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## Ride the Knowledge Wave 1

### #52- Implementation of the Oma Väylä Rehabilitation Programme for Young People with Attention Deficit and Hyperactivity Disorder (ADHD) and/or Autism Spectrum Disorder (ASD): Core Components From the Perspective of Professionals

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#### Research aim

This study applies the Consolidated Framework for Implementation Research (CFIR) and presents the preliminary results of the perceived core components of Oma Väylä ('My Way') rehabilitation from the professionals' perspective. The core components refer to the essential functions, principles, and intervention activities considered necessary to produce desired outcomes.

#### Setting

Regulated by legislation, the Social Insurance Institution of Finland organizes various rehabilitation interventions, and local service providers, in accordance with service descriptions defining the features of interventions, execute these interventions. The Oma Väylä rehabilitation includes both individual and group sessions as well as working within the client's own network.

#### Method(s)

The multi-method data sets are collected through electronic surveys and interviews. Multiprofessional teams (n = 98) will answer the questionnaire during January and February 2023. Five focus group interviews was conducted with 26 professionals participating. We used three vignettes to trigger discussion and to reveal the core components of the intervention. A vignette is a brief hypothetical case description presented to participants during an interview. The survey data are analysed using statistical methods, and qualitative thematic analysis is applied in the analysis of interview data. The results from these are integrated according to the mixed methods design.

#### Key finding(s)

According to the professionals, the perceived core components of the Oma Väylä rehabilitation programme are the empowering and strengths-based approach, individually tailored rehabilitation, continuous evaluation of the client's situation, and reflection in relation to the client's everyday life and functional ability. The survey data will broaden the understanding of core components and complement the interview data. According to the preliminary analysis, there are commonalities between the described core components and the person-centered rehabilitation model.

#### Discussion

- What are the benefits of using vignette-based interview in defining intervention core components?
- What are the benefits of integrating quantitative and qualitative data to reveal the core components?

#### Challenges

The recruitment of the participants to answer the electronic survey required continuous monitoring and interaction with the professionals. The integration of the qualitative and quantitative data will be in the same time challenging and interesting phase of the research process.

### Key highlights

- This study sheds light on the core components of Oma Väylä rehabilitation from the perspective of the professionals and contributes to the understanding of the 'black box' of intervention implementation.
- The results of this research contribute to the evidence-based practices in implementing rehabilitation.

### #113- Fidelity consistency of planned and unplanned adaptations made in evidence-based parenting programs

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#### Research aim

To explore and assess adaptations in a community sample of practitioners who deliver parenting programs. Furthermore, to investigate the extent to which the modifications are planned or unplanned (reactivity) and how that relates to fidelity consistency.

#### Setting

The study targets group leaders delivering five of Sweden's most widely used evidence-based parenting programs (All Children in Focus, Comet, Connect, Cope, and Triple P). These programs are provided as preventive interventions in local communities, often delivered by teachers and social workers in social services and primary care settings.

#### Method(s)

The study used a qualitative approach involving focus group and individual interviews to extract examples of adaptations made by group leaders (n = 28). Examples were categorized using the Framework for Reporting Adaptations and Modifications-Enhanced (FRAME). Data was then assessed for fidelity consistency (i.e., if modifications are made in line with core functions of the programs) and reactivity, the degree to which they are planned or unplanned (operationalized as four levels: universal, conditional, situational, and unintentional). Chi-square and logistic regression were used to explore the relationship between consistency and decision-making involved (i.e., planned vs. unplanned).

#### Key finding(s)

A total of 137 examples of modifications were identified; 78 (57%) were assessed as fidelity consistent and 59 (43 %) as fidelity inconsistent. A logistic regression with fidelity consistency as the dependent variable, and the four levels of reactivity as predictor variables, showed that the model significantly predicted the consistency of modifications (omnibus chi-square = 17.37, df = 3, p < .001). Unintentional modifications (i.e., changes made involuntarily or accidentally without any clear reason) showed the most substantial predictive effect.

#### Discussion

- The study supports the notion that adaptations should be carefully considered (i.e., proactive) rather than haphazardly or intuitive (i.e., reactive). This, however, can be hard to achieve in routine practice. So how can implementation science provide guidance for managing adaptations in practice settings?
- This study uses an unconventional method to explore the relationship between levels of planning involved in making adaptation decisions and fidelity consistency. As research

on adaptation advances, there is a need to find ways to further operationalize and study this relationship. How might this be achieved?

### Challenges

Adaptations can be a sensitive topic, which in this study meant that group leaders were hesitant to describe their experiences openly. To handle this issue, the interviewer used several clinical psychology tactics to normalize reactions and create a secure interview setting.

### Key highlights

Adaptations made in routine practice can result from qualitative distinct decision-making processes. Although recognized as important, different ways of making adaptations remain underexplored scientifically.

Implementation science needs to guide the management of adaptations, not only during the planning of implementation projects but also to support adaptation decisions in routine practice.

## #138- Translating and Implementing an Evidence-Based Framework to Decrease Suicide Deaths in the U.S. Military

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### Research aim

Zero Suicide (ZS) is a public health approach to suicide prevention; an evidence-based framework, policies, interventions, and practices. From an implementation perspective, ZS in a military context presents several complex challenges. This presentation will describe the evidence-based framework, its adaptation, challenges encountered, successes, lessons learned, and results.

### Setting

The sectors served are any healthcare sectors.

### Method(s)

Both qualitative and quantitative data analyses were conducted on an ongoing basis from 2015 - 2019. This included data on training, implementation and program fidelity, adherence to protocols/policies, dosage of interventions, quality delivery, and participant responsiveness. In order to further examine the suicide attempt and death data, a non-experimental, longitudinal cohort study of the 5 pilot bases and 7 control bases was conducted. Generalized estimating equations (GEE) were utilized with base assignment (pilot vs. control), time point, and the interaction of the base assignment and time point as variables in the model; base population was included as an offset.

### Key finding(s)

Activities completed as part of the implementation of Zero Suicide fell into the seven key elements of the Zero Suicide Framework: Lead, Train, Identify, Engage, Treat, Transition, Improve. Intensive qualitative reviews were undertaken to form the foundation for the project's implementation and evaluation. Results revealed that although adherence to screening was mediocre, suicide deaths and significantly decreased over time and were significantly lower than suicide deaths at matched comparison bases. Over the four-year implementation of ZSSA, suicide attempts slightly increased at both the intervention and comparison bases; however, the rate of increase was lower at the pilot sites.

### Discussion

- How do we successfully adapt evidence-based frameworks to be used in other settings?
- How do we assure and measure implementation success?

### Challenges

We occurred many challenges. Implementation challenged (e.g., buy in) were huge. We will discuss the use of implementation teams, marketing, and other efforts to overcome this.

### Key highlights

This was the first study to undertake the dissemination and implementation (D&I) of ZSSA across an entire military healthcare system. The findings suggest that a healthcare system wide suicide prevention framework may work in the military context. This knowledge can be used in a variety of other settings.

## #184- Barriers and facilitators for reduction of low-value home-based nursing care.

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### Research aim

Low-value nursing care can induce harm in clients and waste resources. For successful de-implementation of low-value, insights in barriers and facilitators (influencing factors) are needed. Therefore, we explored influencing factors for reducing low-value home-based nursing care.

### Setting

The population of the study included healthcare professionals (e.g. nurse assistants, registered nurses, and managers) from 27 different teams of seven home-based nursing care organisations in the Netherlands.

### Method(s)

We conducted a qualitative, exploratory study using focus group interviews and individual interviews. A semi-structured interview guide was used based on the Tailored Implementation in Chronic Diseases-checklist (TICD), including the following factors guidelines, individual health professionals, professional interactions, patients, organizational, social, political, legal, incentives and resources factors. These factors were used as the codebook in the analysis of the interviews. The data collection took place from March to June 2022 and all interviews were audio-recorded and transcribed verbatim. A directed content analysis was used. The data was approached deductively and insights on determinants for low value care were clustered.

### Key finding(s)

The majority of the 55 healthcare professionals who participated were registered nurses and nurse assistants. We found that the influencing factors for reduction of low value care were related to the domain individual health professional factors, such as daily routine or lack of self-reflection on the provided care. Another relevant domain was patient factors, because patients feel, that they are entitled to receive care or demand care and patients are more outspoken in the care they would like to receive. A third relevant domain was professional interactions. An example is that general practitioners often prescribe low-value care.

### Discussion

- To what extent is it possible to develop a tailored de-implementation strategy from registered nurses and nurse assistants' perspective?
- How should be dealt with the missing knowledge from other stakeholders'?

This study contributes to creating a new normal with the shift from intramural setting to the homecare environment. In order to tackle shortages of healthcare professionals low value nursing care should be reduced and in this study the influencing factors are explored.

### Challenges

Data was collected data from perspective of healthcare professionals only. To develop a de-implementation strategy, it is important to also include other stakeholders as well, we tried to include clients but were only able to interview two clients, due to reluctance for including patients by the healthcare professionals.

### Key highlights

- This research provides insights in barriers and facilitators of the use of low-value nursing care in homecare setting. Which provides input for the development of a tailored de-implementation strategy.
- Healthcare professionals expect a resistance in reducing low-value nursing care among clients who already receive this care for a long time.

## Ride the Knowledge Wave 2

### #89- A digital intervention promoting positive mental health during pregnancy – a formative development combining perspectives from end-users and implementers

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#### Research aim

The project aims to develop a digital intervention to promote positive mental health during pregnancy. Results from intervention development will be presented whereby perspectives from both end-users and implementers are included. The project aims to advance our knowledge on how implementation determinants can be considered already in intervention development.

#### Setting

The development of the intervention will be done in close collaboration with professionals and end-users within the Womens health care structure. The evaluation of the digital intervention will be conducted within clinical routine in the Women's health care organisation.

#### Method(s)

Formative development process using the IDEAS framework integrating Patient and Public Involvement (PPI) through end-users as well as professional perspectives (implementers) throughout the process. Expert professionals are involved during the development process as well as the target group expectant parents. Data collection will include expert- and PPI-panels, group- and individual interviews and will be analysed inductively.

#### Key finding(s)

Preliminary findings regarding which features of the intervention promotes usability and implementability will be presented. Insights on key determinants for successful implementation of digital interventions (e.g., health promoting app) in routine Womens health care will be described.



## Discussion

- How can implementers be involved early on in intervention development in a valuable way?
- How can implementation research inform wide-scale implementation of digital interventions within health care organisation?
- How does digital interventions differ from other interventions in terms of implementation determinants?

## Challenges

Navigating among differing perspectives; academia, industry, health care organisation and professionals and end-users. Combining these perspectives from the different partners to optimize conditions for implementation. Another challenge has been to navigate the complex structure for implementing digital interventions as these guidelines differ and offer limited guidance to practitioners and managers.

## Key highlights

Our work can add on to the knowledge around formative development of digital interventions. The project will put implementation science on the agenda by considering implementation aspects already in intervention development.

## #210- Exchanging tacit experiential knowledge in a Community of Practice in preparation for implementation of methods to reduce involuntary care in intellectual disability care

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## Research aim

Intellectual disability care organisations seek to improve clients' quality of care through implementation of methods aiming to reduce involuntary care. We set up Communities-of-Practice with stakeholders to support organisations in understanding and improving implementation. This study explored insights that arise from bringing together tacit, experiential knowledge from previous implementation experiences.

## Setting

Dutch long term intellectual disability care organisations

## Method(s)

As part of a participatory action research (PAR) project two Communities-of-Practice (CoPs, 2019 and 2021) were set up with the aim of exchanging tacit, experiential knowledge and explicit scientific knowledge related to implementation. Care professionals (n=7), experts-by-experience (n=3) and researchers (n=3) participated in these CoPs. In this study, transcripts of the first meetings of the CoPs were analysed using qualitative thematic analysis.

## Key finding(s)

In the CoPs' discussions, dilemmas, theses, antitheses, and thought experiments about implementation were exchanged. Themes explored were top down and bottom up implementation, involvement of stakeholders and use of champions. A key theme was the quality of care dilemma of care professionals, which created resistance to improving care. Top down facilitation, matching the pace of support staff, explaining implementation aims, involving clients, discussing resistance, and coaching teams emerged as advices concerning future implementation.

### Discussion

Exchanging tacit, experiential knowledge in a CoP created the opportunity for in-depth understanding of implementation factors that are specific to the context of intellectual disability care. By linking tacit experiential knowledge to scientific insights on implementation, Communities of Practice may help with quality improvement in long-term care.

### Challenges

Keeping stakeholders motivated was a major challenge during the Covid-lockdown period. Tacit experiential knowledge such as dilemmas and hindering factors in implementation, which were recently exchanged in the CoP, were now real time present. Patience, sympathy, adapting methods and jointly maintaining focus, resulted in progress in implementation processes.

### Key highlights

Exchanging tacit experiential knowledge about implementation helped stakeholders, care professionals and researchers to realize the relevance of sound implementation planning specified to their unique contexts.

Extensively explore tacit experiential knowledge in CoPs to learn about the context in which implementation takes place may improve implementation processes in any social context.

## #81- Anaemia in pregnancy: Co-designing care pathways and strategies for the implementation of intravenous iron in the primary healthcare system of Bangladesh

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### Research aim

We aim to:

- identify barriers and enablers to antenatal anaemia screening and oral iron treatment
- co-design antenatal anaemia screening and referral pathways, and strategies with community members and healthcare providers to inform the implementation of an intravenous (IV) iron intervention in primary care for a demonstration project

### Setting

The study was conducted in Narayanganj, Bangladesh in 2022. Interviews involved policymakers/civil servants from the Ministry of Health, healthcare providers and pregnant women from Bandar, Sonargaon and Rupganj Upazilas (sub-districts of Narayanganj district). Co-design workshops were held with community members and healthcare providers in Bandar Upazila (demonstration project location).

