Changing behaviours and sustaining change for safer practice

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Research Lead, UCL Centre for Behaviour Change
SHOT Symposium
09.07.2019

@UCLBehaveChange
@Fabilorencatto
UCL Centre for Behaviour Change

Who we are
- Core team of researchers, trainers & practitioners in behaviour change
- A cross-disciplinary community of academic experts at UCL & beyond
- Global network of over 4,000 contacts

Our aims
To harness the breadth and depth of academic expertise in behaviour change to
- Increase the quantity and quality of behaviour change research
- Translate that expertise to policy-makers, practitioners, industry, NGOs and researchers
to address key challenges facing society

What we do

Training
- International Summer Schools
- Bespoke and open short courses and workshops

Teaching
- MSc Behaviour Change

Research
- Methods and theories of behaviour change
- Behaviour change interventions applied to real world issues

Consultancy
- Behaviour change expertise provided to public, commercial and third sector organisations

Events
- Annual Digital Health Conference
- Public talks and seminars

Resources
www.ucl.ac.uk/behavior-change @UCLBehaveChange

Implementation Science
This talk

• Why should we think about behaviour change?

• Common pitfalls in traditional approaches

• A behavioural science approach
  – Frameworks for understanding behaviour
  – Facilitate systematic approach to intervention design

• Example(s) from transfusion context
The problem

- Despite guidelines, many do not always act in line with evidence-based recommendations

- Consistent evidence of failure to translate evidence into practice
  - 30-40% of patients did not receive ‘evidence-based’ health care  *Grol et al, 2001*
  
  - 20-25% received care that was unnecessary or even harmful  *Schuster et al, 2005*
  
  - 1 in 5 transfusions fall outside national recommendatitons  *Murphy et al, 2003*
• Suggests implementation of evidence-based care is fundamental challenge for healthcare systems to optimise outcomes and costs

• Means patients miss opportunities to achieve best possible clinical outcomes

• Significant investment of time and resources into strategies to improve effectiveness and quality of care

• Many have achieved modest and variable success
  – Why?
  – One important reason:
    • Often not understanding the problem in terms of behaviour…
Traditional approaches:

- ISLAGIATT principle
  - 'Hunches...Common sense'
  - 'it worked elsewhere'
  - ‘Just do something’
  - lack rationale...
  - ‘just educate’

- ‘It Seemed Like A Good Idea At The Time’

Prof. Martin Eccles, implementation researcher, UK
Sometimes ISLAGIATT works…more often it doesn’t….
An alternative approach to designing interventions to improve clinical practice...
Implementation as behaviour change:

• Guidelines, evidence, recommendations **do not implement themselves**

• Clinical practice = behaviour

• **Improving implementation depends on changing behaviour** of many different types of people and roles at different levels in organisations, networks and systems
  – Professionals,
  – support staff,
  – commissioners,
  – managers,
  – policy makers,
  – patients, etc.
Going to see your GP

1. Examine the problem
2. Make a formulation and diagnosis
3. Prescribe a treatment

‘Behavioural Diagnosis’
Key principle for change:

‘Choice of intervention(s) should be informed by the determinants (i.e. barriers/facilitators) that influence current behavior’

Hulscher & Prins, 2017
Going to see your GP ....

1. Examine the problem

2. Make a formulation and diagnosis

3. Prescribe a treatment
MRC Guidance for developing and evaluating complex interventions

How?

Development
- Identifying the evidence base
- Identifying or developing theory
- Modelling process and outcomes

Feasibility and piloting
- Testing procedures
- Estimating recruitment and retention
- Determining sample size

Implementation
- Dissemination
- Surveillance and monitoring
- Long term follow-up

Evaluation
- Assessing effectiveness
- Understanding change process
- Assessing cost effectiveness

Craig et al, 2009, BMJ
Facilitated through application of behavioural and social science

- Theories, frameworks, evidence and methods for understanding behavior and how best to change it

- E.g. Behaviour Change Wheel Approach

- Guide decision making and facilitate systematic, step-by step, transparent and more effective approach to intervention design

- Policy makers, practitioners, researchers from different disciplines and levels of experience

Warning: no magic bullets or universal truths

https://www.ucl.ac.uk/behaviour-change/files/bcw-summary.pdf

The Behaviour Change Wheel approach: key steps

What behaviour are you trying to change?

