Housekeeping

- Toilets
- Fire escape
- Lunch and refreshments
- @Improve_Academy
- @LawtonRebecca
- @JudithDyson1
The Team

- **Presenters**
  - Rebecca Lawton
  - Judith Dyson

- **Acknowledgements**
  - Natalie Taylor
  - Ali Cracknell
Programme for this morning

- 10-10.30: Introduction to the workshop
- 10.45-11.15: Quality and safety improvement and behaviour change: the case of nasogastric tubes
- 11.15-11.30: Break (refreshments)
- 11.30-12.30: Identification of a target behaviour for change
- 12.30-1.15: Lunch
Programme for this afternoon

- 1.15-2.00pm: Identifying & addressing barriers to behaviour change
- 2.00-2.30: Designing your own intervention strategies
- 2.30-2.45pm: Break (refreshments)
- 2.45-3.05pm: Group feedback
- 3.55-3.45pm: ABC for patient safety: evidence based toolkit
Session 1: Behaviour change theory & application to own behaviour

BRADFORD INSTITUTE FOR HEALTH RESEARCH

MAKING RESEARCH REAL

10-10.30am
Professor Rebecca Lawton
Changing behaviour – piece of cake...right?

- Anyone still going with their new year’s resolutions? Or generally tried to change a health behaviour
  - Give up chocolate
  - Stop eating cakes
  - Dry (no alcohol)
  - Do more exercise
  - Give up smoking
Why is it hard to change our behaviour?

- In groups, pick one or two behaviours
- What are the barriers faced to changing behaviour?
- 2 mins
Determinants of behaviour change
Factors determining performance of health behaviours

Several factors account for individual differences in likelihood of undertaking health behaviour:

- demographic factors, e.g. age
- social factors, e.g., religious beliefs, resources
- perceived symptoms, e.g., coughing
- access to medical care, e.g., living near a doctor
- personality factors, e.g., conscientiousness
- social cognitions, e.g., beliefs
The role of social cognitions

Social Cognition Models (SCMs):

describe what are the important cognitions and their inter-relationships in the regulation of behaviour

Health-Behaviour Models

examine various aspects of an individual's cognitions in order to predict future health-related behaviours and outcomes.
Key models of social cognitions

1. Health Belief Model
2. Protection Motivation Theory
3. Theory of Reasoned Action/Theory of Planned Behaviour
4. Social Cognitive Theory approach
Theory of planned behaviour

- Attitude
- Subjective Norm
- PBC
- Behavioural Intention
- Behaviour

Theory of Planned Behaviour
How useful is psychological theory for changing behaviour?

- Interventions designed based on theory
  - Tend to have larger effects on behaviour than interventions that do not
- This is because they can help to:
  - Identify the types of beliefs that may promote or prevent behaviour change
  - Shape the interventions needed to promote behaviour change
How useful is psychological theory for changing behaviour?

Health psychology theory is not particularly accessible for practitioners and intervention developers who are not experts in this field

- Over 35 theories of behaviour/behaviour change – how do practitioners know which is the best one to pick?
- Many of these theories explain/predict behaviour (e.g., TPB) rather than provide information about how to change behaviour
- This means that interventions are often developed based on intuition and guesswork
- It makes them difficult to test to understand what works, and difficult for others to replicate
Theoretical frameworks of behaviour change

• Identify psychological factors impacting on behaviour change
• Provide clear evidence based guidance on how to:
  • Assess these factors using theory
  • Address these factors using theory (behaviour change techniques; BCTS)
• Two key frameworks of behaviour change:
  • Fishbein et al. (2001) – developed for health behaviour change
  • Michie et al. (2005) – developed for professional behaviour change
## Theoretical frameworks of behaviour change

<table>
<thead>
<tr>
<th>Fishbein Framework</th>
<th>Michie Framework</th>
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<tbody>
<tr>
<td>Skills</td>
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</tr>
<tr>
<td>Self-efficacy (confidence)</td>
<td>Beliefs about capabilities</td>
</tr>
<tr>
<td>Intention (motivation)</td>
<td>Motivation and goals</td>
</tr>
<tr>
<td>Environmental constraints</td>
<td><strong>Environmental context and resources</strong></td>
</tr>
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</tr>
<tr>
<td>Norms</td>
<td>Social influences</td>
</tr>
<tr>
<td>Self-standards</td>
<td>Social and professional role and identity</td>
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<tr>
<td></td>
<td><strong>Knowledge</strong></td>
</tr>
<tr>
<td></td>
<td>Action planning</td>
</tr>
<tr>
<td></td>
<td><strong>Memory, attention and decision processes</strong></td>
</tr>
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<td>Domain</td>
<td>Meaning</td>
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Why a behaviour change for patient safety course?