### Method(s)

We conducted 52 interviews with pregnant women (n=38), healthcare providers (n=8) and policymakers/civil servants (n=6). Interviews were audio-recorded and transcribed. We mapped the barriers and enablers for anaemia screening and treatment for pregnant women to the Consolidated Framework for Implementation Research and the Conceptual Framework of Access to Healthcare. The data was used to guide discussion in four co-design workshops with community members (pregnant women, women of reproductive age, parents/in-laws of pregnant women, married men, and local leaders) and healthcare providers. We developed several screening and referral pathways and strategies for implementing IV iron in routine antenatal care.

### Key finding(s)

Perceived barriers to anaemia screening and treatment included: a lack of physical and human resources to deliver antenatal care services, low awareness about the benefits of iron, and low adherence to oral iron due to side effects. Participants proposed anaemia screening to be conducted in community clinics, union health & family welfare centres (union level), with IV iron preferably to be delivered in a upazila health complex (upazila level), private clinics and NGOs. Proposed implementation strategies to support access and delivery of IV iron included: anaemia awareness campaign involving the community, religious leaders, healthcare workers and bi-monthly anaemia outreach clinics.

### Discussion

- Several anaemia screening and referral pathways, and implementation strategies were proposed by participants. How do we then choose the most appropriate care pathways and strategies to address the barriers to implementing an IV iron intervention in primary care by government healthcare workers?
- Modern IV iron formulations have been successfully used to treat antenatal anaemia in high income countries. Policymakers raised concerns about the safety profiles of modern IV iron formulations given the toxic reactions associated with early parenteral iron formulations. How can we address policymakers' safety concerns when we are introducing a newer form of IV iron?

### Challenges

- We had difficulties recruiting policymakers for interviews given their busy schedule. We identified subordinates of line directors from the Ministry of Health to be interviewed.
- We had difficulties recruiting healthcare providers, local leaders and men to participate in a one-day co-design workshop. Half a day workshop was held instead.

### Key highlights

- Involving community members and healthcare providers in co-designing care pathways and implementation strategies will ensure that the intervention is culturally appropriate and tailored to meet the end-users needs.
- Embedding the intervention within the healthcare system and leveraging existing infrastructure will ensure that the intervention is sustainable.

## #48- Exploring how to improve the implementation of international guidelines. Adaptability and Implementability Deliberations within an Enhanced Evidence Ecosystem(AID-E3).

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### Research aim

The aim of the AID-E3 study is to improve the implementability and adaptability of international guidelines. The study is part of a larger project, Enhancing the Evidence Ecosystem (E-3), exploring how to improve implementation of guidelines, and how to better connect development of guidelines, implementation and evaluation of impact.

### Setting

Set in the health-care sector, the AID-E3 study will concentrate on possible ways to improve the implementability and adaptability of the BMJ RapidRecs, global clinical guidelines, developed in partnership with patients. By adaptability/implementability we mean attributes of a guideline that makes it easier to adapt/implement.

### Method(s)

Using five BMJ RapidRecs as our substrate we will first conduct an implementability appraisal, using the appraisal tools: GLIA, GLAFI and AGREE-REX. To our knowledge appraisal tools for adaptability are lacking. We will therefore conduct a survey and in-depth interviews with selected informants, mapping out adaptability considerations. Secondly, we will conduct workshops targeted at guideline developers and experts in guideline adaptation and implementation. The experts will be asked to prioritize the identified shortcomings from the appraisals and to discuss possible improvements. Thirdly; an enhanced guideline process will be piloted based on the results from the appraisals and workshops.

### Key finding(s)

The implementability appraisal has been completed and the adaptability survey is ongoing, to be completed by spring 2023. The enhanced guideline-process is currently being piloted with two guideline panels. An implementation expert has been added to the panel, tasked with helping the guideline panels discuss and consider implementability issues, while formulating their recommendations. In particular the perspectives; feasibility, acceptability, resources needed and clarity, will be addressed. Implementation and adaptation considerations will be added to the recommendations. The enhanced guideline-process will be mapped, and the amount of facilitation, resources and support required will be recorded. Findings to be shared in presentation.

### Discussion

Trustworthy and sustainable guidelines based on updated systematic reviews and meta-analysis are resource intensive projects and increasingly involve global collaboration. However, for global guidelines to be implemented locally, they must be tailored to the local context, while considering the underlying evidence. Adding implementation and adaptation considerations to guidelines might be useful for implementers.

- How could we improve the collaboration between guideline developers and the local implementers even further?
- How should potential feasibility and acceptability issues be presented in the recommendations in order to be of most use to local implementation teams?

### Challenges

There is no existing tool to appraise adaptability, and it is not clear what the overlap is between adaptation and implementation processes. Comparing the results from the different appraisals will help us better understand the differences and overlap between these two concepts.

### Key highlights

- Developing guidelines globally is more resource-efficient, but guideline developers need to consider adaptability and implementability as well, to help improve implementation in practice.
- Feasibility and acceptability where two major shortcomings identified in our implementability appraisal. We are piloting an enhanced process to better include these considerations while developing guidelines.

## Ride the Knowledge Wave 3

### #116- Effects of an organizational leadership and climate strategy on implementation and clinical outcomes of digital measurement-based care in youth mental health services: a hybrid type III effectiveness-implementation trial

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### Research aim

Successful implementation of evidence-based practice in healthcare requires effective organizational leadership; however, few studies have rigorously tested implementation strategies that target leaders. This type III effectiveness-implementation trial tested the Leadership and Organizational Change for Implementation (LOCI) strategy on the implementation and clinical outcomes of digital measurement-based care in mental health.

### Setting

The trial was conducted in 21 outpatient mental health clinics serving youth, ages 4 to 18 years, in three states in the USA. Clinicians who worked with youth received training and technical assistance for 12 months to implement an evidence-based digital measurement-based care intervention called the Outcomes Questionnaire Analyst.

### Method(s)

Clinics were assigned to the LOCI strategy (n=11) or control (n=10) using covariate constrained randomization. Youth-caregiver dyads (N=234) who entered services during the study period had implementation and clinical outcomes assessed for 6 months. The primary implementation outcome was youth exposure to digital measurement-based care (range=0-100%), assessed using electronic meta-data. Secondary implementation outcomes included the number of measures administered and number viewed per youth. The primary clinical outcome was change in youth symptoms from baseline to 6-months post-baseline, measured via monthly caregiver reports. Secondary clinical

outcome was youth achievement of reliable symptom improvement. Analyses adjusted for clustering and important covariates.

#### Key finding(s)

Although overall youth exposure to digital measurement-based care was low, likely due to the onset of the COVID pandemic during the trial, on average, youths served by LOCI clinics experienced significantly greater exposure to digital measurement-based care compared to youth in control ( $p < 0.05$ ). Analysis of total measures administered and total measures viewed per youth indicated LOCI's effect on implementation was explained more by increased rates of viewing. Compared to youths in control, youths served by LOCI clinics experienced significantly faster and greater symptom improvement from baseline to 6-months ( $p < 0.05$ ), and had greater likelihood of achieving reliable symptom improvement ( $p < 0.05$ ).

#### Discussion

Results demonstrate that practical, leadership-focused implementation strategies like LOCI can improve implementation and clinical outcomes of evidence-based digital health technologies in youth mental health settings, even amidst significant external shocks like the COVID pandemic. Discussion questions include: (1) What can we do to build implementation strategies that are optimally robust to external shocks and competing demands? (2) Despite mounting evidence that investments in implementation improve health outcomes, policymakers may be hesitant to fund 'non-clinical' activities such as leader development; what can implementation science do as a field to better address and overcome the hesitance to invest in implementation strategies?

#### Challenges

Three months into the trial, the COVID-19 pandemic exploded, placing enormous demands on participating clinics. We responded by encouraging clinic leaders to pace implementation in alignment with changing realities, pausing when necessary, and by helping leaders use the newly implemented measurement-based care tool to address some of the emerging challenges.

#### Key highlights

- Implementation science methods can meaningfully improve outcomes even amidst major external shocks; however, when these methods are not applied, competing demands are likely to stifle change.
- Societal investments in implementation – specifically, in leadership development – have direct positive impacts on patient health. This is vital to the case that 'implementation matters.'

## #255- Are implementation leadership and climate related to successful implementation?

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#### Research aim

It is assumed that leaders can improve implementation outcomes by developing a climate in the organization that contributes to the implementation of knowledge-based practice (KBP). This study examined the effects of implementation leadership and implementation climate on three implementation outcomes; acceptability, appropriateness and feasibility.

#### Setting

Child and adult specialized mental health services in (...).

### Method(s)

Screening tools and evidence-based trauma treatment were implemented in 43 services. A sample of 187 practitioners within mental health care for children and adults filled in questionnaires about their perception of leaders' (n=47) implementation leadership and the clinics' implementation climate. Implementation outcomes were measured by therapists' perceptions of the acceptability, appropriateness and feasibility of the screening tools and treatment methods. Path analysis was used to investigate a) the effect of implementation leadership on implementation climate and implementation outcomes, and b) whether implementation climate mediates the effect of implementation leadership on implementation outcomes.

### Key finding(s)

We will present findings for the following hypotheses:

- H1: Implementation leadership has an effect on therapists' perception of their acceptability, appropriateness and feasibility of the screening tools and treatment methods.
- H2: Implementation leadership has an effect on implementation climate.
- H3: Implementation climate has an effect on therapists' perception of their acceptability, appropriateness and feasibility of screening tools and treatment methods.
- H4: Implementation climate mediates the effect of implementation leadership on therapists' perception of their acceptability, appropriateness and feasibility of screening tools and treatment methods.

### Discussion

- What is implementation success, and how can we measure it?
- How can we ensure that leaders take their responsibility in the implementation?

### Challenges

We had difficulties measuring actual implementation outcomes. Even though anticipated outcomes such as acceptability, appropriateness and feasibility are believed to predict actual outcomes, we need to find ways to measure actual outcomes in the services.

### Key highlights

More research is needed to understand if and how implementation management and climate affect the implementation of evidence-based treatment methods. This knowledge is necessary so that services can better facilitate successful implementation.

## #256- Leader-follower ratings of implementation leadership and implementation climate in a mental healthcare system: Will implementation leadership training have an effect on the level of agreement?

Ane-Marthe Solheim Skar, Karina M. Egeland - Norwegian Center for Violence and Traumatic Stress Studies, Oslo, Norway

### Research aim

Leaders generally provide more positive scores than employees on leadership and organizational factors. In mental healthcare settings, therapist scores are linked to more positive outcomes, suggesting interventions to increase agreement. This study compares leader-follower ratings of implementation leadership and climate and investigates the effect of leadership training on agreement.

### Setting

The study was conducted in public specialized mental healthcare clinics for children and adults within the four regional health trusts in Norway. The medical doctor provides referrals, and the treatment is heavily subsidized to make it universally available.

### Method(s)

Data were collected from 43 child and youth clinics and district psychiatric centers. Descriptive statistics and regression models will be used to investigate leader-follower agreement related to general leadership, implementation leadership, and implementation climate, how these are related, and the effect of the Leadership and Organizational Change for Implementation (LOCI) on the level of agreement.

### Key finding(s)

Key findings related to the following research questions will be presented:

- What is the level of agreement in leader-follower reports of general leadership, implementation leadership, and implementation climate?
- Will followers of "humble" leaders report more positive scores for general leadership, implementation leadership, and implementation climate?
- Will training leaders in the LOCI strategy have a positive effect on the level of agreement?

### Discussion

- Do leaders and followers in a mental healthcare setting have the same perspective on leadership and climate?
- How can we ensure leader-follower alignment on important organizational factors?

### Challenges

Training leaders in LOCI is time-consuming, and future studies should investigate the cost-effectiveness of this and similar implementation strategies for implementation success.

### Key highlights

- Perspectives matter: Who owns the truth depends on who you ask. Implementation science should include data from several sources.
- Interventions to increase leader-follower agreement on implementation outcomes can be important for implementation success.

## #83- Does it take a pandemic to make healthcare fit for implementation leadership?

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### Research aim

Exploring implementation leadership in healthcare by investigating what first line managers know, do and prefer in terms of guideline implementation, whilst in regular conditions and during the covid-19 pandemic.



### Setting

Health care: 17 orthopedic units in Sweden, located at university-, regional-, and local hospitals.

### Method(s)

Two qualitative interview studies with nursing and rehabilitation first line managers. Thirty interviews were conducted in early 2021 and analyzed with content analysis, using both a deductive and abductive approach. Elements and processes of **the Ottawa Model of Implementation leadership (O-MILe)** were initially employed, followed by an investigation of what additional perspectives were shared, and if and how these added and progressed the understanding of implementation leadership. An additional ten interviews were conducted in 2022 and analyzed with an inductive thematic analysis, focusing on first line managers' experiences of guideline implementation during the pandemic.

### Key finding(s)

Reflecting the **O-MILe**, first line managers enact, or struggle to enact, implementation leadership based on task-, relations-, and change-oriented behaviors. Contextual factors, particularly the terms and conditions at diverse levels of the organization, highly affect guideline implementation, either hampering or supporting the leadership. During the pandemic, the first line managers were on their toes, and supported by the willingness to adopt to a new situation across their entire organizations. Despite poorer conditions for an ideal implementation, the managers found the pandemic benefiting any adoption of guidelines, and they further balanced different **O-MILe** leadership components to meet the novel conditions.

### Discussion

- Are conditions for leadership engagement in knowledge implementation, as described by first line managers in hospital care contexts, addressed enough in implementation theories, models and frameworks and/or facilitated by implementation strategies?
- How can implementation science address organizational structures in healthcare, in favor of better contexts for implementation leadership?

