
# How to apply theory

# IN IMPLEMENTATION OF EVIDENCE IN HEALTH CARE

## WORKSHOP

Taormina, Sicily
October 30, 2015

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DEPARTMENT OF MEDICAL AND HEALTH SCIENCES,

**LINKÖPING UNIVERSITY**

LINKÖPING UNIVERSITY

# WORKSHOP LEADER

**SUSANNE BERNHARDSSON**

- Lead guideline developer and implementer
- PhD student
- Physiotherapist

**REGION VÄSTRA GÖTALAND**

- Sweden's 2nd largest county council
- 1.6 m people
- Primary care: HCC and rehab units

**LINKÖPING UNIVERSITY**

- Department of Medical and Health Sciences
- Implementation research program since 2009
- 12 PhD students, 3 post-docs, 1 prof
- Implementation courses at graduate and postgraduate levels, international seminars
- NIIG, networking

LINKÖPING UNIVERSITY

# ACKNOWLEDGEMENT: ABSENT FRIENDS

**PER NILSEN**

- Professor of Community Medicine

**SIW CARLFJORD**

- PhD, Social Medicine and Public Health

LINKÖPING UNIVERSITY

# WORKSHOP OBJECTIVES

- Improved understanding of various types of theories, models and frameworks used in implementation science…
- … and how they can be applied in clinical practice.

# OUTLINE

- Introduction and origins of implementation science
- Using theory in implementation science
- Overview of key implementation theories, models and frameworks
  – focus on process models and evaluation framework

- Examples of applying theory in healthcare settings
- Use and effectiveness of various implementation strategies
- Group discussions: How to apply a theory/model/framework/ strategy in your context

# What is implementation?

# Implementation

Implere (latin): to fill, to fill up

- Similar terms: introduce, transfer, fulfill, complete, execute, carry out, distribute, achieve, realise, apply, conduct, materialize, put into effect, put into action, transfer, translate into practice, stage – realise ideas and plans into concrete action

Nilsen 2014

- A planned process and systematic introduction of innovations and/or changes of proven value

Grol 2005

# Implementation research

- Implementation science
- Dissemination and Implementation research (D&I)
- Knowledge translation (KT)
- Knowledge transfer
- Knowledge exchange
- Knowledge utilization
- Research use/utilization (RU)
- Translational research
- Improvement science

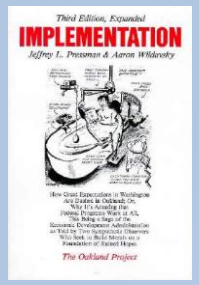
Nilsen 2014

# Implementation science

- The scientific study of methods to promote a systematic use of research findings and other evidence-based methods in routine activities, with the aim of improving quality of care

Eccles 2006

# Evolution of implementation research




Pressman & Wildavsky *Implementation* – research on implementation of policy


EBM

**1962** **1973** **1980s** **1992** **2000s**


Everett Rogers *Diffusion of Innovations* – research on the spread of innovations

Research on research use and knowledge use (utilization)

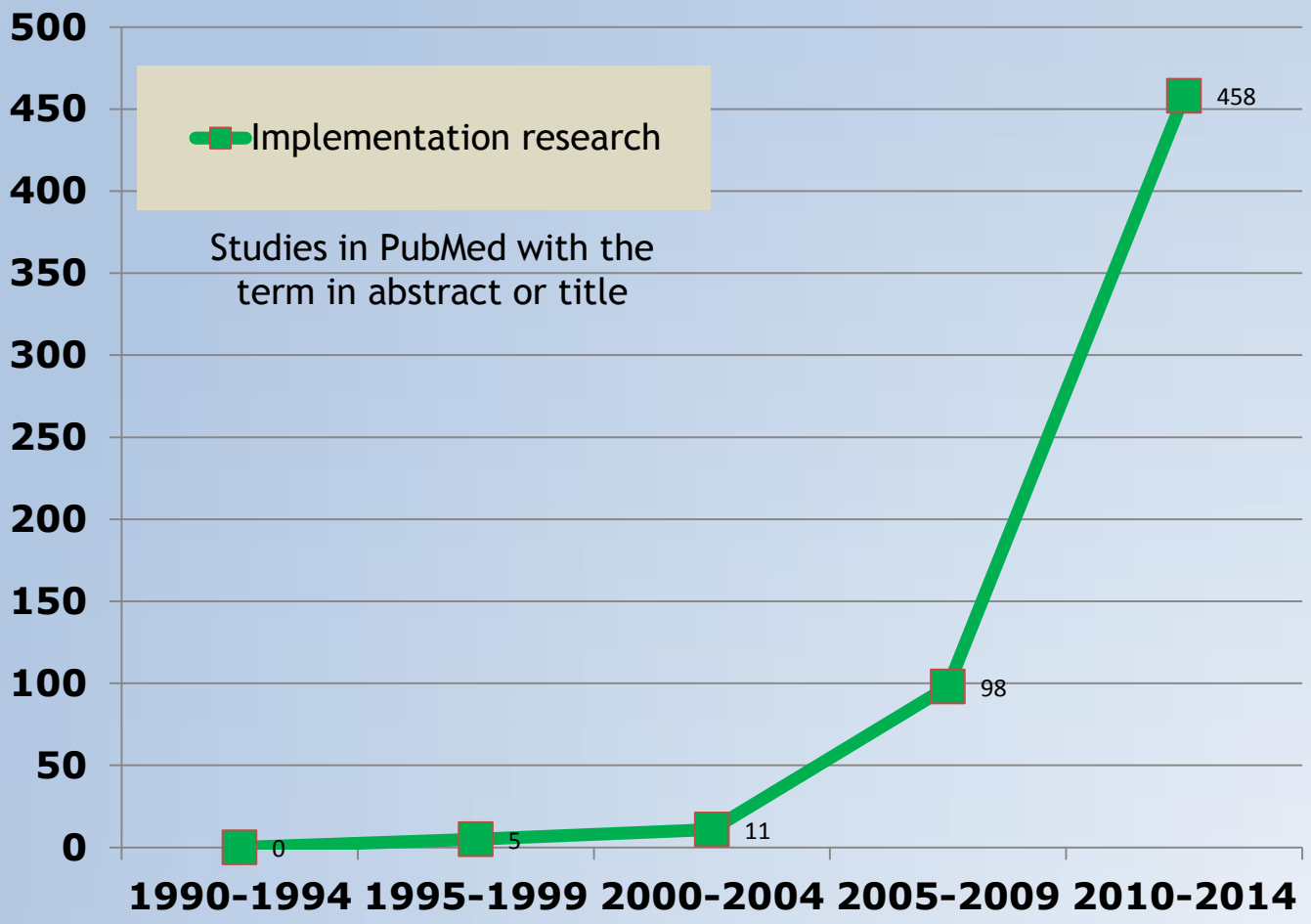
Implementation science, knowledge translation, translational research, etc. takes off


Nilsen 2015

# Research traditions influencing implementation research

- Innovation research
- Agriculture/rural sociology
- Medical sociology
- Communication
- Marketing and economics
- Development studies
- Health promotion
- EBM
- Organizational studies
- Complexity and general systems
- Results movement
- Improvement science

Rycroft-Malone 2010, Greenhalgh 2004


500
450
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50
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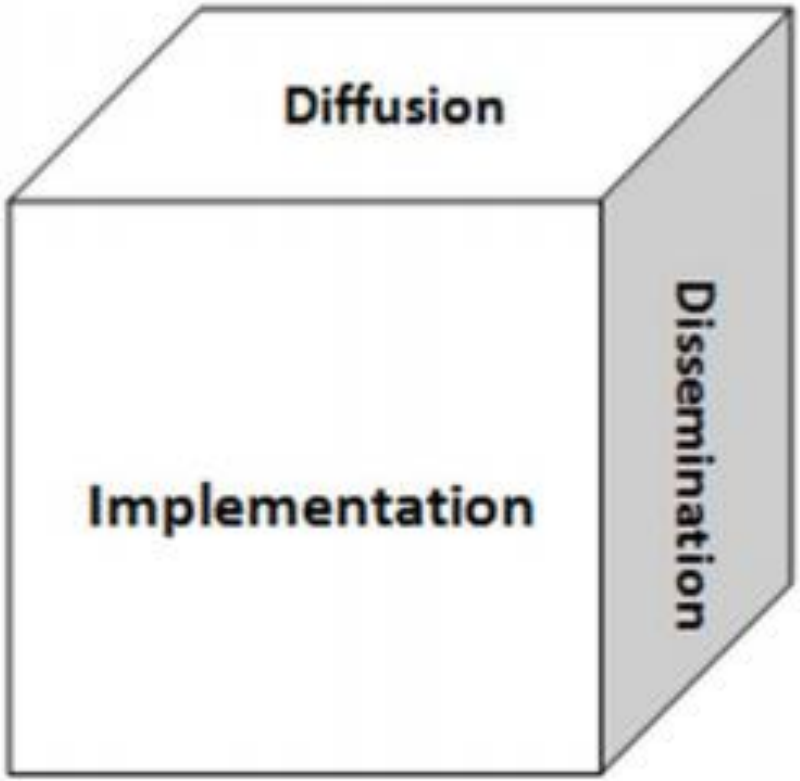
Implementation research
Studies in PubMed with the term in abstract or title
0
5
11
98
458
1990-1994
1995-1999
2000-2004
2005-2009
2010-2014

Nilsen 2015




Blase and Fixen 2010

Diffusion *("let it happen")* Dissemination *("help it happen")* Implementation *("make it happen")*

Greenhalgh 2004

# THEORETICAL APPROACHES IN IMPLEMENTATION SCIENCE

AN OVERVIEW

# What is theory?

- A way of explaining and understanding the world and the phenomenon under study. A tool to organise knowledge and understand underlying mechanisms.

Punch 1998

- A set of interrelated concepts, definitions and propositions that present a systematic view of events or situations by specifying relations among variables, in order to explain or predict the events or situations.

Glanz & Rimer 2005

- An instrument to answer "how" and "why" questions

# Types of theories

- Macro, mid-range and micro theories
- Formal or informal; explicit or implicit
- Classic theories: Individual, social interaction/context, organizational/economic
- Model: more precise representation of a theory, more prescriptive
- Framework: a way to create structure, often descriptive

# Why use theory?

- Facilitates implementation and increases the possibility to draw general conclusions on the effectiveness of an implementation strategy

  Rycroft-Malone 2010

- Helps to interpret why interventions have had positive or negative effects

  Eccles 2005

- Facilitates understanding of barriers, designing interventions, and exploring mediating pathways and moderators

  Davies 2010

- Provides a process and structure to support the development of a strategy and an intervention, as well as a guide for its evaluation. This can facilitate a better understanding of the generalizability and replicability of implementation interventions.

  ICEBeRG 2006

- Helps to focus interventions on essential processes of behavioural change

  Tabak 2012

# Use of theories in implementation research

- Only 22% (53/235 studies) used theories
- 6% (14 studies) used theory explicitly
- 25 different theories were used
- Most common theories:
  - PRECEDE-PROCEED
  - Diffusion of innovations
  - Information overload
  - Social marketing (academic detailing)
- Greater use of explicit theory to understand barriers, design interventions, and explore mediating pathways and moderators is needed

Davies 2010

# No. of studies with names of theories in title/abstract

- Theory of planned behaviour: 1993
- Social cognitive theory: 1081
- Theory of reasoned action: 413
- Diffusion of innovations: 354
- Knowledge-to-action: 171

(Hits on Pubmed 151029)

# Is using theory effective?

- Public health: SCT and TPB more effective than interventions without theory base

  Tabak 2012

- Behaviour change interventions that are informed by theory are more effective than those that are not

  Abraham 2009

- Theory-based behaviour change interventions more effective than those not based on theory

  van Achterberg 2010

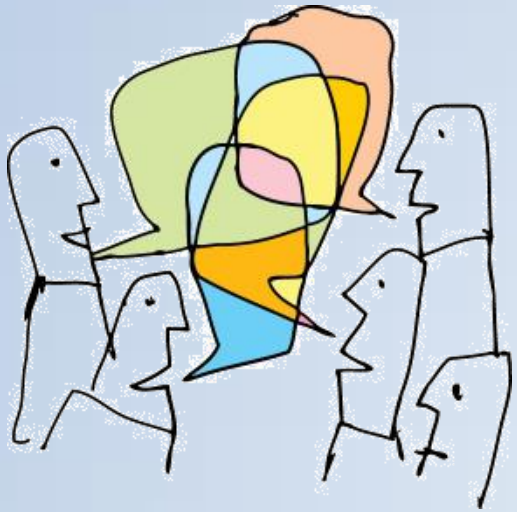
# Theory vs common sense

***(implicit assumptions, beliefs and ways of thinking)***

- Theories are explicit and open to question and examination; common sense is more difficult to challenge
- If deductions from a theory are incorrect, the theory can be adapted or abandoned
- Theories are more consistent with existing knowledge than common sense
- Theories give individual facts a meaningful context and build an integrated body of knowledge; common sense is more likely to produce isolated facts

# FOR DISCUSSION…

- What are the pros and cons of using theory in implementation of evidence in your context?



