Using Psychological Theory to Translate Evidence into Practice: hand hygiene

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MRC-DTA Studentship 2007

Supervisors:
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Dr C Jackson, School of Healthcare, University of Leeds
Dr R J Lawton, Institute of Psychological Sciences, University of Leeds
What I will present today

• Background to the study. What and why?
• First phase data, one of the questions, some of the answers
• Overview of the rest of the study
• 50 - 70% of patients receive recommended care
• 30% receive care that is contraindicated (Schuster et al 2005)
• Implementation strategies
• No “magic bullets”
• Used to improve hand hygiene
**Why?**

1. Need for tailoring strategies according to assessed barriers and levers
2. Lack of explicit theoretical basis for assessment of barriers and levers and implementation strategies used

These lead to the study aim
To produce a theory based instrument that will accurately assess barriers and levers to hand hygiene practice to enable tailoring of implementation strategies
Background
Psychological theory

• Useful in understanding individual and organisational behaviour change

• Complex, vast, overlapping

• Group of health psychologists addressed this (BPS)

• Identified all known theoretical variables (128)

• Consensus process, simplified into 11 domains (Michie et al 2005)
## Background

### Why hand hygiene? Compliance

<table>
<thead>
<tr>
<th>Authors</th>
<th>Year</th>
<th>Area</th>
<th>Compliance %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pittet et al</td>
<td>1999</td>
<td>General Hospital</td>
<td>48</td>
</tr>
<tr>
<td>Pittet et al</td>
<td>1999</td>
<td>ICU</td>
<td>36</td>
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<tr>
<td>Lankford et al</td>
<td>2003</td>
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<td>Creedon</td>
<td>2005</td>
<td>ICU</td>
<td>51</td>
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<tr>
<td>Pessoa-Silva et al</td>
<td>2006</td>
<td>Neonatal</td>
<td>42</td>
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<tr>
<td>McArdle et al</td>
<td>2006</td>
<td>ICU</td>
<td>40-50</td>
</tr>
<tr>
<td>Larson</td>
<td>2007</td>
<td>ICU</td>
<td>56</td>
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</tbody>
</table>
Background
Why hand hygiene? It’s important

• 5 – 10% acquire an infection
• 5000 deaths per year (UK) (NAO 2000)
• > £900 million (Plowman et al 1999)
• Hand hygiene - primary measure to reduce Hospital Acquired Infection (HAI) (WHO 2007)
Structure of the study

- Literature Review
  - Interviews with health care practitioners (n=25)
  - Focus groups with health care practitioners (n=21)
  - Questionnaires with health care practitioners (n=24)
  - Interviews with recent hospital patients (n=25)

  - Evaluate the use of theory in assessing barriers and levers
  - Comprehensive list of barriers and levers

  - Evaluate the best research method for assessing barriers and levers
  - Next phase of the study
  - Evaluate patient involvement in assessing barriers and levers
## Two sets of questions
### BPS and Non-BPS

<table>
<thead>
<tr>
<th>BPS</th>
<th>Non-BPS</th>
</tr>
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<tbody>
<tr>
<td>Knowledge</td>
<td>Innovation</td>
</tr>
<tr>
<td>Skills</td>
<td>Credibility of research</td>
</tr>
<tr>
<td>Professional role/identity</td>
<td>conflicting guidelines/literature</td>
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<tr>
<td>Capabilities</td>
<td>difficulty</td>
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<td>Individual</td>
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<td>Motivation and goals</td>
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<td>Memory and attention</td>
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</tr>
<tr>
<td>Environmental context</td>
<td>forget</td>
</tr>
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<td>Organisational</td>
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<tr>
<td>Emotion</td>
<td>Role models</td>
</tr>
<tr>
<td>Action Planning</td>
<td>Patient expectations</td>
</tr>
<tr>
<td>(Adapted from Michie et al 2005)</td>
<td>professional role</td>
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</tr>
<tr>
<td></td>
<td>Leadership</td>
</tr>
<tr>
<td></td>
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## Two sets of questions

**BPS** and **Non-BPS**

### BPS
- Knowledge
- Skills
- Professional role/identity
- Capabilities
- Beliefs about consequences
- Motivation and goals
- Memory and attention
- Environmental context
- Social Influences
- Emotion
- Action Planning

(*Adapted from Michie et al 2005*)

### Non-BPS
- **Innovation**
  - Credibility of research
  - conflicting guidelines/literature
  - difficulty
- **Individual**
  - Knowledge
  - skills
  - forget
- **Social**
  - Role models
  - Patient expectations
  - professional role
- **Organisational**
  - Leadership
  - Time
  - Conflicting priorities
## Two sets of questions: BPS and Non-BPS

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Thematic analysis

Barriers and levers to Hand hygiene practice

- Attitude
  - Consequences
    - Routine/Habit
  - Environment
    - Improvement Strategies
  - Emotion
  - Incentives
  - Memory
    - Professional group
  - Motivation
    - Social Influence