- Define ‘problem’ in behavioural terms
- Map out system of behaviours
- Who, needs to do what, when, where?

What will it take to bring about the desired change?

- ‘Behavioural Diagnosis’
- Understand behaviour in context
- Identify barriers/enablers to change

What types of broad intervention approaches might be relevant?

- Consider range of intervention strategies
- Match choice to behavioural diagnosis

What specifically components should my intervention involve?

- Define ‘problem’ in behavioural terms
- Map out system of behaviours
- Who, needs to do what, when, where?
Behavioural Diagnosis

• Understanding behaviour in context

• Why are behaviours as they are?

• What needs to change for the desired behaviour to occur?

• Answering this is helped by a model of behaviour (change)
The COM-B system: Behaviour occurs as an interaction between three necessary conditions

- Capability
- Motivation
- Opportunity

Michie et al (2011) Implementation Science
The COM-B system: Behaviour occurs as an interaction between three necessary conditions:

1. **Capability**
   - Psychological AND Physical ability to enact the behavior
     - Knowledge, memory attention decision making, physical and social skills

2. **Motivation**
   - Reflective AND Automatic mechanisms that activate or inhibit the behaviour
     - Intentions, Goals, Perceived relevance, identity, Beliefs about consequences
     - Self-confidence, Rewards, incentives, sanctions, Emotions

3. **Opportunity**
   - Physical AND Social environmental factors that enables or inhibits the behaviour
     - Access, layout, resources, prompts, cues
     - Social influences (pressure, support, team work, norms, roles)

*Michie et al. (2011) Implementation Science*
Am I aware of what I need to do (guidelines/evidence)? Appropriate skills/training? How do I decide to do X?

Is doing X part of my clinical role? What will happen if I do X? What if I don’t do X? Is it a priority? How confident am I? How worried/concerned?

Do I have sufficient resources (time/ staff/ equipment) to do X?

Is doing X influenced by my peers, managers, other professional groups, patients, relatives?
• Complex behavior

• Complex set of interacting influences…

• …beyond knowledge

• Need to consider broad range of intervention strategies…

• …beyond education!

• Match choice of strategy based on behavioural diagnosis

• Facilitated by using a framework outlining range of intervention types

• Linked to influences on behaviour
Use rules to reduce the opportunity to engage in the behaviour (or to increase behaviour by reducing opportunity to engage in competing behaviours)

Increase knowledge or understanding

Use communication to induce positive or negative feelings to stimulate action

Create an expectation of reward

Create an expectation of punishment or cost

Impart skills

Increase means or reduce barriers to increase capability (beyond education or training) or opportunity (beyond environmental restructuring)

Provide an example for people to aspire to or emulate

Change the physical or social context

Interlinked tools to facilitate systematic intervention design

What behaviour are you trying to change?

What will it take to bring about the desired change?

What types of broad intervention approaches might be relevant?

What specifically should my intervention involve?
Matching intervention strategy to diagnosis

To change ....

Consider one or more of ....

- **Capability**
  - Education – Training (i.e. build knowledge and skills)

- **Motivation**
  - Persuasion - Incentivisation - Coercion - Modelling (i.e. increase motivation to engage in target behaviour; reduce motivation competing behaviours)

- **Opportunity**
  - Restriction- Environmental Restructuring – Enablement (i.e. to increase opportunity target beh/ reduce competing behaviours)
Selecting relevant functions: mapping tools

<table>
<thead>
<tr>
<th>Physical capability</th>
<th>Psychological capability</th>
<th>Physical opportunity</th>
<th>Social opportunity</th>
<th>Automatic motivation</th>
<th>Reflective motivation</th>
</tr>
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Based on expert consensus
Applications to transfusion

Application of theory to enhance audit and feedback interventions to increase the uptake of evidence-based transfusion practice: an intervention development protocol

Natalie J Gould, Fabiana Lorenzatto, Simon J Stanworth, Susan Michie, Maria E Prior, Liz Glidewell, Jeremy M Grimshaw and Jill J Francis

Implementation Science 2014 9:92

The evaluation of enhanced feedback interventions to reduce unnecessary blood transfusions (AFFINITIE): protocol for two linked cluster randomised factorial controlled trials


