

# Understanding improvement: the importance of process evaluation

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# Model for planning change

Define 'good quality care'

**Quality indicators**

Analyse current performance of this 'good quality care'

Analyse factors influencing the provision of  
'good quality care'

**Barrier analysis**

Develop an improvement strategy | **Intervention mapping**

Execute & evaluate this improvement strategy

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## Execute & evaluate this implementation strategy

- Q Effect evaluation: does it work? **quality indicators**
- Q Economic evaluation: at what cost? **hours & materials**
- Q Process evaluation: why does it work? **intervention activities**

## Evaluation of intervention activities provides a description of:

- Q the 'intervention as planned' (blueprint for uniformity)
- Q the 'intervention as performed' (replication and comparison)
- Q the actual exposure of participants to the intervention (implementation fidelity to explain –lack of– success)
- Q the experiences of those exposed to the intervention (revision to enhance effectiveness)

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(implementation fidelity to explain –lack of– success)**
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to enhance effectiveness)

## Implementation fidelity (integrity)

Refers to the degree to which an intervention is delivered as intended by the intervention developers

Fidelity influences how far the intervention actually affects the outcomes

## Implementation fidelity

The effectiveness of a carefully developed intervention depends on the degree in which it is delivered

# Model for planning change

Define 'good quality care'



Analyse current performance of this 'good quality care'



Analyse factors influencing the provision (or not) of  
'good quality care'



Develop an improvement strategy based on



Execute & evaluate this improvement strategy



## Implementation fidelity

The effectiveness of a **carefully developed** intervention depends on the degree in which it is delivered



## Development of the improvement intervention

Perform the intervention mapping steps:

Analyse barriers – specify objectives – select methods – plan the program

# Example on hand hygiene

Define 'good quality care'



Analyse current performance of this 'good quality care'



Analyse factors influencing the provision (or not) of  
'good quality care'



Develop an improvement strategy based on this diagnosis



Execute & evaluate this improvement strategy

Analyse barriers	Specify objectives	Select methods
Lack of knowledge, (no evidence, no complications)	Improve knowledge	Education
No insight into performance	Provide insight into current performance and to reinforce improved behavior	Feedback
Routines/forget	Supporting the transfer from intention to behavior	Reminders
Inadequate facilities/products	Screen and adapt adequate facilities/products	Information on adequate facilities/products
No social norm and control (nobody thinks it is important)	Set norms and targets; model, instruct and stimulate desired behaviour	Role model
Management is not interested	Gaining active commitment and support of ward manager	Leadership involvement

## HELPING HANDS – state of the art strategy hospital wide HH campaign

- Hand hygiene promotion meeting
- Provision of leaflets (HH indications, instruction)
- Website, including HH quiz
- Promotion of adequate products and facilities
- Distribution of 3 posters (reminder)
- Provision (twice) of performance feedback (ward vs. hospital performance)





## **HELPING HANDS – extended strategy campaign PLUS team and leaders directed strategy**

- Three interactive team sessions (to set norms and targets & how to reach them)
- Modeling by informal leaders at the ward (model HH behavior & skills in addressing colleagues, instruct and stimulate colleagues)
- Gaining active commitment and support of ward manager (HH is a priority, compliance rates are regularly discussed with team members)

## Plan the process evaluation data collection

- Q Target group/participants
- Q Implementer
- Q Frequency
- Q Information provided

## Plan the process evaluation data collection

- Q On-site observation
- Q Self-report techniques (interviews and questionnaires)
- Q Existing data sources or records

