RtKW 11: Navigating complexity in implementation

Applying a complexity lens to policy implementation: how feedback loops help to understand systems change

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A comprehensive coding frame for contextual complexity in implementation science: What we learned from the Sumamos Excelencia project

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Balancing Acts: navigating flexibility and complexity in implementing a parent training intervention across diverse local contexts

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RtKW 107

Applying a complexity lens to policy implementation: how feedback loops help to understand systems change

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Research aim
Although a complexity theory lens can help to understand national policy implementation at a local government level, its application often remains metaphorical. We illustrate how complexity concepts such as adaptation, feedback, emergence, and co-evolution can be used practically in policy implementation research.

Setting
We used a UK case study of policy to improve school children's access to mental health services in a local municipality in northern England (Future in Mind; FiM). Local implementation involved creating a new multi-organisation partnership between national commissioners, service providers, local government, and third-sector organisations.

Method(s)
We re-analysed interview data with staff from local government, National Health Service/ mental health, schools, and the voluntary and community sector (n=31) involved in implementing FiM. Participants were drawn from various organisations in the system through a stratified purposive sample design. We coded this data in NVivo12 guided by complexity concepts as sensitising constructs. In an iterative process, we recoded interview data relating to features of cross-organisation working in the partnership, workforce development, and sustainability of new ways of working.

Key finding(s)
We identified five feedback loops: two positives (1. flexing the training offer; 2. new skills, knowledge and behaviour by non-specialist staff) and three negatives (3. short-termism, 4. free rider behaviour, 5. professional boundaries). These energised local adaptations of FiM by school and NHS staff, leading to system-level change (emergence), with the school system becoming more responsive to mental well-being needs of children and young people and shifts across systems (co-evolution) by developing joint values and language between schools and NHS.

Discussion
We demonstrate the importance of positive and negative feedback loops for evidencing system-level change and shifts across systems.

- How would you identify and evaluate feedback loops while implementing public policy and adjust this policy in response to emerging properties and co-evolution processes at the system level?
- How can we maximise positive feedback aligned with the intent of the policy intervention while minimising negative feedback as the policy intervention plays out (based on a recognition that implementation of public health interventions is complex and that 'success' requires loops of learning and adaptation to generate improved emergent outcomes)?

Challenges
Our findings are contingent upon our definition and demarcation of system(s) of interest, as well as the specific case and context with which it interacted. We took a practical approach and were able to draw upon well-established organisations/services/activities in delimiting the starting system into which FiM was inserted.

RtKW 108

Implementation of advance care planning across multiple health care organisations using local transdisciplinary working groups: identifying key challenges.

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Research aim
We aim to identify barriers and facilitators to implementing advance care planning (ACP), a process of enabling individuals to plan future healthcare decisions, across multiple healthcare organisations during the first phase of establishing a working group and designing a local collaboration agreement and implementation plan.

Setting
The study is conducted across four palliative care networks in the Netherlands, involving multiple healthcare organisations representing primary care, hospitals and social services. These organisations participate in working groups to design and implement collaboration agreements on ACP.

Method(s)
Within the palliative care networks network organisations, representatives of healthcare organisations formed five working groups to create regional collaboration agreements for ACP and design an implementation plan. The project provided two documents to guide the working groups: one outlining intervention requirements and the other providing an implementation plan template. A researcher attended each meeting, documenting observations in a logbook. At the end of the design phase, a group interview was conducted. Logbooks and interview transcripts were coded and analysed using framework analysis based on the CFIR model.

Key finding(s)
Despite strong enthusiasm for the transdisciplinary implementation of ACP, significant challenges emerged within the inner setting domain of the CFIR model. The diverse healthcare organisations in the working groups struggled to define a standardised working method and lacked decision-making authority to create collaboration agreements. Additionally, a lack of knowledge and skills among group members hindered the development of a concrete implementation plan. Variations were observed across working groups, influenced in part by the role of the group leader. These challenges primarily relate to the domain characteristics of individuals. Within the intervention domain, unclarity about what ACP entails was a barrier.

Discussion
- How can we effectively support working groups in designing an implementation plan while ensuring that the stakeholders remain responsible for its content and execution? What is a good balance between being an observing and supporting researcher and participating or even leading in the making of the plans?
- How can a feasible implementation plan for a collaborative working method be developed in a fragmented and overburdened healthcare landscape?

Challenges
A key challenge for researchers is defining and maintaining their role. While healthcare professionals are responsible for designing and implementing collaboration agreements, their limited knowledge of implementation science leads researchers to assume an expert role. This shift complicates researchers' ability to remain objective observers.