# THEORY-MODEL-FRAMEWORK IN IMPLEMENTATION SCIENCE

## A **theory** in implementation science:

…implies some **predictive capacity** (e.g. to what extent do health care practitioners' attitudes and beliefs concerning a clinical guideline predict their adherence to this guideline?) and attempts to **explain causal mechanisms** of implementation

## A **model** in implementation science:

…is commonly used to **describe** and/or **guide the process** of translating research into practice
– *some are called frameworks!*

## A **framework** in implementation science:

…often has a descriptive purpose by **pointing to factors** believed or found to **influence implementation outcomes**

*Neither models nor frameworks specify the mechanisms of change; they are typically more like checklists of factors relevant to various aspects of implementation.*

# A TAXONOMY OF THEORETICAL APPROACHES USED IN IMPLEMENTATION SCIENCE

**PROCESS MODELS**
To describe and/or support the research-to-practice process

**DETERMINANT FRAMEWORKS**
**CLASSIC THEORIES**
**IMPLEMENTATION THEORIES**
To understand and explain what influences implementation outcomes

**EVALUATION FRAMEWORKS**
To evaluate implementation

Three broad aims – not mutually exclusive!


Nilsen *Implementation Science* (2015) 10:53
DOI 10.1186/s13012-015-0242-0

IMPLEMENTATION SCIENCE

DEBATE Open Access

Making sense of implementation theories, models and frameworks

Per Nilsen

**Abstract**

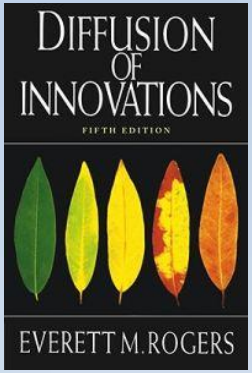
**Background:** Implementation science has progressed towards increased use of theoretical approaches to provide better understanding and explanation of how and why implementation succeeds or fails. The aim of this article is to propose a taxonomy that distinguishes between different categories of theories, models and frameworks in

# Theories, frameworks and models

- Classic theories
  - Theory of planned behaviour, Social cognitive theory
  - Diffusion of innovations
- Implementation theories
  - Normalisation Process Theory (NPT)
  - Theoretical Domains Framework (TDF)
- Determinant frameworks
  - Greenhalgh conceptual model
  - Consolidated Framework for Implementation Research (CFIR)
  - Promoting Action on Research Implementation in Health Services (PARIHS)
- Process/action models
  - Knowledge to action (KTA)
  - Quality Implementation Framework (QIF)
  - Grol and Wensing 5-step implementation model (G&W)
- Evaluation frameworks
  - RE-AIM, PRECEDE-PROCEED, Realist evaluation

Nilsen 2015

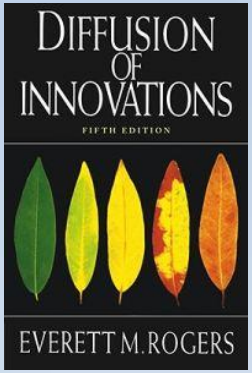
# Diffusion of innovation theory



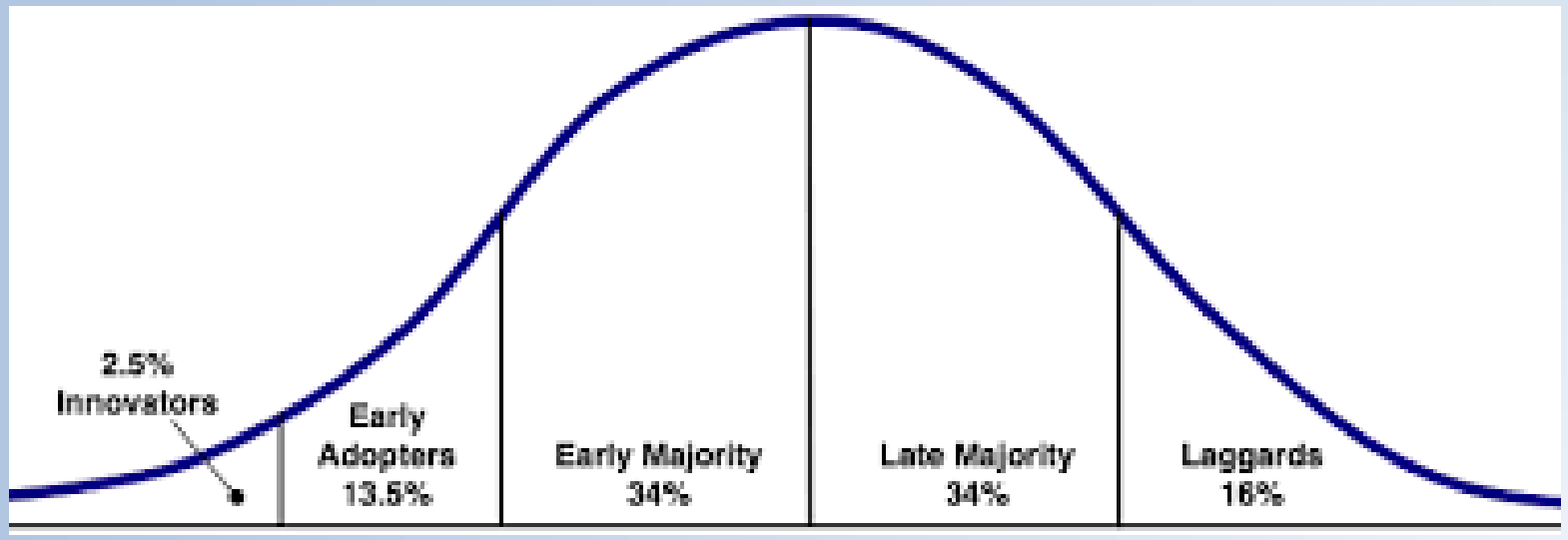

”Diffusion is the process by which an innovation is communicated through certain channels over time among the participants in a social system”

Rogers 2003

# Diffusion of innovation theory




- The innovation (characteristics/attributes)
  - Relative advantage, compatibility, complexity, trialability, observability
- Communication channels
- Time (users)
- The social system (context)




Rogers 2003

# Implementation theories

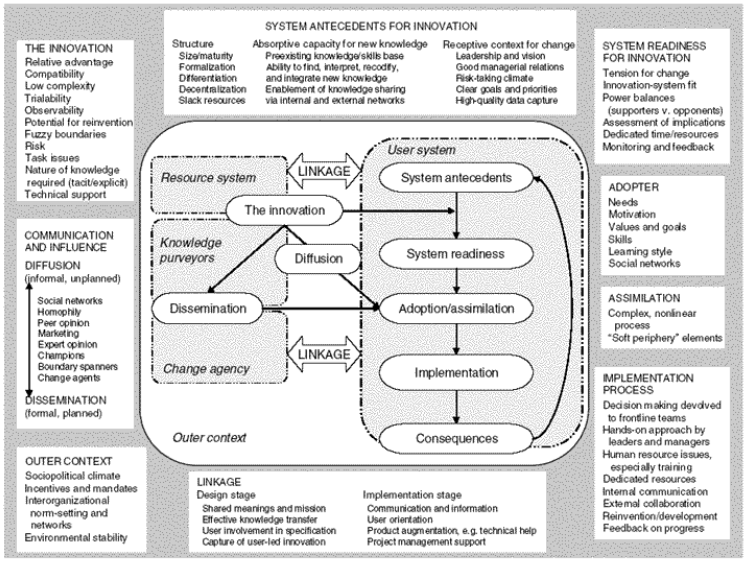
- Normalization process theory (NPT)
  - Developed over a 10-year period (1998-2008)
  - Aims to explain how new technologies/methods become embedded in practice
  - … and factors that promote or inhibit implementation
  - Origin in qualitative studies of healthcare work and organisations
  - An applied theoretical model – formal mid-range theory
  - 3 core problems: implementation – embedding – integration
  - A theory of action – focuses on work

May & Finch 2007
www.normalizationprocess.org

- Theoretical Domains Framework (TDF)
  - "Integrative framework developed from a synthesis of psychological theories as a vehicle to help apply theoretical approaches to interventions aimed at behaviour change"
  - Developed through expert consensus process
  - Based on128 explanatory constructs from 33 theories of behaviour
  - 12 domains: (1) Knowledge; (2) Skills; (3) Social/Professional Role and Identity; (4) Beliefs about Capabilities; (5) Beliefs about Consequences; (6) Motivation and Goals; (7) Memory, Attention, and Decision Processes; (8) Environmental Context and Resources; (9) Social Influences; (10) Emotion; (11) Behavioural Regulation; and (12) Nature of the Behaviours.

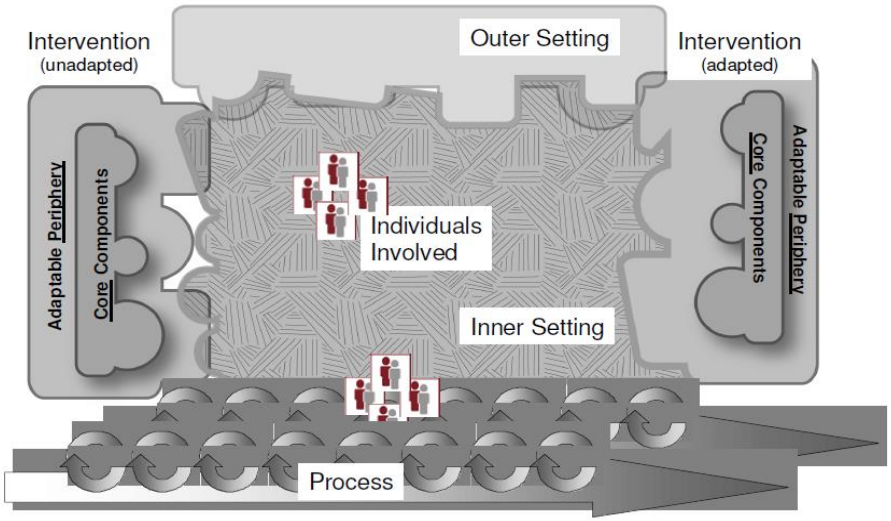
Michie 2005

# Determinant frameworks

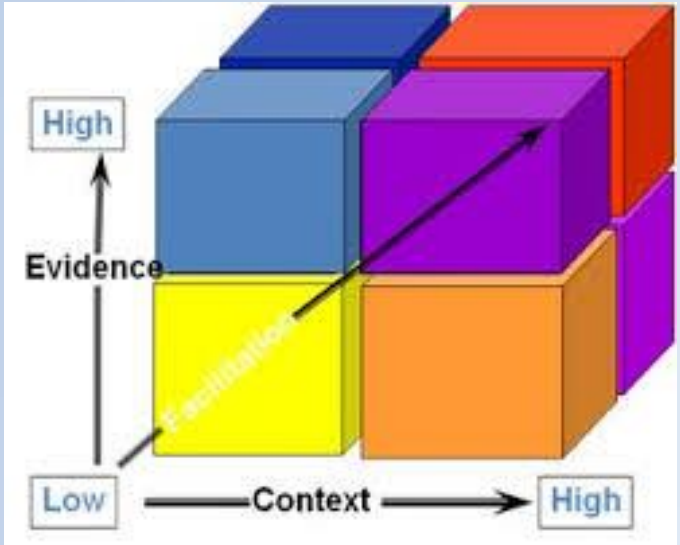



URE 3. Conceptual Model for Considering the Determinants of Diffusion, Dissemination, and Implementation of Innovati
Health Service Delivery and Organization, Based on a Systematic Review of Empirical Research Studies

