

# Theorizing the embedding of practice: ethnographic interpretation and qualitative meta-synthesis in the application of Normalization Process Theory



Carl May PhD

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## My empirical research has focused on ...

### Interaction

(*individualized knowledge*)

Interaction processes,  
boundaries of relations,  
genetics, rheumatology, terminal  
care

### Innovation

(*intervention trajectories*)

Informatics, telemedicine,  
shared-decision-making tools,  
medical devices.

### Chronicity

(*illness trajectories*)

Back Pain, cancer, diabetes,  
medically unexplained  
symptoms, menorrhagia

### Evidence

(*generalized knowledge*)

Randomized trials, pragmatic  
evaluations, guideline  
development.

## My empirical research has mainly utilized qualitative research

Ethnographic research on complex organizational settings and policy processes in health care

Discourse analytic research on professional and patient experiences

Explanatory systematic reviews, linking theory to rigorous analysis of the literature

Theory-building studies, developing robust explanations for social processes.

## What is implementation?

- Implementation includes *any* deliberately initiated attempt to introduce new, or modify existing, patterns of collective action in health care or some other formal organizational setting.
- Deliberate initiation means that an intervention is: institutionally sanctioned; formally defined; consciously planned; and intended to lead to a changed outcome.
- Participants may seek to modify the ways that people think, act and organize themselves or others, they may seek to initiate a process with the intention of creating a new outcome.

## What is implemented?

### Interventions

- may be intended to change *behaviour* and its intended *outcomes* (e.g. strategies for making ‘expert patients’; or using telemedicine systems)
- may be intended to change *expertise* and *actions* (e.g. devices; or decision-making tools and clinical guidelines)
- may be intended to change the *procedures* enacted to achieve *goals*. (e.g. electronic health records, ordering systems)

There is nothing so practical as a good theory

*Kurt Lewin*

More than 60 theories, models, and frameworks relevant to implementation are available to practitioners and researchers\*

