# RTKW 8 - #EIE2023

# 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 ≥4 by ≥75% of Delphi participants. Open comments were analysed using content analysis. Items with agreement of ≤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 ≥ 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.