## Greenhalgh conceptual model




## CFIR

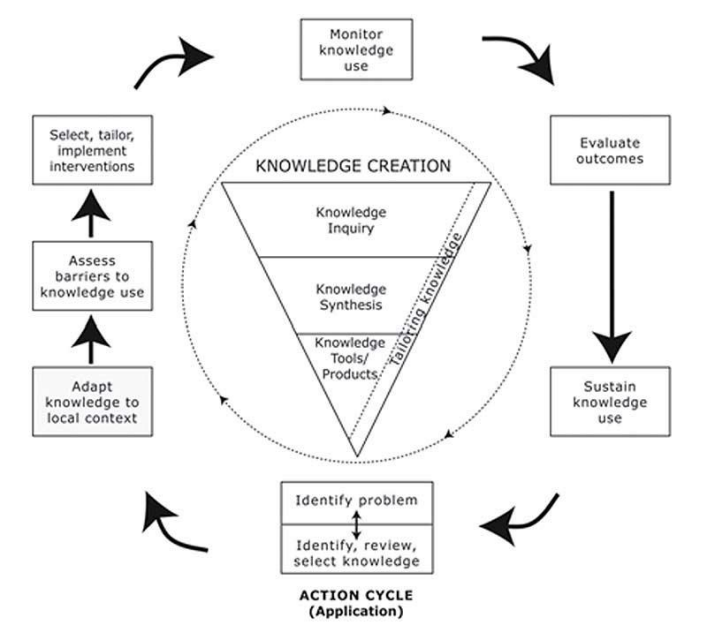



## PARIHS

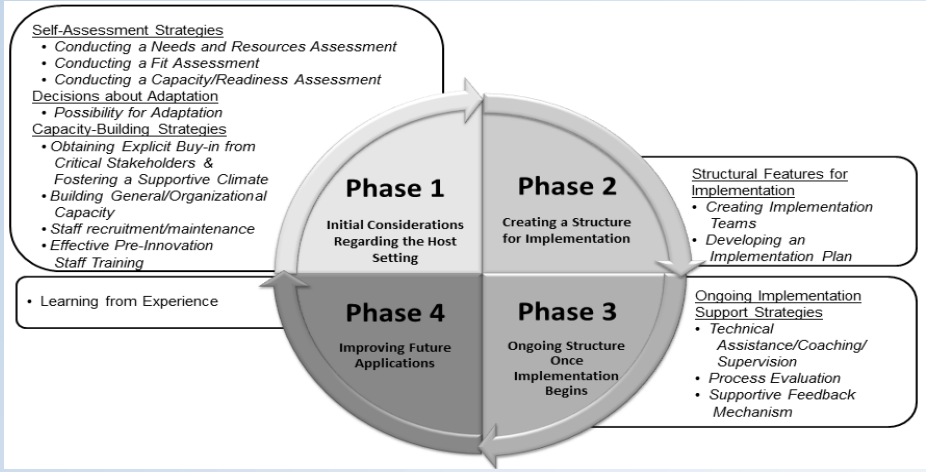
# Process/action models

| Step 1 | Step 2 | Step 3 | Step 4 | Step 5 |
|---|---|---|---|---|
| Development of concrete proposal/ targets for improvement or change | Analysis of performance, target group and setting | Development/ selection of strategies and measures to change practice | Development, testing and execution of implementation plan: activities, task, timetable | Evaluation and (if necessary) adapting plan |

**Grol & Wensing 5-step implementation model**

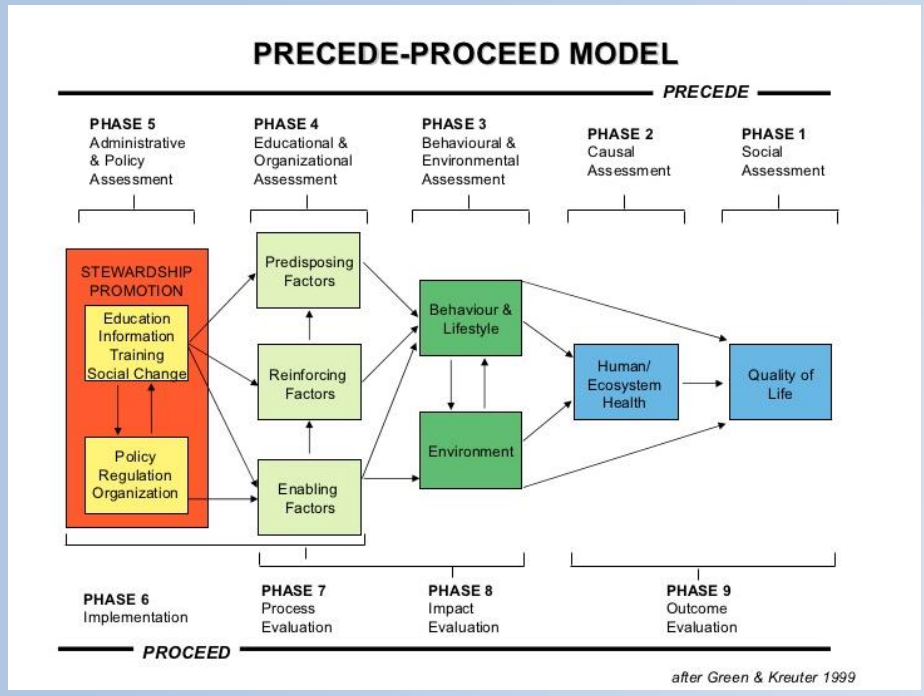



**Knowledge to Action (KTA)**

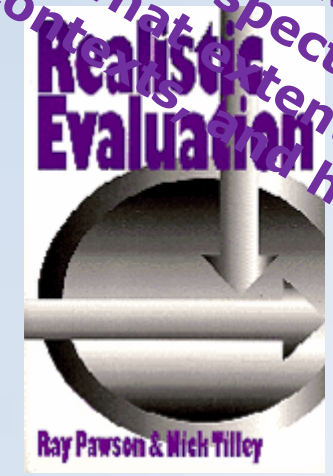



**Quality Implementation Framework (QIF)**

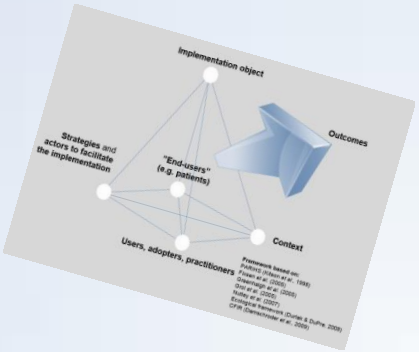
# Evaluation frameworks

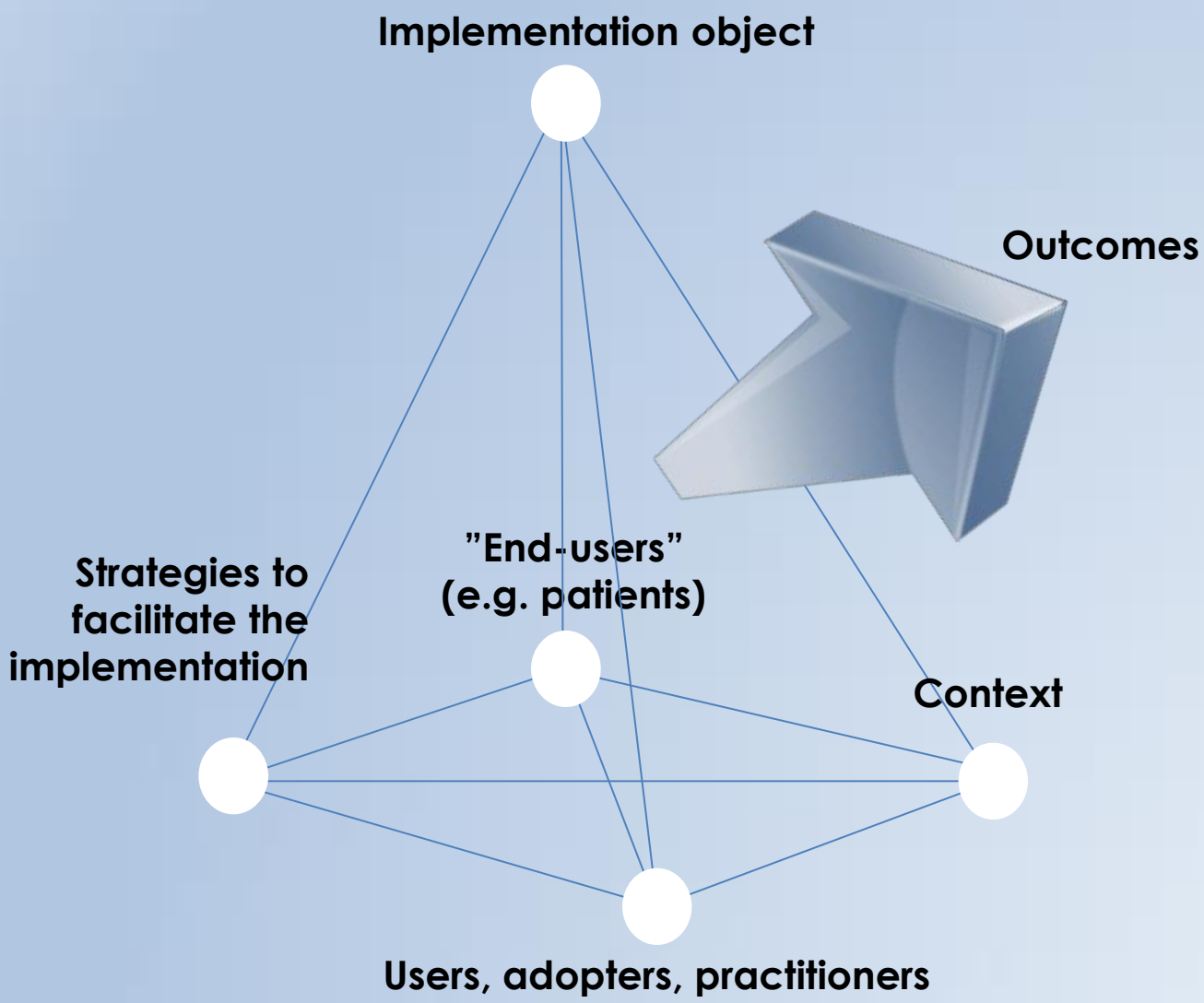

"What works, for whom, in what respects, to what extent, in what contexts and how?"