Implementation Science 2017 12:84
https://doi.org/10.1186/s13012-017-0648-8 | © The Author(s) 2017

Evidence-based selection of theories for designing behaviour change interventions: Using methods based on theoretical construct domains to understand clinicians' blood transfusion behaviour

Jill J. Francis, Charlotte Stockton, Martin P. Eccles, Marie Johnston, Brian H. Cuthbertson, Jeremy M. Grimshaw, Chris Hyde, Alan Tinnmouth, Simon J. Stanworth

Congress Review

Can we do better? Bridging the research to practice gap in patient blood management–optimizing ‘audit & feedback’ and the challenges of undertaking a national cluster-randomized controlled trial

Simon J Stanworth, Fabiana Lorenzatto, Natalie Gould, John Grant-Casey, Alison Deary, Suzanne Hartley, Stephen McIntyre, Lauren Moreau, Thomas Morris, Riya Patel... See all authors

First published: 30 September 2018
https://doi.org/10.1111/vox.12447
How do hospitals respond to feedback about blood transfusion practice? A multiple case study investigation

Collaboration between multidisciplinary researchers and NHSBT (PI Dr Simon Stanworth)

National clinical audits play key roles in improving care and driving system-wide change.

Effects of audit and feedback (A&F) depend upon both reach (e.g. relevant staff receiving the feedback) and response (e.g. staff regulating their behaviour accordingly).

NHSBT National Comparative Audit- approach to audit and feedback (A&F) largely unchanged

Overall some positive trends in improvement, but high % unnecessary transfusions persist

25 Interviews to conduct a ‘behavioural diagnosis’ of how staff receive + respond to A&F

Basis for refining design and delivery of A&F
• Physical: Lack of staff, tools and resources to adapt/plan response
• Lack of time between audits to plan and implement response
• Social: Breakdown in communication and dissemination. Key individuals involved in prescribing transfusions reported never having received feedback from a national audit
• Lack of support from my colleagues to make changes following feedback
• Lack of + variable awareness of the NCA and feedback
• Feedback reports too long and burdensome to read
  • Recommendations absent/unclear/ too broad
  • Not setting goals or making action plans as a team
• Staff are (not) enthusiastic about audit and feedback
• ‘audit fatigue’
• Competing priorities
• Feedback not relevant: national feedback was not always considered a useful comparator for identifying areas for improvement as
  • Have to amend to make relevant locally
  • Not believing A&F can change practice
• Physical: Lack of staff, tools and resources to adapt/plan response
• Lack of time between audits to plan and implement response
• Social: Breakdown in communication and dissemination. Key individuals involved in prescribing transfusions reported never having received feedback from a national audit
• Lack of support from my colleagues to make changes following feedback
“comparing yourself with like-for-like trusts is more valuable than comparing yourself with a trust that’s got a totally different sort of clinical activity to you”

“by that time you may already be onto the next audit and then don’t have time to implement the recommendations from the previous audit”

there’s a risk that the recommendations can be quite broad-based and not specific for your own hospital’s performance, which is why we try and translate the recommendations... into more locally do-able actions”

“I understand it does go somewhere but it doesn’t really get fed back to junior doctors on the actual wards”

“The fact that I haven’t really seen it [feedback] means there must be some problem...I really am not sure I’ve ever had an email about it”
Moving from diagnosis to intervention

‘Behavioural diagnosis’ findings
+ Intervention mapping tools
+ Evidence A&F effectiveness

Int 1: Enhanced ‘content’
- What is delivered to hospitals?
- Format and content of reports

Int 2: Enhanced ‘follow on support’
- Toolkit
- Helping staff respond to and share feedback

✓ Delivered more than once/repeatedly over time
✓ In writing and verbally
✓ By a respected peer/colleague (rather than external source/regulator)
✓ Accompanied by explicit, specific recommendations and action plans for change
✓ Uses multiple comparators (i.e. top 10% peers, regional) that reinforce direction of change
✓ Not punitive in tone

Ivers et al. (2012) Audit and feedback: effects on professional practice and healthcare outcomes. Cochrane database of systematic reviews.
Post-operative transfusion indicated (PBM standard 8):

In patients who do not have active post-operative bleeding, clinical staff should only prescribe a transfusion if the Hb is less than the defined Hb threshold or for transfusion (70g/L in patients without acute coronary ischaemia 80g/L in patients with acute coronary ischaemia).