- Safety is fundamentally about the behaviours of staff, managers, patients ........
- Berwick report (2013) - give NHS staff career-long help to learn, master and apply modern methods for quality improvement
The Yorkshire Contributory Factors Framework

- Active failures
- Situational Factors
- Local Working Conditions
- Latent/Organisational Factors
- Latent/External Factors
Why is behaviour change for patient safety difficult? Round 1

- Often the aim is to get multiple people to change multiple behaviours!
- What are the barriers to changing behaviour for patient safety? (5 factors in 2-3 mins)
Why is behaviour change for patient safety difficult? Round 1

- What were your barriers to changing behaviour for patient safety?
Why is behaviour change for patient safety difficult? Round 2

- What do we do to change behaviour for patient safety?
- 2-3 mins to think of local strategies
Take home message

Change $\neq$ Barrier to strategy $\neq$ behaviour
Session 2: Quality and safety improvement and behaviour change: the case of nasogastric tubes

Bradford Institute for Health Research

10.45-11.15am

Professor Rebecca Lawton
Overview

- Why is it so difficult?
- What factors influence behaviour?
- What can you do to support safe behaviour in practice?
- Does this approach work?
So, what can we do to support behaviour change in practice?

Summary

Problem

Behaviour change gap

Recommend action

No guidance on how to ensure staff perform recommended actions
Key intervention implementation principles for complex healthcare settings

- Management approval and ongoing support
- Commitment amongst members of the target group
- Use of boundary spanners
- Mapping of guidelines onto local problems
- Adopting the perspective of the target group
- Acknowledging the complexity of the changing behaviour in practice
- A monitoring plan
- A flexible approach that is driven by local context
- Co-production and design to combine theoretical and contextual expertise
- Incorporation into established structures
Stepped process informed by behaviour change and implementation literature

**STEP 1**
Involve stakeholders
- Medical directors and sharp end staff

**STEP 2**
Identify target behaviour
- Audit and discussion

**STEP 3**
Identify barriers
- Barriers to Patient Safety Questionnaire (BToPS-Q)

**STEP 4**
Confirm barriers and generate intervention strategies
- Focus groups

**STEP 5 & 6**
Support staff to implement and evaluate intervention
- Joint approach
- Re-auditing

Including nursing staff, junior doctors, registrars, consultants
Stepped process informed by behaviour change and implementation literature

- Involve stakeholders
  - Medical directors and sharp end staff

- Identify target behaviour
  - Audit and discussion

- Identify barriers
  - Barriers to Patient Safety Questionnaire (BToPS-Q)

- Confirm barriers and generate intervention strategies
  - Focus groups

- Support staff to implement and evaluate intervention
  - Joint approach
  - Re-auditing

Including nursing staff, junior doctors, registrars, consultants

Healthcare professionals not using pH as the first line method for checking tube position
## Results

