Implementing clinical guidelines in complex organisations: the divergence of theory from practice

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‘Change is not made without inconvenience.’
Richard Hooker, 1554–1600
Reality of the health care environment

• Change rather than stability is now the norm in health care.

• A key factor in closing the gap between best practice and common practice is the ability of health care providers and their organisations to
  1. Ensure stakeholder involvement in agreeing the need for and process of change
  2. Check if changes work
  3. Sustain the changes in practice.
Let's think for a moment about:

Health care environments
Implementing a clinical guideline: theoretical approaches

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Implementing a clinical guideline: theoretical approaches

Majority of implementation determinant frameworks include perspectives on the:

- Characteristics of the:
  - Implementation object
  - Users/adopters (e.g. health care practitioners)
  - End users (e.g. patients)
  - Context
  - Strategy or other means of facilitating implementation

- Outcomes

I-PARIHS framework

<table>
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<tr>
<th>Innovation-evidence- nature and strength of the evidence</th>
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<td>Recipient construct- motivation, skills, beliefs, networks etc.</td>
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<td>Context includes: an understanding of the prevailing culture, leadership roles and the organisation's approach to measurement- from local, organisation, system levels</td>
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<td>Facilitation- seen as the active ingredient</td>
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• Seek to understand and explain certain aspects of implementation.

• E.g. Normalization Process Theory includes four determinants of embedding (i.e. normalising) complex interventions in practice
  1. Coherence or sense making
  2. Cognitive participation or engagement
  3. Collective action
  4. Reflexive monitoring

Let's use our understanding of implementation science and apply it to a recent phenomenon:

Hurricane Ophelia and Ireland's readiness for same
Did you know about Hurricane Ophelia in advance?

What messages did you hear through the official channels?
What were the key messages that we heard?

- Avoid unnecessary travel
- Don’t travel in red areas during height of storm
- Risk of flying debris/risk of fallen trees
- Stay away from coastal areas
- Power outages likely (ESB advising stay away from fallen cables)
- School buses not running, schools closed
- Check in on isolated/vulnerable neighbours
Marina Park Cork City and Knocknaheeny
Hurricane Ophelia/red alert

Key Messages for Hurricane Ophelia
Advisory 27: 5:00 PM AST Sun Oct 15, 2017

1. Ophelia is expected to be a powerful extratropical cyclone with hurricane force winds while it moves near Ireland and the United Kingdom. Direct impacts from wind and heavy rain in portions of these areas are likely, along with dangerous marine conditions. For more details on the magnitude, timing, and location of impacts from post-tropical Ophelia, residents in Ireland should refer to products issued by Met Eireann, and residents in the United Kingdom should refer to products issued by the Met Office.

2. Individuals are urged to not focus on the exact track of Ophelia since strong winds and heavy rainfall will extend well outside of the NHC forecast cone.
Coordination Centre
(Key stakeholders involved, links with international, national agencies, predetermined plan, coordinated actions, PDSA cycle)

Communication
(consistent messages, news alerts, social media so that citizens were informed)

Common language
(understanding of science, red alerts), targeted byte sized information for different stakeholders

I-PARIHS framework:
- Understand nature and strength of the evidence
- Understand your recipient
- Know the context
- Facilitation—active ingredient

Normalization Process Theory:
- Coherence or sense making
- Cognitive participation or engagement
- Collective action
- Reflexive monitoring
When looking at implementation of a change (e.g. clinical guidelines) - may be useful to consider **magnitude of the change** required

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<th>Order</th>
<th>Description</th>
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| 1st: Sub-system | - Adaptation of systems or structures  
|             | - Occurs within part of an organization or sub-system  
|             | - Is incremental                      |
| 2nd: Organization | - Transformational change  
|             | - Movement in core organizational paradigms  
|             | - Organization-wide  
|             | - Whole systems change                |
| 3rd: Sector   | - Identity change  
|             | - Cross-organizational change  
|             | - Change spans specific organizational boundaries  
|             | - Affects many organizations/sector-wide change |
When looking at implementation of a change (e.g. clinical guidelines)- may also be useful to consider **volume of activities and associated risk**
When looking at implementation of a change (e.g. clinical guidelines)-- may also be useful to consider stages of implementation.

