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Practical issues in using the TDF: The case of professional behaviour change

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Focus on patient safety

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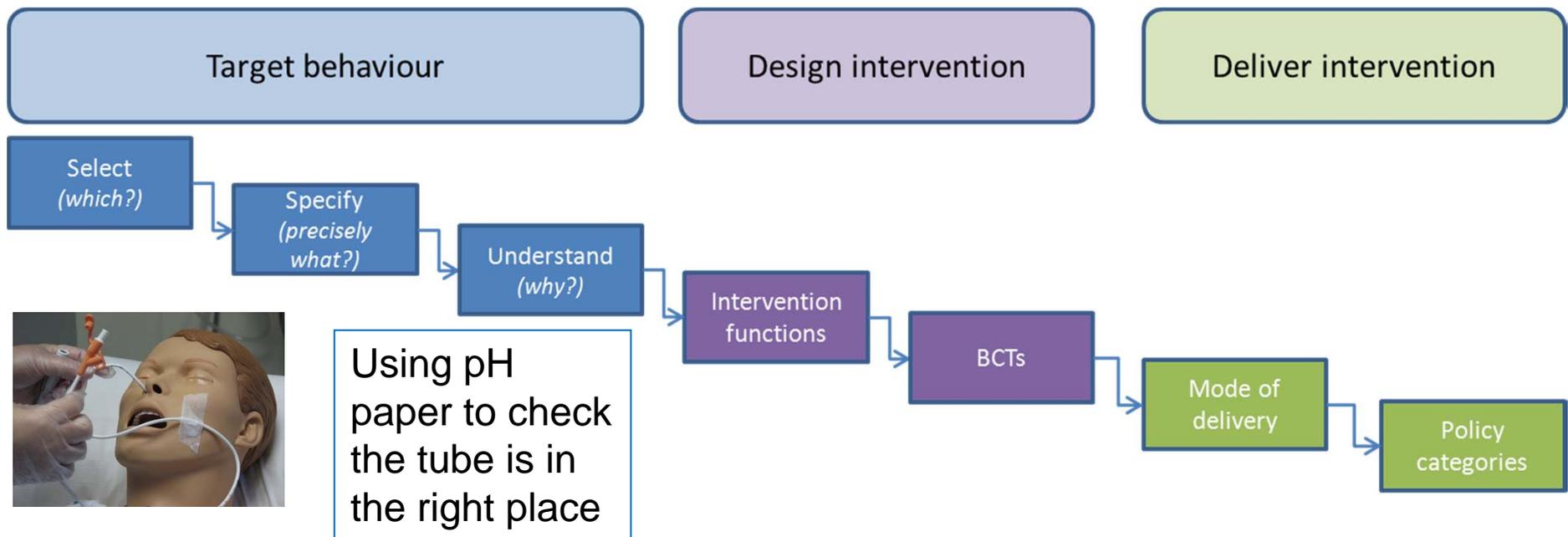
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- Absence of harm (patient falls, medication errors, infections etc.)
- Performance that is error free
- Behaviour that complies with procedures

Steps in the process using TDF

1. Identify target behaviour
2. Identify target domains
3. Identify appropriate intervention techniques
4. Develop delivery mechanism
5. Implement
= TDF + principles of implementation science

Identifying target behaviour: a challenge in itself



NPSA alert: Improving the safety of nasogastric tubes

Step 1: Defining the behaviour of focus

- A procedure or guideline often requires multiple behaviour changes
- Identify the key behaviour – perhaps the forcing function or the one where adherence is poorest
- Requires knowledge or data about current practice