**Barriers ‘to using pH as the first line method for checking tube position’**

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Mean (SD) H1 n = 81</th>
<th>Mean (SD) H2 n = 106</th>
<th>Mean (SD) H3 n = 22</th>
<th>Mean (SD) all hospitals n = 209</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>2.10 (0.7)</td>
<td>2.58 (0.7)</td>
<td>2.10 (0.7)</td>
<td>2.10 (0.8)</td>
</tr>
<tr>
<td>Skills</td>
<td>2.48 (0.9)</td>
<td>2.54 (0.7)</td>
<td>2.90 (0.8)</td>
<td>3.00 (1.0)</td>
</tr>
<tr>
<td>Social and professional identity</td>
<td>1.90 (0.8)</td>
<td>2.03 (0.8)</td>
<td>2.20 (0.7)</td>
<td>2.00 (0.8)</td>
</tr>
<tr>
<td>Beliefs about capabilities</td>
<td>2.55 (0.8)</td>
<td>2.49 (0.8)</td>
<td>2.60 (0.9)</td>
<td>2.53 (0.8)</td>
</tr>
<tr>
<td>Beliefs about consequences</td>
<td>2.20 (0.9)</td>
<td>2.20 (0.8)</td>
<td>2.40 (0.6)</td>
<td>2.20 (0.8)</td>
</tr>
<tr>
<td>Motivation and goals</td>
<td>2.50 (0.7)</td>
<td>2.46 (0.6)</td>
<td>2.59 (0.7)</td>
<td>2.47 (0.7)</td>
</tr>
<tr>
<td>Cognitive processes, memory and decision making</td>
<td>2.50 (0.8)</td>
<td>2.52 (0.7)</td>
<td>2.46 (0.7)</td>
<td>2.49 (0.8)</td>
</tr>
<tr>
<td>Environmental context and resources</td>
<td>2.53 (0.8)</td>
<td>2.80 (0.7)</td>
<td>2.68 (0.6)</td>
<td>2.66 (0.8)</td>
</tr>
<tr>
<td>Social influences</td>
<td>2.80 (0.8)</td>
<td>2.90 (0.7)</td>
<td>3.06 (0.8)</td>
<td>2.83 (0.7)</td>
</tr>
<tr>
<td>Emotion</td>
<td>2.53 (1.2)</td>
<td>2.30 (0.6)</td>
<td>2.20 (0.8)</td>
<td>2.32 (0.9)</td>
</tr>
<tr>
<td>Action Planning</td>
<td>2.50 (0.8)</td>
<td>2.24 (0.8)</td>
<td>2.16 (0.6)</td>
<td>2.36 (0.8)</td>
</tr>
</tbody>
</table>
### Results: Focus group interventions matched to barriers and BCTs (H1)

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Strategy</th>
<th>Behaviour change technique*</th>
</tr>
</thead>
</table>
| **Social influences**         | • Educate higher grades of staff to change attitudes and encourage them to model this behaviour (presented work at clinical governance groups)<br>  
  - Information presented at clinical governance meetings by experts in the area<br>  
  - Awareness day held within the Trust<br>  
  • Empower nurses/juniors to say no to doctors/seniors if they just want to send the patient straight to radiology<br>  
  - Posters with pictures of senior staff performing correct behaviour                                                                 | Persuasive source<br>  
  Information about health consequences, and about social/environmental consequences<br>  
  Prompts, cues<br>  
  Social support (unspecified)                                                                 |
| **Emotion**                   | • Provide information that misinterpretations of x-ray caused 50% of the deaths recorded by NPSA to demonstrate that it is not necessarily the safest option (provide some real life examples of x-rays that have been misinterpreted);<br>  
  • Ask staff to consider the regret they would feel if they had not used pH as a first line of testing before the X-ray and then misinterpreted x-ray)<br>  
  - Screensaver contained messages to elicit anticipated regret and to reframe perspective on behaviour                                                                                  | Anticipated regret<br>  
  Salience of consequences<br>  
  Framing/reframing                                                                 |
| **Environmental context and resources** | • Empower radiology to refuse to X-ray without pH paper test record<br>  
  - Radiology and ward protocols designed to empower staff<br>  
  • New documentation<br>  
  - Instructions, flow chart, measurement tool, who placed NG, place to record pH values, etc.<br>  
  • Make intranet more accessible so staff can find policies, etc.<br>  
  - Splashscreen placed on intranet with prompt about pH testing and link to all relevant documentation                                                                                  | Prompts, triggers, cues<br>  
  Adding objects to the environment<br>  
  Prompts, triggers, cues                                                                 |
| **Bcap (and knowledge and skills)** | • Practical training in an appropriate setting that allows staff to focus and spend time developing the correct skills<br>  
  • Practical training complete for current FY1s<br>  
  • E-learning package developed for junior doctors                                                                                                                          | Instruction on how to perform a behaviour<br>  
  Behavioural practice/rehearsal                                                                 |
Does this approach work?