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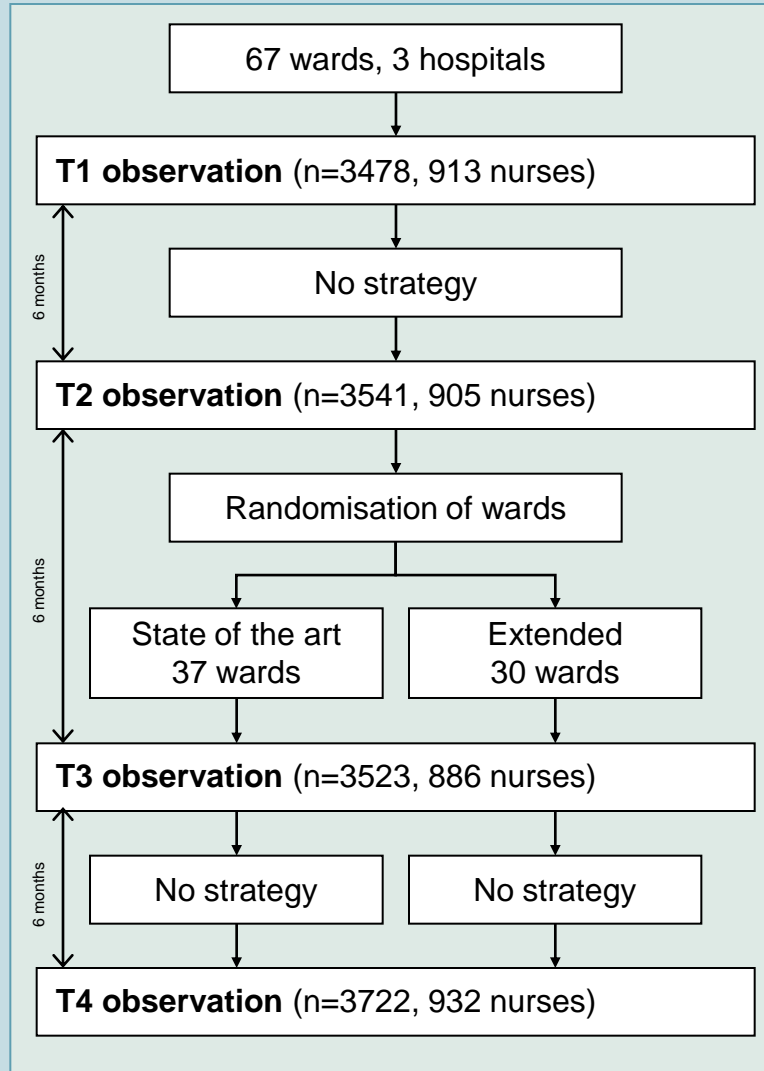




## **HELPING HANDS – extended strategy campaign PLUS team and leaders directed strategy**

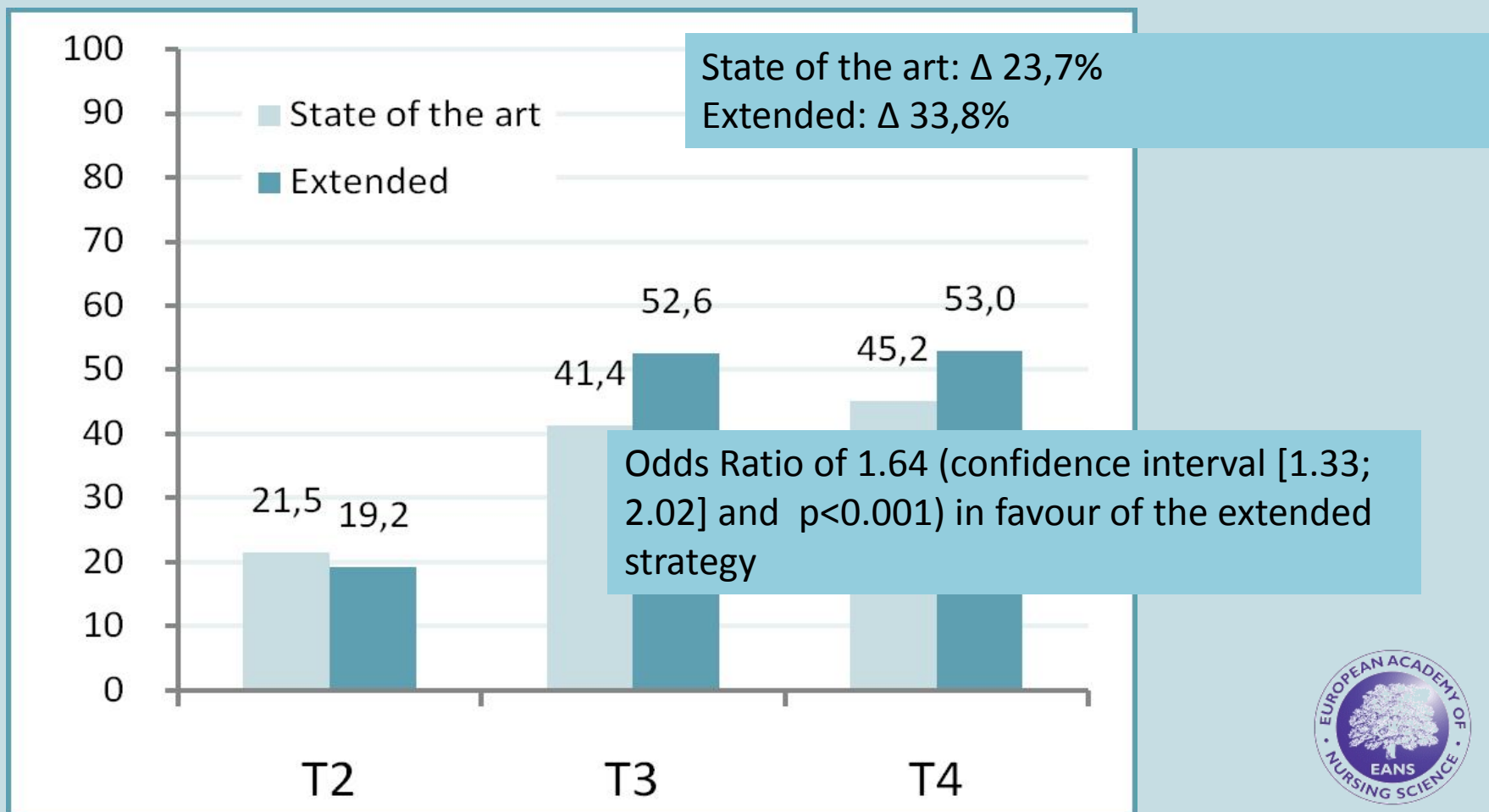
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# HELPING HANDS – study design