### Challenges

The pandemic restrictions instigated telephone interviews, rather than face-to-face, calling for careful approaches to ensure a sheltered forum for sharing experiences. Observations of first line managers' actual enactment of their implementation leadership would have enriched the data, but was impossible due to the same restrictions.

### Key highlights

- A crisis can render first line managers an arena where their implementation skills can thrive.
- Optimizing and cutting the decision routes of a healthcare organization can enable first line managers to exercise their everyday leadership behaviors in favor of faster and better guideline implementation.

## Ride the Knowledge Wave 4

## #22- Tailored Implementation of a nurse-led multicomponent family support intervention in adult intensive care units (FICUS Trial)

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### Research aim

The FICUS trial investigates the clinical effectiveness of a nurse-led interprofessional family support intervention (FSI) while also exploring its implementation in intensive care units (ICUs). To optimize implementation and to reduce variation in intervention delivery, we assessed the local context to ensure tailored implementation strategies that support the FSI implementation.

### Setting

This study was performed on 8 ICUs allocated to the intervention group within the German speaking part of Switzerland, with key local partners of the FICUS study i.e., family nurses, implementation practitioners, nursing team leaders and involved physicians.

### Method(s)

We performed a mixed-methods context assessment guided by the Consolidated Framework for Implementation Research (CFIR). Key local partners first filled out a questionnaire consisting of the CFIR Inner Setting domain measures (i.e., organizational culture, resources, learning climate and leadership engagement) and the Organizational Readiness for Implementing Change (ORIC) prior to small group interviews (n=8). During the interviews, the results of the questionnaires as well as potential barriers and enablers to the FSI, were discussed. Descriptive analysis for quantitative data and a pragmatic rapid analysis approach for qualitative data were used and followed by the development of a tailored implementation strategy.

### Key finding(s)

33 partners returned the questionnaire and 40 attended the small-group interviews (median 5, min. 2 – max. 8). Questionnaires showed CFIR determinants and ORIC were rated >3 (1 low - 5 high), with leadership engagement scoring highest (mean 3.97, standard deviation 0.50). Interviews showed that ICU teams are motivated and committed to the FSI. They face challenges that concern limited resources, new interprofessional information exchange, and role adaptation of nurses. A set of planned implementation strategies for the FSI, such as leadership support, implementation support practitioners and intervention training, were complemented and tailored to each ICU, based on identified contextual determinants.

### Discussion

In all eight ICUs, we found that fundamental pre-conditions for successful implementation such as the team culture, leadership engagement and a good learning climate were present. Common challenges were mainly resource-related or related to role adaptation and interprofessional collaboration. The suggested FSI implementation strategies were relevant to all ICUs and involved partners, and were tailored to meet local needs such as, additional information meetings for nursing and medical staff and individual coaching and feedback sessions.

### Key questions:

- Which experiences does the audience have with methods to perform context assessments?
- How were the results used in the implementation strategy development?

### Challenges

Multicomponent complex interventions are challenging to implement due to the high variety of context-specific factors shaping the intervention implementation and performance. Additional complicating and challenging factors concern the complexity of the environment of implementation. A context-sensitive, tailored approach to implementation, supports optimal intervention uptake and performance in practice.

### Key highlights

The use of implementation science frameworks and methods enable systematic implementation design and support intervention uptake in practice. Context assessments prior to the implementation process enable tailored implementation strategies, fitting the local situation.

## #101- Lessons learned from a decade of Value-Based HealthCare implementation in a Dutch University Hospital: a mixed methods evaluation

Veerle van Engen - Erasmus School of Health Policy & Management, Rotterdam, Netherlands

### Research aim

The aim is to produce insight at a strategic and operational level regarding implementation of a multifaceted management innovation, being Value Based HealthCare (VBHC), to facilitate and optimize implementation success in hospitals. This study retrospectively evaluates a university hospital's implementation process of VBHC during the last decade.

### Setting

The university hospital "Erasmus Medical Center" (EMC) is the largest hospital in The Netherlands. EMC employs around 950 medical specialists and 2500 nurses. Further, it has around 1350 beds and over 173,000 unique patients yearly. EMC is a pacesetter in VBHC with their first activities starting in 2014.

### Method(s)

The study deploys a mixed-methods, retrospective study design. Several data sources, theories and frameworks are combined. Methods include 1) quantitative data analysis, based on a clinician survey and implementation performance monitoring data (e.g., implementation spread, and use of digital VBHC tools) and 2) qualitative data analysis comprising document analysis (i.e., strategy- and policy documents and minutes) and semi-structured interviews with clinicians and members of the hospital-wide VBHC implementation team. Implementation strategies were investigated using the 73 ERIC strategies and associated nine categories by Waltz et al. Implementation outcomes to evaluate implementation success were drawn from the CFIR Outcomes Addendum.

### Key finding(s)

The hospital's implementation plan evolved from "inch-wide, mile-deep" (i.e., small population implementing multiple VBHC-facets) to "mile-wide, inch deep" (i.e., large population implementing VBHC-facets step-by-step), for which we studied associated (dis)advantages. Forty-three unique ERIC strategies were applied by multilevel actors (i.e., top-management, implementation team, departments) after being "localized" to accommodate the intervention and context. Dominant categories regarded interactive assistance, especially having a diverse, perseverant yet flexible centralized implementation team, and engaging patients. Strategy use was intensified in reaction to the lagging use of Patient Reported Outcome Measures by patients and clinicians. Last, IT both catalyzed and impeded sustainable change.

### Discussion

- When the objective is full (i.e., "mile-wide, mile-deep") implementation of a multifaceted innovation such as VBHC, what conditions necessitate or make it more

favorable to seek an “inch-wide, mile-deep” versus a “mile-wide, inch-deep” approach , and vice versa?

- How to balance between improving clinician compliance with new ways of working in a soft manner (e.g., reminders, stimuli) and mandating use, especially in a hospital setting where healthcare professionals are highly autonomous and dominant stakeholders?

### Challenges

A challenge we faced was how to evaluate a hospital-wide program that is 1) continuously adapted based on new insights, and 2) comprises tailor-made implementation strategies for (sub)departments (i.e., co-existence of non-uniform implementation processes). As a result, observed effects cannot easily be attributed to a single set of strategies.

### Key highlights

Our work shows that 1) parallel use of “deep” and “wide” implementation may offer benefits compared to isolated use of either of the two; and 2) hospital-wide change necessitates that implementation strategies are applied across multiple hierarchical levels, which has implications for research on, and facilitation of, multilevel change mechanisms.

## #109- Stakeholder’s experiences of tailoring strategies to support implementation of the Dose Adjustment for Normal Eating (DAFNE) structured patient education programme for people with type 1 diabetes: a mixed methods study

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### Research aim

We are working with Irish hospitals to tailor strategies to support the implementation of Dose Adjustment for Normal Eating (DAFNE), an evidence-based patient education programme. We aim to evaluate stakeholder’s experiences of the tailoring process and understand what guidance and evidence they use and value during the process.

### Setting

This study focuses on tailoring strategies for the healthcare setting. It involves clinicians working in diabetes services within hospitals across Ireland. DAFNE is recommended as part of type 1 diabetes management, but little is known about current implementation and how best to support delivery.

### Method(s)

This study is part of a multiple case study. DAFNE teams complete a site survey on implementation culture, climate, and readiness before participating in three group discussions to prioritise determinants and select and operationalise strategies, first, based on their own preferences, and subsequently guided to consider criteria and evidence. Using a mixed methods convergent design, their experiences of the tailoring process are evaluated using multiple data sources (research logs, non-participant observation, and post-tailoring surveys and interviews). A triangulation protocol will be used to integrate the findings. Data will be combined using joint displays for within and cross-case analysis.

### Key finding(s)

In total, 18 hospitals have been invited to participate in the tailoring process, 5 centres have completed the tailoring process and 3 are ongoing. Teams prioritised current determinants important to address now, including lack of available resources (e.g., lack of admin. support), access to knowledge and information (e.g., familiarity with course content), and networking and

communication (e.g., long-standing relationships). Preliminary results indicate the tailoring process is acceptable and feasible allowing educators ‘to sit and discuss DAFNE specifically’, albeit additional guidance and evidence appears not to be used when prioritising determinants.

### Discussion

Tailored implementation strategies are effective in supporting implementation of healthcare interventions. However, which tailoring approaches are most feasible and acceptable to stakeholders as well as the outcomes important to them are not well understood. I would like to ask this audience:

- What has tailoring looked like in your settings and how has it been evaluated?
- What guidance and evidence do you give stakeholders during tailoring and how do they use it?

### Challenges

Challenges included scheduling tailoring sessions with clinical teams, ensuring the full team responsible for delivering DAFNE engages, and has the opportunity to share their perspectives. To facilitate, sessions have largely taken place online. Some elements have been done online and offline (after meetings) to facilitate reflection (e.g., operationalising strategies).

### Key highlights

This study will advance current understanding of (1) tailoring approaches which are feasible and acceptable to clinical stakeholders, and (2) stakeholder decision-making; what guidance and evidence they use and value during tailoring. The findings will be valuable for implementation researchers, yielding insight into best practices for developing tailored strategies.

## #139- The Implementation strategy for the transfer and adoption of successfully proven good practices on digitally enabled integrated person-centred care to heterogeneous contexts

Yhasmine Hamu, Ane Fullaondo - Institute for Health Services Research, Kronikgune, Basque Country, Spain

### Research aim

Reinforce the capacity of health authorities to address important aspects of health systems’ transformation by supporting the transfer of innovative successful best practices for delivering integrated person-centred care to heterogeneous and complex healthcare environments.

### Setting

JADECARE, EU funded Joint Action (JA), aims to assist Member States in undertaking health system reforms by supporting the transfer of four “original Good Practices” (primary care centers, hospital and community setting) to 21 “Next Adopters (NAs)” of 14 different EU countries. It started October 2020 and ends October 2023.

### Method(s)

The implementation strategy is a three step method that includes a series of techniques, concrete procedures, guidance and recommendations. The three main phases are: Pre-implementation (planning and preparation), Implementation (roll-out and operation, based on PDSA cycles) and Post-implementation (impact assessment and learning).

The approach is based on the work done in the JA CHRODIS PLUS on Implementing Good Practices for Chronic Diseases and adapted to the particularities of JADECARE. It is appropriate from the scientific point of view, applicable considering data availability and feasible according to the project’s resources and timeline (3 years).

### Key finding(s)

Successful application of the implementation strategy in JADECARE:

- **Pre-implementation:** the NAs identified more than 150 local needs aligned with original Good Practices' elements. Overall 64 interventions are included in the action plans targeting more than 4 million people.
- **Implementation:** the NAs completed two PDSA Cycles monitored by more than 350 predefined KPIs. In ten structured thematic workshops they exchanged their experience about the transfer process.
- **Post-implementation:** the NAs analyzed the implementation process through the CFIR and reported the whole experience using SQUIRE 2.0 guidelines. Moreover, the implementation strategy is assessed by NAs (end users) to evaluate its impact and usability.

### Discussion

- How relevant is it to focus on the prior preparation of the local environment and to consider the key contextual determinants of the implementers to modulate the success of the implementation process?
- How can a community of learning stakeholders be promoted that explores ways to develop, collect and exchange knowledge and performs concrete action for boosting and leveraging the sustainability of the implemented practices?

### Challenges

Kronikgune Institute for Health Services Research, the developer of the strategy, has conducted an effective leadership of the learning community of key stakeholders in the project, ensuring clear communication of guidelines for empowering implementers to act towards change and providing continuous facilitation during the deployment.

### Key highlights

The strategy provides a blueprint for adoption, implementation, monitoring, reporting and sustainability of successful interventions into new contexts.

The successful use case of JADECARE sets the base to implement digitally enabled integrated care at large scale, which translates into introducing innovations in health systems that result in better health care.

## Ride the Knowledge Wave 5

### #35- Guidance on a method for the process evaluation of implementing fall prevention interventions in the community: the Dynamic Learning Agenda.

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### Research aim

Process evaluations are essential in understanding how implementation of evidence-based interventions, such as fall prevention interventions, works - especially in 'real-world' settings. The

aim of this study was to provide guidance on conducting process evaluations in implementation research and/or practice to understand the success and failure of implementation endeavors.

### Setting

It is recommended that multifactorial fall prevention interventions are applied in order to reduce the increasing fall rates among community-dwelling older adults. Therefore, it is required that health and social care professionals (e.g. general practitioners, physiotherapists, community nurses) across settings, sectors and organizations work collaboratively in the community setting.

### Method(s)

Process evaluations were conducted as part of FRIEND (Fall pRevention ImplEmentationN stuDy): an implementation research project. A broad selection of health and social care professionals (HSCPs) were involved (n=34). We performed longitudinal process evaluations with a qualitative approach, over 18 months. Multidisciplinary focus groups with HSCPs were held across four districts in the region of Utrecht, the Netherlands. We focused on contextual factors to implementation and experiences of the implementation. We applied the Dynamic Learning Agenda (DLA)-methodology, part of Reflexive Monitoring in Action, which helps to overcome complexities in change processes, by collaboratively formulating learning questions and practical actions.

### Key finding(s)

In FRIEND, the DLA-methodology was experienced as a powerful technique to reflect on the dynamics of the implementation project through the perspective of involved stakeholders. It enabled us to sufficiently collect contextual factors to implementation and review experiences and it helped to explore arising challenges during the implementation process and link them with long-term concrete actions. Especially the latter seemed to be important, since stakeholders tended to remain stuck at the stage of identifying the problem and short-term perspectives. In addition, performing the DLA throughout the implementation period helped to identify necessary adoptions and keep track of changes that occurred.