Target behaviour: Using pH as the first line method for checking tube position

<table>
<thead>
<tr>
<th>Audit information</th>
<th>Hospital 1</th>
<th></th>
<th>Hospital 2</th>
<th></th>
<th>Hospital 3</th>
<th></th>
<th>Hospital 4 (Control)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Number of sets of notes audited</td>
<td>49</td>
<td>48</td>
<td>43</td>
<td>44</td>
<td>44</td>
<td>40</td>
<td>53</td>
<td>46</td>
</tr>
<tr>
<td>pH of aspirate from stomach</td>
<td>18%</td>
<td>63%</td>
<td>12%</td>
<td>73%</td>
<td>14%</td>
<td>33%</td>
<td>45%</td>
<td>46%</td>
</tr>
<tr>
<td>Patient sent for X-ray</td>
<td>49%</td>
<td>23%</td>
<td>77%</td>
<td>9%</td>
<td>41%</td>
<td>40%</td>
<td>25%</td>
<td>20%</td>
</tr>
<tr>
<td>Tube placed in radiology</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>36%</td>
<td>10%</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*p < .05; **p < .01 (Chi Square)
First line method used to check NG tube position: Trust A

- FY1 doctors attend NGT training. Presented at 4 clinical audit meetings
- Screen saver launched with an awareness day. Radiology system change in place
Results: Medicines reconciliation

Target behaviours: Compiling accurate inpatient prescriptions (doctors) and to effectively communicating any changes, omissions, or discrepancies to doctors (pharmacists)

<table>
<thead>
<tr>
<th>Audit information</th>
<th>Hospital 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T1</td>
</tr>
<tr>
<td>Mean discrepancies overall (Drs)</td>
<td>3.5</td>
</tr>
<tr>
<td>Mean discrepancies for omitted drugs (Drs)</td>
<td>3</td>
</tr>
<tr>
<td>% discrepancies relating to spelling mistakes (Drs)</td>
<td>31%</td>
</tr>
<tr>
<td>% errors that were corrected/noted (Pharmacists)</td>
<td>48%</td>
</tr>
</tbody>
</table>

*p < .05; **p < .01; ***p < .001
Other examples using framework

- Hand hygiene (Dyson et al., 2013)
- Low back pain management in primary care (French et al., 2012)
- Management of mild traumatic brain injury in the emergency department (Knott et al., 2014)
- Tobacco cessation counselling by oral health professionals (Amemori et al., 2013)
- Midwives engaging with pregnant women in discussions about smoking (Boenstock et al., 2012)
- Development of an intervention to promote activity in care homes (ongoing work at BIHR)
Steps in the process using the TDF

1. Forming implementation teams
2. Identifying the target behaviour(s)
3. Identifying local barriers to performing the target behaviour
4. Co-developing evidence based strategies with staff to address local barriers
5. Implementing interventions
6. Evaluation
Break

- 11.15-11.30
Session 3: Identifying the behaviour

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11.30-12:30

Dr Judith Dyson
Steps in the process using the TDF

1. Forming implementation teams
2. Identifying the target behaviour(s)
3. Identifying local barriers to performing the target behaviour
4. Co-developing evidence based strategies with staff to address local barriers
5. Implementing interventions
6. Evaluation
Behaviour versus goal

- Important to distinguish the two

- Diet example
  - The goal might be to lose 3 pounds but this is not the behaviour you need to do to achieve the goal - you need to eat less fat, eat more fruit, buy low calorie produce, go walking three times a week. So, it is important to align behaviours with goals but they are not the same thing.

- Patient safety example
  - The goal might be to reduce wound infections but the behaviour you need to do to achieve the goal is give antibiotics before surgery (checklist is technique to prompt this behaviour, but note ‘completion of checklist’ then becomes another behaviour that is required in the sequence).
Behaviours?

- For patients given an NSAID, also prescribe PPI
- Reduce risky prescribing by 20%
- Reduce in-patient falls
- Carry out a falls risk assessment for every patient within 12 hours of admission
- Use X checklist with every patient to assess risk of pressure ulcers
- Improve pressure ulcer rates by 15%
Finding the target behaviour: other examples

- Hand hygiene – gel vs washing – frequency, timing, length or using Ayliffe technique
- Is the problem one of recording the behaviour (documentation or doing the behaviour)
- Offer smoking cessation support (vague)
- Be specific about what, when, where and how often
An example . . . what’s the behaviour?