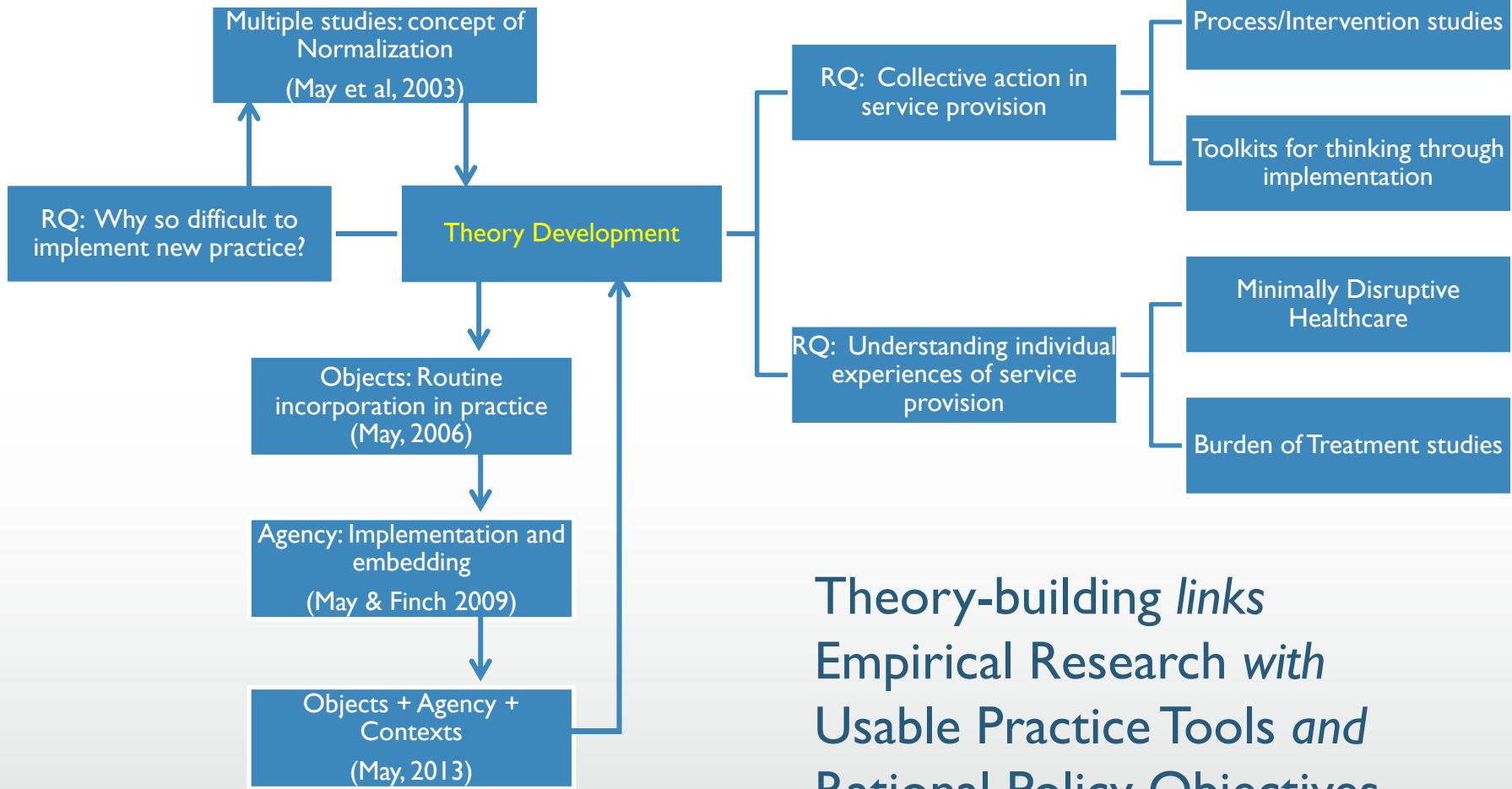
- Focus on attributes of organizations and policy environments (inner and outer contexts), reflects influence of *diffusion* models.
- Heavy emphasis on individual differences (attitudes and intentions), reflects influence of psychological *individualism*.
- Much less interest in implementation processes

\* Tabak RG, Khoong EC, Chambers DA, Brownson RC: **Bridging Research and Practice: Models for Dissemination and Implementation Research.** Am J Prev Med 2012, **43**(3):337-350.

# Why build new theory?

- robust social science theories already explain
  - individual differences in attitudes to new technologies and practices (e.g. Theory of Planned Behavior)
  - the flow of innovations through social networks (e.g. Diffusion of Innovations Theory and related frameworks).
  - reciprocal relations between people and things (e.g. Actor Network Theory)
- Peculiar absence of a theory of implementation, embedding and integration:  
*an implementation theory shaped hole in implementation science.*

- My aim: to build a robust and empirically grounded theoretical framework for understanding implementation processes



*Theory-building links  
Empirical Research with  
Usable Practice Tools and  
Rational Policy Objectives*



DEBATE

Open Access

# Towards a general theory of implementation

Carl May

## Abstract

Understanding and evaluating the implementation of complex interventions in practice is an important problem for who must operationalize them beyond formal on theory that provides a foundation for nplementation processes. This paper sets out core

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

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## ABSTRACT

Understanding the processes by which practices become norm

# BMC Health Services Research

Research article

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

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## Normalization Process Model (May 2006, May et al 2007)

- **Iteration I.** Formal (grounded) theory of the routine incorporation of complex interventions into everyday practice (focusing on the capabilities afforded by complex interventions).

May, C., 2006. A rational model for assessing and evaluating complex interventions in health care. *BMC Health Services Research*. 6, 1-11

May, C., et al., 2007. Understanding the implementation of complex interventions in health care: the normalization process model. *BMC Health Services Research*. 7.