Perspectives on 3 projects:

1. Systematic review relating to clinical guidance
2. Systematic review re NEWS
3. Research relating to implementation of MRSA and *C. difficile* guidelines
Summative perspective on some of the implementation issues highlighted in the EWS review of literature

- Sicker patients with higher EWS score got more frequent vital signs monitoring but not consistently and less so at night.
- Delays between vital sign instability and subsequent MET activation.
- Escalation protocol was not achievable given the resources e.g. a lack of critical care beds
- Clinical response to NEWS scores is significantly worse at weekends and at night.
- The electronically calculated score differed to the manually recorded EWS on the patient observation chart e.g. 27% of cases (Abbott et al. 2015) and 18.9% of patients had an incorrectly calculated NEWS score (Kolic et al. 2015).

MANAGEMENT/ORGANISATIONAL/SETTING SPECIFIC.
Understanding the organisational culture.
Seek engagement and support of key stakeholders.
Support implementation using quality improvement methodology.

EDUCATION/ TRAINING
Multidisciplinary training.
Continuous information/ updates.
Support for afferent limb (informed clinical judgment).
Maintaining transparency in order to maximise learning from case reviews.

THE EWS SYSTEM
Systematic monitoring practice/protocols
EWS triggers, and observational chart
An algorithm for bedside management
Communication tool
Escalation protocol with emergency response system
Implemented by inter-professional teaching, training and optimization of communication and collaboration

THE SYSTEM
Support standardisation and automation.
Promote awareness of the significance of early referrals.
Ensure an optimum emergency response system is implemented for the health care setting.
Consider barriers to delays in escalation especially during out of hours

PROMOTE HIGH LEVELS OF ADHERENCE TO EWS TO ENSURE EFFECTIVENESS
EWS System is a complex intervention.
Measures to support adherence (e.g. education, clinical champions, audits, publication of findings, observationalist).
Measure longitudinal impact.

The provision of Baseline Research to inform updates of National Clinical Effectiveness Committee National Clinical Guidelines on Healthcare Associated Infections (research with HCPs, using iPARIHs framework)

- Need for
  - Prioritisation of guideline implementation at an organisational level
  - Co-production of an implementation strategy with all stakeholders.

- Clinical environments vary and there is a need to study what the implementation of the guideline means in terms of workflow processes, resources, equipment, and cognitive load for staff members.

- Integrate guideline into workflow process, ICT systems to ensure optimum implementation.

- Have specialist data management personnel in each centre.

- Targeted dissemination strategy for different groups.

The provision of Baseline Research to inform updates of National Clinical Effectiveness Committee National Clinical Guidelines on Healthcare Associated Infections (research with HCPs, using iPARIHs framework)
Sustaining implementation requires multicomponent interventions provided over time including:

- Multicomponent educational interventions
- Regular, targeted, byte size (small information chunks) updates for staff at the front-line
- Streamlined audit processes
- Instant, timely and relevant feedback at both group and individual level
- Active communication of audit data
- Public displays relating to guideline messages: posters, leaflets.
- Ongoing access to infection control expertise
- Effective communication loops; use of a problem-solving paradigm to identify local level problems, barriers and solutions
- Ongoing capital investment for suboptimum infrastructure
- Regular regulatory oversight.
Guideline implementation at an organisational level

In summary

1. Prioritisation of guideline implementation at an organisational level (guideline champions at organisational and clinical level)
2. Co-production of an implementation strategy with all stakeholders.
3. Integrate guideline into workflow process, ICT systems to ensure optimum implementation.
4. Clinical environments vary use problem-solving paradigm to identify local level problems, barriers and solutions (e.g. PDSA)
5. Targeted guideline dissemination strategy for different groups.
6. Have specialist data management personnel in each centre.
7. Share information (audit, feedback).
Guideline implementation must be thought about in terms of how the guideline recommended practice

1. Integrates with systems and workflow (at the front line) (integration)
2. Integrates with geographical infrastructure (workability)
3. Affects the cognitive workload of the individual (is it adding to cognitive load, does the system prompt the individual?)
4. Is the guideline valued by all MDT members?
Guideline implementation messages

1. Are the messages targeted
2. Are they perceived as relevant (linked to pertinent case-studies)
3. Are the messages presented in such a way as to tap into the long term memory of the individual (semantic, procedural and episodic memory)
4. Are the messages reinforced
5. Consider how does the HCP know if he/she is doing well in terms of implementing the guideline. Think positive affirmation.
To conclude key messages

• “Theory” can help in planning the implementation of clinical guidelines.

• Think guideline development, implementation, evaluation, sustainability as a continual trajectory.

• Requires: coordination, communication, education, continual engagement with key stakeholders (feedback with action).
Acknowledgment


- **Funding**: NCEC, Department of Health
- NCEC team members for their support.
- Research participants
Thank you