### Discussion

- During the collection of barriers and facilitators, stakeholders often listed symptoms of system factors, such as “time restraints” and “there is no sufficient funding”. Since the contextual factors are the fundament of the following steps of the DLA, the factors have to be concrete and modifiable. How do you handle this issue?
- It is recommended that implementers keep using DLA to assure continuation of implementation activities. However, stakeholders often experience time limitations, so that when we (as researchers) leave, the process eventually stops. How do you make sure that stakeholders keep using such methods?

### Challenges

We had to deal with major shifts in involved health and social care professionals, due to a variety of reasons (e.g. sick leave, other jobs). This may have led to bias, since experienced contextual factors may differ between persons. We have documented all changes and included this in our analysis.

### Key highlights

- DLA is a reflexive and actionable method resulting in rich data on contextual factors to implementation and long-term actions.
- DLA is useful in practice; stakeholders can use DLA themselves to identify contextual factors that hinder or facilitate local implementation, draft long-term practical actions and keep track of changes.

## #77- Development of Implementation Outcome Indicators (IOI) to accompany the launching of a national CAUTI intervention bundle

Andrea Eggli, Annemarie Fridrich - Swiss Patient Safety Foundation, Zürich, Switzerland

### Research aim

Catheter-associated urinary tract infections (CAUTI) are common healthcare-associated infections, linked to increased morbidity, mortality and healthcare costs. Although proven prevention measures exist, these are oftentimes not effectively implemented in practice. To guide implementation, Swissnoso and the Swiss Patient Safety Foundation developed Implementation Outcome Indicators (IOI) for a CAUTI intervention bundle.

### Setting

The IOI are intended for use in the acute care setting, specifically for Swiss hospitals. To facilitate implementation in all regions of Switzerland, our goal was to make the IOI available in all three national languages (German, French, Italian).

### Method(s)

The development of IOI entailed multiple steps: a) literature analysis to draw on validated implementation concepts and knowledge (e.g., Proctor et al., 2021), b) a pilot study in three Swiss hospitals to evaluate the optimal implementation aspects regarding the CAUTI intervention bundle, c) selecting the most relevant IOI for the CAUTI intervention bundle, d) define and operationalize IOI.

### Key finding(s)

With this four-step development process, four IOI on fidelity and three on penetration were developed; each available in German, French and Italian. The indicators were operationalized with the “General Organizational Index (GOI)” response scale, providing face validity of the implementation success on a five-point scale (1 “inadequate implementation” to 5 “full implementation”). The IOI development was completed by providing participating hospitals with a manual, describing and operationalizing each of the seven IOI.

### Discussion

- Which methods and procedures would be ideal to test the long-term validity and reliability of these IOI?
- Which barriers exist for these IOI?

### Challenges

The current project is time consuming for the participating hospitals and data extraction difficult, due to variations and limitations of the clinical information systems. Furthermore, it was not possible to test the indicators formally. To overcome and address these challenges, we offered informative workshops and manuals for all participating institutions.

### Key highlights

Currently there is a lack of validated IOI, especially on fidelity, hindering the systematic evaluation of implementation success. For the advancement of implementation science, our study successfully a) introduced and ran an IOI development procedure and b) introduced seven new IOI for repositories to uptake for health care practice free-of-charge.



## #80- Schools differ in their levels of implementation – but why?

Inari Harjuniemi, Sanna Herkama, Marie-Pier Larose, Christina Salmivalli - Turku University, Turku, Finland

### Research aim

Intention to implement a program can predict future implementation. However, individual and organizational capacities may influence the intention to implement. This study aims to develop an Implementation Capacity Measure (ICM) and test whether it associates with the intention to implement KiVa antibullying program.

### Setting

The ICM was answered by 375 teachers working in 24 Finnish schools implementing the KiVa program. The schools are located all over the country, both in urban and rural areas. Typically, primary school teacher provide education for children aged between 7-12.

### Method(s)

The ICM is based on theoretical frameworks and qualitative studies suggesting individual and organizational capacities which favor high level implementation of a bullying prevention program. The ICM assesses several individual (5 domains e.g., knowledge and skills regarding bullying prevention) and organizational (6 domains e.g., resources, leadership, and collaboration) domains. Pilot data (n=76) and preliminary data (n=312) from teachers were collected during 2022. The psychometric properties of the measure was examined with Mplus and SPSS. Teachers' intention to implement KiVa was regressed on the domains included in the ICM, while controlling for several background variables, such as work experience.

### Key finding(s)

Several ICM domains, such as motivation ( $\beta = .458$ ,  $p < .001$ ) and skills linked to KiVa ( $\beta = .351$ ,  $p < .001$ ) were significantly associated with the intention to implement KiVa. Previous experience with KiVa program on the other hand, was negatively associated with intention to use the program ( $b = -.143$ ,  $t(299) = -2.138$ ,  $p < .05$ ). Overall, the model explained 49% of total variance in teachers' intention to implement KiVa ( $R^2 = .489$ ).

### Discussion

In this study, motivation and skills had positive effect on implementation intention whereas previous experience with the program was inversely related to intention. The main themes I want to discuss with the audience include

- what the audience believes could be the individual and/or organizational characteristics that may lead to success or challenges during the implementation process and how those differences should be measured.
- Furthermore, I am interested in discussing and sharing ideas on how individual teachers and schools could be supported so that they would have the capacities for high-quality implementation.

### Challenges

A challenge during ICM development has been understanding how accurately the questions reflect reality and how respondents understand them. For example, it seems like teachers working in newer school buildings report having overall very good resources, despite the fact that in reality they might have a poor student-teacher ratio.

### Key highlights

My work can help program developers and decision makers to better understand factors that influence the process of implementing school-based interventions. Deeper understanding regarding

these factors can be useful when supporting schools to implement a particular program with high fidelity and to achieve meaningful results.

## #125- Validation of the German Normalization Process Theory Measure G-NoMAD: Translation, Adaptation, and Pilot Testing

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### Research aim

Derived from the Normalization Process Theory, the NoMAD questionnaire provides an instrument to examine the implementation of health care innovations. Two versions of the German NoMAD existed, independently translated from the original English version by two research groups. This study aims to pilot and validate a unified G-NoMAD version.

### Setting

Survey data (N = 539) from different German health care settings (implementation of a digital application addressing medication management of patients, implementation of digital health interventions for the prevention or treatment of depression) are combined into a validation data set.

### Method(s)

A measurement invariance analysis was performed comparing latent scale structures between groups of respondents to both versions. After determining the baseline model, the questionnaire was tested across samples for different degrees of invariance. A confirmatory factor analysis for three models (a four-factor, a unidimensional and a hierarchical model) was used to examine the theoretical structure of the G-NoMAD. Finally, psychometric results were discussed in a consensus conference and the final wording of the items, scale format and instructions were agreed.

### Key finding(s)

The results of the measurement invariance analysis showed configural, partial metric and partial scalar invariance indicating that the questionnaire versions are comparable. The internal consistency ranged from acceptable to good ( $0.79 \leq \alpha \leq 0.85$ ). Both the four-factor model and the hierarchical model achieved the highest fit with indices from acceptable (SRMR=0.08) to good (CFI=0.97; TLI=0.96). However, the RMSEA value of both models was only close to acceptable (RMSEA=0.10). Since the fit is similar in both models, priority should be given to the practical relevance of the hierarchical model.

### Discussion

- What has been your experience with using the NoMAD questionnaire (in English, Dutch, Swedish, Brazilian Portuguese, etc.)?
- Unlike the original English NoMAD, participants were instructed that if an item was not applicable, the middle/neutral position 3 should still be chosen. This could have led to confounding of responses with different meanings. What might be the advantages and disadvantages of a "not applicable" option for the response format?

### Challenges

In developing a standardized version of G-NoMAD, we found that we lacked the linguistic expertise to assess the meaning of phrases. Thanks to the support of an external editor, we were able to finalize the items.

### Key highlights

Pragmatic quantitative measures to reliably assess and monitor implementation processes are powerful tools facilitating the implementation. The G-NoMAD provides a reliable and promising tool to measure the degree of normalization among individuals involved in implementation activities in German implementation settings.

## Ride the Knowledge Wave 6

### #54- The feasibility and acceptability of implementation strategies to implement the combined lifestyle intervention ProMuscle in community-settings: a mixed-methods pilot study

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### Research aim

To inform an implementation effectiveness trial, this research aimed to investigate the feasibility, acceptability and fidelity of two recently developed, co-created implementation strategies targeting education and costs, to implement the combined exercise and nutrition intervention ProMuscle for community-dwelling older adults.

### Setting

Costs and education were recently identified as main barriers for implementation of a combined lifestyle intervention. In this pilot study, implementation strategies will be investigated in seven communities of the Dutch 'Foodvalley Region' that are willing to implement ProMuscle. Physical therapists, and dieticians will collaborate in this study.

### Method(s)

This study followed an exploratory sequential approach with a mixed-method design and included eight physical therapists and three dieticians working in the region Foodvalley, the Netherlands. After written informed consent, participants received a digital implementation toolbox in which previously developed implementation strategies were described targeting education and costs.

With online surveys, translation of the AIM, IAM and FIM (5 points-scale) of Weiner et al., feasibility and acceptability outcomes were collected at baseline, 3 months and 8 months post-implementation. During a 90-minute focus group, more insight was gained into the feasibility and acceptability as well as the fidelity of implementation strategies.

### Key finding(s)

Participating physical therapists and dieticians deemed the implementation strategies acceptable (AIM mean score  $4.3 \pm 0.47$ ) and feasible (FIM mean score  $4.5 \pm 0.49$ ) eight months after the start of implementation. Most implementation strategies were executed by healthcare professionals as proposed by the implementation toolbox. This toolbox was perceived as helpful and easy to use. Also, ideas for improvement of the toolbox were presented. Moreover, implementation took longer than expected, and recruitment of older adults was difficult, resulting in only 2 of the 16 practices

offering ProMuscle to older adults after eight months. Still, professionals remained motivated to implement ProMuscle.

### Discussion

- ProMuscle is currently not reimbursed by healthcare insurances and therefore should be financed by recipients or other funding possibilities, resulting in low attendance. Will facilitation by the research team for assessing funding possibilities, or a national campaign as proposed by healthcare professionals be successful strategies or would this counteract sustainment of the intervention?
- The process evaluation indicated that interdisciplinary collaboration was an important factor that could affect the effectiveness of the strategies targeting costs and education. It seems that building a coalition should be integrated into the implementation strategies. Would this result in contamination of the larger trial?

### Challenges

It took longer than expected to start the actual implementation of ProMuscle by the professionals. To deal with it, we tried to convince them about the support of the toolbox by email and phone during the pilot. In the larger trial, we will take into account a prolonged start-up time.

### Key highlights

- Strategies targeting education and costs seem feasible to investigate the effectiveness in a larger trial. However, a prolonged start-up time should be considered.
- ProMuscle is well received by older adults and professionals are committed to implementation. This and financial compensation probably led to continued motivation during the study.

## #57- Exploring the factors that determine the sustainability of recovery-oriented interventions for adults with mental health issues.

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### Research aim

This study aims to assess the capacity of four organizations to sustain two mental health recovery-oriented interventions two years after initial implementation, identify the facilitators and barriers for sustaining the interventions, and understand why some factors are associated with a higher/lower level of sustainment of the recovery-oriented interventions.

### Setting

This study builds on a pan-Canadian project that was conducted between 2017-2021. This project aimed at facilitating and evaluating the implementation of mental health recovery-oriented guidelines. Four out of the seven organizations that participated in the initial study were selected for study as cases in this follow-up research.

### Method(s)

This research follows a mixed methods multiple case study design. Qualitative and quantitative data are being collected from managers, clinicians, and implementation team members of the four participating organizations. Data collection tools and analysis are based on implementation science frameworks including the Consolidated Framework for Sustainability Constructs in Healthcare, the Program Sustainability Assessment Tool (PSAT) and the Framework for Reporting Adaptations and Modifications-Enhanced (FRAME). Data analysis consists of within-case analysis and cross-case

synthesis to allow for a thorough understanding of the unique issues in each case and for similarities, dissimilarities, and common patterns across organizations to emerge.

#### Key finding(s)

Data collection and analysis are in progress. Preliminary findings will report on the factors that determine the sustainment of recovery-oriented interventions.

#### Discussion

Sustainability is a significant concern for all involved actors in healthcare. Researchers have not yet explored the concept of sustainability in great depth in mental health. This study has added value in filling this gap in our knowledge, and findings could pave the way for more focused research. Two key questions to discuss with the audience:

- What are the differences/similarities between the determinant factors of sustainability between the two recovery-oriented interventions?
- How are these sustainability factors different/similar with implementation facilitators/barriers of recovery-oriented interventions? What are the implications for implementing and sustaining recovery-oriented interventions?

#### Challenges

Recruiting and engaging sites that didn't sustain the intervention has proven challenging. Existing definitions of sustainability/sustainment and related tools are partially applicable to explore the sustainability/sustainment of recovery-interventions since they do not include explicitly the concept of fidelity.

#### Key highlights

Findings from this study will expand our evidence base on the intersection of sustainability and mental health recovery interventions that remains under-explored. Findings will provide new insights into the applicability of sustainability frameworks in mental health and the capacity of organizations to sustain mental health interventions.

## #78- Programmatic Costs of Project ImPACT for Children with Autism: A Time-Driven Activity Based Costing Study

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#### Research aim

We conducted a randomized trial of Project ImPACT (Improving Parents As Communication Teachers) in which community early intervention providers coached caregivers in techniques to improve young children's social communication skills. We estimated implementation and intervention costs while demonstrating an application of Time-Driven Activity-Based Costing.