# DETERMINANTS OF IMPLEMENTATION SUCCESS
## DETERMINANT FRAMEWORKS



# A SYNTHESIS OF DETERMINANT FRAMEWORKS

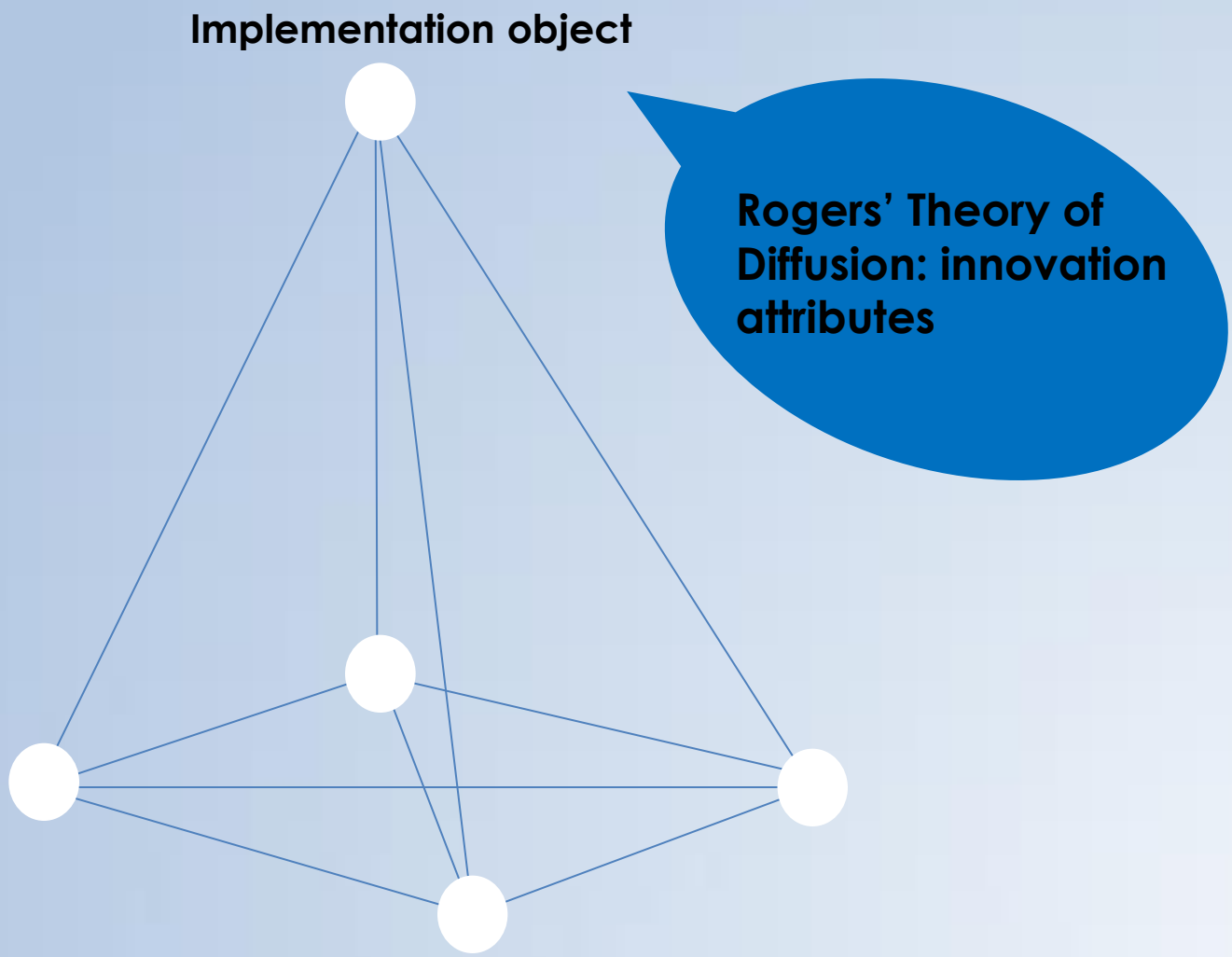



**"Determinants"** = general types (classes, domains) of determinants that are believed or have been found to influence implementation outcomes. Each type of determinant comprises a number of individual **barriers** and/or **facilitators**

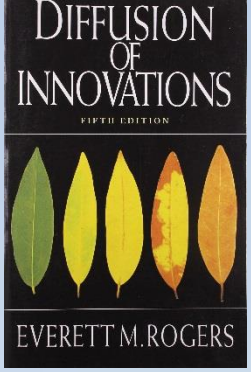
**Framework based on:**
PARIHS (Kitson *et al*., 1998)
Fixsen *et al*. (2005)
Greenhalgh *et al*. (2005)
Grol *et al*. (2005)
Nutley *et al*. (2007)
Ecological framework (Durlak & DuPre, 2008)
CFIR (Damschroder *et al*., 2009)

Nilsen 2012

# LINKING DETERMINANTS TO THEORIES



# CHARACTERISTICS OF THE IMPLEMENTATION OBJECT




**Rogers' innovation attributes**

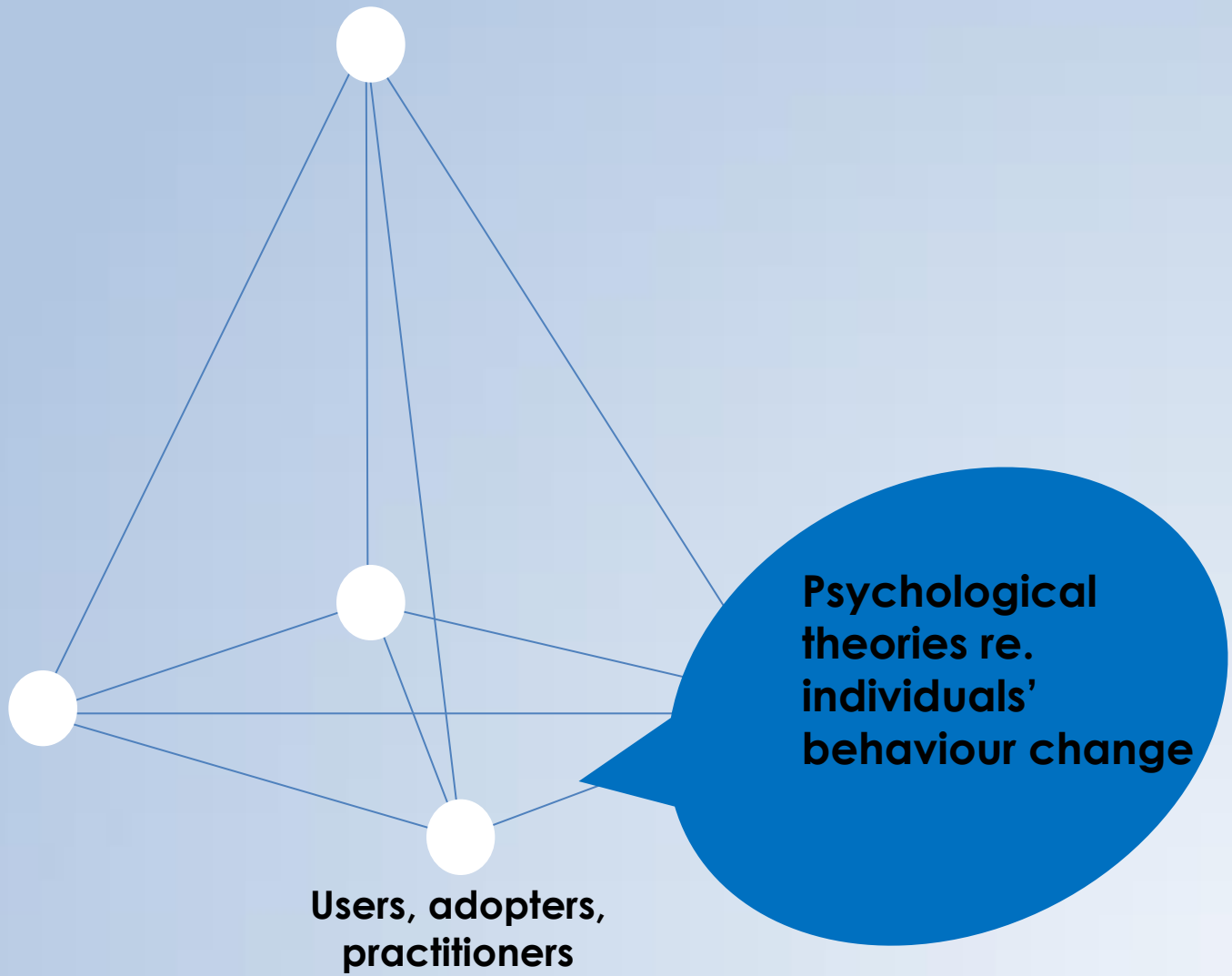
**Relative advantage** – is "the implementation object" (e.g. a new practice, method, intervention, etc.) perceived as better than current practice?

**Compatibility** – is it consistent with existing values, experiences and needs of potential users?

**Complexity** – is it perceived as relatively difficult to understand and use?

**Trialability** – can it be tested on a limited basis?

**Observability** – are the results of the object visible to others?


Psychological theories re. individuals' behaviour change
Users, adopters, practitioners

# INFLUENCES ON THE USERS' BEHAVIOURS

Widely applied:

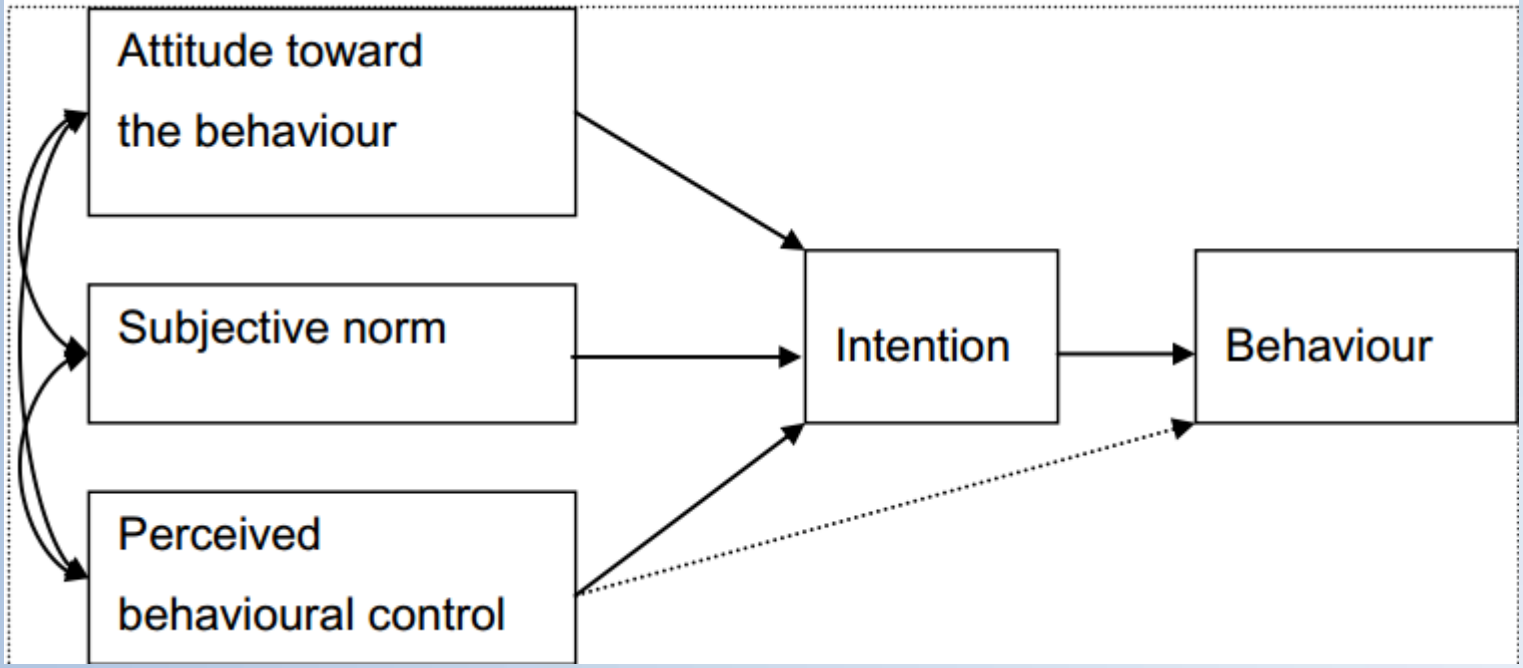
Social cognitive theories (e.g. Theory of Planned Behaviour and Social Cognitive Theory)

Users'...

- attitudes
- self-efficacy
- motivation
- beliefs
- subjective norms
- etc.