RtKW 206

A comprehensive coding frame for contextual complexity in implementation science: What we learned from the Sumamos Excelencia project

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Research aim
To develop a comprehensive coding frame for analysing contextual complexity in implementation using multiple frameworks, providing a systematic and practical tool for qualitative and mixed-methods data analysis that facilitates understanding and managing complexity in implementation.

Setting
This study is part of the Sumamos Excelencia project, which aims to implement evidence-based recommendations within healthcare units providing direct patient care. The project is conducted in hospitals, primary care centres, and nursing homes within the Spanish National Health System.

Method(s)
A literature review guided the selection of theories, models, and frameworks, integrating the Consolidated Framework for Implementation Research (CFIR), Tailored Implementation for Chronic Diseases (TICD) checklist, Expert Recommendations for Implementing Change (ERIC), and the Exploration, Preparation, Implementation, Sustainment (EPIS) framework. A coding frame was developed following Schreier's content-driven process phases (selecting, structuring and generating, revising and expanding) and adhering to criteria for a robust coding frame (unidimensionality, mutual exclusiveness, exhaustiveness, and saturation).

Key finding(s)
Each framework contributed valuable insights to the coding frame, enabling a comprehensive analysis of the complexity and multilevel aspects of context and the implementation process. The resulting coding frame comprises four levels, 11 sublevels, 16 categories, and 82 contextual factors. The levels encompass factors related to individuals involved in the implementation, internal context (unit characteristics), external context factors (institutional characteristics and socio-political environment), and the project's overarching implementation strategy. Additionally, strategies and implementation phases were incorporated into the coding frame.

Discussion
- What are the key challenges in applying multiple implementation theories, frameworks or models simultaneously, and how can they be addressed?
- What strategies can we adopt to ensure that context analysis is both comprehensive, capturing the evolving and multi-layered aspects of context, and practical for diverse implementation settings while remaining accessible to novel researchers and clinical practitioners?

Challenges
Integrating and adapting multiple theories, models, and frameworks into this coding frame, which was developed during the author's doctoral thesis, to capture all contextual factors influencing implementation while ensuring relevance to healthcare settings and clinical professionals. It was addressed through a literature review, iterative refinement and expert consultation.

RtKW 254

Balancing Acts: navigating flexibility and complexity in implementing a parent training intervention across diverse local contexts

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Research aim
In Norway, municipal services have gained increased responsibility for the prevention of child mental health problems. This study aimed to evaluate Supportive Parents-Coping Kids (SPARCK), a transdiagnostic and co-created parent training intervention, to make an implementable and effective intervention and reach a large group of underserved children.

Setting
The study was conducted in seven municipalities, engaging primary care services tasked with preventing childhood mental health problems. SPARCK was co-created with families, practitioners, and municipal leaders to address the needs of services and target children aged 4–12 with elevated but sub-clinical levels of anxiety, depression, or behavioural problems.

Method(s)
SPARCK was developed and optimised through two mixed-methods cycles with 28 families, 14 practitioners, and 15 municipal leaders. This study analysed data from qualitative semi-structured interviews with practitioners and leaders to identify barriers and facilitators to implementation and inform effective strategies. The Consolidated Framework for Implementation Research (CFIR) guided the development of interview guides and the analytic process. A mix of inductive and deductive analysis was applied to capture both idiosyncratic findings relevant to our intervention and context, as well as more latent theoretical insights. Thematic analysis was used to identify central themes across the dataset.

Key finding(s)
One of the four key themes was “balancing flexibility with complexity”. The intervention’s adaptability was highlighted as a strength, as it allowed to meet families' unique needs while also aligning with diverse municipal services. However, this flexibility introduced complexity, as it required practitioners to tailor the intervention through nuanced adjustments, demanding advanced therapeutic skills and increasing the need for supervision to maintain fidelity. At the service level, flexible dosage, format, and delivery were critical but challenged sustainability. These findings emphasise the need to balance adaptability with structure to ensure effective and sustainable implementation in diverse, dynamic settings.

Discussion
Findings informed the adaptation of the intervention, implementation strategies, and the design of a subsequent, ongoing hybrid RCT and implementation study launched in 2023. Implementing EBIs in diverse contexts requires navigating the tension between adaptability and sustainability. This study highlights how co-creation with stakeholders and structured support systems can help address these challenges. Key discussion questions:

- How can flexibility in intervention design and delivery be optimised without compromising fidelity and long-term sustainability?
- What strategies can effectively support practitioners and leaders in balancing intervention demands with contextual challenges?

Challenges
Balancing the need for adaptability with maintaining intervention fidelity was challenging, especially when tailoring to diverse municipal demands. We addressed this by engaging stakeholders in co-creation, offering ongoing supervision to practitioners, and using iterative testing. However, this process required diverse skills, was time-consuming, and risked introducing delays.