#### Setting

mental health, community early intervention

#### Method(s)

We defined Project ImPACT implementation and intervention as processes that can be broken down successively into a set of procedures. We created process maps for both implementation and intervention delivery. We determined resource use and costs, per unit procedure in the first year of the program, from a payer perspective. We estimated total implementation cost per clinician and per site, intervention cost per child, and provided estimates of total hours spent and associated costs for implementation strategies, intervention activities and their detailed procedures.

### Key finding(s)

Total implementation cost was \$43,509 per-clinic and \$14,503 per-clinician. Clinician time (60%) and coach time (12%) were the most expensive personnel resources. Implementation coordination and monitoring (47%), ongoing consultation (26%) and clinician training (19%) comprised most of the implementation cost, followed by fidelity assessment (7%), and stakeholder engagement (1%). Per-child intervention costs were \$2,619 and \$9,650, respectively, at a dose of onehour per-week and four hours per-week Project ImpACT. Clinician and clinic leader time accounted for 98% of per-child intervention costs. Highest cost intervention activity was ImpACT delivery to parents (89%) followed by assessment for child's ImpACT eligibility (10%).

### Discussion

- Uncompensated time costs of clinicians are large which raises practical and ethical concerns. How to incorporate them in the planning of implementation initiatives.
- How to encourage researchers to assess costs more systematically, relying on process mapping and gathering prospective data on resource use and costs concurrently with their collection of other trial data.

### Key highlights

Our cost estimates can serve as a reference point to publicly funded early intervention systems who may wish to adopt Project ImpACT.

The use of TDABC contributes to methodological advances in Implementation Science regarding standardized methods for detailed, transparent, and quality cost information and evaluation.

## #85- Obtaining Sustainable Changes in Clinical Practice: Methods and Results of a Sustainability Plan for High-Intensity Gait Training in Inpatient Stroke Rehabilitation in Norway

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### Research aim

This project aimed to evaluate the sustainability of high-intensity gait training two years after it was implemented in inpatient stroke rehabilitation at Forsterket rehabilitering Aker, Helseetaten, Oslo kommune. Sustainability of practice was defined as maintaining the stepping activity, cardiovascular intensity, and functional outcomes achieved during the initial implementation project.

### Setting

Inpatient subacute stroke rehabilitation in primary healthcare in Norway. The unit consists of an interdisciplinary staff, and patients receive five hours of individual physical therapy sessions per week.

### Method(s)

In 2018, high-intensity gait training was successfully implemented with fidelity using the Knowledge-to-Action Framework in inpatient stroke rehabilitation (Moore et al. 2020; Moore et al, 2021). The NHS Sustainability Model was used to guide the sustainability efforts in the model's three domains, and factors with high potential were identified and targeted. Strategies to promote the sustainability of high-intensity gait training were implemented; however, no active implementation strategies were used after completion of the implementation project. Two years after implementation, fidelity

metrics were collected and compared to the implementation phase to determine whether the practice was sustained.

#### Key finding(s)

Fourteen explicit strategies to promote sustainability were utilized. The NHS Sustainability total score was 79 out of 100, indicating «reason for optimism» in the sustainability process accordingly to the NHS. The factors not reaching full score were «adaptability», «strategic aims», «infrastructure», and «senior leadership engagement», with the latter being the single factor with the most potential for improvement. Comparisons between the implementation and sustainability phases determined that the practice had some minimal changes. However, the patients still achieved the same beneficial functional results.

#### Discussion

Despite identified changes in practice, patients continued to receive high-intensity gait training leading that resulted in similar functional benefits two years after the initial implementation. These results lead to two questions:

- When do minor changes in practice compromise the sustainability of an implemented practice?
- What other sustainability strategies should be added to ensure the practice continues to be delivered with fidelity?

#### Challenges

The COVID-19 pandemic led to substantial changes in our unit. Sustainability might have been influenced by activity restrictions, as well as by reduced personnel resources.

#### Key highlights

After successful implementation, strategies are needed to ensure sustainability. Analyses of sustainability should be included as part of implementation research; otherwise, the long-term benefits for society will remain unknown. Using the NHS Sustainability Model may help identify areas with potential for high impact and guide and focus the sustainability strategies.

## Ride the Knowledge Wave 7

### #172- DIFFERENCES BETWEEN CLIENT GROUPS IN THE IMPLEMENTATION OF TELEREHABILITATION

Tuija Partanen, Mia Kilkki, Hennariikka Heinijoki - The Social Insurance Institution of Finland, Helsinki, Finland

#### Research aim

The aim of the study is to provide information on the implementation of various practice methods of telerehabilitation with different client groups. This presentation addresses the preliminary results on the barriers and facilitators of the implementation of TR.

#### Setting

The Social Insurance Institution of Finland (Kela) organised rehabilitation programmes including telerehabilitation (TR) for different client groups (programmes for informal caregivers, adolescents with milder mental health problems and individuals with Type 1 diabetes or Type 2 diabetes). Interdisciplinary group-based rehabilitation programmes combining face-to-face rehabilitation and TR.

### Method(s)

This ongoing multifaceted implementation study explores the clients' and the professionals' perceptions of the implementation of TR. The implementation research framework of Wierenga et al. (2012, 2013) is applied in the study to identify the different determinants of the implementation of TR. Quantitative and qualitative data are gathered by online questionnaires at different stages of a rehabilitation programme. Questionnaire data are analysed using descriptive quantitative methods, and qualitative content analysis methods are applied to the analysis of open-ended questions. These data are based on the clients' perceptions in the beginning (n=144) and at the end (n=62) of rehabilitation.

### Key finding(s)

The clients' attitudes towards TR were positive. TR seems to be able to meet the clients' needs. A majority of the respondents would like to participate in TR in the future. Different kinds of barriers and facilitators were identified in the study. Participants in the rehabilitation course for informal caregivers were more critical towards the implementation of TR than respondents from the other client groups. Of the informal caregivers, 23% estimated needing technical support and guidance to be able to participate in TR, whereas in other client groups, 7% estimated that they might need technical support.

### Discussion

How different characteristics of client groups should be taken into account when designing and implementing TR interventions?

What needs to be considered when modifying face-to-face rehabilitation programmes suitable for telerehabilitation practice?

### Challenges

Telerehabilitation practice is still quite new method to carry out rehabilitation programmes for both clients and professionals. Some clients prefer ordinary face-to-face rehabilitation which affected our recruiting process. Also professionals had varying skills to carry out telerehabilitation interventions.

### Key highlights

Variation in the characteristics of client groups should be taken into account when designing and implementing TR interventions. It is important to evaluate further the characteristics of TR interventions, such as the methods of individual and interdisciplinary support and the suitability, intensity, and adequacy of methods.

## #185- De-implementation is the new black

Verner Denvall - Lund University, Lund, Sweden

### Research aim

The overall aim was to examine factors of importance for the de-implementation of established methods when implementing new evidence-based psycho-social interventions. The abandonment of institutionalized practices in favor of new ones is often overlooked when launching new methods and was the main focus in this study.

### Setting

The setting was social work and mental health care. The empirical material consisted of the implementation of two psycho-social interventions with strong evidence support: Housing First (HF) and Individual Placement and Support (IPS). They are suggested in Swedish national guidelines and recommended to replace prevocational methods and the staircase-model.



### Method(s)

- A scope review scanned 854 published articles on the process of abandoning established methods with low scientific support, whereof 41 articles published between 2014 and 2020 were included.
- A national survey to the 23 Swedish municipalities that had implemented either Housing First or IPS. The purpose was to map the prevalence and organization of HF and IPS and to describe and analyze factors that prevent or enhance implementation.
- Case studies over three years in three municipalities that are implementing HF and IPS with interviews of managers, politicians, service users, and social workers together with analyses of documents.

### Key finding(s)

- The realization of HF and IPS requires expanded collaboration with many organizations, which raises the consideration to de-implement broader organizational frameworks and guidelines to enable their implementation.
- There is a lack of practical frameworks and theoretical explanations that could support successful phasing out of unnecessary interventions. This requires developed theories of de-implementation and calls for more research.
- Challenges to de-implement inferior methods emerge due to diverging institutional frames, especially when competing logics are involved. A categorical dividing line between worthy and unworthy clients was found institutionalized in the organization of the social services' work.

### Discussion

- Firstly, we want to discuss the need for implementation research to leave the idea that implementation is only about introducing the new. Implementation needs to be expanded with knowledge of how established methods should be phased out. How will such an insight affect theory and methods of implementation?
- Secondly, we have identified how organizational inertia and competing logics are built into institutions' practice and counteract the phasing out of established traditions. That must be challenged and there is a need for a discussion about which mechanisms foster those problems and how to proceed with new research.

### Challenges

The outbreak of covid-19 delayed the project and above all made it difficult to get in touch with service users. We have met a great interest in the study from managers and professionals - but at the same time a great uncertainty how to implement measures that support de-implementation.

### Key highlights

- De-implementation should be considered the new normal (the new black) and be a part of every implementer's toolbox.
- To support the implementation of new ways of working that better benefit clients we must pay attention to established ways of working. This will require new ways of exercising implementation.

## #151- Sumamos Excelencia project: Implementation barriers detected in the Spanish National Health System.

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### Research aim

To identify barriers for the implementation of scientific evidence in the NHS units participating in Sumamos Excelencia project. The objective of the Sumamos Excelencia is to implement evidence-based recommendations on the topics: hand hygiene, assessment and management of pain, promotion of breastfeeding, prevention of obesity and management of urinary incontinence.

### Setting

Units providing direct care to patients in the Spanish National Health System. Includes primary care centers, hospitals' units and nursing homes.

### Method(s)

Sumamos Excelencia is a quasi-experimental multicentre before-and-after study, based on continuous quality improvement cycle model. Last 15 months: 3 months for registration, training, baseline audit, barriers assessment and strategies design; 12 months for implementation, with audits at 3-6-12 months, local implementation teams and remote external facilitation. For the barriers assessment we adapted the questionnaire developed by TICD project. The resulting questionnaire has 52 barriers, 7 domains: evidence-related factors, professional-related factors, patient-related factors, professional interactions, incentives and resources, capacity for change, and social, political and legal factors. This work presents the descriptive analysis of the baseline barriers assessment. Project is ongoing.

### Key finding(s)

The project involves 112 units, 84 from hospital and 28 from primary care. 100% implement hand hygiene recommendations, 52.6% pain, 29.3% breastfeeding, 12.1% incontinence and 6% obesity. The most frequent barriers are patient-related, 41.59%, incentives and resources, 35.51%, and individual characteristics of the professionals, 35.03%. The most selected barrier in hospital is difficulty of changing routines; in primary care is related to patients' beliefs, knowledge and skills. According to the implementation cycle, most frequent barriers are: in breastfeeding, interprofessional relations; in obesity, the capacity for change; in pain, incentives and resources, and in incontinence, patient-related factors.

### Discussion

Depending on the setting and the cycle, the barriers found are different. This variability reinforces the idea that, when implementing recommendations, it is essential to take into account the context where they are implemented by carrying out a good context analysis and adapting the strategies to overcome barriers to the implementation cycle and setting.

Would be interesting to discuss about the possible strategies to address this barriers and about which is the best approach to facilitate the implementation in several units with different barriers from the point of view of a remote external facilitator.

### Challenges

The biggest challenge has been how to facilitate implementation remotely in many different units, implementing recommendations on various topics and in several Spanish regions. Webinars have been organised and contact has been maintained with the units via phone and email. This is intended to be improved in the next editions.

### Key highlights

This project will clarify the barriers to implementation in the NHS and will make possible to find solutions to address them. In addition, it aims to demonstrate how using implementation science in evidence-based implementation projects improves NHS outcomes, and, with its innovative methodology, will add knowledge to this science.

## #232- Improving organized colorectal cancer (CRC) screening programs in Switzerland: An implementation science study

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### Research aim

Since 2016, half of Switzerland's 26 cantons have established an organized CRC screening program, offering stool test or colonoscopy-based CRC screening systematically to 50–69-year-olds. We aimed to understand how Swiss CRC screening programs are implemented, focusing on factors influencing and opportunities for strengthening implementation.

### Setting

This study was conducted within the context of the decentralized Swiss health care system, where organized CRC screening programs are initiated by cantonal health authorities. When setting up and running CRC screening programs, these authorities typically collaborate with health insurances, health care providers and intermediary organizations (e.g., swiss cancer screening).

### Method(s)

This study used a mixed methods multiple case study design. We interviewed implementation leaders for 11 established/planned CRC screening programs (n=10) to explore key characteristics of program implementation. We then examined the implementation of four programs in detail, based on additional interviews (n=19), involving implementers operating at the program, cantonal and federal level. In parallel, we conducted a systematic integrative literature review to synthesize current best knowledge about implementation determinants and strategies reported for organized CRC screening programs across Europe. The Consolidated Framework for Implementation Research 2.0 and ERIC compilation of implementation strategies guided data analysis.

### Key finding(s)

We provide the first overview of key characteristics and challenges characterizing CRC program implementation in the highly decentralized Swiss health care system. The design of CRC screening programs varies across cantons due to the need to align service provision with available implementation infrastructure. Limited availability of intermediary mechanisms for sharing and utilizing previous implementation experience, impedes processes of collaborative cross-cantonal program learning and development. The complexity of CRC screening program operations in combination with inadequate legislative and funding structures represent important barriers that implementers must navigate. Our findings can inform current and future CRC screening program planning and implementation.

### Discussion

Implementation practice question: Within the context of a decentralized health care system, it is important to build capacity for knowledge exchange and shared learning to avoid different entities continuing to “re-invent the wheel”. What could this capacity look like and how can it be built and enhanced over time?

Implementation research question: Using the updated version of the Consolidated Framework for Implementation Research (CFIR 2.0) for coding qualitative data created multiple challenges for our research team. We will share our experience and invite the audience to discuss: Have you encountered similar challenges, and how did you navigate these?