…affect the users' behaviours

# Theory of Planned Behaviour

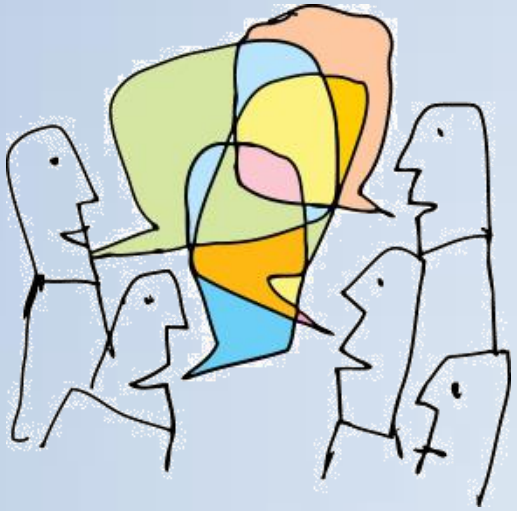



Aizen 1991

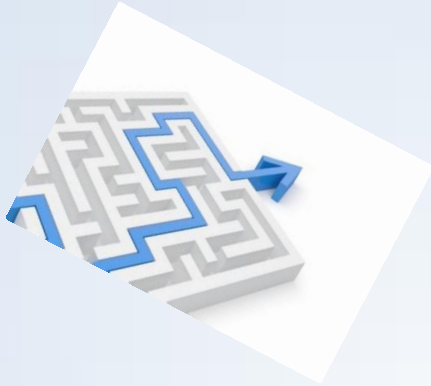
# FOR DISCUSSION…

1. Which (types of) determinants are most important?

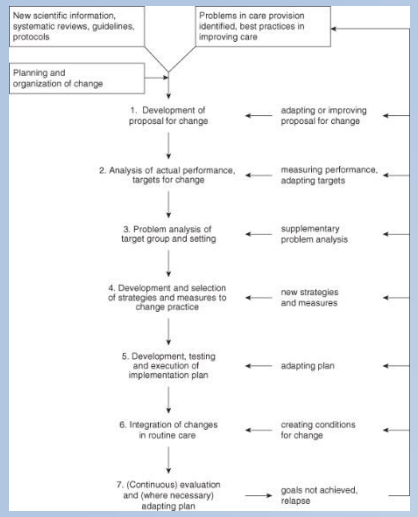
2. What are the determinants (barriers and enablers) in your context/for your implementation project?



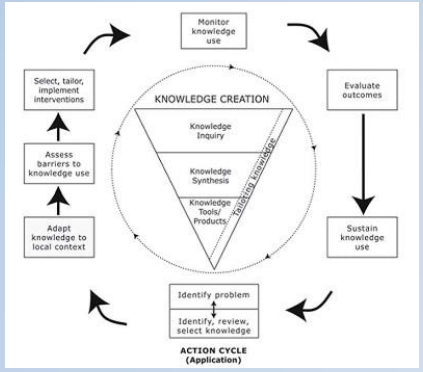
# PLANNING FOR IMPLEMENTATION
PROCESS MODELS



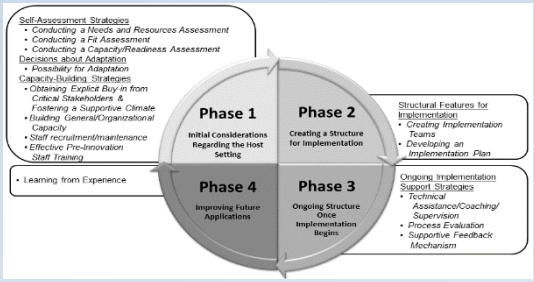
# Process models




**Grol & Wensing Implementation model (Grol et al 2004)**



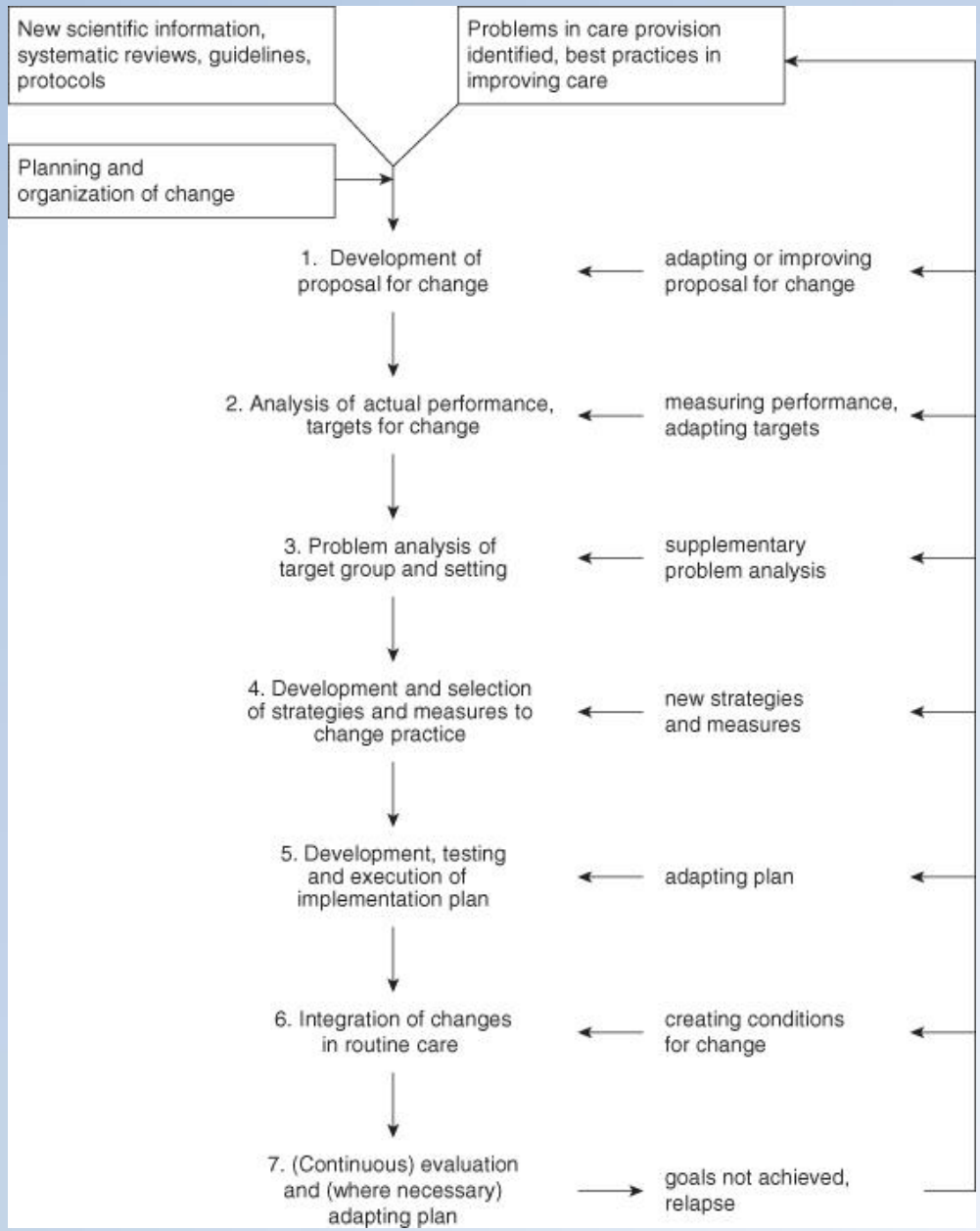

**The Knowledge to Action Framework (KTA) (Graham et al 2005)**




**Quality Implementation Framework (QIF) (Meyers et al 2013)**

# Grol & Wensing implementation model

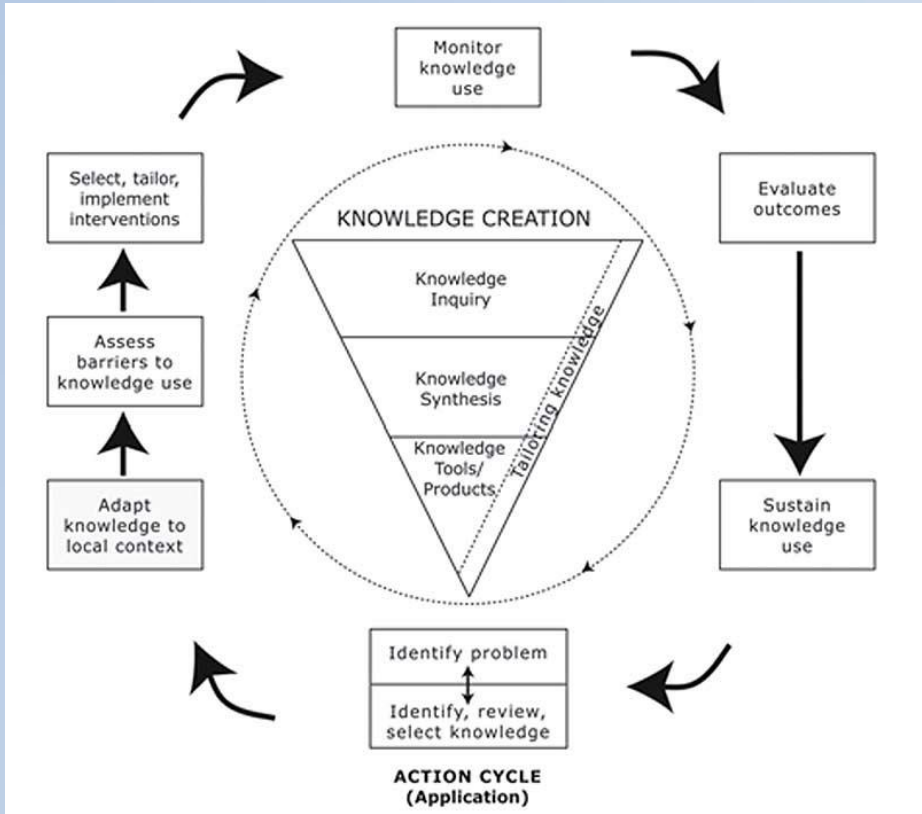

- Based on synthesis of classic theories from many disciplines
- Combines several approaches
- educational approach
- epidemiological approach
- marketing approach




Grol 2013

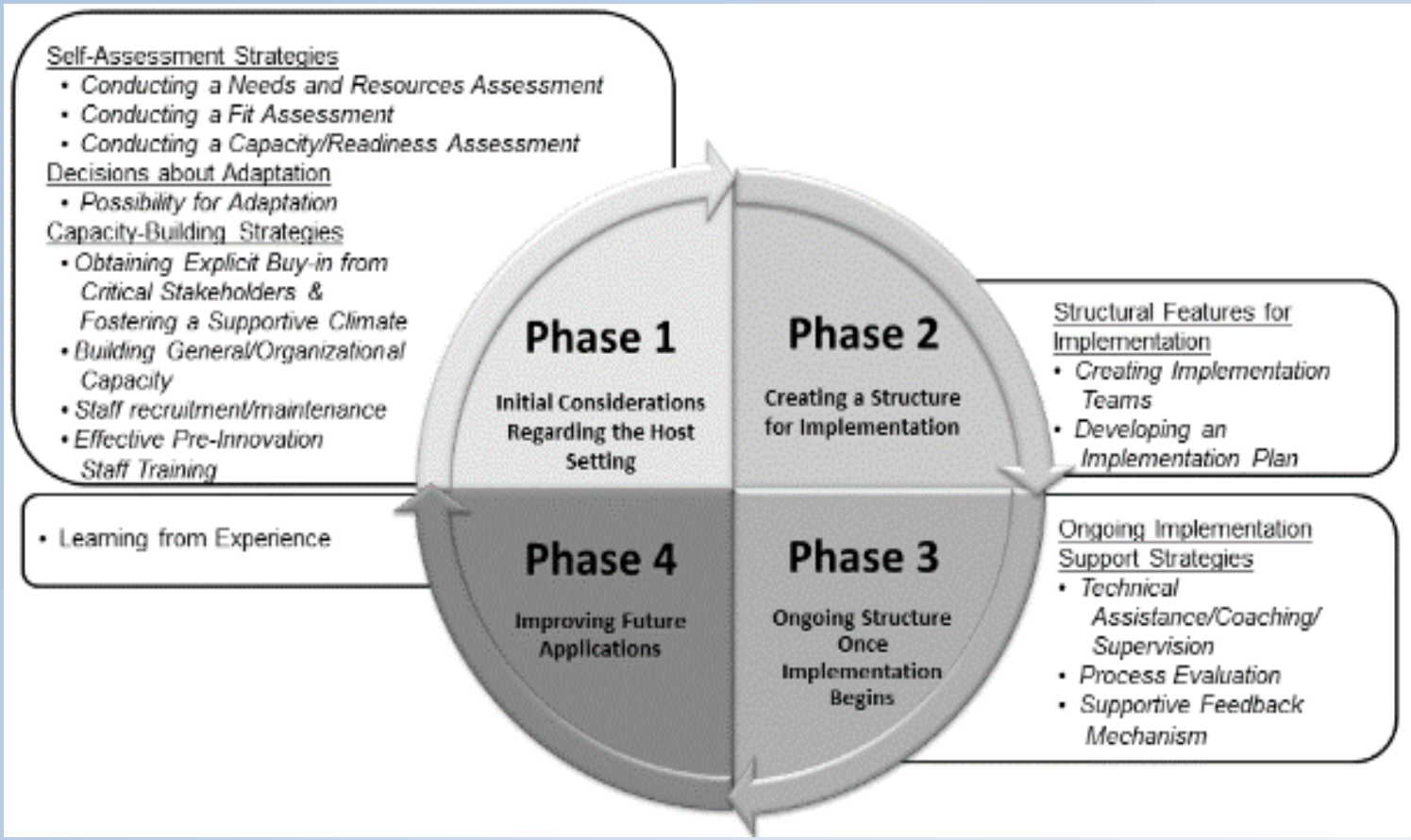
# Knowledge to Action (KTA)

