during the ongoing case study phase of this study.

Trial Registration: Non applicable

Consent to publish

Non applicable

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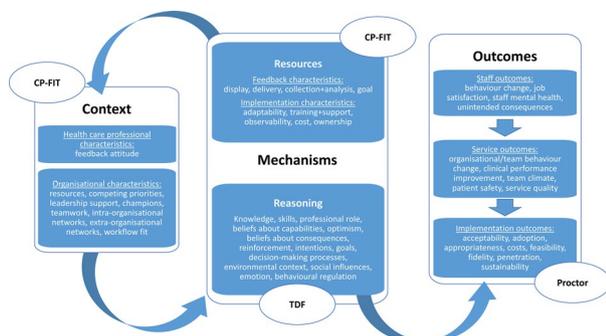

Fig. 1 (abstract O45). Logic Model of an Initial Programme Theory of Prehospital Feedback

P46

2 Young Lives: a pilot hybrid type 2 trial of a mentoring scheme for pregnant adolescent girls in Sierra Leone

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Background

Sierra Leone (SL) has one of the highest maternal mortality in the world. Adolescent girls are particularly vulnerable, many times belong to disadvantaged communities usually driven by poverty, lack of education and employment opportunities [1]. In 2015, a household survey conducted in Kuntorloh (Wellington) showed a maternal mortality of 1 in 10 among under 18 years old [2]. A year later, a qualitative study exploring causes of adolescent maternal mortality in this population [2] found important factors in relation to a) vulnerability to adolescent pregnancy (i.e., not living with birth family, sex for water/grades/school fees, criminal justice system, availability & accessibility of contraception and abortion) and vulnerability to death when pregnant (i.e. neglect, abandonment; being cared for by a non-parental adult, delayed care seeking, obstetric risks/socio-economic factors). Crosscutting factors: Gendered social norms for sexual behaviour. A mentoring scheme for pregnant girls was locally developed and started in October 2017 (5 more teams up to Mar 2021) with promising results [3]. Further funding for a pilot trial was obtained as part of a NIHR Global Health Research Group (CRIBS) that started in Sep 2021 and aims to develop, implement simple, scalable innovations to reduce maternal and perinatal mortality in Sierra Leone [4].

Method

We aim to assess the feasibility and implementation of the 2YL mentorship scheme for adolescent pregnant girls in new communities to inform trial procedures for a subsequent fully powered cluster RCT. We are conducting a hybrid type 2, parallel-group pilot cluster RCT in communities served by 12 PHUs covering rural + urban areas. The primary clinical outcome is a composite of maternal and neonatal mortality. We will conduct a nested evaluation of the implementation, mechanisms, and experiences of care, health and wellbeing using mixed methods (e.g. focus groups, semi-structured interviews with adolescents, mentors, PHU staff, community members, friends/relatives; photovoice).

Results

The project is ongoing and we highlighted below overall progress so far:

- • 2YLs started as part of NIHR CRIBS on Sept 2021
- • Research staff recruited & trained
- • Project materials developed, ethics approvals obtained, online database developed.
- • Local PhD studentship awarded
- • Cluster randomisation and community engagement activities in cluster sites completed
- • Recruitment and training of mentors ongoing.
- • Mentoring intervention to start in June 2022
- • An overview of the plans for the implementation evaluation will be presented.

Trial Registration: ISRCTN registry (ISRCTN32414369, prospectively registered, 16 March 2022).

Consent to publish

Non applicable

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O47

Implementation strategies to increase smoking cessation treatment provision in primary care: a systematic review of observational studies

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Background
Controlled trials have found some evidence for the efficacy of interventions aiming to increase the provision of smoking cessation treatment in primary care settings [1], but we need 'real-world' evidence, where implementation strategies [2] are implemented without researcher input. Aim: To identify 'real-world' implementation, effectiveness and cost-effectiveness of implementation strategies aiming to increase smoking cessation treatment provision in primary care, and any perceived facilitators and barriers for effectiveness.

Method
Seven databases, and three grey literature sources were searched from inception to April 2021. Studies were included if they evaluated implementation on a national or state-wide scale, contained practitioner performance and patient smoking outcome measures. Studies were assessed using the Risk Of Bias In Non-randomized Studies of Interventions (ROBINS-I) tool. A narrative synthesis was conducted using the ERIC compilation [3,4] and CFIR [5].

Results
Of 49 included papers, half were of moderate/low risk of bias. The implementation strategies identified involved utilising financial strategies, changing infrastructure, training and educating stakeholders, and engaging consumers. The first three strategies increased the provision of cessation advice in primary care but no intervention had high-quality evidence of impact on patient smoking cessation. No studies assessed cost-effectiveness. External policies/incentives (wider tobacco control measures and funding for public health and cessation clinics) were key facilitators. Time and financial constraints, lack of free cessation medications and follow-up, deprioritisation and unclear targets in primary care, lack of knowledge of healthcare professionals, and unclear messaging to patients about cessation were key barriers.

