

Using Normalization Process Theory in social care research

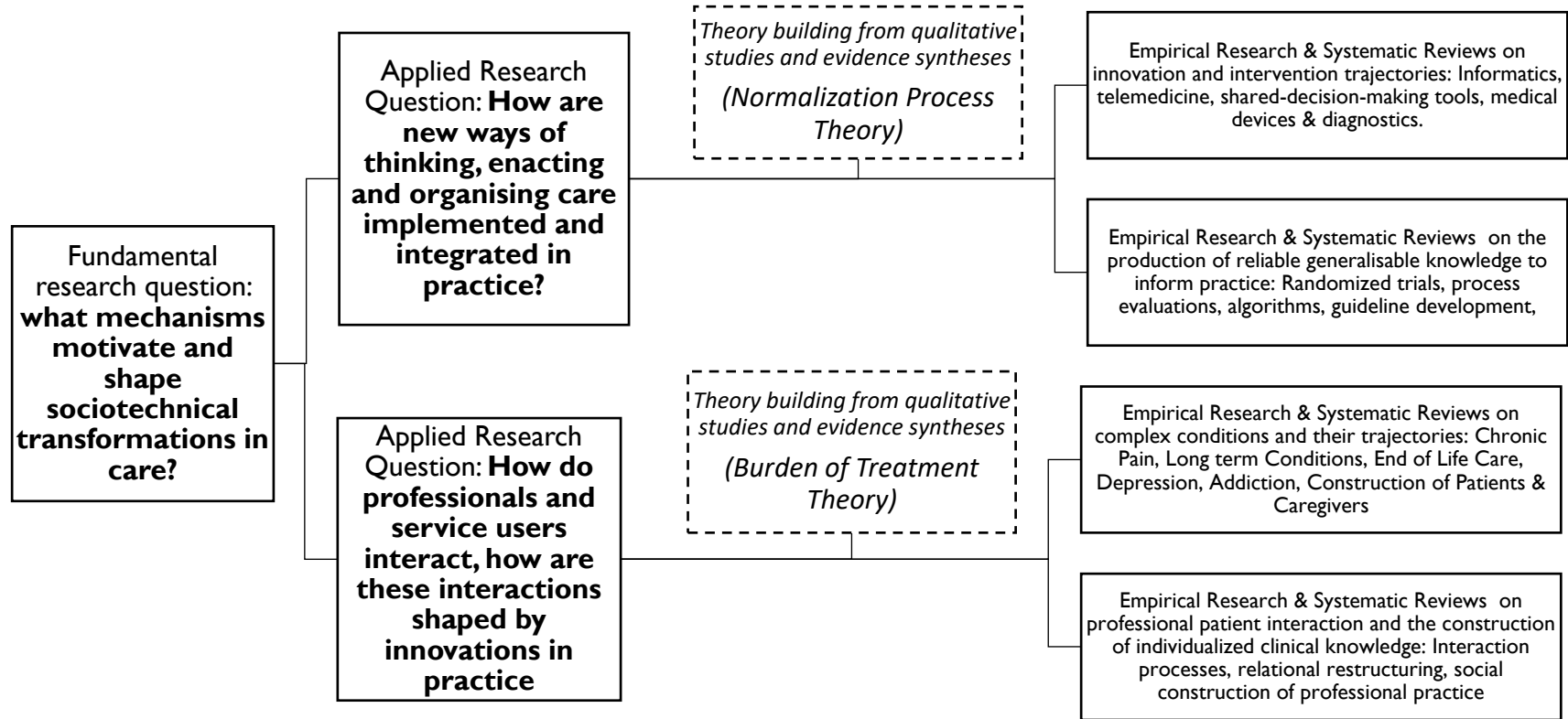
NIHR School of Social Care Research Capacity Building Webinar 2021

Carl May

LONDON
SCHOOL *of*
HYGIENE
& TROPICAL
MEDICINE



A few words about me and what I do...



What I'm like in real life

What my cv says about me



Professor Tracy Finch
co-developer of NPT

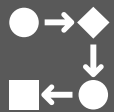
Three parts to this talk



What do we know about how implementation processes work?
Introducing Normalization Process Theory.



Controlled and uncontrolled implementation processes:
Thinking through implementation with Normalization Process Theory.



Normalization Process Analysis in practice
Tools for applying Normalization Process Theory

Normalization Process Theory *explains* mechanisms that motivate and shape implementation, embedding, and integration of complex interventions.



Frameworks are taxonomies. These can be assembled into groups or families of related components, mechanisms, or variables.



Models are maps. They characterise the flow of events in systems and the ways that its elements influence each other.



Theories are explanations. They enable us to understand how a system works, the operation of its mechanisms, and the possible outcomes of processes.



KEEP
CALM
AND
THINK ABOUT
THEORY



1. *Introducing Normalization Process Theory.*

The promise of implementation science

Implementation science (IS) is the study of methods to promote the adoption and integration of evidence-based practices, interventions, and policies into routine health care and public health settings to improve our impact on population health.

NIH. *What is Implementation Science?* <https://cancercontrol.cancer.gov/IS/about.html> accessed 27 August 2019.

Implementation processes and implementation science are not the same

- **Implementation science** is about methods of translation. It involves structured and disciplined activities through which evidence-based interventions are implemented under control.
- **Implementation processes** are non-linear, dynamic, and emergent. They involve complex interactions between intervention components, many different actors, and the contexts.

What are implementation processes, and what is to be implemented?

What are implementation processes?

Implementation is *the translation of the strategic intentions of one group of actors into the everyday practices of others*

The essence of implementation is collective action and collaborative work.

May, C., T. Rapley, and T. Finch, (2020) Normalization Process Theory, in International Handbook of Implementation Science, P. Nilsen and S. Birken, Editors. Edward Elgar: London

What is to be implemented?

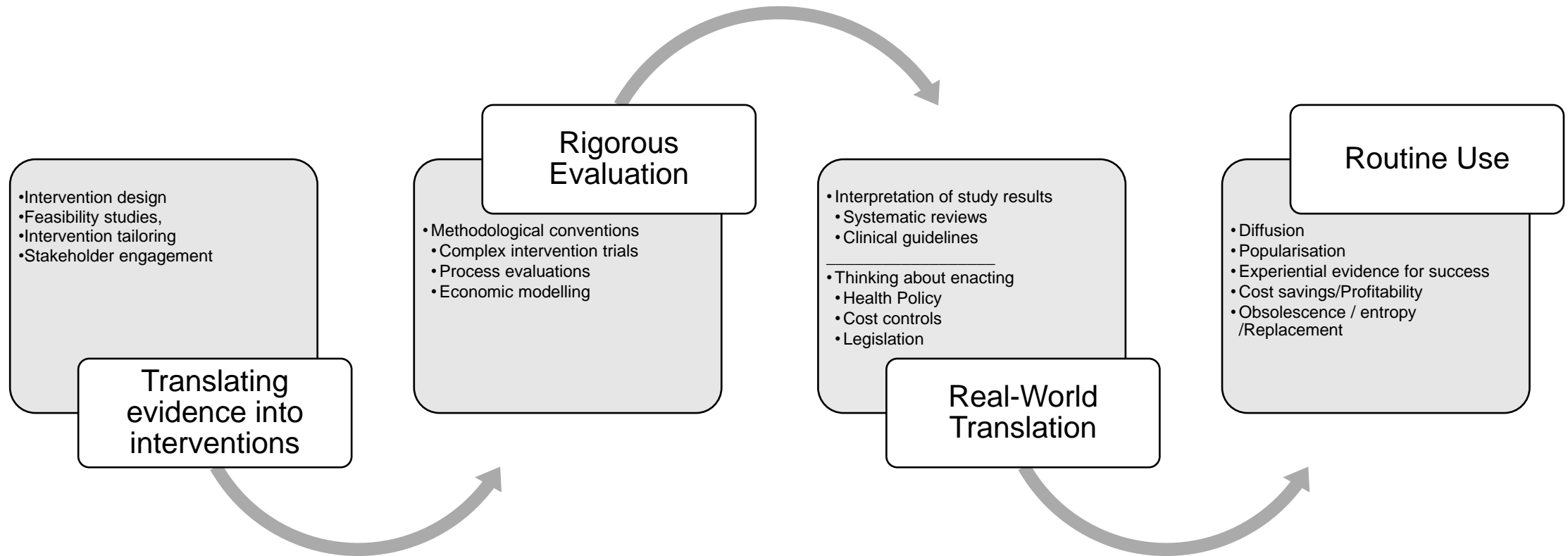
Intervention components:
ensembles of behaviours and practices formed around **objects and procedures.**

Rules and resources:
Changed norms and roles, informational and material resources shape practice and participants' **delegated accountabilities**

Interaction strategies:
Changed interactions and relationships between participants, and their **assumed capabilities**

Organizing logics:
Patterns of agreements and values that give cognitive authority to participants and **meaning to their actions**