- Based on planned-action theories
- Describes both how knowledge is created and how it is transfered into practice




Graham et al 2006

# Quality Implementation Framework (QIF)




Meyers 2013

# CASE 1: USING A PROCESS MODEL

# IMPLEMENTATION OF GUIDELINES IN PRIMARY CARE PHYSIOTHERAPY

- Based on the Grol & Wensing implementation model
- Development of a tailored strategy
- Evaluation of strategy in a controlled intervention study

Bernhardsson *et al. BMC Health Services Research* 2014, **14**:105
http://www.biomedcentral.com/1472-6963/14/105

BMC Health Services Research

RESEARCH ARTICLE Open Access

Evaluation of a tailored, multi-component intervention for implementation of evidence-based clinical practice guidelines in primary care physical therapy: a non-randomized controlled trial

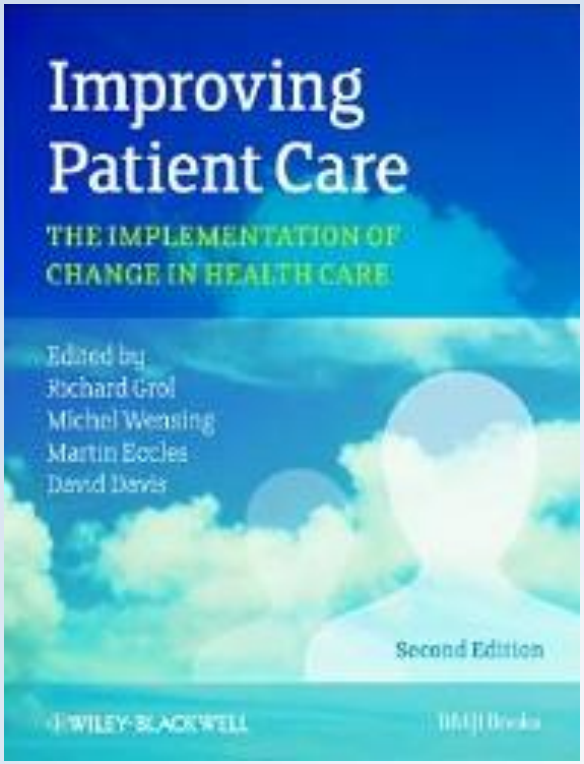
Susanne Bernhardsson[1,2*], Maria EH Larsson[3,4], Robert Eggertsen[5,6], Monika Fagevik Olsén[4,7], Kajsa Johansson[2], Per Nilsen[8], Lena Nordeman[9], Maurits van Tulder[10] and Birgitta Öberg[2]

**Abstract**

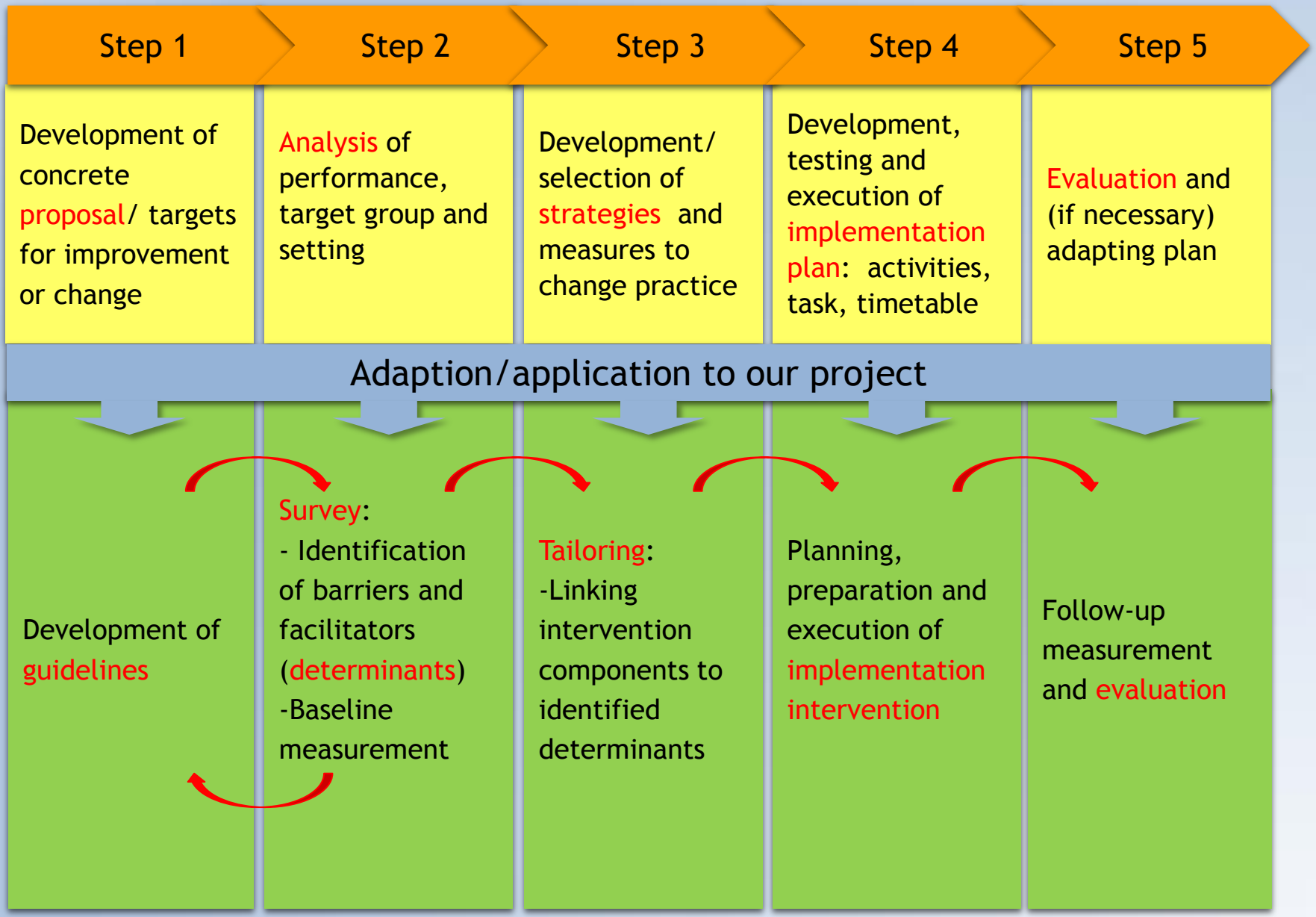
**Background:** Clinical practice guidelines are important for transmitting research findings into practice and

# The Grol & Wensing implementation model

- Incorporates many implementation theories
- Combines elements from both social-cognitive, educational, attitude, and behaviour change theories
- Pragmatic approach
- Consistent with project management strategies



# Grol and Wensing's 5-step implementation model



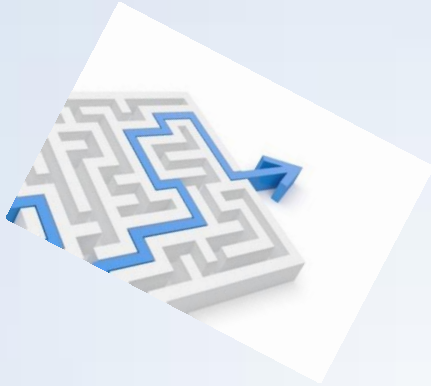

Grol & Wensing, in Grol et al 2005

# MATCHING INTERVENTION COMPONENTS TO DETERMINANTS

| Determinant | Component of intervention |
|---|---|
| Lack of time | Ensuring that guidelines were specific, brief, and relevant to the primary care setting<br>Creation of guideline website |
| Poor knowledge where to find guidelines | Information seminars, creation of guideline website, information on where to find other guidelines, e-mail reminders |
| Limited access to guidelines | Creation of guideline website<br>Creation of links to the website from other parts of the intranet |
| Guideline characteristics: too general, take too long to read | Ensuring that guidelines were specific and brief |
| Positive attitudes to EBP and guidelines (*i.e.*, considering guidelines important, considering EBP necessary and helpful in decision making) | Stimulating positive attitudes in the seminars, *e.g.* , by emphasizing in presentation and discussions that guidelines are intended to support the PT in clinical decision making and to efficiently summarize and put evidence at their finger tips |
| Awareness of the existence of guidelines | Written and oral information about relevant guidelines, creation of guideline website |
| Not considering that strong evidence is lacking for most treatment methods | Producing evidence-based guidelines with clear evidence levels; discussion points on evidence strength |
| Not considering that EBP creates unreasonable demands | Addressing benefits of and correcting misconceptions of EBP, producing guidelines that reduce the need to search and appraise evidence |
| Self-efficacy to treat according to evidence | Facilitating self-efficacy by producing guidelines that are up-to-date and evidence-based |
| Self-efficacy to find research | Providing information on EBP resources and providing links to them on the guideline website |
| Knowledge how to integrate patient preferences with guidelines | Providing education about the principles of EBP and the importance of integrating patient preferences |
| Encouragement of EBP in the workplace | Providing education on the principles of EBP at the seminars |

Bernhardsson 2014

# EVALUATING IMPLEMENTATION
## EVALUATION FRAMEWORKS




Glasgow 2006

# RE-AIM: evaluating implementation

- designed to enhance quality, speed and impact of implementation efforts
- developed to evaluate interventions, but has also been applied to plan and conduct studies, evaluate implementation outcome
- encourages sustainable implementation
- provides a more nuanced and holistic evaluation
- provides a structure for evaluation

www.re-aim.hnfe.vt.edu/

# RE-AIM: five dimensions

- **R**each: your intended target population
  (numbers, proportions, representativity)
- **E**ffectiveness
  (impact on target group, e.g. QoL, economic measures)
- **A**doption - by target staff, settings, or organisation
  (numbers, proportions, representativity)
- **I**mplementation: consistency,fidelity/adaptation, costs
- **M**aintenance: sustained use of intervention in individuals and settings over time

www.re-aim.hnfe.vt.edu/

# CASE 2: APPLYING AN EVALUATION FRAMEWORK

# IMPLEMENTATION OF A COMPUTER-BASED LIFESTYLE INTERVENTION IN PRIMARY CARE

- A computer-based tool offering simple screening
- Staff is encouraged to refer their patients to the life style computer


Health Promotion International, Vol. 27 No. 2
doi:10.1093/heapro/dar016
Advance Access published 11 March, 2011



**Applying the RE-AIM framework to evaluate two implementation strategies used to introduce a tool for lifestyle intervention in Swedish primary health care**

**SIW CARLFJORD[1]*, AGNETA ANDERSSON[2,3], PREBEN BENDTSEN[1], PER NILSEN[1] and MALOU LINDBERG[2,3]**

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# Targets for the implementation

- Six PHCs in southern Sweden were randomised to two different implementation strategies.