**Cluster  
randomised  
controlled trial**

## HELPING HANDS – effect evaluation results



## Hospital A, 16 teams State of the art strategy

1.  $\Delta$  70.4
2.  $\Delta$  37.5
3.  $\Delta$  15.4
4.  $\Delta$  29.1
5.  $\Delta$  36.7
6.  $\Delta$  23.9
7.  $\Delta$  39.4
8.  $\Delta$  60.7
9.  $\Delta$  50
10.  $\Delta$  -1.7
11.  $\Delta$  15.9
12.  $\Delta$  0
13.  $\Delta$  10
14.  $\Delta$  17.6
15.  $\Delta$  23.1
16.  $\Delta$  55.9

## Hospital A, 9 teams Extended strategy

1.  $\Delta$  59.8
2.  $\Delta$  29.7
3.  $\Delta$  51.8
4.  $\Delta$  45.7
5.  $\Delta$  41.4
6.  $\Delta$  20.7
7.  $\Delta$  35
8.  $\Delta$  33.6
9.  $\Delta$  54

## Implementation fidelity

The effectiveness of a **carefully developed** intervention depends on the degree in which it is delivered



## Cervical cancer screening (Hermens 2001)

**Comprehensive strategy** to introduce national guidelines for cervical cancer screening

**National level:** guidelines, educational materials, software programme, financial support

**Regional level:** working agreements between relevant parties, CME meetings for physicians and practice assistants

**Local level:** outreach visits

**Effect evaluation** (988 practices) adherence to nine out of the ten key indicators had been improved

## Cervical cancer screening (Hermens 2001)

Information on actual exposure to programme elements was collected by **postal questionnaire after intervention. E.g.:**

94% of practices informed about national prevention programme

30% of practices participated in CME for GPs

30% of practices participated in CME for practice assistants

40% of practices contact with an outreach visitor

median number of practice visits was two (range 1-13)

software programme used by 48% of practices

## Cervical cancer screening (Hermens 2001)

Crucial elements for the successful implementation of the guidelines were:

making use of the **software programme** (odds ratios (ORs) 1.85 - 10.2 for nine indicators)

having received **two or more outreach visits** (ORs 1.46 - 2.35 for six indicators)

**practice assistants** having attended the **CME meeting** (ORs 1.37 - 1.90 for four indicators)

CME meetings for doctors were not related to change