## How users interact with interventions – characterizes *capability*

**Interactional workability:**  
**defines how a complex intervention is practically operationalized by the people using it**

**Relational integration:** defines knowledge and work about a complex intervention is mediated and understood within networks.

**Skill-set workability:** defines the distribution and conduct of work associated with a complex intervention in a division of labour

**Contextual integration:** the realization of resources of a complex intervention within an organizational domain.

## Normalization Process Theory (May & Finch 2009; May et al 2009)

- **Iteration 2.** Formal (middle-range) theory of the implementation, embedding, and integration of ensembles of practices in their social matrices (focusing on the expression of individual and collective agency).

May, C., Finch, T., 2009. Implementation, embedding, and integration: an outline of Normalization Process Theory. *Sociology*. 43, 535-554.

May, C., et al., 2009. Development of a theory of implementation and integration: Normalization Process Theory. *Implementation Science* 4.

Core constructs: characterize how social mechanisms focus agentic investments – characterizes agentic *contribution*\*

**Coherence:** defines and organizes the components of a complex intervention

**Collective Action:** defines and organizes the enacting of a complex intervention

**Cognitive Participation:** defines and organizes the people implicated in a complex intervention

**Reflexive Monitoring:** defines and organizes assessment of the outcomes of a complex intervention

## Extended Normalization Process Theory (May 2013a; May 2013b).

- **Iteration 3** General theory of implementation of ensembles of practices in complex social systems (focusing on the relationship between dynamic features of contexts, individual and collective agency, and the capabilities afforded by ensembles of social practices).

May, C., 2013. Towards a general theory of implementation. *Implementation Science*. 8, 18

May, C., et al., 2013 The nursing work of hospital-based clinical practice guideline implementation: An explanatory systematic review using Normalisation Process Theory. *International Journal of Nursing Studies*. In Press.

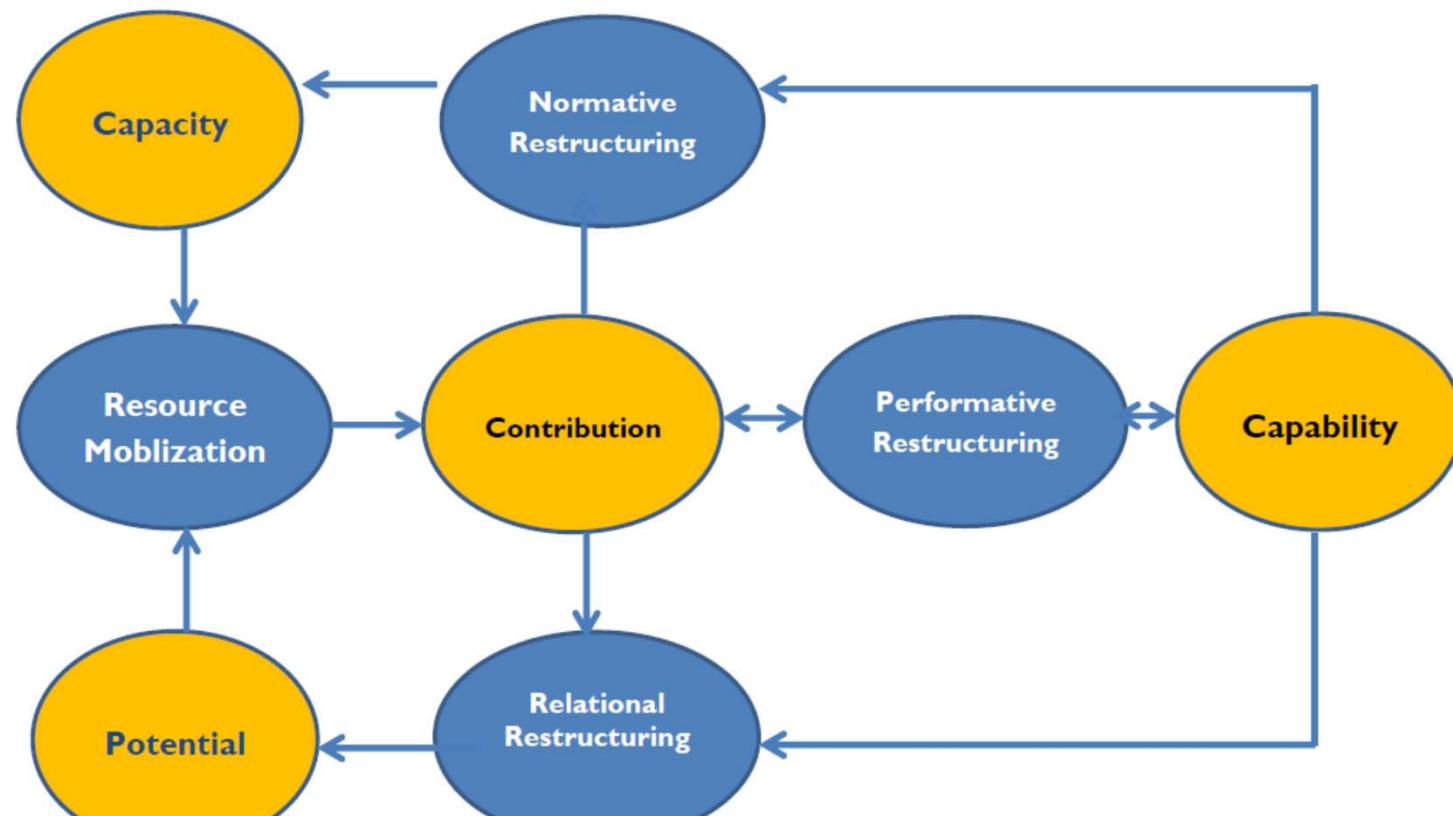
## Relationships between capability, contribution and context\*