Research (controlled) translation of evidence into practice is *procedural*



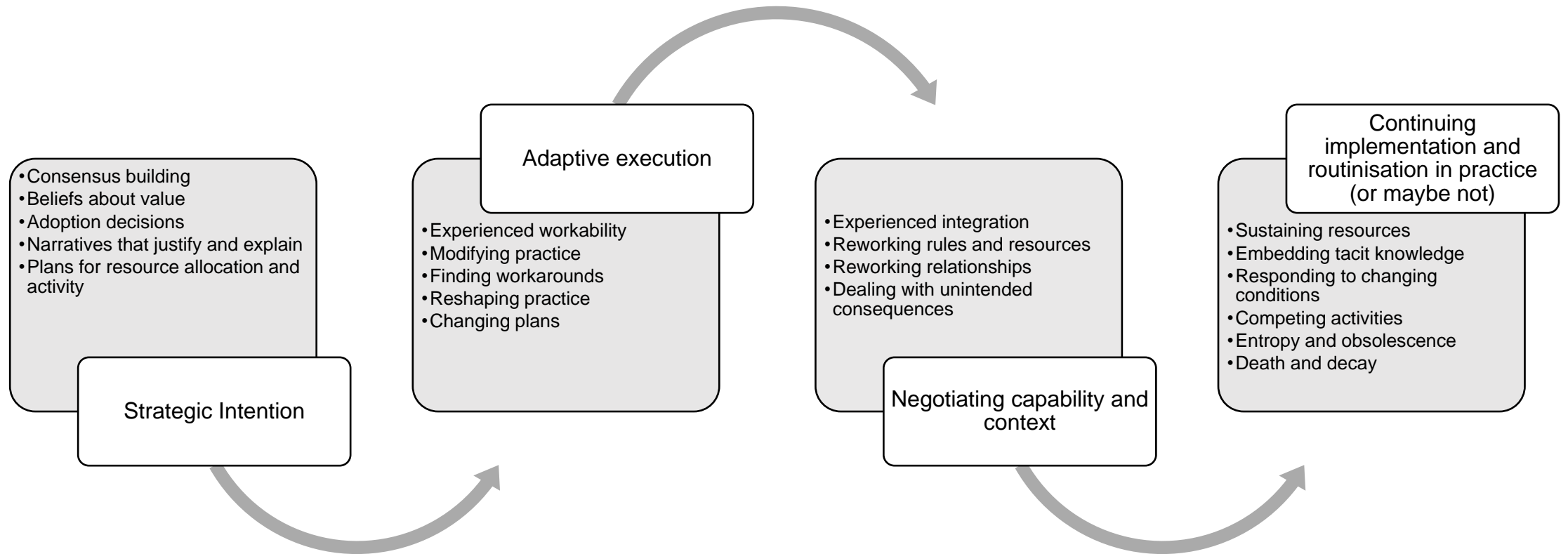
Implementation
projects (complex
interventions)
interact with messy
care environments
characterized by
complexity

But.....

‘[Care] is a complex adaptive system, meaning that the system’s performance changes over time and cannot be understood by simply knowing about the individual components. No other industry has the equivalent range and depth—such intricate funding models, the multiple moving parts, the complicated clients with diverse needs’.

Braithwaite, J. 2018. *BMJ*, 361.

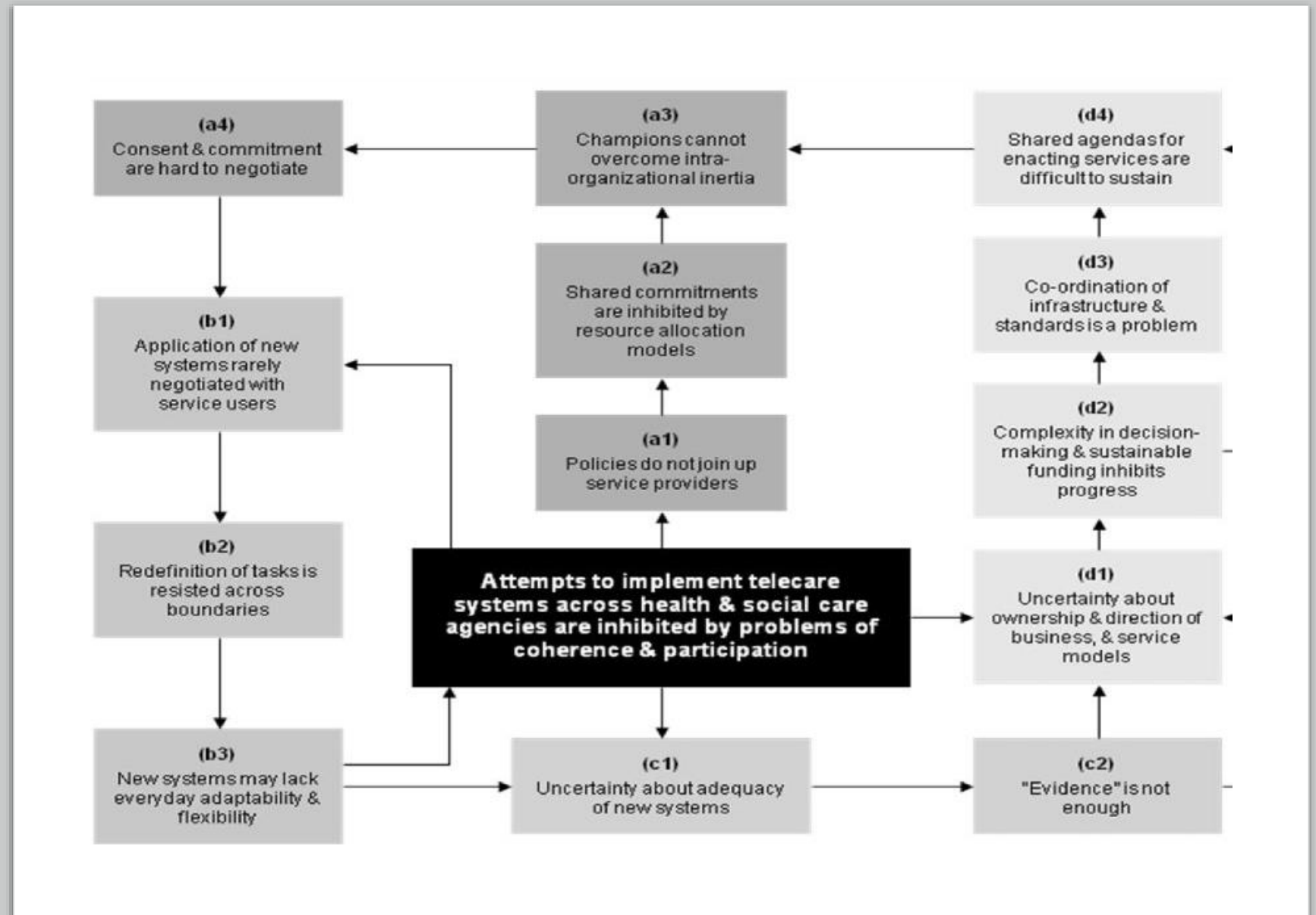
Real-world (uncontrolled) implementation pathways are messy, adaptive, and emergent



Example #1 Implementation is messy

A key task for intervention designers, evaluators, and users is to **simplify and impose order on messy complexity** and dynamic emergence

Example: telecare



RESEARCH ARTICLE

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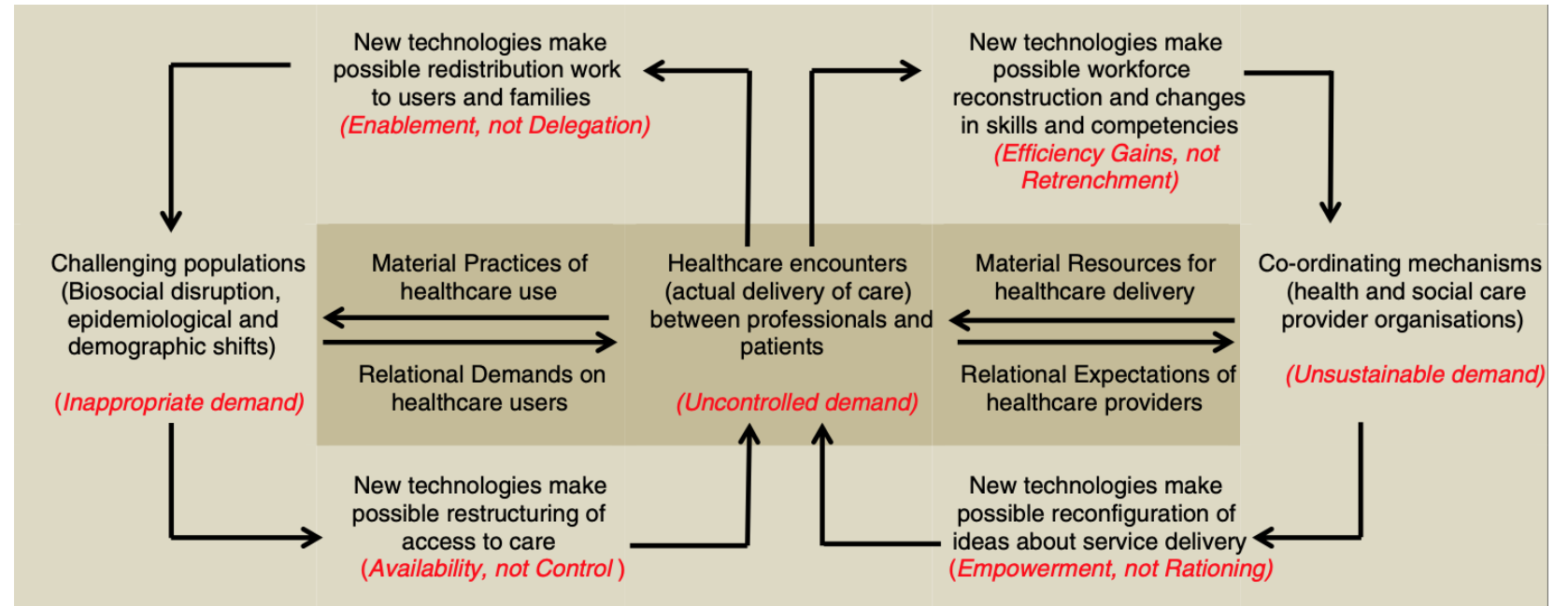
Integrating telecare for chronic disease management in the community: What needs to be done?