### Challenges

In comparison with its original version, the CFIR 2.0 requires a new approach to coding qualitative data. We developed a coding manual including examples of coding excerpts, taken from a broad range of CRC screening studies. The draft of this manual was discussed and piloted on a sample of studies.

### Key highlights

Implementers of existing/future organized CRC screening programs can use our study findings to reflect on current/planned implementation practice and consider if and how to change this practice. We will invite EIE2023 attendees to a wider knowledge exchange about using the CFIR 2.0 for coding qualitative data.

## Ride the Knowledge Wave 8

### #153- Accelerating global implementation research by developing a compendium of implementation research studies as a resource to implementation researchers and stakeholders

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### Research aim

Our project develops a compendium of global implementation studies to display the utility of implementation research and promote its use to address global inequality. Through consolidation, we aim to enrich understanding of global implementation barriers and facilitators, accelerate improvements in programming, and encourage wider and better use of implementation research.

### Setting

The project is deliberately cross-sectoral and the first cohort of studies included are from health, education, family and parenting support, child welfare and social protection. Geographic contexts focused on low and middle income countries, including particularly disadvantaged communities, humanitarian and other fragile settings.

### Method(s)

Our first cohort of studies were purposively selected for diversity in geography, sector, implementation stage and study methods. Our intention was to summarise studies within a consistent template so that recurrent themes can be identified in implementation factors at multiple levels, across geographies and sectors. The template draws on the Consolidated Framework for Implementation Research and the Implementation Outcomes Framework. In particular it calls out equity considerations; implementation outcomes, strategies and determinants; and the impacts on

policy and practice arising from the implementation study. Working with authors, we have produced the first set of nine summaries and a synthesis paper.

### Key finding(s)

The studies demonstrate the power and utility of implementation research. A consistent theme was the importance of stakeholder engagement in programme development, framing research questions, oversight, and solution development. We found surprising gaps, including in equity as an explicit lens, as well as in the specificity of implementation outcomes, testing implementation strategies, and use of implementation theory. Every study identified findings being enacted in programming, practice or policy. These focused on issues proximal to study teams and stakeholders, rather than recurrent implementation barriers related to entrenched inequity, such as social and economic conditions, social or professional norms, and institutional relationships.

### Discussion

- How can we make this a highly effective living and growing resource, so that it achieves our aims of growing and enriching implementation research globally and increasing understanding of what effective implementation takes, across geographies and sectors?
- How can we use it to strengthen the application of implementation science to catalyse change in the conditions that hold inequity in place globally?

### Challenges

Creating a structure that consolidated understanding of key implementation issues and did justice to the richness and diversity of studies. Locating studies in sectors where implementation research is less developed. Working iteratively with authors to gather information not covered in study outputs or to drill down into key implementation issues.

### Key highlights

- Every study was able to point to findings being used in programming, practice or policy change, demonstrating the relevance of implementation science for service and system change.
- We need to go further, not just highlighting but understanding how to address the recurrent implementation barriers that reflect entrenched inequity.

## #159- Fueling contextual analysis with system dynamics: Exploring contextual factors and interrelationships by developing and validating a causal loop diagram as part of the SMILe project

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### Research aim

To explore the context driving the SteM cell transplantation facilitated by eHealth integrated care model (SMILe-ICM) implementation in routine care, i.e., to 1) identify contextual factors perceived as relevant by health professionals and patients to facilitate/hinder SMILe-ICM implementation; 2) understand how identified contextual factors interrelate and influence each other.

### Setting

Healthcare sector, Acute care (Hematology): This study is embedded in the SMILe project and focusses on one transplant center in the German-speaking part of Switzerland, i.e., University Hospital of Basel (USB). SMILe is an ongoing, international, multicenter implementation science research project, aiming to develop/adapt, implement and evaluate the SMILe-ICM.

### Method(s)

Using system dynamics, we performed a secondary analysis of focus group interviews with health professionals as part of the SMILe contextual analysis. To identify relevant contextual factors for SMILe-ICM's transfer into routine care, a qualitative content analysis (inductive approach) was conducted. Second, based on an interrelationship diagram depicting all possible relationships between identified contextual factors, two causal loop diagrams (CLDs), representing the health professionals and patient perspectives were developed. Third, to validate identified contextual factors and cause-effect relationships reflected in the CLD, group model building workshops with health professionals (n=9) and patients (n=2) will be conducted in February 2023.

### Key finding(s)

We identified 23 and 22 contextual factors perceived as relevant by health professionals and patients, respectively. Key drivers mapped in interrelationship diagrams include information exchange between Advanced Practice Nurses (APNs) and physicians, staff resources, working hours, task descriptions, leadership support (health professionals' perspective), self-management support and needs-based education by APNs, app functionality, device availability and symptom monitoring (patients' perspective).

Based on this information, two CLDs were developed. The CLD validation process is expected to be completed in the coming two months. Participants of the group model building workshops will include senior physicians, staff nurses, nurse managers, APNs, psycho-oncologist, and patients.

### Discussion

- How can we use system dynamics to gain maximum insights into contextual factors relevant to implementation success and sustainability, while remaining practical, i.e., taking local conditions (e.g., time constraints) and project requirements (e.g., funding) into consideration?
- What challenges and opportunities do participants see in using system dynamics methods in implementation science projects?

### Challenges

Given participants' limited time capacities within their work schedules and their lack of knowledge regarding system dynamics, workshop planning was particularly challenging. Thus, a short and concise introduction about CLDs, the adaptation of existing group model building scripts to the time constraints and working style of the participants was essential.

### Key highlights

The developed CLDs highlight contextual factors driving successful SMILe-ICM transfer into routine care, based on which leverage points for intervening in the system can be identified. System dynamics facilitate a holistic understanding of contexts. Thus, implementation strategies can be better tailored, improving sustainable implementation in real-world and enhancing societal impact.

## #67- Measuring the determinants of implementation behavior in multiprofessional rehabilitation

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### Research aim

The Determinants of Implementation Behavior Questionnaire (DIBQ) measures factors influencing implementation based on Theoretical Domains Framework (TDF). We aimed to tailor a shortened version of DIBQ to multiprofessional rehabilitation context with cross-cultural adaptation to Finnish language. A tool is needed for rapid and pragmatic monitoring and scaling of implementation processes.

### Setting

National-level online survey for multiprofessional rehabilitation experts from diverse service and educational settings in Finnish health and social welfare, and education sectors. The experts represented perspectives of scientists, researchers, educators, organizational leaders, practitioners and policymakers including physicians, physiotherapists, occupational therapists, psychologists, educationists, health scientists, nursing scientists, and social scientists.

### Method(s)

Cross-cultural translation of DIBQ to Finnish, followed by two-round Delphi survey. In total, 25 experts in Round 1, and 21 in Round 2 evaluated the importance of DIBQ items in changing professionals' implementation behavior by rating on a 5-point Likert scale (1=Strongly Disagree, 5=Strongly Agree) of including items in the final scale. Consensus to include was defined as a mean score of  $\geq 4$  by  $\geq 75\%$  of Delphi participants. Open comments were analysed using content analysis. Items with agreement of  $\leq 74\%$  were either excluded or reconsidered and modified. Content validity indexes (CVI) were calculated on item-level (I-CVI) and scale-level (S-CVI/Ave).

### Key finding(s)

The original DIBQ covers 18 TDF domains and consists of 93 items. After Round 1, 17 items were included and 48 excluded by consensus whereas 28 items were reconsidered, and 20 items added for Round 2. The open comments were categorized as: (1) "modifying", (2) "supportive" and (3) "critical". After Round 2, consensus was reached regarding all items, to include 21 items. The final multiprofessional DIBQ (DIBQ-mp) covers 11 TDF domains with 21 items, with I-CVIs of  $\geq 0.78$  and S-CVI/Ave of 0.93. A Delphi study condensed a DIBQ-mp with excellent content validity for multiprofessional rehabilitation context.

### Discussion

Clinical guideline recommendations alone are insufficient to change treatment practices. We propose the use of implementation research -based determinant questionnaires also in large-scale samples to advance problem solving when putting evidence into practice. We need methods to identify and eliminate the use of nonevidence-based treatment and rehabilitation methods so that social and health care services can be secured in a sustainable way. Could a questionnaire serve as a low-cost strategy to collect data on the use of evidence in daily routines, and also, to facilitate the implementation of guideline-based interventions and procedures?

### Challenges

Taxonomy in Finnish language for implementation is in its early development and there are no scientific publications on translation of TDF. Another challenge was that the variations of multiple

meanings for words often differed from the corresponding variations in English. Thus, we used well-established methods in the cross-cultural adaptation process.

### Key highlights

- The study presents a potential tool, DIBQ-mp, for evaluating determinants, either facilitators or barriers, of implementing evidence-based multiprofessional rehabilitation.
- DIBQ-mp addresses the issues professionals encounter in implementing new evidence-based models for the benefit of patients. Furthermore, it is a rapid and practical tool consisting of only 21 items.

## #163- Applying Implementation Science and Health Equity Frameworks for Adapting Climate Change Interventions in Community Settings

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### Research aim

The relentless ways in which climate change drives health risks is overwhelming. Health adaptation efforts, including policies, interventions, and education, aim to reduce climate-related health risks, and are well-suited for incorporating applied implementation science and equity frameworks. We present two climate adaptation case studies which bridge implementation science and equity.

### Setting

While there are many evidence-based climate adaptation strategies (e.g., greenspaces, recycling/reducing trash), many are inadequately tailored to vulnerable and diverse communities. Our first case study describes a community-based intervention in Guatemala to reduce trash burning and the second describes the collaborative creation of a climate-implementation science course in Croatia.

### Method(s)

We co-developed community-initiated solutions to reduce plastic waste use and burning to improve human health among Xinca-indigenous communities in Guatemala as part of a large NIH-funded intervention randomized cluster trial among 16 villages (R01ES032009; PIs Thompson/Saikawa). Two implementation science frameworks, the Capability, Opportunity, and Motivation (COM-B) model and RE-AIM framework informed the intervention planning and data collection. Our course development reflects a Fulbright scholar-supported partnership with colleagues from the Andrija Štampar School of Public Health in Croatia, and Emory University in the US, and a stakeholder input process with non-profits working on climate change or equity for marginalized groups.

### Key finding(s)

For ECOLECTIVOS, we employ 3-month participatory working groups, after which intervention villages select and implement strategies over the next 9 months to reduce plastic waste burning. Behavioral and environmental barriers previously identified are addressed within the COM-B model, and RE-AIM informs assessment of implementation fidelity, reach and scale-up potential. Intervention-related training elevates environmental justice approaches to reframe plastic waste in terms of colonial pollution legacies and to affirm Indigenous identities around protecting nature. For our climate curriculum, we apply methods from environmental justice and implementation science to highlight the intersection of climate change interventions and the values of environmental justice.



### Discussion

For our Guatemala-based ECOLECTIVOS study, as we try to promote behavior change, we also know that collaboration and mobilization of many actors are needed to reduce the flow of plastic to the communities we are working with. In our second year of the project, we are not yet adequately prepared for working with the private sector who can promote business-related initiatives (e.g., incentivizing trash recycling or encouraging municipal programs such as plastic bag bans). How do we, as scientists, take our evidence that supports these policy changes to private and local government settings while also maintaining community-inclusive practices?

### Challenges

Balancing knowledge-building to develop tailored climate interventions is challenging, especially when developing a new project with a limited evidence base about best practices. This requires bringing in anthropological views to inform the implementation science approaches. It also requires building from analogous interventions used successfully to tackle environmental public health problems.

### Key highlights

Our approaches to apply implementation science emphasize participatory engagement to create, implement and evaluate interventions that ‘localize’ as well as create generalizable and actionable content. We need to continue to develop case studies to teach the value of incorporating other frameworks outside of implementation science for equity-focused work.

## Ride the Knowledge Wave 9

### #79- Perceptions of Organizational Readiness to Implement mHealth to Support Healthy Lifestyle Behaviors within Child and School Healthcare in Sweden

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#### Research aim

The aim of this research was to explore perceptions among various stakeholders (nurses, managers, and policymakers) regarding organizational readiness to implement mHealth to support healthy lifestyle behaviors in child and school healthcare.

#### Setting

The study was conducted in child and school healthcare in Sweden. Child and school health care are key arenas for public health issues, through health promotion and disease prevention work towards children and adolescents.

#### Method(s)

Individual semi-structured interviews with nurses (n=10), managers (n=10), and policymakers (n=8) within child and school healthcare in Sweden. Informants were purposfully recruited in regard of location, organization size, socioeconomic area (child healthcare) and educational orientation (school healthcare). Nurses and managers were employed at child or school healthcare centers that had participated in randomized control trials (RCT) evaluating the effectiveness of two different mHealth interventions. This ensured that they had experience of using mHealth. Policymakers were responsible for the eHealth strategy of the organizations, and thereby had experience of implementing mHealth. Inductive content analysis was used for data analysis.

### Key finding(s)

Data showed that organizational readiness to implement mHealth can be described through different aspects of trusting conditions within an organization. Several factors were perceived to contribute to trusting conditions (i) conditions for data storage of health data (ii) how mHealth harmonized with organizational visions, values, and norms, (iii) mHealth governance, and (iv) camaraderie within healthcare teams. Conditions for data storage as well as mHealth governance were described as dealbreakers for readiness to implement mHealth. Our findings cannot fully be explained by existing theory of organizational readiness to change but highlights a need to also include innovation-specific components in theory development.

### Discussion

- What does the construct of organizational readiness encompass?
- How does organizational readiness differ from determinants for implementation?