- Inappropriate dip stick testing (e.g. catheter, e.g. no UTI symptoms)
- Antibiotic prescribing without MSU
- Antibiotic prescribing not in line with policy (e.g. Cefalexin 2\textsuperscript{nd} line due to C diff being Rx 1\textsuperscript{st} line)
- Not all positive dipstick results followed up by MSU
- Prescriptions for antibiotics 3 days or less . . . .
Exercise: process mapping

- What is the behaviour that you want to change?
- Is there sufficient evidence that this behaviour change will produce the desired outcome?
- Literature (caution e.g. WHO theatres) Audit (local context)
- The process and the domino effect
- Which will make the most difference...
- Result a clearly defined behaviour who, when, what, how, where
- Feedback
Lunch

- 12.30-1.15
Programme for this afternoon

- 1.15-2.00pm: Identifying & addressing barriers to behaviour change
- 2.00-2.30: Designing your own intervention strategies
- 2.30-2.45pm: Break (refreshments)
- 2.45-3.05pm: Group feedback
- 3.55-3.45pm: ABC for patient safety: evidence based toolkit
Session 4: Assessing and addressing barriers to behaviour change

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MAKING RESEARCH REAL

1.15-2.00pm
Dr Judith Dyson
Steps in the process using the TDF

1. Forming implementation teams
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3. **Identifying local barriers to performing the target behaviour**
4. Co-developing evidence based strategies with staff to address local barriers
5. Implementing interventions
6. Evaluation
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Questionnaire

- Allows identification of barriers across wider population within an organisation
- More representative understanding of key barriers
  - Useful for identifying barriers amongst large group (e.g., for achieving organisational level change)
- Every question is asked in relation to target behaviour
Influences on Patient Safety Behaviour Questionnaire (IPSBQ)
4. Results

Factor Structure of the MOLES index

This process resulted in a five factor 20 item instrument that measures the behavioural determinants to skin self-examination. The instrument tested well for internal consistency (α=0.928), construct validity ($\chi^2/df = 1.33$ (p<0.01), RMSEA = 0.04 and CFA = 0.95). Test retest reliability is good (r=0.48, p<0.01) for all items and domains.

- Outcome expectancies
  - SSE improves health
  - SSE gives me control
  - SSE prevents skin cancer
  - SSE stops problems getting worse
  - I can make the effort
  - I could make it happen
  - I can make it routine

- Intentions
  - I am confident about SSE
  - I am able to do SSE
  - I know my motives

- Self efficacy
  - I could explain the benefits of SSE
  - My friend encourages SSE
  - My family encourages SSE
  - My doctor/nurse encourages SSE
  - I know someone who had skin cancer
  - It doesn't occur to me
  - I can't be bothered
  - I don't remember

- Social Influences
  - SSE stops problems getting worse
  - I can make the effort
  - I could make it happen
  - I can make it routine

- Memory
  - SSE improves health
  - SSE gives me control
  - SSE prevents skin cancer
  - SSE stops problems getting worse
  - I can make the effort
  - I could make it happen
  - I can make it routine

- Barriers and Levers to SSE
  - SSE stops problems getting worse
  - I can make the effort
  - I could make it happen
  - I can make it routine
  - SSE improves health
  - SSE gives me control
  - SSE prevents skin cancer

Figure 1 Factor structure of the BALHHI.
Exercise: Map the questionnaire items to domains

- In groups, complete the sheet in (less than) 10 minutes
- Note any problems
One I have prepared earlier...
Focus groups

- Gain in depth understanding of key barriers
- Less representative of organisation
- Can also be used to generate ideas for implementation strategies (step 4)
- Example schedule
Focus group quotes

- “if my boss told me to do one it would be very difficult for me to, depending on which the boss was, generally you’d be like no but don’t you know that local guidelines are...they’d be like I said get a chest x-ray, you’d be like oh alright.”

- “what I’ve identified is the problem is that I get newly qualified staff nurses coming through who have never been taught this as a method of checking, don't know how to check it, don't feel confident to do that
Questionnaires or focus groups?