- Knowledge/skills
Thematic analysis

Barriers and levers to Hand hygiene practice

- Attitude
  - Consequences
  - Environment
    - Routine/Habit
  - Emotion
  - Incentives
  - Memory
    - Professional group
  - Motivation

- Social Influence
  - Improvement Strategies
  - Knowledge/skills
Comparing BPS v Non BPS

Barriers and levers to Hand hygiene practice

- Attitude
  - Consequences
    - Routine/Habit
  - Environment
    - Improvement Strategies
  - Emotion
  - Incentives
  - Memory
    - Professional group
  - Motivation

- Social Influence
  - Emotion
  - Knowledge/skills

- Motivation
  - Incentives
  - Memory
  - Professional group
  - Routine/Habit
  - Improvement Strategies

- Consequences
  - Routine/Habit
  - Improvement Strategies
<table>
<thead>
<tr>
<th>Theme</th>
<th>BPS format % (n=35)</th>
<th>Non-BPS format % (n=39)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>54 (19)</td>
<td>56 (22)</td>
</tr>
<tr>
<td>Consequences</td>
<td>91 (32)</td>
<td>74 (29)</td>
</tr>
<tr>
<td>Emotion</td>
<td>68 (24)</td>
<td>20 (8)</td>
</tr>
<tr>
<td>Environment</td>
<td>100 (35)</td>
<td>97 (38)</td>
</tr>
<tr>
<td>Routine/habit</td>
<td>74 (26)</td>
<td>38 (15)</td>
</tr>
<tr>
<td>Improvement strategies</td>
<td>88 (31)</td>
<td>87 (34)</td>
</tr>
<tr>
<td>Incentives</td>
<td>65 (23)</td>
<td>7 (3)</td>
</tr>
<tr>
<td>Knowledge/skills</td>
<td>97 (34)</td>
<td>92 (36)</td>
</tr>
<tr>
<td>Memory</td>
<td>54 (19)</td>
<td>41 (16)</td>
</tr>
<tr>
<td>Motivation</td>
<td>71 (25)</td>
<td>74 (29)</td>
</tr>
<tr>
<td>Professional group</td>
<td>85 (30)</td>
<td>74 (29)</td>
</tr>
<tr>
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<td>97 (34)</td>
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Comparing BPS with Non-BPS

- Theory based questions led to the identification of more and different barriers and levers to hand hygiene practice than questions based on current knowledge (the literature).

- Emotion and Habit/Routine rarely identified in the literature as areas likely to influence professional practice generally or hand hygiene practice specifically.
Sub-themes pride, regret/anticipated regret, other.

“We hope that people take pride in their work” (I 14 Doctor)

“. . . people feel a sense of responsibility if infection is identified” (I 22 Matron)

“It is almost like letting people down. Letting the side down, it is that feeling that you have not performed in a way that you should have, it is pride in a way but it is very personal to that individual patient” (I 24 Manager)
Focus group

“It does become a habit doesn’t it?” (Pharmacist)
“Well yeah. . . .” (IPC nurse)
“Yeah I think it has become a habit now. We do it automatically.” (Nurse specialist)
“I think for some people it is still an ongoing procedure, isn’t it, to learn. But on the whole for nurses it is constant. The amount of times you wash your hands . . . ” (Matron)
“You wouldn’t like to count would you really?” (Phlebotomist)
“This is why we all have old ladies hands.” (Matron)
Sub-themes Rewards, Sanctions

Focus group 3

“When we have challenged about non-compliance we have to put an incident report in. Then our director sent a letter to their erm. . . ” (Matron)

“Clinical lead?” (IPC)

“Clinical lead. And that does have an effect you know” (Matron)

Focus group 2

“We, in (area) over here, we have this pride thing. Somebody from each ward will be nominated for an infection control award every month and there is an annual award with the ward that has won it the most each month.”

“Yeah. Laughs. Well, they also get half a day’s holiday as well!”
What next?

Literature Review

- Interviews with health care practitioners (theory and non theory based) (n=25)
- Focus groups with health care practitioners (theory and non theory based) (n=21)
- Questionnaires with health care practitioners (theory and non theory based) (n=25)
- Interviews with recent hospital patients (theory and non theory based) (n=25)

Evaluate the best research method for assessing barriers and levers

- Comprehensive list of barriers and levers

Evaluate the use of theory in assessing barriers and levers

- Delphi survey to link barriers and levers to psychological domains

Evaluate patient involvement in assessing barriers and levers

- Assessment instrument (tested for validity and reliability)
- Intervention Study
## Instrument – Examples of Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly agree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have control over whether or not I do hand hygiene (4)</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>2. The staff skill mix is just right in my work place (8)</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>3. If I do not engage in hand hygiene I may be named and shamed (5)</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>4. Hand hygiene training is available to me (1/2)</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>5. If I were to miss out hand hygiene I would be challenged (5)</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>6. I feel complacent about hand hygiene (6)</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>7. Some government targets make hand hygiene more difficult (such as high bed occupancy) (8)</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>8. My patients expect good hand hygiene from me (9)</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
Thank you for listening

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Thanks to the Infection Prevention Specialists in the Participating Trusts and to all Study Participants