### Challenges

To study organizational readiness required perspectives from multiple stakeholders. This resulted in a large and heterogenous amount of data, challenging to handle during one study. Furthermore, data analysis required the balancing between differences and commonalities between the different stakeholders' perspectives in order to gain a valuable essence.

### Key highlights

- Organizational readiness for mHealth implementation can be understood as trusting conditions within an organization.
- The findings propose factors that promote organizational readiness in child and school healthcare. Considering these factors prior mHealth implementation most likely means that more children and adolescents are reached by mHealth to support healthy lifestyle habits.

## #96- Understanding implementation of self-management support in cancer services: a practical application of theory.

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### Research aim

National policy in Ireland recommends that cancer services implement survivorship programs which includes self-management with support. However, implementation is not uniform across cancer services. We aimed to identify the contextual factors contributing to this variation to guide the subsequent tailoring of strategies to improve implementation.

### Setting

Healthcare sector, cancer care

### Method(s)

A convergent mixed-methods study using administrative data on reach and semi-structured interviews with key stakeholders. The Consolidated Framework for Implementation Research (CFIR) and Proctor's implementation outcome framework informed the data collection tools and analysis. Organisations were categorised into high, medium and low implementing sites based on analysis of administrative data on reach and qualitative reporting of adoption, penetration and sustainment.

Transcripts were first analysed inductively by the interview guide and the research questions. Categories were then coded deductively to the CFIR constructs. Through constant comparison, findings were compared within and across organisations to look for similarities and differences.

### Key finding(s)

Interviews were conducted with 39 stakeholders (nurses, physiotherapists, occupational therapists, oncologists, psychologists and program deliverers living with and beyond cancer) from 19 organisations. Level of implementation varied across organisations with variation in interventions implemented and reach and sustainment. Findings contribute to understanding why and how self-management support is implemented. Enablers included: prioritisation of self-management support; strong relationships and communication processes between staff; performance feedback and incentivisation, and a culture of deliverer-centeredness. Barriers included: lack of regulatory and professional guidelines; lack of financing, and limited work infrastructure whereby the arrangement of responsibilities and tasks between teams does not support implementation.

### Discussion

- CFIR does not explain the causal mechanisms or moderators of implementation. Coding of narrative excerpts on how and why factors influence implementation under each CFIR construct helped highlight these processes. I will discuss this process with the audience. Questions will be probed to gain feedback on experiences of conducting assessments of determinants alongside understanding mechanisms and process of change to subsequently tailor implementation strategies.
- Participants self-reported implementation outcomes. These limitations (potential inaccurate insight, recall or disclosure) will be discussed. One question will gain insights into measuring implementation outcomes qualitatively when working with stakeholders.

### Challenges

We proposed a cross case analysis with numerical ratings assigned to each CFIR factor to reflect its strength and valence on implementation. This limited exploration of how and why self-management support is implemented. To inform subsequent strategy-mechanism-determinant matching when tailoring implementation strategies the above approach to analysis was conducted.

### Key highlights

This study responds to the need for cross-setting and cross-evidence based practice inquiry which may maximise generalisability of research findings.

In developing this study, we worked with policy stakeholders and public and patient representatives. This partnership highlighted the relevance and value of implementation science in addressing a policy recommendation.

## #111- How are implementation theories, models or frameworks used in implementation studies in Asia? Findings from a scoping review

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### Research aim

The objective of this scoping study is to identify theories, models or frameworks (TMF) that have been used in implementation science research in Asia, and how they have been used.

### Setting

Implementation research conducted in Asian settings.

### Method(s)

Scoping review methodology using a systematic search strategy was applied. Four databases (PubMed, Embase, CINAHL, PsycINFO) were searched for English language primary research, which included any TMFs in relation to implementation science and behavioural change research conducted in Asian settings, published from 2012 onwards. Two reviewers independently screened titles/abstracts, and full texts to determine eligibility.

### Key finding(s)

Of the 1158 publications identified, 69 publications reporting 60 studies met inclusion criteria. The majority of the studies (90%, n=54/60) used a single TMF. The most commonly used TMFs were CFIR (31.7%,n=19/60), RE-AIM (11.7%, n=7/60), and the Carroll's Implementation Fidelity framework (6.7%,n=4/60). The majority of the studies used the TMFs as a framework for data analysis (40%, n=24/60) followed by to develop study questionnaires and interview guided (25%,n=15/60), to provide the scope to plan and guide implementation (15%, n=9/60), and for evaluation (15%,n=9/60). None of the reviewed studies reported any adaptation to the TMFs specific to the Asian context.

### Discussion

- How can we increase the use of TMFs for implementation research in Asian settings?
- What can be done to improve on how TMFs are used for effective implementation, and the reporting of its use in Asian settings?

### Challenges

It was difficult to develop the search strategy to identify all relevant papers given the diversity and inconsistencies of terminologies in implementation. This challenge was addressed by the use of MESH terms, expert suggestions, handsearching, and reference mining. Some studies did not provide detail descriptions on how TMFs were used.

### Key highlights

Our findings highlight that there is a need for more focus on the use of TMFs to design implementation, and to develop strategies in Asian settings. There is also a need for greater reporting clarity on how precisely TMFs are applied. Future research should examine whether contextual adaptations are required.

## #236- A clinical implementation trial to inform successful genomic medicine strategies in practice: improving tumour testing and genetic services referral for Lynch syndrome at 7 major hospitals in Australia

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### Research aim

To inform implementation of effective genomic medicine, approaches to support the implementation of well-established applications provide important insights. This trial compared the effectiveness of

two structured implementation approaches (theory-based/non-theory-based) to improve risk-appropriate Lynch syndrome tumour testing and referral to genetics services.

### Setting

Seven major Australian hospital networks were involved in the trial, including surgical and oncology wards, pathology, and genetics services.

### Method(s)

Hospital and genetics services data for 01/01/2017-31/12/2018 were used to identify hospital-specific practice gaps (total n=1,624CRC patients). At each hospital, a health service professional was trained and provided with ongoing coaching in evidence-based implementation to form stakeholder teams to identify target behaviours for change and associated barriers (using process mapping, questionnaires, focus groups), then co-design and implement targeted strategies. Trial arms differed only in the use of theory to identify barriers and design implementation strategies. A process evaluation (including separate training evaluation) and a cost-effectiveness study were undertaken alongside the trial.

### Key finding(s)

Pre-trial, risk-appropriate LS tumour testing and referral was complete ~2 months post-resection for 76.5% and 74.9% of patients in theory-based and non-theory-based arms, respectively (aRR=1.02, 95%CI 0.74-1.41). Clinical practice differed in six key areas, including multidisciplinary input and application of testing guidelines. With implementation of site-specific strategies, risk-appropriate tumour testing and referral ~2 months post-resection increased to 89.1% of patients in the theory-based arm but decreased to 65.9% in the non-theory arm (aRR 1.31, 95%CI 1.16-1.47). Hospital-level changes were variable and likely affected by COVID-19. Findings suggest theory-based implementation science approaches might support successful integration of genomics into clinical care.

### Discussion

Has anyone in the audience attempted similar approaches to implementation (either trial design or implementation practice) in the past and if so what comparisons can be made?

We have taken various elements of this work forward in new projects. What would your next steps be if you had found these results?

### Challenges

We had funds to recruit implementation leads in each hospital for 0.2FTE over a 2-year period so they could be trained in evidence-based implementation practice and drive the implementation phases forward from within the system. There were a range of challenges, benefits, and learnings associated with this approach to discuss.

### Key highlights

We explicitly differentiated approaches to implementation using either theory or clinician intuition to identify and address barriers to practice change. Novel co-design methods emerged from this experience.

Working with health service professionals to build capacity for evidence-based implementation practice and research was a meaningful and worthwhile experience for all involved.

## Ride the Knowledge Wave 10

## #130- Evaluation of the “Building capacity for facilitation” intervention – a longitudinal mixed-methods study

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### Research aim

To report the results of the *Building capacity for facilitation intervention*, a 6-day training with integrated individual supervision, including an evaluation of the participants' knowledge, skills, and self-efficacy of facilitation and implementation and the use of the acquired knowledge and skills after the intervention.

### Setting

The project included participants from health- and social care organisations in Sweden.

### Method(s)

The evaluation used a mixed-methods explanatory sequential design involving questionnaires delivered pre- and immediately post-intervention, and a questionnaire informed by the Swedish version of the Normalization Process Theory Measure eight months after the intervention. The questionnaires measured participants' knowledge, skills, and self-efficacy in facilitation and implementation and participants' use of a systematic implementation model after the intervention. In addition, semistructured interviews informed by Normalisation Process Theory (n=17) were carried out 10 to 12 months after the intervention. Descriptive statistics and qualitative content analysis are currently used to analyse the data collected from 3 cohorts (n=38).

### Key finding(s)

Preliminary quantitative analysis shows increased knowledge, skills, and self-efficacy in facilitation and implementation after the intervention compared to before the intervention. The data analysis is currently in progress for later surveys and interviews, and more detailed quantitative and qualitative results will be presented.

### Discussion

- How can facilitators be supported to perfect their craft after the intervention, what challenges do intervention developers experience when attempting to provide continuous support, and how can these be overcome?
- To what extent do facilitators have a role to build and strengthen the implementation capacity of the organisation where they work?

### Challenges

A challenge was to collect interview data from all the participants in the intervention, to minimize response bias and prevent loss to follow-up. To avoid this we kept participants informed about the ongoing evaluation from the beginning and emphasized the importance of their input in the development of the curriculum.

### Key highlights

The intervention curriculum, especially the interweaving of lectures and practice, was perceived as extremely useful by the participants.

## #132- Coaching styles in a quality improvement collaborative: Exploring what styles are commonly used and how they change overtime.

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### Research aim

Coaching is a proven implementation strategy. However, research has not examined how the coach interacts with the organizational champion. Using an adaptation of the Grasha-Riechmann framework, the project will identify coaching styles utilized by coaches and how the styles change overtime when guiding an organization through change implementation.

### Setting

Thirty-nine HIV service organizations (HSOs) located in 23 states and the District of Columbia within the United States were recruited for this study. The study compared the effectiveness of two implementation approaches to integrate a motivational interviewing-based brief intervention for substance use disorders within these HSOs.

### Method(s)

Implementation & Sustainment Facilitation (ISF) Strategy meetings (n=137) between coaches and HSO staff were recorded and professionally transcribed. These meetings during three six-month phases associated with preparation, implementation, and sustainment. Thematic coding classifications, related to five coaching styles Delegator, Expert, Facilitator, Formal Authority and Personal Model were developed from the Grasha-Riechmann framework. The codes were applied to a purposively selected sample of transcripts (n=66). Four coders independently coded transcripts using NVivo to facilitate text identification, organization, and retrieval for analysis. Coaching style use and changes across the three ISF phases was explored.

### Key finding(s)

The Grasha-Riechmann framework is useful for identifying styles of facilitation, as well as the individual elements within those styles. Facilitator and Formal Authority were the two coaching styles predominately used. Facilitator sub-themes shifted from asking questions and providing support to supporting independent action over time. Coaches' use of Formal Authority sub styles shifted notably across time from setting expectations or ensuring preparation to offering affirmation or feedback about changes that the HSO's were implementing. Use of the Expert coaching style occurred less frequently and the use of the Delegator, or Personal Model coaching styles occurred infrequently.

### Discussion

The Grasha-Riechmann framework also includes a learning style inventory which has been adapted for use in a quality improvement initiative. If the participant learning styles and the coaching styles were known at the start of an implementation study:

- How could implementation researchers use information about coaching and learning styles to conduct a randomized control trial to assign participants and coaches based on their learning and coaching styles?
- How could the structure and content delivery mechanism for coach delivered content be matched to the appropriate coaching and learning style(s) to improve uptake by the study participants?
- Challenges

Not every coaching call was recorded and not every HSO had transcripts in all three project phases. As such, our analysis was limited to 10 HSOs with transcripts across all three project phases. From that group, we utilized a purposeful sample of transcripts.

### Key highlights

This project supports the use of a teaching style conceptual framework to identify coaching styles in a quality improvement initiative. It also provides insights into how coaches guide and teach staff throughout the implementation journey using these styles. Such knowledge could improve the quality of the coach and participant interactions.

## #45- Supporting Implementation in Belgian primary care: From doing what is feasible to doing what is important.

Thomas Janssens - ebpracticenet, Leuven, Belgium

### Research aim

Implementation actions are often designed and carried out without considering evidence on efficacy of specific implementation strategies. In a 2020 policy change, this research-practice gap became an important focus of our organization. In this study, we investigate the change in use of implementation strategies in response to this policy change.

### Setting

An organization focusing on dissemination and implementation of evidence-based practice in Belgian primary care. Since 2018, the organization consults with the federal government on the scope and content of federally funded implementation projects in primary care, supports organizations in carrying out implementation projects, and provides funding for small-scale implementation projects.

### Method(s)

We investigated 23 implementation projects starting between 2018 and 2023. Projects were either funded by the organization or federally funded projects for which the organization consulted on. We used project materials to code the use of different implementation strategies, according to the ERIC taxonomy (Powell et al. 2015). Using generalized mixed models, we investigated the use of specific implementation strategies, and their associations with the start date of the project (pre or post policy change), scale of the project (small vs. large), and characteristics of the implementation strategies (feasibility and importance, cf. Waltz et al. (2015)).

### Key finding(s)

After the policy change, use of implementation strategies showed a stronger association with importance ratings (OR pre 1.3[0.5-3.2] vs. OR post 4.1[1.6-10.0],  $p < .001$ ), and a reduced association with feasibility ratings (OR pre 4.2[1.9-9.0] vs. OR post 2.4[1.2-4.9],  $p = .053$ ). At cluster level, projects were more likely to include evaluative and iterative strategies after policy change (OR: 4.0[1.6-10.0],  $p = .003$ ). The overall number of strategies used did not change after policy change.