- Best bet... BOTH!
Its impossible to predict barriers

- Sending an MSU after a dipstick when they discover leucocytes and nitrates
- What do you think the barriers are?
<table>
<thead>
<tr>
<th>Mean_cap</th>
<th>Mean_Kno</th>
<th>Mean_skill</th>
<th>Mean_prc</th>
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</table>

Motivation goals priorities
How much do they want to do X? How much do they feel the need to do X? Are there incentives to do X? Are there competing priorities?
Exercise

- You have defined the behaviour – use the TDF and identify the barriers
- What are the top three (and the domains within which they fit)
- Feedback
Session 5: Designing your own change project using behaviour change theory

Bradford Institute for Health Research
Making Research Real

2.00-2.45pm
Dr Judith Dyson
Steps in the process using the TDF

1. Forming implementation teams
2. Identifying the target behaviour(s)
3. Identifying local barriers to performing the target behaviour
4. **Co-developing evidence based strategies with staff to address local barriers**
5. Implementing interventions
6. Evaluation
Behaviour change technique taxonomy

- Clear description of techniques to change behaviour
- Allow replication
- Allow linkage to theoretical determinants of behaviour (barriers)
Co-Develop - Taxonomy

<table>
<thead>
<tr>
<th>Technique for behaviour change</th>
<th>Techniques judged to be effective in changing each construct domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal/target specified: behaviour or outcome</td>
<td>1</td>
</tr>
<tr>
<td>Monitoring</td>
<td></td>
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<tr>
<td>Self-monitoring</td>
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<tr>
<td>Contract</td>
<td></td>
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<tr>
<td>Rewards; incentives (inc. self-evaluation)</td>
<td></td>
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<tr>
<td>Graded task, starting with easy tasks</td>
<td></td>
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<tr>
<td>Increasing skills: problem-solving, decision-making, goal-setting</td>
<td></td>
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<tr>
<td>Stress management</td>
<td></td>
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<tr>
<td>Coping skills</td>
<td></td>
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<tr>
<td>Rehearsal of relevant skills</td>
<td></td>
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<tr>
<td>Role-play</td>
<td></td>
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<tr>
<td>Planning, implementation</td>
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<tr>
<td>Prompts, triggers, cues</td>
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<tr>
<td>Environmental changes (e.g. objects to facilitate behaviour)</td>
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<tr>
<td>Social processes of encouragement, pressure, support</td>
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<tr>
<td>Persuasive communication</td>
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<tr>
<td>Information regarding behaviour, outcome</td>
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<tr>
<td>Personalised message</td>
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<tr>
<td>Modelling/demonstration of behaviour by others</td>
<td></td>
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<tr>
<td>Homework</td>
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<tr>
<td>Personal experiments, data collection (other than self-monitoring</td>
<td></td>
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<tr>
<td>Experiential: tasks to gain experiences to change motivation</td>
<td></td>
</tr>
<tr>
<td>Feedback</td>
<td></td>
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</tbody>
</table>
Table 3.1: Labels of the BCTs within the taxonomy (each has a definition)

<table>
<thead>
<tr>
<th>Grouping and BCTs</th>
<th>Grouping and BCTs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Goals and planning</td>
<td>5. Comparison of outcomes</td>
</tr>
<tr>
<td>1.1. Goal setting (behaviour)</td>
<td>5.1. Comparison of outcomes (self)</td>
</tr>
<tr>
<td>1.2. Goal setting (environment)</td>
<td>5.2. Goal setting (behaviour)</td>
</tr>
<tr>
<td>1.3. Goal setting (autonomous)</td>
<td>5.3. Goal setting (environment)</td>
</tr>
<tr>
<td>1.4. Action planning</td>
<td>5.4. Goal setting (autonomous)</td>
</tr>
<tr>
<td>1.5. Reinforcement strategies</td>
<td>5.5. Reinforcement strategies</td>
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<tr>
<td>1.6. Reinforcement strategies (external)</td>
<td>5.6. Reinforcement strategies (external)</td>
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<tr>
<td>1.7. Reinforcement strategies (internal)</td>
<td>5.7. Reinforcement strategies (internal)</td>
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<tr>
<td>1.8. Reinforcement strategies (social)</td>
<td>5.8. Reinforcement strategies (social)</td>
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<tr>
<td>1.9. Reinforcement strategies (environmental)</td>
<td>5.9. Reinforcement strategies (environmental)</td>
</tr>
<tr>
<td>1.10. Reinforcement strategies (autonomous)</td>
<td>5.10. Reinforcement strategies (autonomous)</td>
</tr>
<tr>
<td>1.11. Reinforcement strategies (complex)</td>
<td>5.11. Reinforcement strategies (complex)</td>
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<tr>
<td>1.12. Relational reinforcement</td>
<td>5.12. Relational reinforcement</td>
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<tr>
<td>1.13. Contingent reinforcement</td>
<td>5.13. Contingent reinforcement</td>
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<tr>
<td>1.15. Delayed reinforcement</td>
<td>5.15. Delayed reinforcement</td>
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<tr>
<td>1.16. Immediate reinforcement</td>
<td>5.16. Immediate reinforcement</td>
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<td>1.17. Incentive</td>
<td>5.17. Incentive</td>
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<td>1.18. Punishment</td>
<td>5.18. Punishment</td>
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<td>1.19. Positive punishment</td>
<td>5.19. Positive punishment</td>
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<tr>
<td>1.20. Negative punishment</td>
<td>5.20. Negative punishment</td>
</tr>
</tbody>
</table>