Capacity: social structural resources (norms, roles) available to agents

Contribution: agency expressed through coherence; participation; action; monitoring

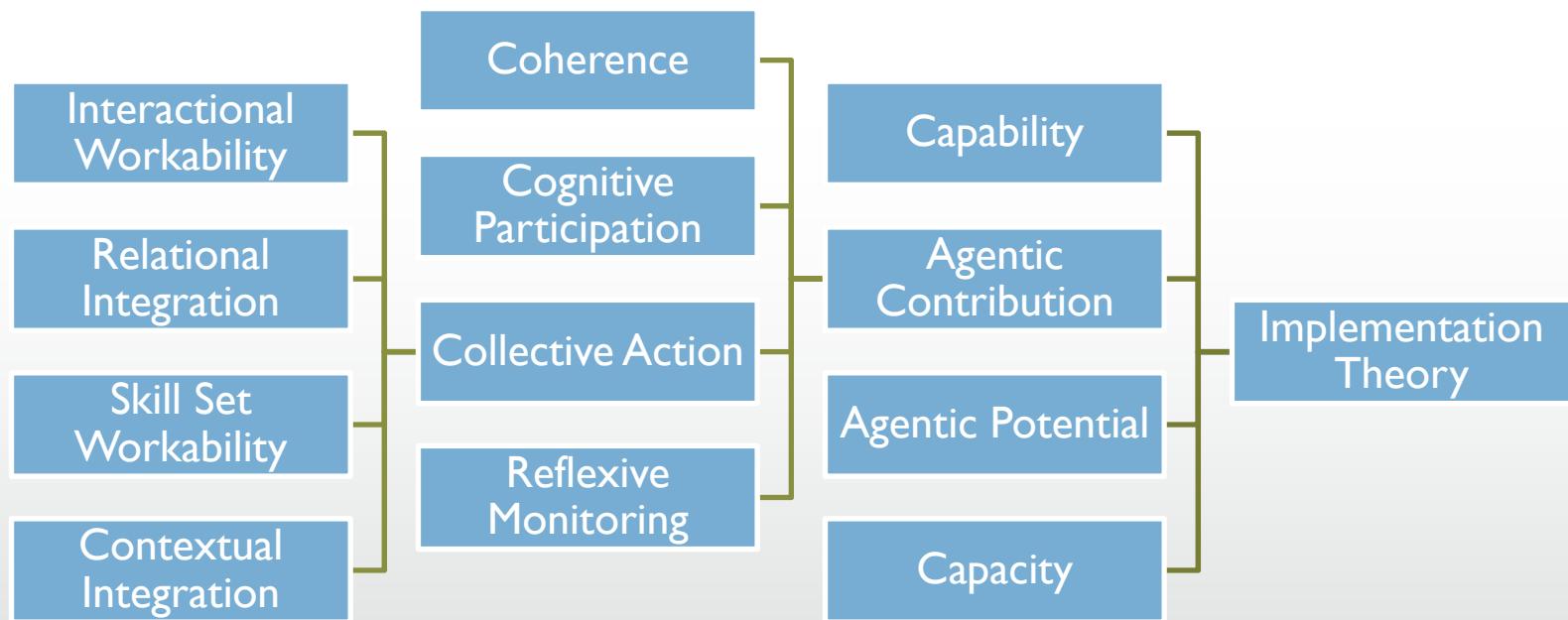
Potential: social cognitive resources (intentions, commitments) available to agents