Carl R May¹, Tracy L Finch^{2*}, James Cornford³, Catherine Exley², Claire Gately⁴, Sue Kirk⁵, K Neil Jenkins⁶, Janice Osbourne⁷, A Louise Robinson⁷, Anne Rogers⁵, Robert Wilson⁸ and Frances S Mair⁹

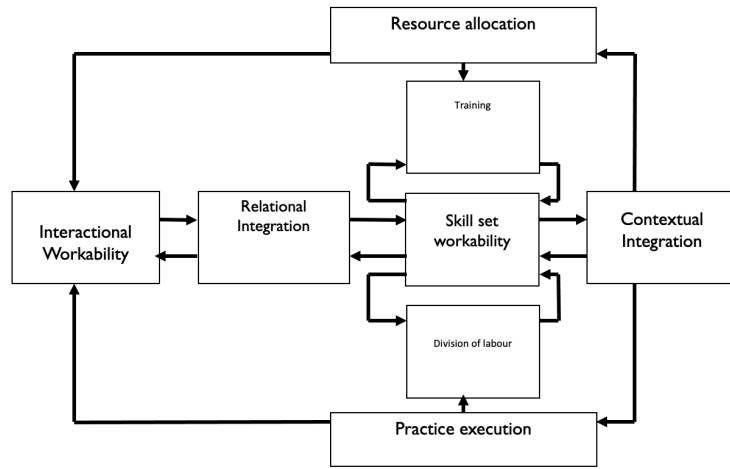
Example #2 Implementation is inherently political

Implementation processes restructure rules and resources, restructure interactions and relationships, change the logics of service delivery

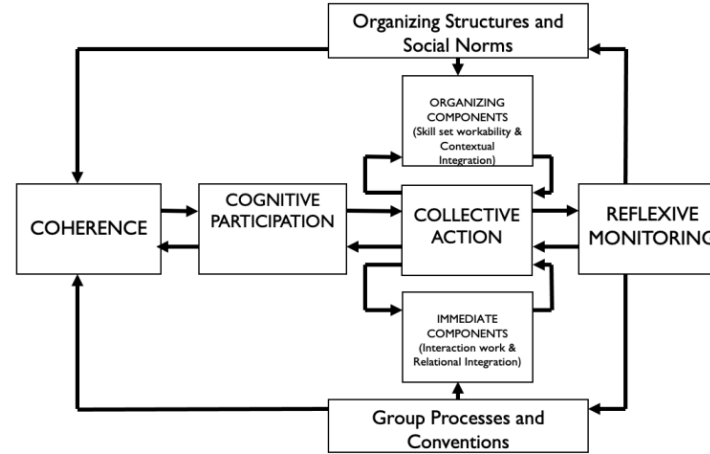
Example: telecare



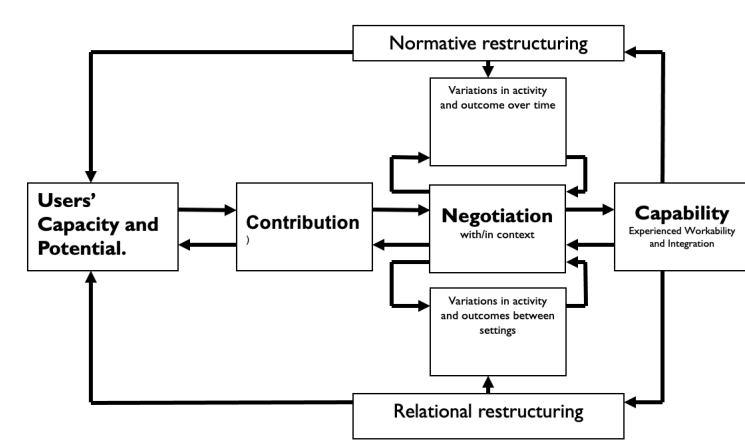
Micro (in use)



Meso (at work)



Macro (in context)



BMC Health Services Research

Research article

A rational model for assessing and evaluating complex interventions in health care

Carl May*

BMC Family Practice

Research article

Process evaluation for complex interventions in primary care: understanding trials using the normalization process model

Carl R May¹, Frances S Mair², Christopher F Dowrick³ and Tracy L Finch¹

BMC Health Services Research

Research article

Understanding the implementation of complex interventions in health care: the normalization process model

Carl May¹, Tracy Finch¹, Frances Mair², Luciana Ballini³, Christopher Dowrick⁴, Martin Eccles¹, Linda Gask⁵, Anne MacFarlane⁶, Elizabeth Murray⁷, Tim Rapley¹, Anne Rogers⁵, Shaun Treweek^{8,9}, Paul Wallace¹⁰, George Anderson², Jo Burns⁷ and Ben Heaven¹

Implementing, Embedding, and Integrating Practices: An Outline of Normalization Process Theory

Carl May
Newcastle University

Tracy Finch
Newcastle University

DEBATE Open Access

Normalisation process theory: a framework for developing, evaluating and implementing complex interventions

Elizabeth Murray¹, Shaun Treweek², Catherine Pope³, Anne MacFarlane⁴, Luciana Ballini⁵, Christopher Dowrick⁶, Tracy Finch¹, Anne Kennedy⁷, Frances Mair⁸, Catherine O'Donnell⁹, Bie No Ong¹⁰, Tim Rapley¹, Anne Rogers⁵, Carl May¹

Implementation Science

Research article

Development of a theory of implementation and integration: Normalization Process Theory

Carl R May¹, Frances Mair², Tracy Finch¹, Anne MacFarlane³, Christopher Dowrick⁴, Shaun Treweek⁵, Tim Rapley¹, Luciana Ballini⁶, Bie Nio Ong⁷, Anne Rogers⁸, Elizabeth Murray⁹, Glyn Elwyn¹⁰, France Légaré¹¹, Jane Gunn¹² and Victor M Montori¹³

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May Implementation Science 2013, 8:18
http://www.implementationscience.com/content/8/1/18



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Towards a general theory of implementation

Carl May

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Implementation, context and complexity

Carl R May^{1,2,3*}, Mark Johnson^{2,4} and Tracy Finch⁵

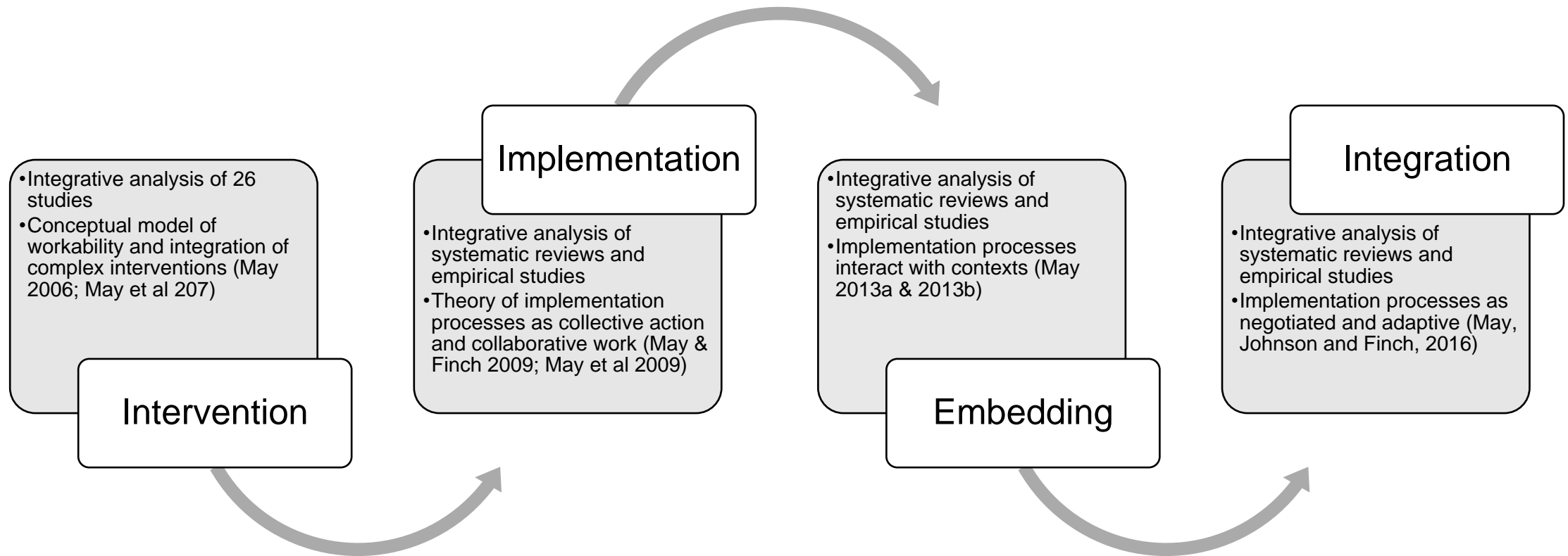
Abstract

Background: Context is a problem in research on health behaviour change, knowledge translation, practice implementation and health improvement. This is because many intervention and evaluation designs seek to eliminate contextual confounders, when these represent the normal conditions into which interventions must be integrated if they are to be workable in practice.