The observed shifts in strategy use were not specific to smaller projects, but were also seen in the larger, federally funded implementation projects.

### Discussion

- What is the role of funders and policy makers in the adoption of effective implementation strategies?
- Which implementation strategies can we use to close the research-practice gap in implementation practice?



### Challenges

Coding for use of implementation strategies based on existing documents was challenging. Explicit documentation on the use of different implementation strategies could improve research on the use and efficacy of implementation strategies.

### Key highlights

- Selection of implementation strategies in Belgian Primary care is associated with both feasibility and importance of the implementation strategy.
- A policy change focusing on the uptake of important implementation strategies resulted in a shift from doing what is feasible to doing what is important.

## #147- Research translation for international development: Using a literature review of models to build a framework for evidence use and knowledge co-production

Laura Riddering, Alexandra Towns - Catholic Relief Services, Baltimore, USA

### Research aim

The aim of this study was to examine five approaches to research translation relevant to international development to inform implementation practice. The study uses theory to build a conceptual framework and guidance for academics, practitioners, and donors on how to design an implementation strategy.

### Setting

This study informs research translation efforts in the field of international development; we draw from literature in health, agriculture, environment, and policymaking. Scholars and donors call for development research to have an impact beyond academia, yet there is scant research that connects implementation science and development studies.

### Method(s)

Two research questions guided our study: how do researchers and practitioners use evidence to inform practice, and how do researchers and practitioners co-produce knowledge to inform practice. We used a multifaceted method. First, we conducted a scoping review to establish the scope and terms. Then, we used a selective sample method and applied a rapid review methodology to examine five research translation approaches: technology transfer, evidence-based policymaking, participatory action research, knowledge translation, and integrated knowledge translation. Third, we carried out two rounds of qualitative analysis on 93 peer-reviewed articles and a comparative analysis of approaches.

### Key finding(s)

Our analysis resulted in four key findings. First, we identified four intertwined factors that influence research translation: intention of evidence use, commitment to partnership, understanding of context, and investment of time and resources. Second, we found that research translation incorporates a continuum of approaches from what we call proactive to post-facto translation. Third, evidence use and partner engagement are interrelated when conducting research translation. And fourth, but not least importantly, we found that power imbalances between academics and practitioners can hinder research uptake.

## Discussion

- First, how could you apply these findings in your sector? We offer the Research Translation Continuum as a tool to enable critically reflexive engagement to situate, recognize, and act upon diverse knowledge production processes.
- Second, how can these results be applied to increase the use of implementation science for international development?

## Challenges

One challenge was to conduct the study in a partnership between academics and practitioners. Secondly, it was a challenge to implement the findings from this into research in an ongoing development project. To deal with these challenges, we applied the learnings from the review to our own project.

## Key highlights

Implementation science is relevant for all sectors, including complex challenges like international development. There is great potential in the collective knowledge and experience of all actors to inform and improve development practice and policy; however, it is necessary to critically reflect on our own and others' positions and practices.

# Ride the Knowledge Wave 11

## #112- Learnings from co-designing a complex intervention for children who have a parent with a mental illness to facilitate implementation in practice

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### Research aim

Implementing evidence-informed family-oriented interventions in parental mental health care is challenging. We used a co-design approach involving local stakeholders to facilitate implementation of a screening and support program. Here, we describe the co-design process and the implementation outcomes of the program including the acceptability, engagement, and feasibility of the delivery.

### Setting

The implementation project is inter-sectoral and includes the health and social sectors. Within these sectors, several settings are involved: the inpatient and outpatient mental health hospital setting, the medical and therapeutic community setting and the outpatient and outreach social sector. The project is located in the region Tyrol in Austria.

### Method(s)

Description of the co-design process is based on the following data sources: documents produced as part of the co-design process, transcribed audio recordings from the co-design workshops, a participant survey and focus group, and structured reflections on practices applied throughout the process to address facilitators and barriers of co-design processes. For describing implementation outcomes, we use qualitative and quantitative data collected from practitioners and participating families, and data from log-books documenting the delivery of the program. We analysed the qualitative data using qualitative content analysis and the quantitative data using descriptive statistics.

### Key finding(s)

During a series of six co-design workshops with local stakeholders we developed a concept for identifying children through parental treatment in adult mental health and primary care and supporting them by activating a support network. Sixteen providers committed to implement the screening. Thirty families progressed through the intervention, however a large decline and dropout rate was found. While participants described a high satisfaction with the intervention, delivery required more contact and time than originally planned, and parts had to be adapted to be delivered locally. The program did not continue to be funded beyond the pilot-phase.

### Discussion

- What is your experience of using co-design approaches to facilitate implementation of an evidence-informed program into a local context?
- How can implementation science contribute to overcome barriers for sustainable funding of an evidence-informed program at the policy level (funding priorities, fragmented care system) and to promote ongoing research to evaluate a program after successful piloting?

### Challenges

Dealing with Covid-19 containment measures that started when we began to implement the program; sustaining relationship with referrers and keeping them motivated; motivating families to participate in program and overcoming their hesitancy towards program components; creating an understanding of importance of research activities alongside program implementation in practitioners.

### Key highlights

This study is the first to evaluate the implementation of a preventative family mental health intervention in Tyrol, co-designed in a research-community partnership. Drawing on similar results (Metz et al., 2022), the role of co-design in seeking ‘successful’ uptake of programs needs to be given more consideration in implementation research.

## #148- Identification of barriers and application of a theoretical framework to co-develop strategies supporting sustainment of a physical activity intervention in Australian primary schools

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### Research aim

This study aimed to describe: 1) factors influencing sustainment of a school physical activity intervention; and 2) the application of a theoretical framework to guide the co-development of strategies to sustain its delivery.

### Setting

Primary schools across four Local Health Districts in New South Wales, Australia.

### Method(s)

In consultation with implementation science content experts, and health education policy makers and practitioners, we co-developed a multi-strategy intervention to sustain schools’ delivery of weekly physical activity through:

- a. Identifying sustainment determinants via: i) systematic reviews; ii) surveys with 240 classroom teachers; and iii) interviews with school staff.
- b. Identifying potential sustainment strategies: barriers were organised according to the Integrated Sustainability Framework. Potential strategies were identified through surveys with 200 teachers. Theoretical mapping was used to link strategies to key sustainability barriers.
- c. Strategy review by stakeholders to ensure their feasibility and acceptability and description according to a sustainment-explicit glossary.

### Key finding(s)

- Aim 1: Key barriers to program sustainment were lack of organisational leadership and support, organisational readiness and resources, staff turnover, perceived policy alignment and workplace socio-cultural factors.
- Aim 2: Strategies perceived most useful by teachers to support sustainment were the provision of physical activity equipment packs (85%), a handover package to upskill new staff (78%), and delivery of professional learning modules (78%). Following theoretical mapping, a multi-component intervention was developed, including: (i) centralized support; (ii) reminders; (iii) principal mandates; (iv) sharing local knowledge; (v) building coalitions to share resources; (vi) distributing educational materials; and (vii) involving end-users.

### Discussion

- What are some similarities and differences in the types of strategies used, and their effectiveness in sustaining evidence-based interventions in clinical and community settings?
- How can we continue to monitor effectiveness of evidence-based interventions through: a) sustained implementation; and b) health impact long term?

### Challenges

Given the disruptions to schools due to COVID-19, this caused delays to the commencement of our trial and lead to multiple iterations of intervention development. However, this also allowed us to conduct a more comprehensive strategy co-development process, ensuring strategies were theoretically informed, feasible and acceptable within the school setting.

### Key highlights

- We undertook a comprehensive theoretical and collaborative process for strategy development.
- This work highlights to society that if we can sustain effective health programs, we minimise wastage of valuable resources, ensure the effects of programs are long-lasting, and build community trust and confidence in future program delivery.

## #193- A rapid qualitative process evaluation on implementing cancer staging into a population-based cancer registry involving perceptions of diverse key breast and colorectal cancer stakeholders of the Cancer Staging Project in Western Australia.

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### Research aim

A rapid qualitative process evaluation ran parallel to the Cancer Staging Project to gain insight from breast and colorectal cancer stakeholders into the barriers and enablers of implementing cancer staging utilising natural language processing and machine learning algorithms in the Western Australian Cancer Registry for routine and timely data collection.

### Setting

Australia lacks standardised cancer staging collection. The Western Australian Cancer Registry is a population-based cancer registry that incidentally collects cancer staging data. The project used implementation strategies, including creating an academic partnership and project facilitation with Curtin University, using expert advisory boards and working groups and involving consumers as stakeholders.

### Method(s)

Perceptions of breast and colorectal cancer stakeholders involved in the Cancer Staging Project were collected, including registry staff, clinicians, consumer representatives, data scientists, biostatisticians, healthcare staff, and health researchers. Online prospective and retrospective qualitative proformas (open-ended surveys) were employed towards the start and end of the first year of the Cancer Staging Project. The Consolidated Framework for Implementation Research (CFIR) guided data collection, analysis and interpretation embedded in a Participatory Action Research approach. Data analysis also incorporated Framework Analysis and an adapted version of grading qualitative data to explore the levels of positivity, negativity, and implementation concern managed in NVivo.

### Key finding(s)

Twenty-nine pre-proformas and 18 post-proformas were completed online via REDCap. 'Complexity' (the perceived difficulty of the intervention) was the strongest barrier and 'tension for change' (the situation needing change) was the strongest enabler. Implementing cancer staging into the Western Australian Cancer Registry was considered crucial. Enablers included timely knowledge and understanding of various outcomes (e.g., cancer screening, healthcare interventions, health inequalities) and benchmarking nationally/internationally. Barriers included compatibility issues with current systems/workflows, departmental/higher managerial support, and future sustainment. Cancer staging is complex, takes considerable time, requires expert consultation, is tumour-specific and requires compatibility checks with existing workflows/processes.

### Discussion

How do we determine where stakeholders' voices are in this complexity?

Employing a qualitative process evaluation, this study captured diverse stakeholders' perspectives of implementation success on a data-driven intervention utilising natural language processing and machine learning algorithms within the Western Australian Cancer Registry.

Information is power, but how do we put stakeholders in the driver's seat of cancer staging?

The participatory design and engagement helped to guide and disseminate co-creation (including co-design and co-production) of a complex intervention and population health initiative. Stakeholders

were involved throughout the project and the research process through information sharing, reciprocity and mutual learning.

### Challenges

Not all stakeholders participated, and there was a drop in participation with the post-proforma. Therefore, some barriers/enablers may not be identified. All stakeholders had the opportunity to review/discuss preliminary findings at meetings and via project reports. Due to project timelines and to minimise burden, qualitative proformas were used.

### Key highlights

Rapid qualitative proformas at different time points to evaluate and learn about adaption as change occurs can help predict implementation success and understand complex interventions that benefit population health initiatives.

The participatory action research approach to cancer staging was essential to tailoring the implementation and research, including considerations for progress.

## #244- The Implementation-Stakeholder Engagement Model (I-STEM) for improving health and social care services

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### Research aim

The literature currently reports suboptimal stakeholder engagement in implementation science. Here we draw on the international large-scale ImpleMentAll (IMA) study to illustrate the development of the Implementation-Stakeholder Engagement Model (I-STEM) for implementation of evidence-based care. I-STEM defines key considerations and activities for undertaking stakeholder engagement activities across an implementation process.

### Setting

IMA used a stepped wedged randomised controlled trial design to evaluate the effectiveness of tailored implementation in integrating and embedding evidence-based e-mental health services in routine care in Europe and Australia. Tailored implementation was operationalised in the ItFits-toolkit, a self-guided platform including resources supporting comprehensive stakeholder engagement (e.g., surveying tool).

### Method(s)

In IMA, a qualitative process evaluation was undertaken alongside the effectiveness trial that compared tailored implementation with implementation as usual activities. Over a trial period of 30 months, the ItFits-toolkit was introduced sequentially in twelve implementation sites across nine countries in Europe and Australia. We conducted 55 in-depth, semi-structured interviews and observed 19 implementation related activities (e.g., team meetings and technical support calls). The analytical process was informed by principles of first and third generation Grounded Theory, including constant comparative method. The I-STEM was derived from the analytical work undertaken in the qualitative process evaluation.

### Key finding(s)

Our findings are presented as the substantive, generalisable I-STEM, consisting of five interrelated concepts: engagement objectives, stakeholder mapping, engagement approaches, engagement qualities, and engagement outcomes. Engagement objectives are goals that implementers plan to achieve by working with stakeholder in the implementation process. Stakeholder mapping involves identifying a range of organisations, groups, or people who may be instrumental in achieving the engagement objectives. Engagement approaches define the type of work that is undertaken with stakeholders to achieve the engagement objectives. Engagement qualities define the logistics of the engagement approach. Lastly, every engagement activity may result in a range of engagement outcomes.

### Discussion

- The I-STEM represents potential avenues for substantial stakeholder engagement activity across key phases of an implementation process, providing a guiding structure for how this work could be approached. What is the audience's experience with stakeholder engagement in implementation research and how does that relate or differ from I-STEM?
- How can I-STEM be applied alongside existing theories, frameworks and models of implementation to support the planning and evaluation of stakeholder engagement activities and thereby support the implementation of evidence-based care?

### Challenges

The IMA process evaluation included participants from different countries who had different languages and varying levels of English abilities. To overcome the challenges associated with data interpretation we worked closely as a multinational research team to understand the different contexts and check our interpretations of participants' comments in the interviews.

### Key highlights

The IMA study provided a unique opportunity to take an in-depth look at how stakeholder engagement work is done over time, and how implementers are appraising the different elements involved. The I-STEM can be applied to any activities aimed at improving services or processes that involve different groups and interests.