Capability: workability and integration of the implementation object



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# Hierarchy of constructs





## **Factors that promote or inhibit the implementation of e-health systems: an explanatory systematic review**

Frances S Mair,<sup>a</sup> Carl May,<sup>b</sup> Catherine O'Donnell,<sup>a</sup> Tracy Finch,<sup>c</sup> Frank Sullivan<sup>d</sup> & Elizabeth Murray<sup>e</sup>

**Objective** To systematically review the literature on the implementation of e-health to identify: (1) barriers and facilitators to e-health implementation, and (2) outstanding gaps in research on the subject.

**Methods** MEDLINE, EMBASE, CINAHL, PSYCHINFO and the Cochrane Library were searched for reviews published between 1 January 1995 and 17 March 2009. Studies had to be systematic reviews, narrative reviews, qualitative meta-syntheses or meta-ethnographies of e-health

## Review

# The nursing work of hospital-based clinical practice guideline implementation: An explanatory systematic review using

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PLOS MEDICINE

## Uncovering Treatment Stroke Care: A Systematic

Katie Gallacher<sup>1</sup>, Deborah Morrison<sup>1</sup>, Bhau  
Patricia J. Erwin<sup>3</sup>, G. David Batty<sup>4,5</sup>, David

<sup>1</sup>General Practice and Primary Care, Institute of Health and Wellbeing United Kingdom, <sup>3</sup>Knowledge and Encounter Research Unit, Mayc University College London, United Kingdom, <sup>5</sup>Centre for Cognitive Cardiovascular and Medical Sciences, University of Glasgow, United Kingdom.

## Child: care, health and development

Review Article

doi:10.1111/j.1365-2214.2011.01293.x

# **Models of transitional care for young people with complex health needs: a scoping review**

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## **Context-independent theoretical propositions (May 2013a):**

**Capability.** *The capability of agents to operationalize a complex intervention depends on its workability and integration within a social system.*

**Capacity.** *The incorporation of a complex intervention within a social system depends on agents' capacity to co-operate and co-ordinate their actions.*

**Potential.** *The translation of capacity into collective action depends on agents' potential to enact the complex intervention.*

**Contribution** *The implementation of a complex intervention depends on agents' continuous contributions that carry forward in time and space.*

- As a thought experiment, context-independent assumptions were contextualized against a well established clinical problem.
- They were rewritten as context-dependent assumptions that would assist in exploring the implementation of clinical practice guidelines.