Discussion: We present an ecological model of the ways that participants in implementation and health improvement processes interact with contexts. The paper addresses the problem of context as it affects processes of implementation, scaling up and diffusion of interventions. We extend our earlier work to develop Normalisation Process Theory and show how these processes involve interactions between mechanisms of resource mobilisation, collective action and negotiations with context. These mechanisms are adaptive. They contribute to self-organisation in complex adaptive systems.

Conclusion: Implementation includes the translational efforts that take healthcare interventions beyond the closed systems of evaluation studies into the open systems of 'real world' contexts. The outcome of these processes depends

Development of Normalization Process Theory: empirically grounded, analytically iterative, independently tested



May, C., T. Rapley, and T. Finch (2020), *Normalization Process Theory*, In P. Nilsen and S. Birken, Eds *International Handbook of Implementation Science*, (Edward Elgar: London).

Normalization Process Theory is *all about the work*

May, C. and T. Finch, *Implementing, embedding, and integrating practices: an outline of normalization process theory*. *Sociology*, 2009. **43**(3): p. 535-554

the work that actors do as they engage with some ensemble of activities (that may include new or changed ways of thinking, acting, and organizing) and by which means it becomes routinely embedded in the matrices of already existing, socially patterned, knowledge and practices

the social organization of the work (implementation), of making practices routine elements of everyday life (embedding), and of sustaining embedded practices in their social contexts (integration).

(...) By work we mean purposive social action that involves the investment of personal and group resources to achieve goals. (. . .)

What does Normalization mean?

‘The trouble with telemedicine is that it doesn’t work. The name tells you that. If it worked, it would just be called medicine.’

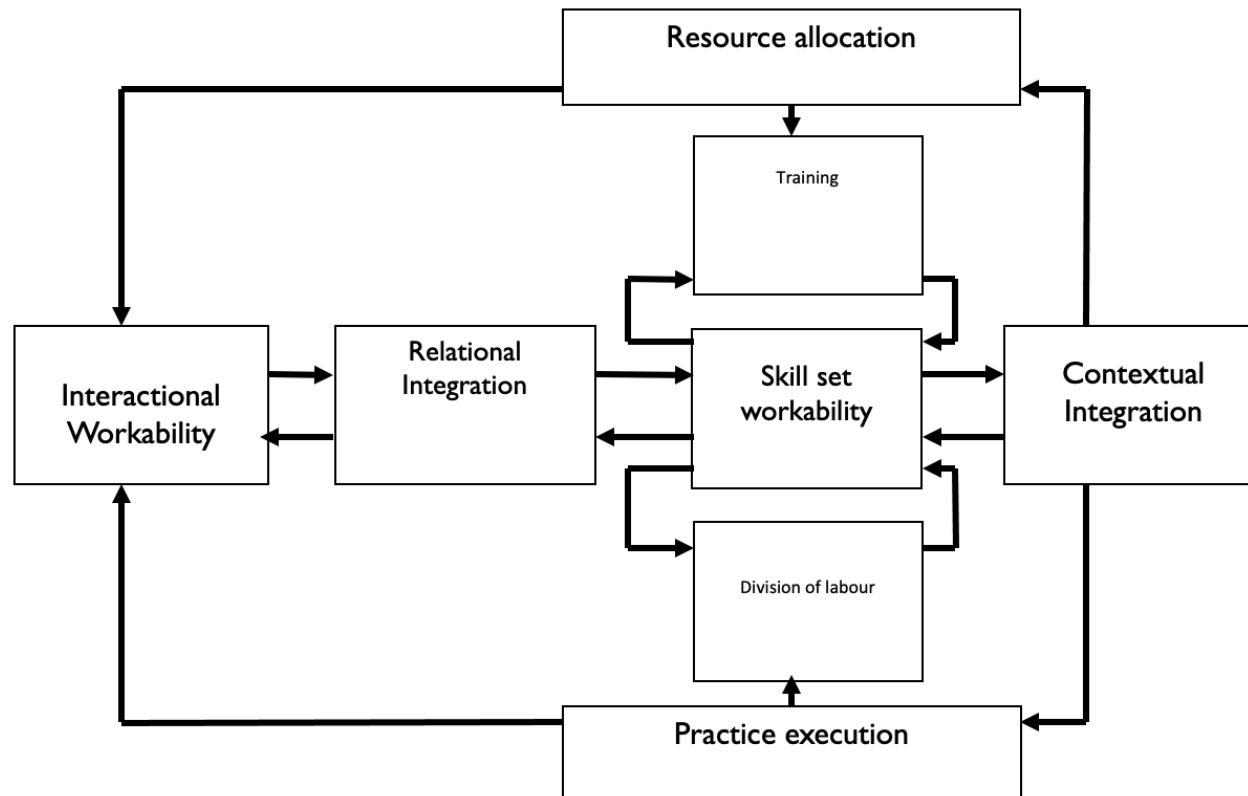
May, C., T. Rapley, and T. Finch, (2020) *Normalization Process Theory*, in *International Handbook of Implementation Science*, P. Nilsen and S. Birken, Editors. Edward Elgar: London.

- Routine incorporation in everyday practice
- ‘It’s just how we do things around here’
- Normalization is only one of many possible outcomes of implementation processes



2. Thinking through implementation with Normalization Process Theory.

Micro-level: understanding *properties of the intervention*



- **Interactional workability:** capabilities that *enable* participants in an implementation process to operationalise intervention components in practice.
- **Skill-set workability:** capabilities that *equip* participants in an intervention process to perform the work associated with intervention components, and which are distributed in a division of labour.
- **Relational integration:** capabilities that *promote* knowledge about intervention components within networks of participants in an implementation process, and which mediate trust and confidence.
- **Contextual integration:** capabilities that *support* intervention components through resource allocation and mobilisation, and that link them to their contexts of action.

Example #3

Development and implementation of goals of care plans for end of life and loss of capacity

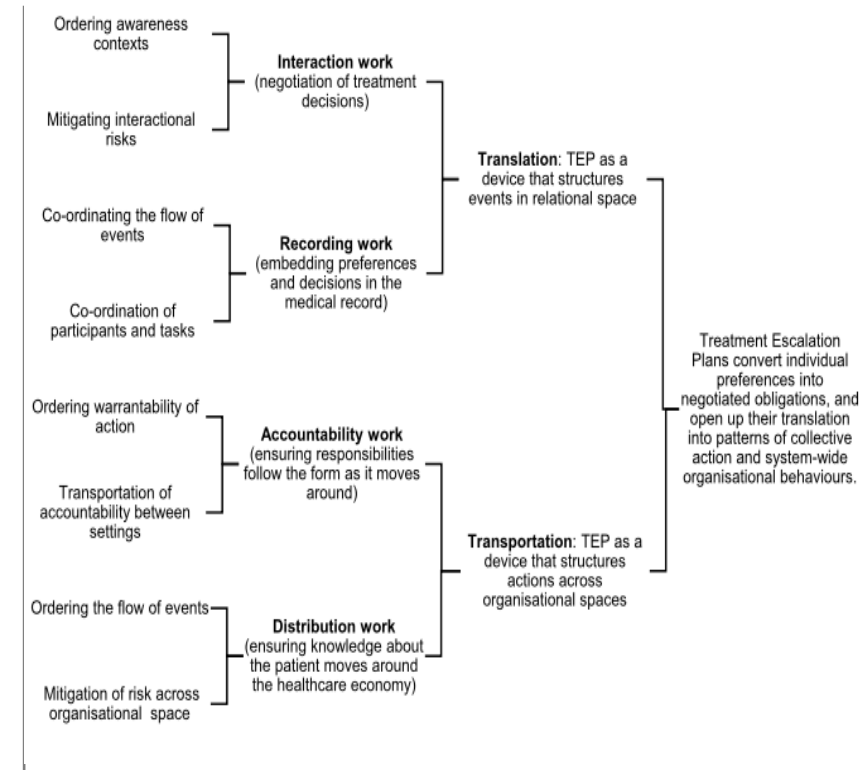
1. Scoping review identified key barriers to implementation using NPT .