Our hospital achieved this standard for 22% (4/18) of patients

Our hospital is here (22%)

Achievable 90% benchmark
Post-operative transfusion indicated (PBM standard 8):

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Our hospital achieved this standard for 22% (4/18) of patients

What should we do next? Recommendations:

For our Hospital

- Well done. We showed a high level of achievement in this standard. We are performing within the top third of hospitals nationally. This demonstrates strong support for PBM within our hospital. However, there is room to further improve our practice.

- We should prepare an action plan that will recognise and build upon our existing good practice to further improve the service that we provide.

For clinical staff responsible for pre-operative management

- Clinical staff should ensure that patients are counselled about the relationship between anaemia, morbidity and mortality, and should be given the opportunity to defer non-urgent surgery until anaemia is investigated and treated.

- Clinical staff should ensure that anaemia screening occurs between the referral for surgery and decision to proceed in order to allow investigation and correction if appropriate.

- Even where surgery is urgent, clinical staff should always ensure that anaemia investigation and treatment initiation is available before operation.

For the Hospital Transfusion / Patient Blood Management Committee

- The Committee should ensure that healthcare pathways are structured to enable anaemia screening and investigation/correction before surgery.

- The Committee should work with Commissioners to formalise integrated pathways and funding for the referral of patients found to be anaemic during surgical workup, if the nature of the anaemia suggests that unexpected significant underlying disease is possible.

- The Committee should work with clinicians to continue monitoring practice in relation to this standard, by conducting further local audits of the number of patients undergoing surgery with anaemia, and feeding back this information to clinical teams.
**Dissemination Cascade Tool**

- Transfusion Practitioner disseminates to...

  - Hospital Transfusion Committee
    - What is disseminated? enter value
    - How are they informed? enter value
    - When by? select date
    - Named contact? enter name

**Problem solving fishbone analysis tool**

**Action Planning Tool**

- **Meet PBM1**
- **Our action plan**
  - When? Expected completion select date
  - Where? Evidence recorded enter measure
  - Who will enforce? Who is responsible? enter name
  - Actual completion date select date

**Quick Audit Tool (Self-Monitoring)**

<table>
<thead>
<tr>
<th>Patient reference</th>
<th>Who decided to transfuse?</th>
<th>PBM1</th>
<th>PBM7</th>
</tr>
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<tbody>
<tr>
<td>01</td>
<td>John</td>
<td>met</td>
<td>not met</td>
</tr>
<tr>
<td>02</td>
<td>Sam</td>
<td>met</td>
<td>not met</td>
</tr>
<tr>
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<td>Sally</td>
<td>met</td>
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</tr>
<tr>
<td>04</td>
<td>Jane</td>
<td>met</td>
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</tr>
<tr>
<td>05</td>
<td>Dave</td>
<td>met</td>
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**Systematic, transparent, step-wise-approach for choice of intervention strategy**
Summary

• Addressing evidence-practice gaps in implementation requires behaviour change

• Avoid ISLIGIATT

• Intervention design based on behavioural diagnosis in context

• Theories and frameworks from behavioural science available to facilitate this

• Transparent, systematic, replicable, more effective approach + better use limited QI resources
Thank you for listening!

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www.ucl.ac.uk/behaviour-change

CBC Summer Schools, London 2019

Summer Schools
22\textsuperscript{rd} – 26\textsuperscript{th} July
5\textsuperscript{th} – 9\textsuperscript{th} August

Advanced Summer School
12\textsuperscript{th} July - 16\textsuperscript{rd} August

https://www.ucl.ac.uk/behaviour-change/training/summer-school

MSc in Behaviour Change

The Centre for Behaviour Change (CBC) at UCL has launched a postgraduate degree in behaviour change drawing on multidisciplinary scholarship and its application. This innovative programme is centered around the systematic application of behaviour change theory and methods to design, implement and evaluate interventions. This approach equips students to work in this emerging and exciting field to address global problems.

All proceeds from CBC teaching, training, books and products go to further development.