Step 2: Identifying target domains

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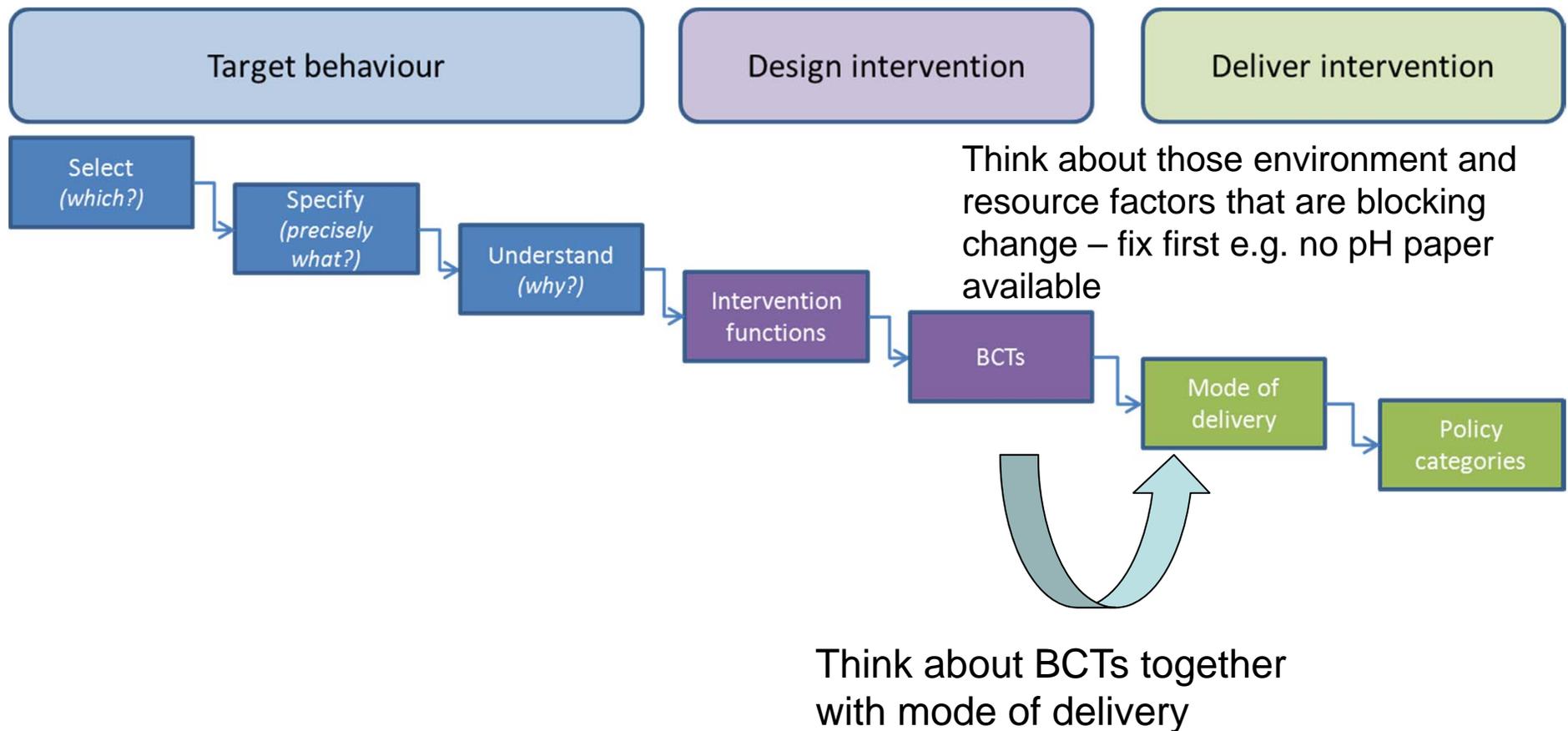
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- Understanding the barriers to behaviour change
- Identify the target group delivering change
- Don't just ask people – use the framework (Dyson et al. 2011)
- Questionnaires, interviews or focus groups
- Where to focus attention?