Conclusion
Some implementation strategies increased the rate of delivery of cessation advice in primary care, but there was no high-quality evidence showing an increase in quit attempts or smoking cessation. Barriers to effectiveness identified in this review should be reduced. More pragmatic approaches are recommended, such as 'hybrid effectiveness-implementation designs', and 'Multiphase Optimization Strategy' (MOST) [6].
Systematic Review Registration: PROSPERO: CRD42021246683
Trial Registration: Non applicable

Consent to publish
Non applicable

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P48

Result Of a feasibility hybrid II randomised controlled trial of volunteer 'Health Champions' supporting people with serious mental illness manage their physical health

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Background
People with severe mental illness (SMI) such as schizophrenia are more likely to have physical health comorbidities than the general population. Interventions are needed to address this. Volunteers can bring a different and valued experience to supporting people with SMI. We report on a feasibility hybrid trial of an intervention called 'Health Champions' in which volunteers are trained to support individuals with their physical health.

Method
The study is a feasibility randomised Hybrid II trial. Health Champions provided weekly one to one support for up to nine months.
Our primary effectiveness outcome is physical health related quality of life and we also collected data on other related clinical and social outcomes. We collected data on clinical effectiveness at baseline and at the end of the intervention. We are conducting interviews with Health Champions and participants at the end of the intervention to understand their experience of the intervention and to evaluate the implementation challenges and collecting standardised Implementation Science measures. We are collecting data on the costs of the intervention as part of the economic evaluation.

Results
The intervention started during COVID and has been delivered both online and face-to face depending on the precautions at the time. To-date, we have recruited 48 participants, with 27 in the intervention arm and 21 in the control arm. We are still collecting data and will give an update on the results so far.
Conclusion
We will use the data collected to understand whether the Health Champions intervention is implementable, what the implementation challenges are, whether clinical and implementation outcomes can be collected and indicate any differences between trial arms, and whether the intervention is cost effective. We will use these results to decide on whether to undertake a larger trial and/or to recommend the intervention as part of routine care.
Trial Registration: Non applicable

Consent to publish
Non applicable

O49

Evidence gap map on contextual analysis in implementation science
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Background
Understanding context is essential for successful and sustainable intervention implementation [1]. However, a lack of standardised methodological approaches for contextual analysis limits the assessment and leads to inconsistent reporting of context [2]. We systematically reviewed intervention implementation studies to map and evaluate current methodological approaches to contextual analysis.
Method
Applying a stepwise evidence gap map (EGM) approach, we empirically developed a search strategy to identify intervention implementation studies in PubMed (2015-2020) [3,4]. From a random sample (20%) of articles per year we assessed those in detail that reported on contextual analysis. Data extraction, analysis and evaluation was guided by the Basel Approach for CONtextual ANAlysis (a six-step guidance for contextual analysis) and the Context and Implementation of Complex Interventions (CICI) framework [1]. We created colour coded tables and visual maps to provide an overview on all relevant findings.
Results
We identified 15,286 intervention implementation studies and protocols, of which 3017 were screened for inclusion. Finally, 110 studies were included, with 24 (22%) reporting on contextual analysis.
Only one study used a framework explicitly guiding contextual analysis. Twenty-two studies focused on the meso-level (i.e., organisational characteristics) with socio-cultural aspects most frequently being studied. Commonly applied methods included surveys (n=15) and individual interviews (n=13), with ten studies reporting a mixed-methods analysis. In 18 studies, contextual information was used to inform subsequent project phases (e.g., intervention development/adaption, selecting implementation strategies); nine studies assessed influences of context on implementation and effectiveness outcomes.

Conclusion
This study provides an overview on current methodological approaches to contextual analysis while highlighting their gaps. The huge heterogeneity identified turns contextual analyses into "black boxes". We strongly recommend taking concerted actions to further develop and test robust methodologies for contextual analysis and consistent reporting (e.g., following BANANA), to increase the quality and consistency of implementation science research.
Trial Registration: Non applicable