2. Study of patient trajectories identified key intervention points.

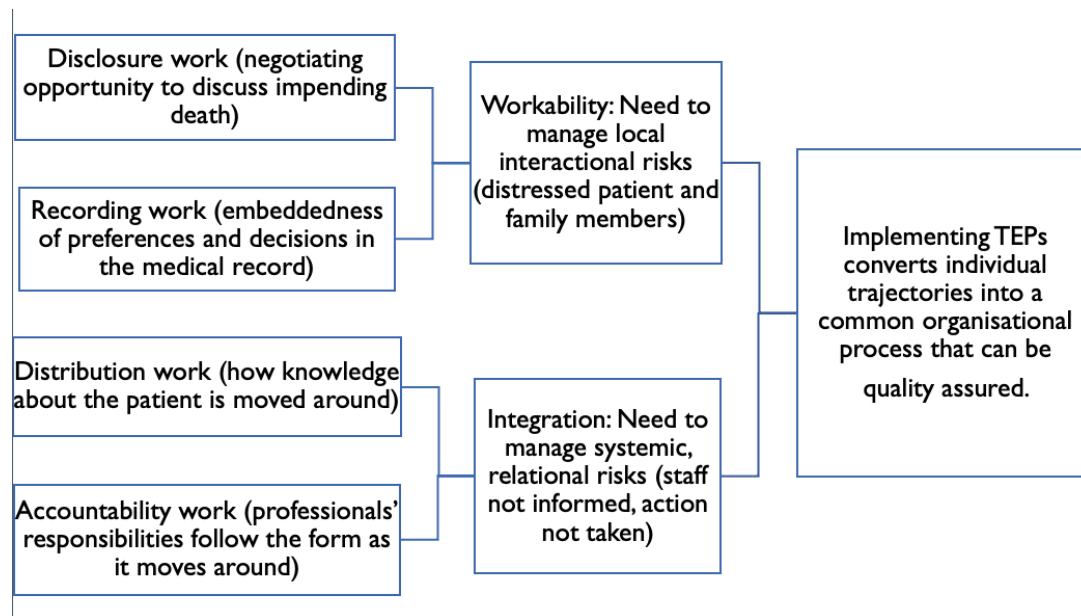


3. Implementation study analyzed real-world workability and integration through the lens of NPT

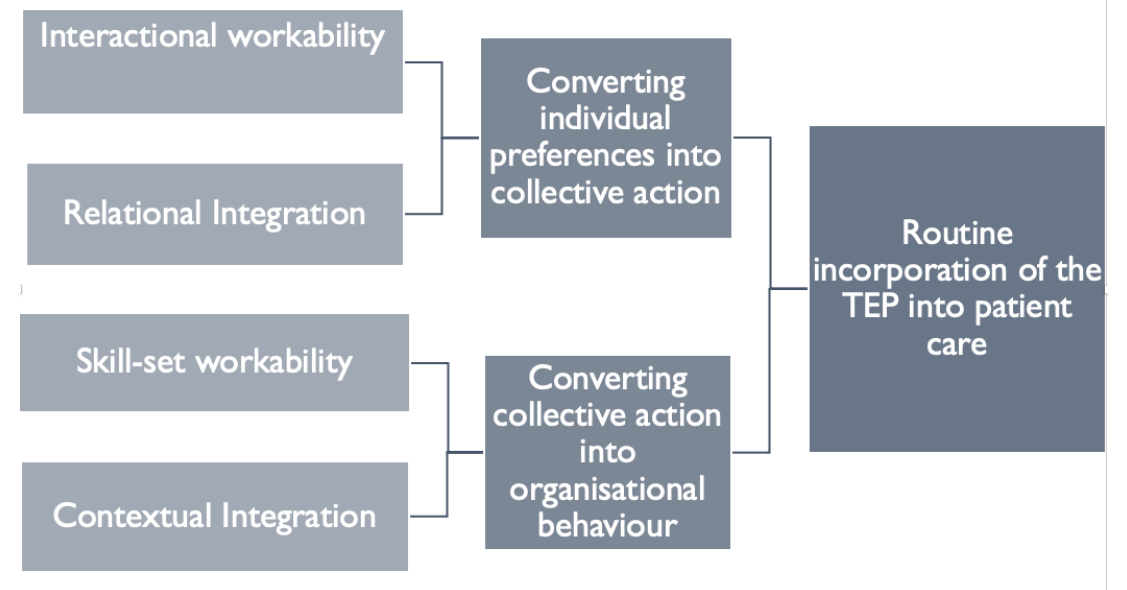


Decision-making about care at end of life

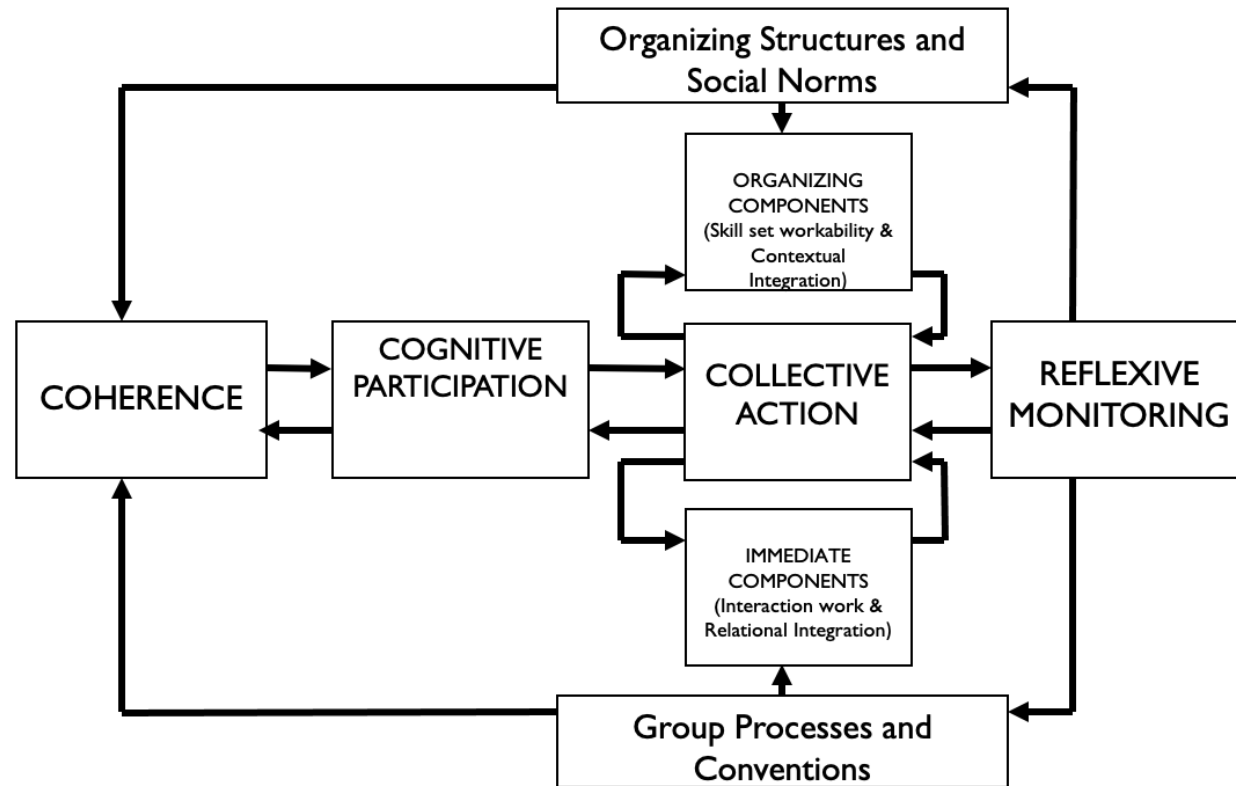
Treatment Escalation Plans. What work they do they make possible?



Treatment Escalation Plans. What matters about the intervention?



Meso-level: implementation is *collaborative work and collective action*



- **Coherence-building** that makes interventions and their components *meaningful*: participants contribute to enacting intervention components by working to make sense of its possibilities within their field of agency
- **Cognitive Participation** that forms *commitment* around an intervention and its components. This work frames how participants become members of a specific community of practice.
- **Collective Action** through which *effort* is invested in an intervention and its components: This work frames how participants realize and perform intervention components in practice.
- **Reflexive Monitoring** through which the effects of an intervention and its components are *appraised*: through work that assembles and appraise information about their effects and utilize that knowledge to reconfigure social relations and action.

Example #4

Implementing nutrition guidelines for residents in assisted living facilities.

Aim: Optimizing the dietary intake of older people to prevent nutritional deficiencies and diet-related diseases, thereby improving quality of life.

Methods: Process evaluation in five care homes in the north of England using qualitative methods (observation and interviews)

Bamford et al. *Implementation Science* 2012, 7:106
<http://www.implementationscience.com/content/7/1/106>



RESEARCH

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Implementing nutrition guidelines for older people in residential care homes: a qualitative study using Normalization Process Theory

Claire Bamford^{1*}, Ben Heaven¹, Carl May² and Paula Moynihan³

Results: Staff perceived the guidelines as restrictive and irrelevant to older people. The guidelines simply did not make sense (coherence), to users and cognitive participation (legitimacy) was low. Implementation was hampered by a lack of nutritional knowledge and institutional support (collective action). The absence of observable benefits to clients confirmed the negative preconceptions of many staff. *Negative reflexive monitoring*).

Conclusions: The successful implementation of the nutrition guidelines requires that the fundamental issues relating to their perceived value and fit with other priorities and goals be addressed.