## Context-dependent propositions (May 2013a)

**Capability:** *The capability of nurses to implement and embed a clinical guideline in everyday practice depends on its qualities of (i) workability at the bedside and (ii) integration within nurses' workflow.*

**Capacity:** *The implementation of a clinical guideline in its practice setting depends on nurses' capacity to (i) co-operate to operationalize changing norms and roles, and (ii) co-ordinate their operationalization of changing material and cognitive resources.*

**Potential:** *The translation of nurses' capacity into contributions to practice change depends on the degree of (i) their individual intentions, and (ii) their shared commitments to enact the guideline.*

**Contribution:** *The implementation of a clinical practice guideline depends on nurses' continuous contributions of agency to (i) continuously enact it, and (ii) carry it forward as an element of future work.*

» Then we tested them by systematic review....

International Journal of Nursing Studies xxx (2013) xxx–xxx

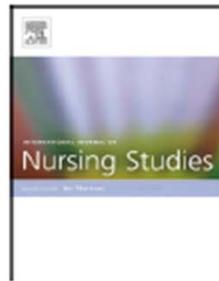


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### Review

## The nursing work of hospital-based clinical practice guideline implementation: An explanatory systematic review using Normalisation Process Theory<sup>☆</sup>

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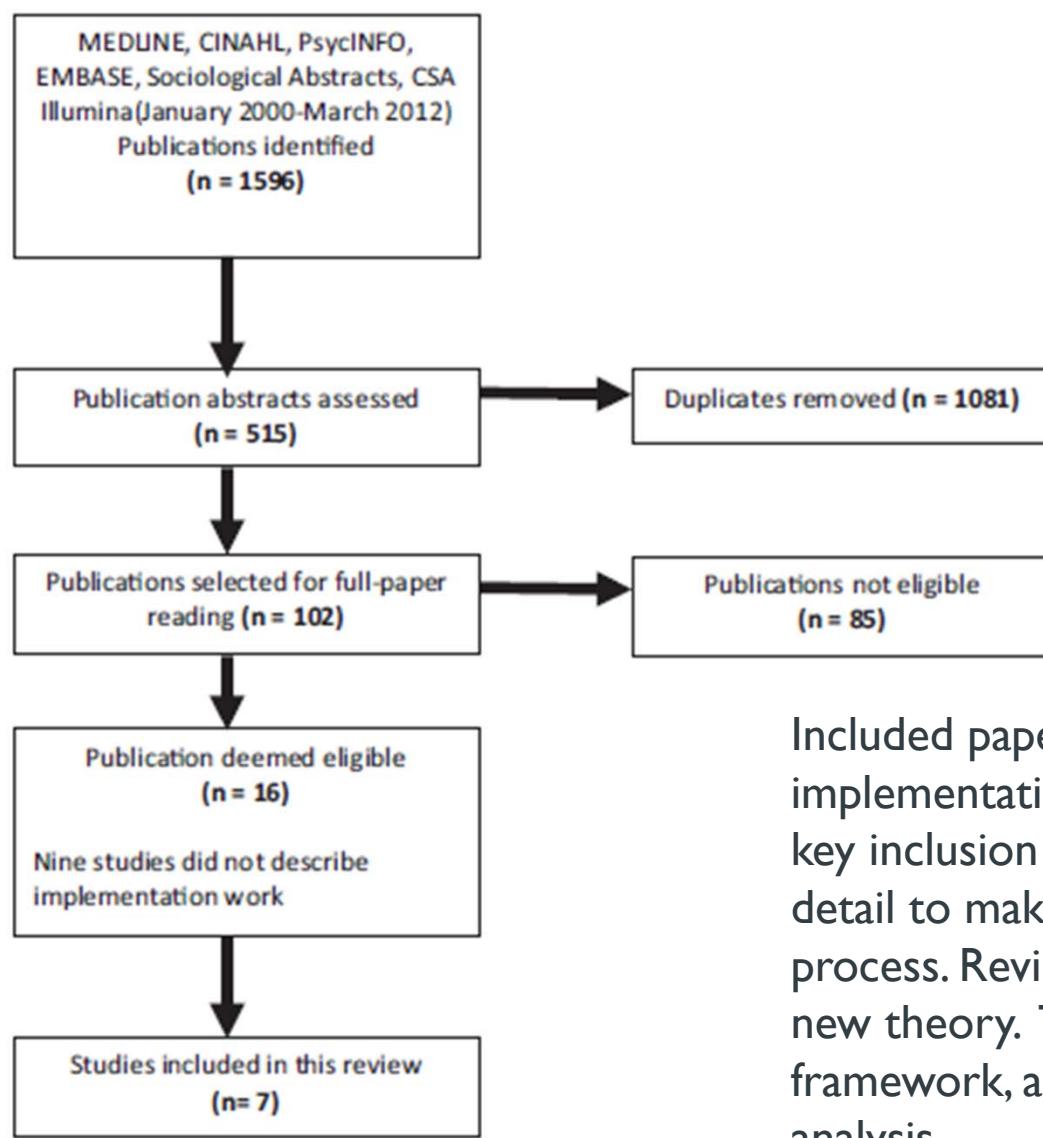
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### ABSTRACT