Barriers 'to using pH as the first line method for checking tube position' in three hospitals

Barrier	Mean (SD) H1 n = 81	Mean (SD) H 2 n =106	Mean (SD) H3 n =22
Knowledge	2.10 (0.7)	2.58 (0.7)	2.10 (0.7)
Skills	2.48 (0.9)	2.54 (0.7)	2.90 (0.8)
Social and professional identity	1.90 (0.8)	2.03 (0.8)	2.20 (0.7)
Beliefs about capabilities	2.55 (0.8)	2.49 (0.8)	2.60 (0.9)
Beliefs about consequences	2.20 (0.9)	2.20 (0.8)	2.40 (0.6)
Motivation and goals	2.50 (0.7)	2.46 (0.6)	2.59 (0.7)
Cognitive processes, memory and decision making	2.50 (0.8)	2.52 (0.7)	2.46 (0.7)
Environmental context and resources	2.53 (0.8)	2.80 (0.7)	2.68 (0.6)
Social influences	2.80 (0.8)	2.90 (0.7)	3.06 (0.8)
Emotion	2.53 (1.2)	2.30 (0.6)	2.20 (0.8)
Action Planning	2.50 (0.8)	2.24 (0.8)	2.16 (0.6)

Identifying appropriate BCTs and mode of delivery for intervention



Steps 3 and 4: Identifying appropriate intervention techniques and delivery

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- Use guidance from mapping exercise
- Engage with the users and managers
- What resources are available to implement strategies?
- What modes of delivery are feasible within the local context?
- Develop intervention by considering BCTs and delivery mechanisms simultaneously

Target domains for NPSA alert, behaviour change techniques and strategies for NG tubes

Domain and description	Behaviour change technique*	Implementation information (including dates)
Social influences: staff perceptions include 1) others do not encourage testing the pH as the first line test, 2) others do not use pH as first line themselves, and 3) that superiors do not express that they would like to see pH as the first line test	Persuasive communication	Project presented at four clinical governance meetings during September and October 2011
	Social processes of pressure Negative reinforcement	Radiology system change came into effect on 8 th February 2012; staff notified via protocols displayed on wards, global email, and dissemination by clinical leads/ward managers
	Social process of encouragement, support Prompts, triggers, cues	Posters placed and screensavers displayed on all wards on 7 th February 2012; one presented senior member of staff advocating the use of pH first line to address social influences
Emotion: staff perceptions include 1) anxiety and worry relating to trusting pH levels as the first line test	Anticipated regret Cognitive restructuring Persuasive communication	Posters placed and screensaver displayed on all wards; one presented NG tube X-ray to encourage staff to test themselves in terms of identifying the position of the tube, and attempted to elicit anticipated regret regarding likelihood of x-ray misinterpretation vs using pH
Environmental context and resources: staff perceptions include 1) the necessary resources are not available, 2) communication between staff about this is unclear, 3) there is not a good enough system in place to ensure pH is used first line	Environmental changes (objects to facilitate the behaviour) Prompts, triggers, cues	Although a pack has not been produced in time for this project, this option is still being pursued alongside Leeds Teaching Hospitals in partnership with Enteral UK. However, new documentation was designed and in use in 2011

Step 5: Implement

- TDF used as a way of encouraging local ownership for intervention
- Local healthcare team carried out steps 1-4 with support from us
- Bottom-up approach with management support
- Requires significant input of external time and time of teams

Some evidence of success, but challenges for evaluation

Table 2. Pre- and post-intervention implementation audit data

Audit information	Baseline <i>n</i> (%)	Post <i>n</i> (%)
Number of sets of notes audited	49	48
First line method used to check NG tube position (should be to use pH paper)		
pH of aspirate from patient's stomach	10 (20%)	30 (63%)
Patient sent for X-ray	25 (51%)	11 (23%)
Information <u>not</u> documented	14 (29%)	7 (15%)
Risk assessment as per NPSA guidelines	9 (18%)	30 (63%)
Nostril used documented	5 (10%)	35 (73%)
Length of tube documented	24 (49%)	40 (85%)
Aspirate outcome successful	8 (80%)	12 (40%)
Tube position checked before each feed	16 (33%)	29 (60%)
Reports of adverse events	4 (8%)	2 (4%)

Practical issues summarised

- Being specific *enough* about target behaviour
- Acknowledging that target domains may differ by population (e.g. nurses and doctors) and location (hospital)
- Understanding which BCTs are feasible and acceptable in context
- Engaging with those tasked with changing behaviour throughout
- Use TDF alongside other implementation science principles

Thank you for listening – any questions?

For more information contact me on
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