Analysis: **frameworks** of real and ideal conditions – identification of theory-based strategies to promote implementation of new menus for older people in residential care & strategies to promote change

Table 3 Coherence—real and ideal conditions for making sense of nutrition guidelines

Real conditions	Ideal conditions	Strategies to promote coherence
Value of external guidelines questioned	Recognition that external guidelines may be a useful resource	Shift from <i>implementing</i> the nutrition guidelines to <i>moving towards</i> the guidelines
Perceived incompatibility with existing goals and priorities	Understanding of ways of improving nutrition while still offering choice and recognizing the emotional and cultural aspects of food and mealtimes	Change study title (from <i>Healthier Eating in Care Homes</i> to <i>Eating for Well-being in Care Homes</i>) Keep local and traditional dishes on the menu (adapting recipes rather than menus) Focus on occasional treats
Scepticism over the value of changing the diet of care home clients	Recognition of potential benefits to clients	Provide data emphasizing the short-term benefits to clients Briefing meetings to introduce the nutrition guidelines to all staff

Table 4 Cognitive participation—real and ideal conditions for investing in nutrition guidelines

Real conditions	Ideal conditions	Strategies to promote cognitive participation
Varied views on existing menus	Scope for improving existing menus widely recognized	Provide feedback on nutritional content of baseline menus Highlight role of modified menus in managing diabetes
Perceived threats to autonomy and expertise	Control over pace, extent, and nature of changes to menus/recipes	Delegate responsibility for drafting revised menus/recipes to cooks Provide training for all staff
Lack of leadership for implementation	Key individuals take a lead role in creating and sustaining momentum for change Active support of senior managers with practical issues and in managing any negative feedback on changes	Extend principle of ownership by involving care staff in the process of menu development

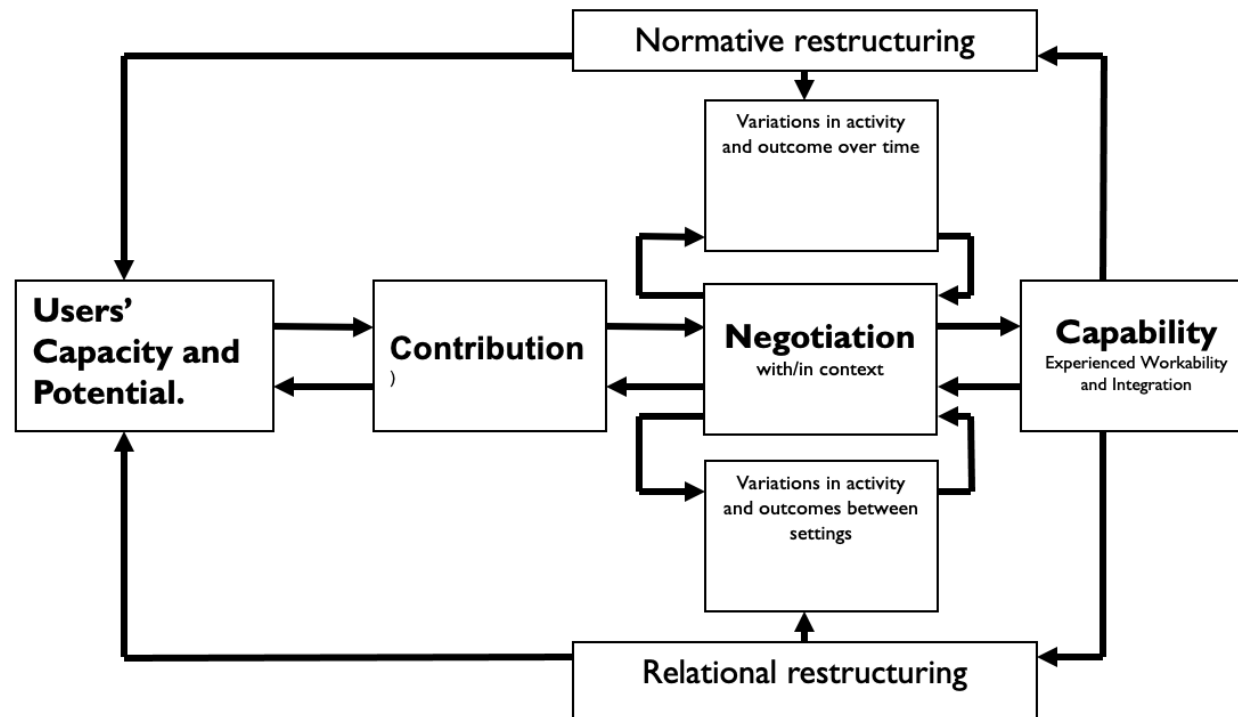
Table 5 Collective action—real and ideal conditions for implementing nutrition guidelines

Real conditions	Ideal conditions	Strategies to promote collective action
Inadequate knowledge of nutritional content of foods among cooks and care staff	Consistent understanding of nutritional content of foods, the principles of menu development, and strategies for adapting recipes	Provide detailed training for cooks Provide basic training for care staff Access to study dietitian to support changes
Additional workload absorbed by existing resources	Employment of supernumerary staff to manage additional workload Dedicated time for existing cooks to work on menu development	Negotiate with County Council for payment for cooks for time spent on menu development
Complex and unreliable procurement systems	Adjust procurement systems to ensure access to required ingredients/foods Provide starter pack for homes containing small quantities of new products	Liaise with County Council to revise supply list Provide cooks with codes of preferred ingredients/foods
Inconsistent systems for monitoring implementation (reflected in variable practice between cooks)	Consistent, agreed-upon approach between cooks Monitoring of implementation	Engage all cooks in training and drafting revised menus/recipes Provide feedback on nutritional content of baseline and modified menus See strategies for improving coherence and cognitive participation

Table 6 Reflexive monitoring—real and ideal conditions for appraising nutrition guidelines

Real conditions	Ideal conditions	Strategies to promote reflexive monitoring
Emphasis on adverse events and lack of systematic feedback on impacts of nutrition guidelines	Access to information on a wide range of outcomes (e.g., waste, falls)	See strategies for improving coherence and cognitive participation (see Table 3 and 4)
Feedback from clients to cooks mediated by care staff (and potentially contaminated by their own views of the nutrition guidelines and modified menus)	Direct feedback from clients to cooks	Provide “taster” sessions as a way of involving clients and obtaining feedback Encourage care staff to separate their own views from those of clients
Lack of information on nutrition profile of modified menus	Comparative information on nutrition profile of baseline and modified menus available	Provide feedback comparing nutrition profile of baseline and modified menus
Cooks lack confidence in adapting menus and recipes (particularly in ways that are acceptable to clients)	Cooks have skills and confidence to update menus and dishes in ways that are consistent with principles underlying the nutrition guidelines and acceptable to clients	Provide training in principles underlying the nutrition guidelines Provide taster sessions for clients

Macro-level: interventions are *enacted in context*



- **Capability** (micro-level) experienced workability and integration of the possibilities presented by an intervention
- **Potential** (macro-level) social cognitive resources mobilized and enacted by participants
- **Capacity** (macro-level) social structural resources mobilized and enacted by participants.
- **Contribution** (meso-level) ensembles of enacted practices visible as the work that participants do around an intervention.

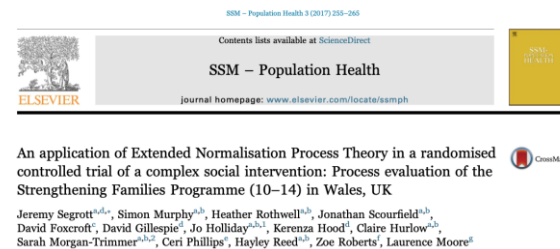
Example #5

Supporting families at risk of substance misuse

- Theory-informed complex intervention



- Theoretically informative evaluation



- Delay initiation and prevent subsequent adolescent substance use through an intervention intended to strengthen family protective factors.

‘Family-based programmes are complex interventions, with multiple components designed to work synergistically.’

Segrott et al's analysis models and maps relationships between theory-defined factors affecting implementation and outcomes.