*Objective:* To investigate the dynamics of nurses' work in implementing Clinical Practice Guidelines.

*Design:* Hybrid: systematic review techniques used to identify qualitative studies of clinical guideline implementation; theory-led and structured analysis of textual data.

*Data sources:* CINAHL, CSA Illumina, EMBASE, MEDLINE, PsycINFO, and Sociological Abstracts



Included papers were qualitative studies of implementation of nursing practice guidelines, key inclusion criterion was providing sufficient detail to make sense of implementation process. Reviewers were not familiar with the new theory. They worked within a coding framework, and undertook directed content analysis.

**Fig. 1.** PRISMA Flowchart.

## Synthesized results of Directed Content Analysis (I)

### **Capacity + Potential.**

*A guideline is disposed to normalization when nurses can (a) minimize disruption to behavioural norms and agreed professional roles, and (b) mobilize intra- and inter-professional collaborations around new goals.*

### **Capability (insufficient data to extend beyond theoretical model)**

*The capability of nurses to operationalize a clinical guideline depends on its intrinsic workability and integration within the constraints of clinical practice.*

### **Linked to...**

### **Contribution I (Collective Action)**

*A guideline is disposed to normalization when (a) it is associated with activities that practitioners can make workable in practice, and when (b) practitioners are able to integrate it into their collective workflow.*

## Synthesized results of Directed Content Analysis (2)

### **Contribution 2 (Coherence-building).**

*A guideline is disposed to normalization when (a) it is differentiated from existing clinical practice by its proponents, and when (b) claims of differentiation are regarded as legitimate by its potential users.*

### **Contribution 3 (Cognitive Participation).**

*A guideline is disposed to normalization when (a) it is associated with an emergent community of practice, and when (b) members of that community of practice enrol each other into group processes that specify their engagement with it.*

### **Contribution 4 (Reflexive Monitoring).**

*A guideline is disposed to normalization when (a) it is associated with improvements in the collective knowledge of its users, and when (b) users are able to integrate the application of that knowledge into their individual workflow. (Links back to **Capability...**)*

Theory-led work may be sometimes abstract, but the focus of this study – *the visible work that is done to achieve important clinical goals* – is a practical one

- Normalization Process Theory supports the analysis of clinical work by focusing on the ways that practice is made coherent and meaningful, how it leads to sets of relational commitments, how these contributions are enacted and contextualized, and how they are appraised and reconfigured.
- This approach to analysis provides a frame for understanding core elements of clinical knowledge and practice *in process*, rather than focusing on measuring and evaluating intervention outcomes.
- Implementation processes *still* remain poorly understood.



*Merci!  
Thank you!*

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