Carlfjord et al 2012

# Implementation strategies

## Explicit strategy:

- Based on Rogers innovation-decision process: *knowledge, persuasion, decision* and *implementation*
- Innovation attributes (try, observe)
- After the introduction, staff tried for 1 month
- Extra staff meeting before making the tool available for the patients

## Implicit strategy:

- A standard procedure where the life style computer is introduced and installed

Carlfjord et al 2012

# Quantitative outcomes

The framework RE-AIM was modified for the study:

- **R**each – proportion of staff who refer patients to the computer (Survey)
- **E**ffectiveness – attitude to the life style computer, to referring
- **A**doption – proportion of patients who actually were referred (Registry data)
- **I**mplementation – was it used as it was intended? (Survey)
- **M**aintenance – what is the proportion of patients referred tothe life style intervention after 24 months? (Registry data)

Carlfjord et al 2012

# Qualitative outcome

- Staff interviews at participating units
- Rogers' innovation attributes were applied as a filter in the analysis
- Plus inductive analysis of the material

Carlfjord et al 2012

# Results

Explicit strategy sign. better effects on:

- Reach – more staff refer patients to the tool (83% vs 53%)
- Effectiveness – staff believes the tool is a good method, raises life style questions more often
- Adoption – more patients are refered to and use the tool

- Staff in the PHC with best results thought the life style computer had comparative advantages and was compatible with their practice
- Had more positive expectations and more positive attitudes to innovations
- Staff in the PHCs with poorest results described organisational changes and lack of staff to a higher extent

Carlfjord et al 2012

# Conclusion

Explicit strategy gave slightly better results, but…

…the most important factors for the outcome seemed to be:

- Perceived relative advantage
- Perceived compatibility
- Positive expectations (perceived need)
- Positive attitude to change

Carlfjord et al 2012

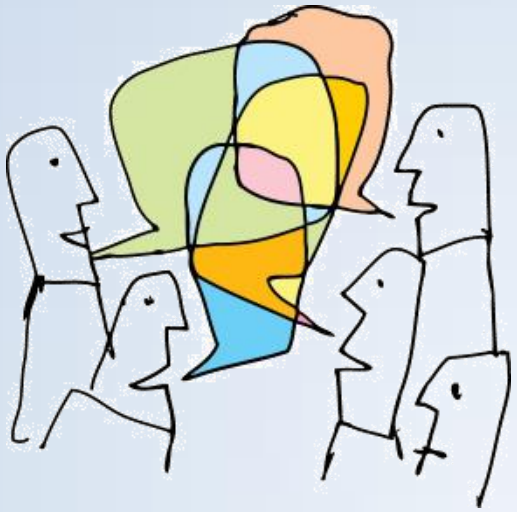
# Some other examples

- Applying self-determination theory for improved understanding of physiotherapists' rationale for using research in clinical practice: a qualitative study in Sweden
- Case management for dementia in primary health care: a systematic review based on the diffusion of innovation model
- Factors influencing pharmacists' adoption of prescribing: qualitative application of the diffusion of innovations theory
- Healthcare professional's intentions to use clinical guidelines: a survey using the theory of planned behaviour
- A randomised controlled trial of a theory of planned behaviour to increase fruit and vegetable consumption
- Using the knowledge-to-action framework to guide the timing of dialysis initiation
- Does the knowledge-to-action (KTA) framework facilitate physical demands analysis development for firefighter injury management and return-to-work planning?

# DISCUSS…

1. Would a process model be useful in your context?
   How could it be applied?

2. Would an evaluation framework be useful in your context?
   How could it be applied?



# Ways to apply theory in implementation projects

**5 categories of ways in which theories have been applied**

- A general philosophical framework for the article
- A guide to the types of educational KT strategies selected
- A way of identifying variables for correlation or prediction
- A way of identifying variables to measure the effect of a KT strategy
- A guide to qualitative study design and/or analysis.

Colquhoun 2010

# Choosing a theory

- What are the origins of the theory?
- What is the meaning of the theory?
- Is it logically consistent?
- Is it parsimonious and generalisable?
- Is it useful?
- Is it testable?
- Is it appropriate?

ICEBeRG 2006, Rycrofft- Malone 2010

# Selecting a model/framework

61+ models to choose from… (focused on research)

Basic considerations

1. Develop new or select existing model?
2. Use as is, or adapt?
3. Aim of your project?
4. Target group/setting/discipline/field?
5. Aim of the model/framework? (prospective vs retrospective use; design/process vs evaluation)
6. Developed in what discipline/context?

- Selecting a model should be done at planning/design stage!
- Apply it throughout the study!
- Consider the model in design, aims, activiites, measures, evaluation

Tabak 2012

# Selecting a model/framework

3 categories

1. Construct flexibility (broad – operational)
2. Focus on D or I
3. Socioecologic framework (ind, org, comm, system)



**Table 2.** Categorization of D&I models for use in research studies

| Model | Dissemination and/or implementation | Construct flexibility: broad to operational | Socioecologic Level | | | | | References |
|---|---|---|---|---|---|---|---|---|
| | | | System | Community | Organization | Individual | Policy | |
| Diffusion of Innovation | D-only | 1 | | x | x | x | | 21 |
| RAND Model of Persuasive Communication and Diffusion of Medical Innovation | D-only | 1 | | x | x | x | | 22 |
| Effective Dissemination Strategies | D-only | 2 | | x | x | x | | 23 |
| Model for Locally Based Research Transfer Development | D-only | 2 | | x | x | | | 24 |
| Streams of Policy Process | D-only | 2 | x | x | x | | x | 25, 26 |
| A Conceptual Model of Knowledge Utilization | D-only | 3 | x | x | | | x | 27 |
| Conceptual Framework for Research Knowledge Transfer and Utilization | D-only | 3 | | | x | | | 28 |
| Conceptualizing Dissemination Research and Activity: Canadian Heart Health Initiative | D-only | 3 | | x | x | | | 29, 30 |

Tabak 2012

# Model Categories

## Construct Flexibility (CF)

**1: Broad** — *Loosely outlined and defined constructs; allows researchers greater flexibility*

**2**

**3**

**4**

**5: Operational** — *Detailed, step-by-step actions for D&I research*

## Dissemination and / or Implementation (D/I)

**D only** — *Focus on active approach of spreading EBIs to target audience via determined channels using planned strategies*

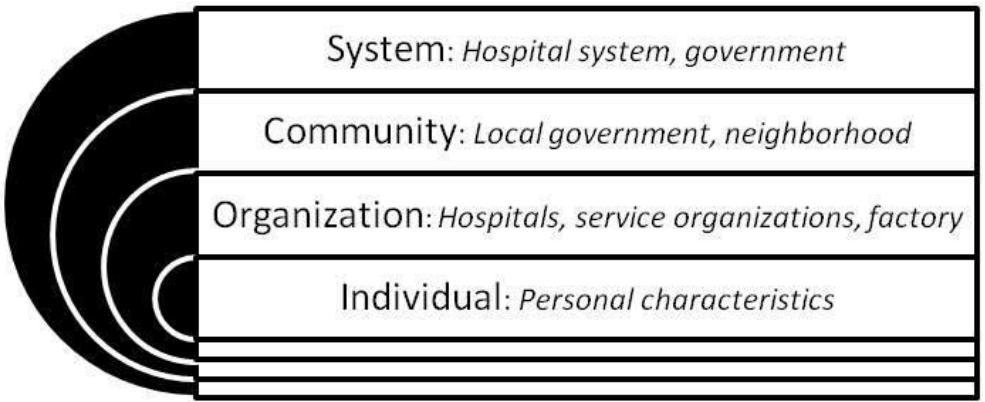
**D > I**

**D = I** — *Equal focus on dissemination and implementation*

**I > D**

**I only** — *Focus on process of putting to use or integrating evidence-based interventions within a setting*

## Socio-ecological Framework (SEF)

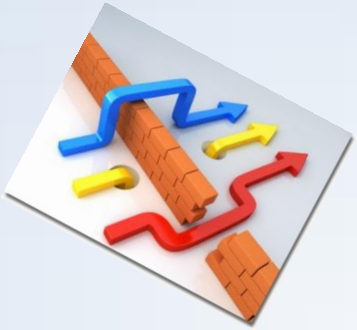


# Results – Cross-Tabulation

Number of Models in Each Category When the "Construct Flexibility" and "Dissemination vs. Implementation" Variables are Cross-tabulated

| | Dissemination vs. Implementation | | | | | |
|---|---|---|---|---|---|---|
| Construct Flexibility | D only | D > I | D = I | I > D | I only | Total |
| Broad = 1 | 2 | - | 2 | - | - | 4 |
| 2 | 3 | 5 | 6 | 1 | - | 15 |
| 3 | 4 | 5 | 6 | 2 | 8 | 25 |
| 4 | 1 | 4 | 2 | 2 | 2 | 11 |
| Operational = 5 | 1 | 2 | 1 | - | 2 | 6 |
| Total | 11 | 16 | 17 | 5 | 12 | 61 |

# **FACILITATING IMPLEMENTATION**
# IMPLEMENTATION STRATEGIES



# IMPLEMENTATION STRATEGIES

- "Methods or techniques used to enhance the implementation, adoption, and sustainability of a clinical program or practice"

  Curran 2012

- "Specified activities designed to put into practice an activity or program of known dimension"

  Fixsen 2005

- "Deliberate and purposeful efforts to improve the uptake and sustainability of treatment interventions"

  Proctor 2009

➢ have unparalleled importance in implementation science, as they constitute the 'how to' component of changing healthcare practice

Proctor 2013

# IMPLEMENTATION STRATEGIES

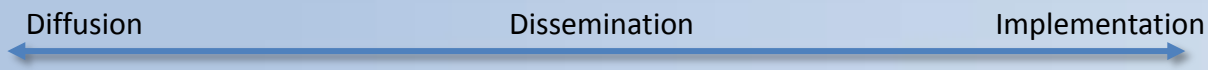
Access new funding
Alter incentive/allowance structures
Alter patient/consumer fees
Assess for readiness and identify barriers and facilitators
Audit and provide feedback
Build a coalition
Capture and share local knowledge
Centralize technical assistance
Change accreditation or membership requirements
Change liability laws
Change physical structure and equipment
Change record systems
Change service sites
Conduct cyclical small tests of change
Conduct educational meetings
Conduct educational outreach visits
Conduct local consensus discussions
Conduct local needs assessment
Conduct ongoing training
Create a learning collaborative
Create new clinical teams
Create or change credentialing and/or licensure standards
Develop a formal implementation blueprint
Develop academic partnerships
Develop an implementation glossary
Develop and implement tools for quality monitoring
Develop and organize quality monitoring systems
Develop disincentives
Develop educational materials
Develop resource sharing agreements
Distribute educational materials
Facilitate relay of clinical data to providers
Facilitation
Fund and contract for the clinical innovation
Identify and prepare champions
Identify early adopters
Increase demand
Inform local opinion leaders
Intervene with patients/consumers to enhance uptake and adherence
Involve executive boards
Involve patients/consumers and family members
Make billing easier
Make training dynamic
Mandate change
Model and simulate change
Obtain and use patients/consumers and family feedback
Obtain formal commitments
Organize clinician implementation team meetings
Place innovation on fee for service lists/formularies
Prepare patients/consumers to be active participants
Promote adaptability
Promote network weaving
Provide clinical supervision
Provide local technical assistance
Provide ongoing consultation
Purposely reexamine the implementation
Recruit, designate, and train for leadership
Remind clinicians
Revise professional roles
Shadow other experts
Stage implementation scale up
Start a dissemination organization
Tailor strategies
Use advisory boards and workgroups
Use an implementation advisor
Use capitated payments
Use data experts
Use data warehousing techniques
Use mass media
Use other payment schemes
Use train-the-trainer strategies
Visit other sites
Work with educational institutions