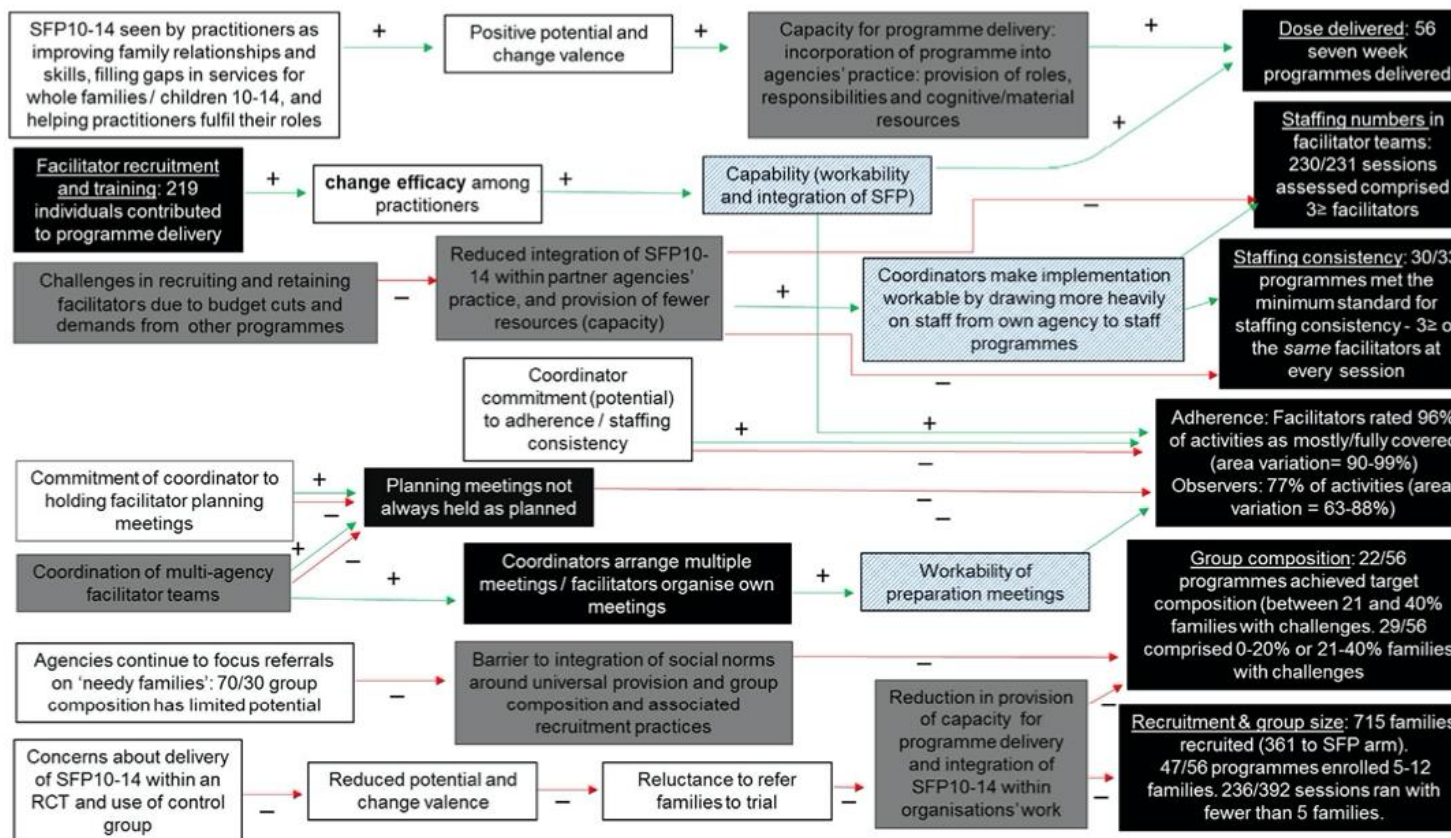


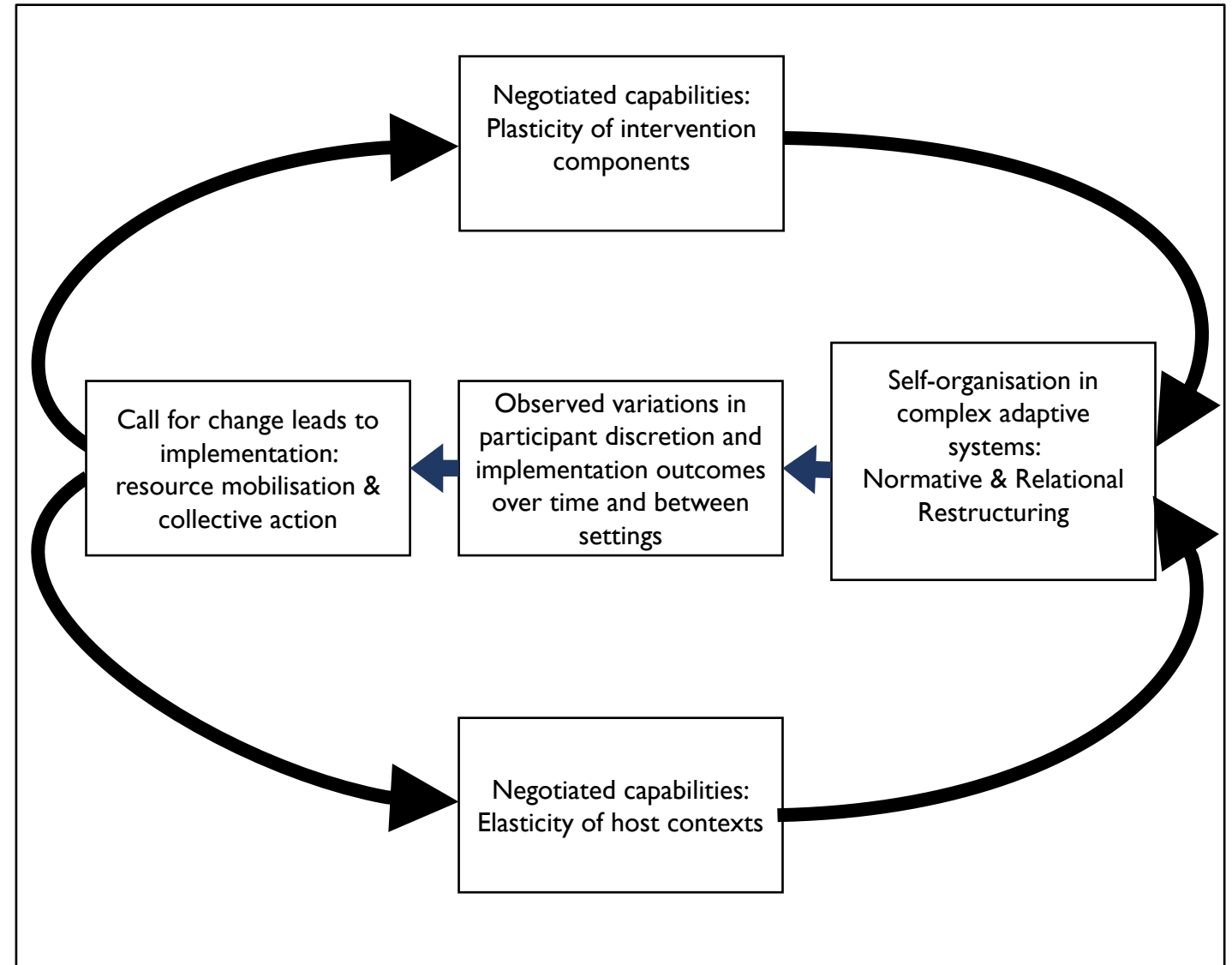
Fig. 2. : Summary of main results: Implementation of intended programme inputs/activities using ENPT as an organising framework to understand key influences. ENPT components: potential (white boxes); capacity (grey boxes); capability (patterned boxes); contribution (black boxes). Processes aligned with SFP 10–14 logic model (Fig. 1) are shown in green (+). Those which may reduce/disrupt alignment are shown in red (-). Underlined terms are planned inputs/programme activities in Fig. 1. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

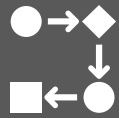
Marge de Manoeuvre Or, why *wiggle room* matters

All implementation processes involve negotiation and lead to restructuring of rules, resources, and relationships.

Wiggle room is needed to make this possible, and implementation involves two kinds of stretching and straining:

- Interventions that are not **plastic** enough to be made to fit in their context will struggle.
- Contexts that are not **elastic** enough to allow an intervention to fit will struggle.

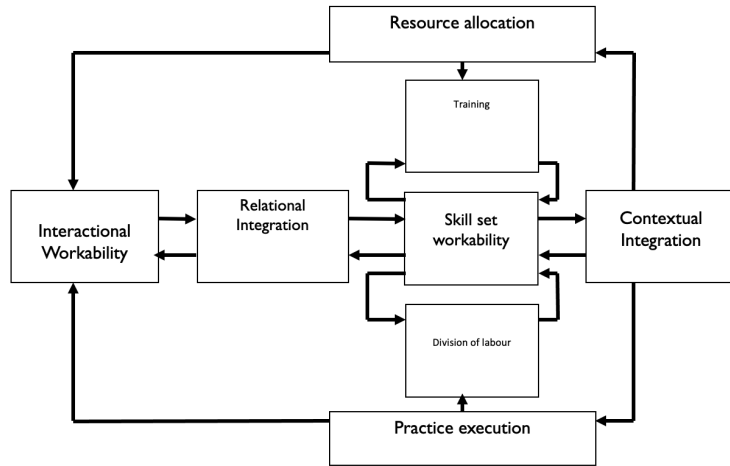




3. Normalization Process Analysis in practice

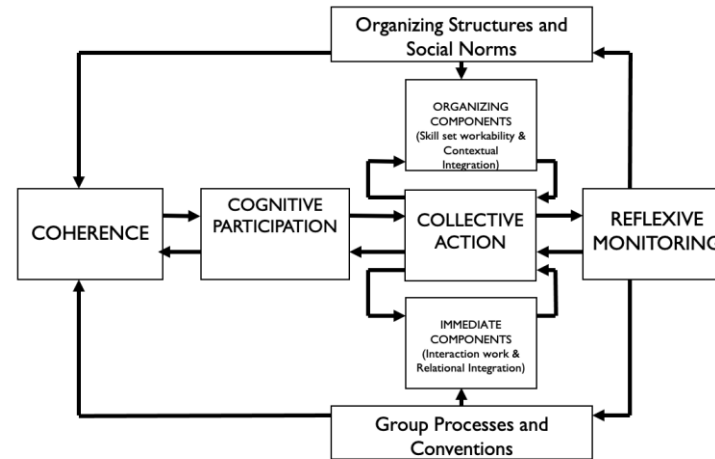
Micro

(in use)



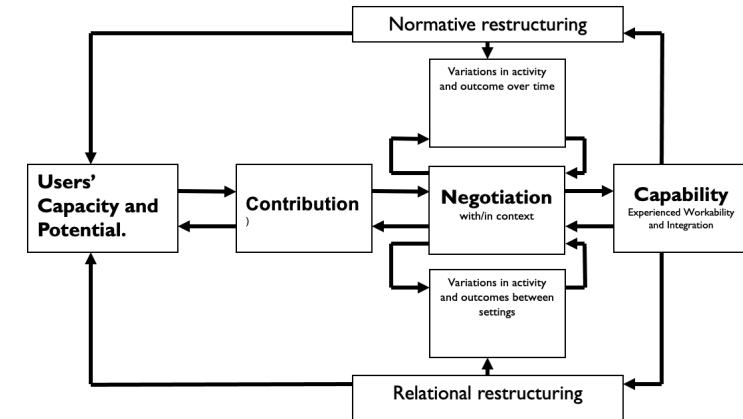
Meso

(at work)



Macro

(in context)



NPT focuses on action, but considers this at different levels of analysis – enables us to think through interventions, implementation, and negotiations with contexts

Theoretically
informed
design,
development,
and
evaluation,
have practical
purposes

To provide a rational (and empirically supported) framework for action

To offer robust and rigorously developed strategies for success

To explain why, how, and for whom, complex interventions work

To support transferability and generalization of interventions in practice

Thinking through implementation with the NPT Toolkit

- Free to use at www.normalizationprocess.org
- A tool to think through implementation processes

Normalization Process Theory

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NPT Toolkit NoMAD Study What is NPT? How do you use NPT? Theory behind NPT

NPT Toolkit

This is the interactive NPT toolkit.