Consent to publish
Non applicable

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O50
Withdrawn

P51

Limiting and facilitating contextual factors impacting efforts to address gender norms underpinning female child marriage: a comparative case study of the implementation of the national strategy to end child marriage in Nigeria (2016-2021) and the national plan of action to end child marriage (2018-2030) in Bangladesh
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Background
Elimination of Female Child Marriage (FCM) remains a global health priority because FCM is associated with adverse health outcomes like teenage pregnancy and corresponding higher risks of puerperal endometritis, eclampsia, and systemic infections [1]. In 2016, the National Strategy to End Child Marriage in Nigeria (NSECMN) was introduced while in 2018, the National Plan of Action to End Child Marriage (NPAECM) was launched in Bangladesh, to amongst other priorities, address gender norms which evidence suggests remains the most potent and important factor underpinning FCM in both countries [2-4]. Despite these efforts, by 2021, the FCM rates in Nigeria and Bangladesh remained persistently high at 44% and 66%, respectively, which provided impetus for an analysis which would inform future endeavors to address the problem, in both countries [5,6].
Method
Guided by the Consolidated Framework for Implementation Research (CFIR), this study analyzed the contextual factors impacting NSECMN and NPAECM's efforts at addressing gender norms underpinning FCM, using a document analysis method [7].
Results
Nigeria and Bangladesh's spending on social programs (including for the implementation of both policies) were low during the reference period [8,9]. As such, financial and human resource support from

international donors and non-governmental organizations ensured implementation feasibility [10,11]. While in both countries, the policies were backed by legislation, weak implementation remained a challenge [12,13]. This challenge was exacerbated by Nigeria and Bangladesh's multilateral legal systems which prevented the government from restricting FCM conducted under Islamic or customary laws [12,13]. Furthermore, in both countries, poverty fostered the norm of dowry payment, which promoted FCM [14,15].

Conclusion
Both countries need to increase national spending on FCM policy implementation, to reduce overreliance on international actors. They also need to introduce legislation that mandates adherence to civil law and adopt a holistic approach that ensures FCM policies are implemented in coordination with poverty alleviation programs.

Trial Registration: Non applicable

Consent to publish
Non applicable

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P52
Withdrawn

O53

The Stanford Lightning Report: A pragmatic methodological approach for rapid qualitative synthesis

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Background
A rapidly evolving healthcare implementation requires methods and tools to facilitate prompt communication with stakeholders while maintaining methodological rigor. The Stanford Lightning Report addresses these gaps with a methodological approach and flexible framework that innovates on debriefing techniques from manufacturing, enabling rapid feedback to healthcare partners.

Method
The Lightning Report method includes:

1. Pre-planning with evaluation partners to integrate emerging areas of interest into pre- existing collection tools.
2. Rapid synthesis. Structured research notes surface themes and unexpected findings. Researchers discuss notes/memos, and synthesize findings using Plus/Delta debriefing, adapted from Lean pedagogies.
3. Lightning Report creation. Components include executive summary, status of data collection, and findings that reflect Plus/Delta: what is going well with implementation, improvement opportunities and what needs to change, and suggested actions ("Insights").

We assessed stakeholder perceptions of the value of the Lightning Report with a confidential feedback survey.

Results
We have used the Lightning Report in 20+ studies and quality improvement projects, in academic medicine, government health, and community. Stakeholders they are valuable, easy to understand, shared with colleagues, addressing important issues, and often influencing initiative implementation. Suggestions include wanting "larger number of completed interviews" and validation against systematic coding of transcripts. One healthcare partner reported that before Lightning Reports, they "got so little information during the first 3 to 4 years that we were unable to take corrective action that would help...."

Conclusion
The Stanford Lightning Report approach bridges the chasm between data collection and full data analysis/results publication. It can be rapidly developed from data to deliverable, is highly valued by partners, and generates stakeholder trust.

Trial Registration: Non applicable

Consent to publish
Non applicable

P54
Withdrawn

P55

What interventions should we implement in England's mental-health services? The Mental-Health Implementation Network (MHIN) mixed-methods approach to rapid prioritisation

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Implementation Science 2023, **18(Suppl 1):**P55

Background

Setting mental health priorities helps researchers, policy makers, and service funders improve mental health services. In the context of a national mental health implementation programme in England, this study aims to provide a list of mental-health priority topics ripe for implementation, as well as a collection of adaptable methods and tools to help determine such priorities in future.

Method

A mixed-methods research design was used for a three-step prioritisation approach involving desk reviews, expert consultations and data triangulation. Groups with diverse expertise, including experts by experience, worked together to increase decision-making quality by engaging in deliberative discourse and modelling. A multi-criteria decision analysis (MCDA) model was used to combine participants' varied opinions, data and judgments about the data's relevance to the issues at hand during a decision conferencing workshop where the priorities were finalised.

Results

The study identified six mental-health priority topic areas for services: mental-health inequities, child and adolescent mental health, integration of mental and physical health, caregiver support and multi-morbidities, including mental health and drug misuse.