The ERIC compilation

Powell 2015

# TYPES OF IMPLEMENTATION STRATEGIES

- Passive vs. active strategies



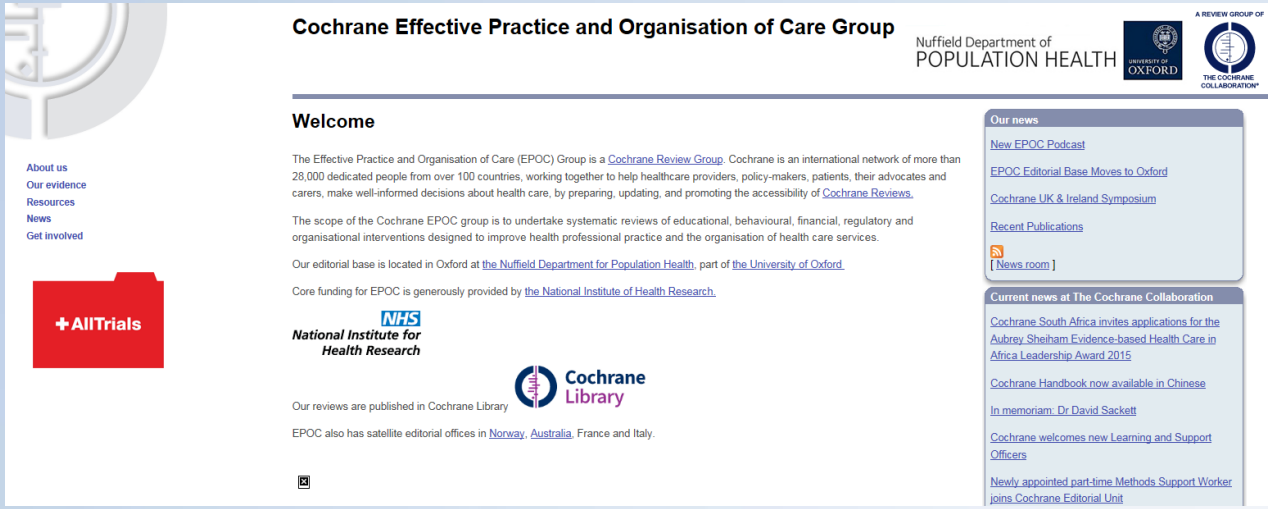

- Multifaceted/multi-component vs. single-component strategies
- Theory-based vs. pragmatic ("kitchen sink") strategies
- Controlling vs. facilitating strategies (non-voluntary vs. voluntary strategies)


- Targeting health professionals - policy makers - consumers

Van Woerkom 1990, Grol 2005, Proctor 2009, EPOC

# THE EPOC TAXONOMY

- Professional interventions
- Organisational interventions
- Financial interventions
- Regulatory interventions




epoc.cochrane.org

# THE EPOC TAXONOMY

- Professional interventions
  - Audit and feedback
  - Distribution of educational materials
  - Educational meetings
  - Educational outreach
  - Local consensus processes
  - Local opinion leaders
  - Tailored
  - Mass media
  - Patient-mediated
  - Reminders
  - Other
- Organisational int
- Financial interven
- Regulatory interve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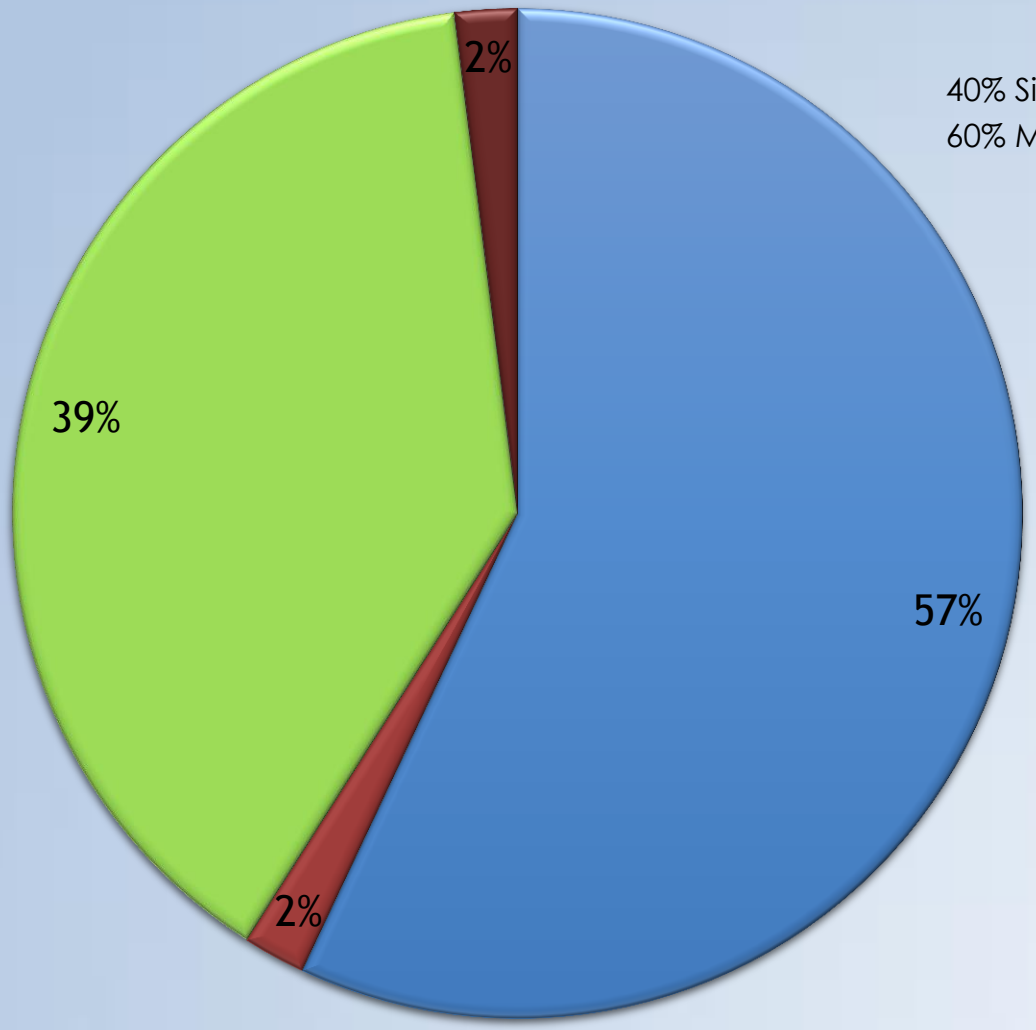
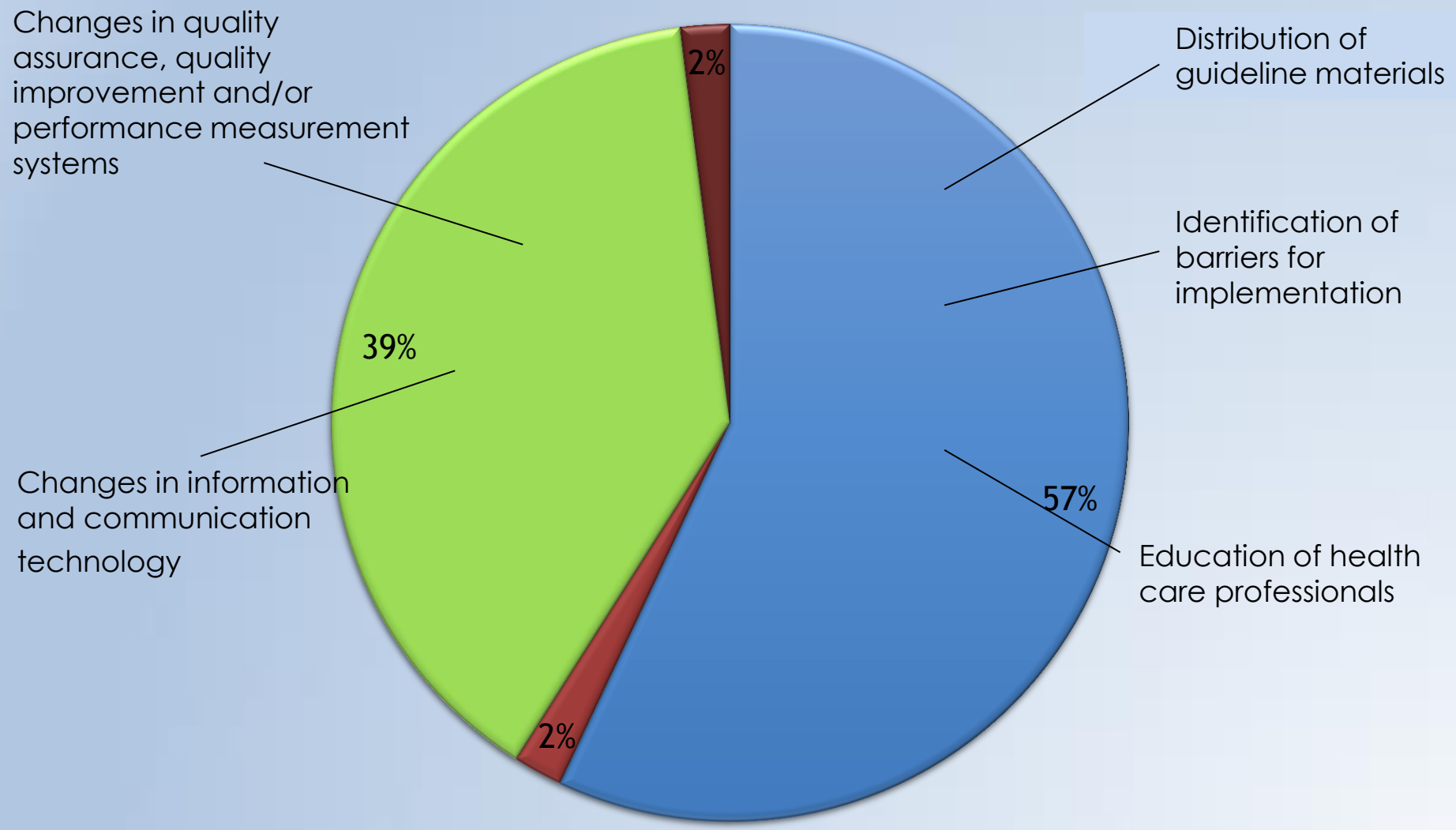
# IMPLEMENTATION STRATEGY DOMAINS




40% Single-component strategy
60% Multi-component strategy

Mazza 2013

# MOST COMMON IMPLEMENTATION STRATEGIES




Mazza 2013

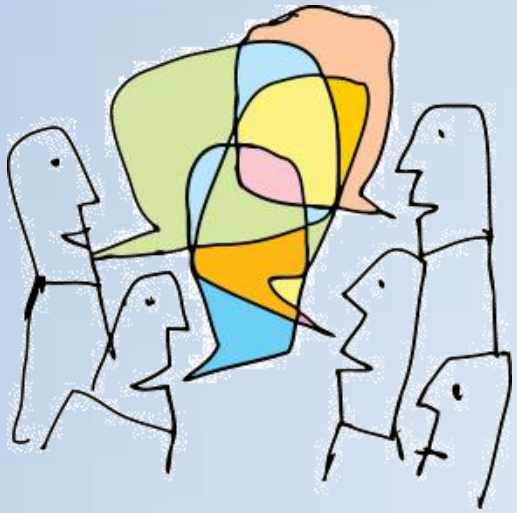
# EFFECTS OF IMPLEMENTATION STRATEGIES

| Implementation strategy | No. of studies | Magnitude of effect (median absolute improvement of care) | Source |
|---|---|---|---|
| **Printed educational material** | 23 | 4.3% (range −8.0% to +9.6%) | Farmer et al 2011 |
| **Educational meetings** | 81 | 6.0% (IQR +1.8% to 15.3%). Larger effects when attendance high, for mixed interactive and didactic meetings and interactive meetings. Smaller effects for complex behaviours, less serious outcomes | Forsetlund et al 2009 |
| **Educational outreach** | 69 | 4.8%-6.0% (IQR +3.0% to + 16.0%) Effects less certain for changing more complex behaviours | O'Brien et al 2008 |
| **Local opinion leaders** | 18 | 12.0% (IQR +6.0% to +14.5%) | Flodgren et al 2010 |
| **Audit and feedback** | 118 | 5.0% (IQR +3% to +11%) (Larger effects if low baseline compliance) | Jamtvedt et al 2010 |
| **Reminders** | 28 | 4.2% (IQR +0.8% to +18.8%) | Shojania et al 2011 |
| **Tailored interventions** | 12 | OR 1.52 (95% CI 1.27 to 1.82, p<.001) | Baker et al 2010 |

Grimshaw 2012

# DISCUSS…

1. Which strategy/-ies could be useful in your context?



# Literature tips!

Everett Rogers 2003: Diffusion of innovations

Jo Rycroft-Malone & Tracey Bucknall 2010 (eds): Models and frameworks for implementing evidence-based practice: Linking evidence to action

Richard Grol et al (eds) 2013: Improving patient care: The implementation of change in health care

Per Nilsen (ed) 2014: Implementering av evidensbaserad praktik

# THANK YOU FOR YOUR ATTENTION!

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