It contains 16 questions for thinking through an implementation problem.

To understand how to use it, [click here](#), for an explanation and a powerpoint presentation that you can download and use collaboratively.

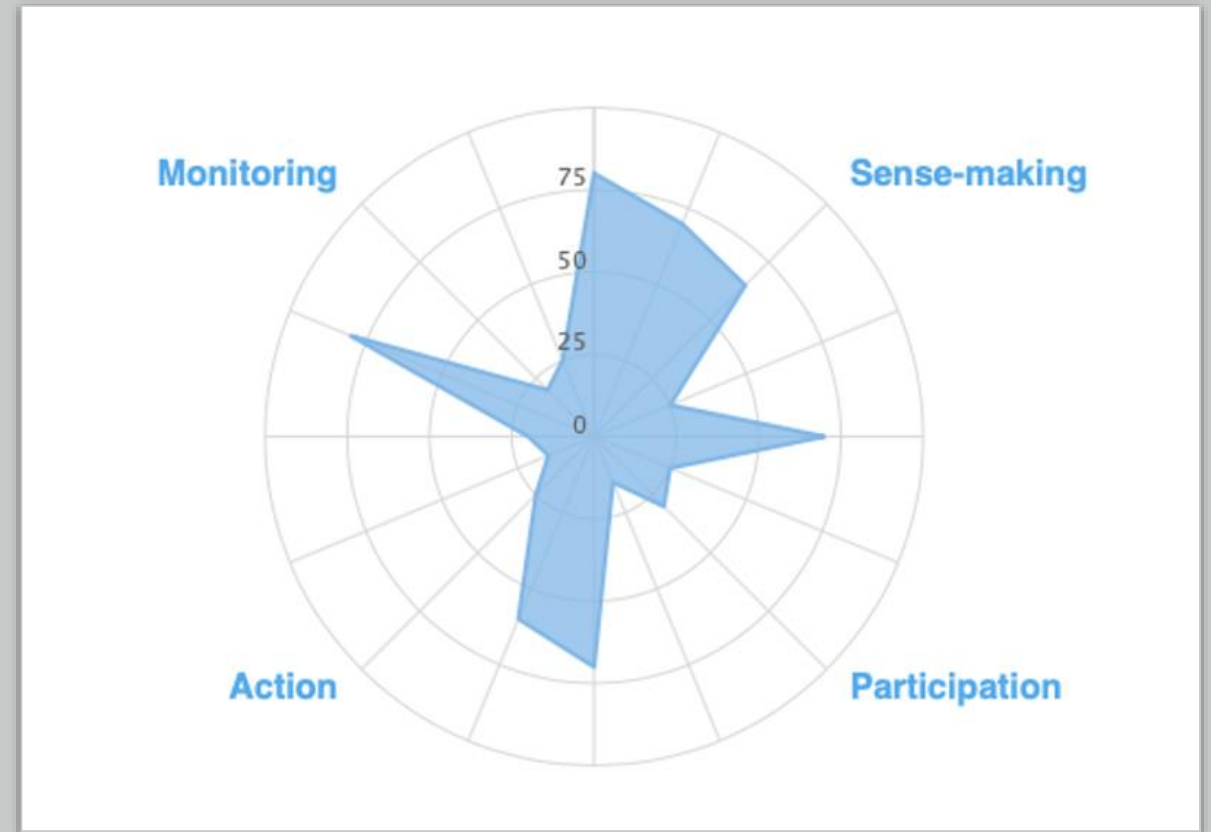
1. Participants distinguish the intervention from current ways of working.

Not at all Completely

Whether the intervention is easy to describe to participants and whether they can appreciate how it differs or is clearly distinct from current ways of working.

2. Participants collectively agree about the purpose of the intervention.

Not at all Completely



Normalisation process theory: a framework for developing, evaluating and implementing complex interventions

Elizabeth Murray^{1*}, Shaun Treweek², Catherine Pope³, Anne MacFarlane⁴, Luciana Ballini⁵, Christopher Dowrick⁶, Tracy Finch⁷, Anne Kennedy⁸, Frances Mair⁹, Catherine O'Donnell⁹, Bie Nio Ong¹⁰, Tim Rapley⁷, Anne Rogers⁸, Carl May¹¹

Normalization Process Analysis can be applied *at the design and feasibility testing phase in study design* in large complex intervention studies.

Can be integrated with participatory and experience-based co-design and co-production models to ensure workability and integration.

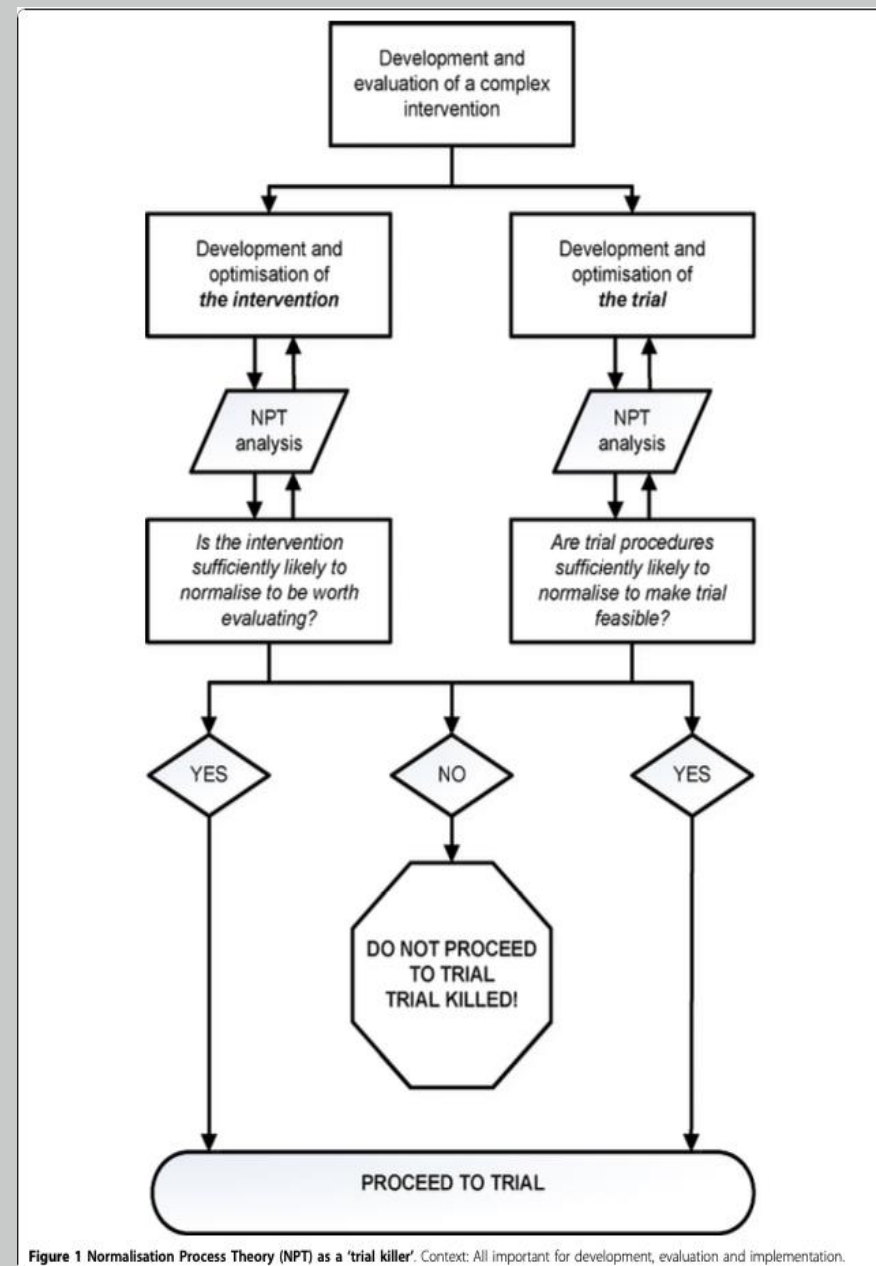


Figure 1 Normalisation Process Theory (NPT) as a 'trial killer'. Context: All important for development, evaluation and implementation.

Conclusion

- **NPT accurately characterizes important elements of implementation processes and the constructs of the theory can be applied in a stable and consistent way within and between studies.**
- **NPT has provided conceptual and practical tools for feasibility studies and process evaluations of complex healthcare interventions.** It has successfully explained the outcome of such intervention studies.
- **NPT can be applied flexibly,** and can be understood and mobilised by researchers and practitioners with diverse professional backgrounds, working across a variety of healthcare settings.

Disclaimer

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The views expressed in this presentation are those of the author alone, and not necessarily those of:

- *co-investigators & co-authors;*
- *research funding agencies;*
- *healthcare provider organizations;*
- *government departments*

involved in these studies, in the UK or in other countries.



Thank you!

- Want to follow up anything I've said?

- Follow me on Twitter:

Carl May 🍌
@CarlRMay

Prof of Medical Sociology. Love my job. Researches #STS, #NPTheory, #ImpSci, Mentors Postgrads/Postdocs. Proud to work at @LSHTM. Views mine/RTs=endorsements.

- Email me: carl.may@lshtm.ac.uk