Conclusion

We report an inclusive attempt to ensure that the list of mental-health service priorities agrees with perceived needs on the ground and focuses on evidence-based interventions. Other fields of healthcare may also benefit from this methodological approach if they need to make rapid health-prioritisation decisions.

Trial Registration: Non applicable

Consent to publish

Non applicable

P56

NIHR GHRG: CRIBS (Capacity. Research. Innovation. Building maternity Systems). Implementation of simple, scalable innovations & research capacity building to improve maternal health in Sierra Leone

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Background

This National Institute for Health Research (NIHR) Global Health Research Group builds on multidisciplinary research partnerships spanning the last five years, formalising the collaboration between King's College London and the University of Sierra Leone, and brings collaborations with many partners, including the Ministry of Health and Sanitation (MoHS) in SL, iNGO Welbodi Partnership, Lifeline Nehemiah Project, and the National Midwifery Schools. The overall aim is to develop and implement simple, scalable innovations to reduce maternal and perinatal mortality and build research capacity and expertise in Sierra Leone.

Method

We developed a programme of work addressing locally identified maternal health challenges using local pilot data to inform assumptions and feasibility. We created several projects with the aim of improving health outcomes through implementation, practice and policy, alongside sustainably strengthening research capacity and capability. MRC framework, RE-AIM and Proctor's outcomes will guide nested implementation evaluations.

Results

The main workstreams include:

- • A stepped-wedge, hybrid implementation-effectiveness randomised controlled trial to evaluate the implementation and real-world scale up of the CRADLE device and training across rural Sierra Leone, with the aim of providing a blueprint for scale-up worldwide.
- • A randomised cluster pilot trial to assess the feasibility and implementation of a locally designed and community based intervention providing mentoring from pregnancy through to one-year post-birth for adolescent girls (addressing the social factors of stigma, abandonment and poor maternal health outcomes)
- • An evaluation of shock index as a predictor of adverse outcomes secondary to haemorrhage and sepsis in pregnant women (compared to conventional vital signs monitoring)
- • A validation of a point-of-care creatinine device to detect acute kidney injury in pregnancy, a preventable cause of maternal morbidity and mortality.
- • Build research capacity and expertise by supporting local PHD students, MPH students and early career researchers.

Conclusion

The University of Sierra Leone and King's College London, with support from in country collaborators, have partnered to build maternal health implementation and evaluation research and expertise where it is needed most. Close partnership and planning will promote uptake and success, strengthen institutional capacity and create a platform for advancement in health projects and services, across all cadres of maternal health provider.

Trial Registration: Non applicable

Consent to publish

Non applicable

O57

CRADLE 5: Evaluating the national scale-up of the CRADLE Vital Sign Alert device in Sierra Leone. Helping pregnant women get to the right place at the right time

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Background

The CRADLE Vital Sign Alert is an easy-to-use, accurate device that measures blood pressure and pulse, with an incorporated traffic-light early warning system and training package. CRADLE was associated with reduced rates of maternal death (RR 0.37 [95% CI 0.25 to 0.55], p<0.0001) and eclampsia (RR 0.56 [95% CI 0.41 to 0.67], P<0.0001) when introduced into an urban centre in Sierra Leone. This evidence produced political buy-in for scale-up, which was piloted in half of the country. The WHO Expand Net framework was used to design the key elements. Effectiveness of implementation strategies, fidelity and feasibility were positively evaluated.

Funding has now been obtained as part of an NIHR Global Health Research Group (CRIBS) to determine the impact, adoption and sustainability of CRADLE scale-up into routine maternity care in Sierra Leone.

Method

A randomised effectiveness-implementation type 2 trial will evaluate the intervention across eight rural districts in a stepped-wedged design. All women identified as pregnant or within 6 weeks postpartum, presenting for maternity care at any level of government facility, will be eligible to participate. Primary outcome data (composite of maternal death, eclampsia and hysterectomy per 10,000 deliveries and stillbirth per 1,000 deliveries) will be collected. Implementation of the intervention will be evaluated via a mixed-methods approach.

Process evaluation measures will be analysed using the RE-AIM framework. Measures and tools have been co-designed and optimised during pilot work. An offline mobile phone application has been designed to capture reach using GPS. A nested evaluation of experiences of care and mechanisms, including impact of referral patterns and clinical care escalation is planned. Sustainability, including a policy lab, will be conducted.

Discussion

This trial will demonstrate the potential impact of CRADLE on reducing neonatal and maternal mortality and morbidity in low-resource settings. It is anticipated that its relatively low cost and ease of integration into existing health systems will be of significant interest to local, national and international health policy-makers.

Trial Registration: ISRCTN94429427. Registered April 2022.

Consent to publish

Non applicable

Publisher's Note