Bradford Institute for Health Research
Co-Develop Pragmatic solutions

- Talking cones
- MRSA (YMCA) on hospital radio
- A certificate and a day extra annual leave
- “sister”
- Motorway service stations
- The woman in the opposite bed
Exercise

- Using the handouts indicated select BCTs that address your identified barriers
- Use these to design a creative, clever, feasible intervention
- Order
  1. Knowledge alone – not enough – but it is a necessary pre-requisite – if there is a deficit – address it
  2. Without environmental support – nothing will work
  3. After that – which are the biggest barriers
  4. If you have two/more – which BCT’s address both/more? (Unlikely to be more – why?)
- (Top tip for intervention design – start bold . . . modify later)
- Coffee and Feedback
Break

2:30 to 2:45
Exercise – reminder - feedback

- Using the handouts indicated select BCTs that address your identified barriers
- Use these to design a creative, clever, feasible intervention
- Order
  1. Knowledge alone – not enough – but it is a necessary pre-requisite – if there is a deficit – address it
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- (Top tip for intervention design – start bold . . . modify later)
Steps in the process using the TDF

1. Forming implementation teams
2. Identifying the target behaviour(s)
3. Identifying local barriers to performing the target behaviour
4. Co-developing evidence based strategies with staff to address local barriers
5. Implementing interventions
6. Evaluation
Implementing your intervention

- What are the challenges going to be? (5 mins and feedback)
Session 6: Evaluating Interventions

Bradford Institute for Health Research
Making Research Real

3.15-3.45pm
Professor Rebecca Lawton
Steps in the process using the TDF

1. Forming implementation teams
2. Identifying the target behaviour(s)
3. Identifying local barriers to performing the target behaviour
4. Co-developing evidence based strategies with staff to address local barriers
5. Implementing interventions
6. Evaluation
What should I measure?

Donabedian’s Quality Framework

<table>
<thead>
<tr>
<th>Structure</th>
<th>Process</th>
<th>Outcomes</th>
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<tbody>
<tr>
<td>Characteristics of institutions &amp; providers</td>
<td>What is done to the patient</td>
<td>What happens to the patient</td>
</tr>
</tbody>
</table>

- **Structure**
  - Laboratory and radiology test
  - Diagnostic approaches
  - Drugs prescribed
  - Therapeutic procedures

- **Process**
  - Criteria and standards for specific diagnostic categories and procedures

- **Outcomes**
  - Midpoint and end results of the clinical care process:
    - Morbidity
    - Mortality
    - Infection rates
    - Complication rates
  - Combine other measures by examining the end results of care
How do I measure it?

- Survey – patient experience
- Audit of case notes or other documents
- Observation
- Ongoing monitoring
- Case note review
- Routinely collected data
- Interviews
## Step 6: Evaluation (measuring change)

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

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

FY1 doctors attend NGT training. Presented at 4 clinical audit meetings.

Screen saver launched with an awareness day. Radiology system change in place.
Exercise

- How will you evaluate the impact of your intervention?
- Feedback
Session 7: final words
3.15-3.45pm
Professor Rebecca Lawton
Final words

- Questions
- Evaluation
- Thanks