Large systems transformation: A study of three ACI initiatives

Rick Iedema
Research Manager,
Agency for Clinical Innovation
Sydney
Professor, Faculty of Health
University of Tasmania
Large-system transformations in health care are interventions aimed at coordinated, system-wide change affecting multiple organizations and care providers, with the goal of significant improvements in the efficiency of health care delivery, the quality of patient care, and population-level patient outcomes.

1. **Engage** individuals at all levels in leading the change efforts (distributed leadership, deliberative decision making, ownership)

2. **Establish** feedback loops (vertical/horizontal information sharing, learning both top-down and bottom-up)

3. **Attend** to history (legitimating & building on existing values & experiences; start with what is familiar)

4. **Engage** the doctors (networking as a means to engender conversations that bridge interests, positions and concerns)

5. **Involve** patients and families.

---

The science of LST: ‘success factors’

1. **Engage** individuals at all levels in leading the change efforts (distributed leadership, deliberative decision making, ownership)

2. **Establish** feedback loops (vertical/horizontal information sharing, learning both top-down and bottom-up)

3. **Attend** to history (legitimating & building on existing values & experiences; start with what is familiar)

4. **Engage** the doctors (networking as a means to engender conversations that bridge interests, positions and concerns)

5. **Involve** patients and families.

More success factors

1. Key people leading the change (strategic or blunt end)
2. Continuity of key personnel
3. Focus on clinical-management relationships
4. Clear goals and priorities
5. A supportive organisational culture and cooperative networks
6. Distributed leaders(hip) at all levels ‘from board to ward’
7. Engagement of all professions
8. Nurturing of followership as much as of leadership

More success factors

1. Key people leading the change (strategic or blunt end)
2. Continuity of key personnel
3. Focus on clinical-management relationships
4. Clear goals and priorities
5. A supportive organisational culture and cooperative networks
6. Distributed leaders(hip) at all levels‘from board to ward’
7. Engagement of all professions
8. Nurturing of followership as much as of leadership

Michigan Keystone project: CLAB prevention checklist into 100 ICUs

**Atul Gawande**

- Rigorous execution of checklist process
- ‘Dressage’ approach to improvement
  - adoption of prescribed technique
- Compliance/adherence

**Charles Bosk et al.**

- Checklist proposal adapted to existing processes, relationships, interests and understandings
- Political view of improvement
  - strategies & tactics
  - compromises, learning
- Social adaptive process

A study of 3 ACI LST initiatives

* Hip fracture minimum standards (‘HIPs’, 37 hospitals)
* Confused hospitalised older people key principles (‘CHOPs’, 12 hospitals to date)
* Quality in Acute Stroke Care (‘QASC’, 37 hospitals)

(ACI = Agency for Clinical Innovation, one of the 6 ‘Pillars’ of the NSW Ministry of Health: Clinical Excellence Commission, Cancer Institute, Kids&Families, Bureau of Health Information, Health Education & Training Institute)
“Did the implementation of the initiative work?”

vs

(How) was the initiative “shaped, enabled and constrained by the interaction between the context of the program and the chosen mechanisms of change?”

Study sample

* Meetings attended
  * HIPs 19; CHOPs 21; QASC 0
  * In-house project management meetings, site lead meetings, on-site project meetings, project initiation meetings, data collection meetings, training events

* Interviews conducted
  * CPDI: 8; ACI networks: 6; other: 1 (total: 15)
  * Sites: 22 project staff, 5 NUMs, 2 medical staff, 6 nursing staff, 7 allied health staff (total: 42)
QASC FeSS protocols

**Intervention (1): FeSS protocols**

**Fever**

- (n=2 elements)
  - 4-6 hourly temperature readings for 72 hours
  - Temperature > 37.5°C treated with paracetamol

**Sugar**

- (n=5 elements)
  - Formal venous glucose on admission
  - 1-6 hourly finger-prick glucose for 72 hours
  - On admission: 8-16 mmol/L (ND) or 8-11 mmol/L (D): saline infusion for the first six hours
  - Glucose > 16 mmol/L (ND): IV insulin
  - Glucose > 11 mmol/L (D): IV insulin

**Swallowing**

- (n=2 elements)
  - Education program and competency assessment for nurses run by speech pathologists
  - Screen within 24 hours of stroke unit admission
  - Referral to speech pathologist for full assessment for those who failed the screen
HIPs minimum standards

STANDARD 1: Orthogeriatric clinical management of each patient

STANDARD 2: Optimal pain management

STANDARD 3: Surgery within 48 hours and in hours

STANDARD 4: Patient’s surgery is not cancelled

STANDARD 5: Commencement of mobilisation within 24 hours of surgery

STANDARD 6: Refracture prevention

STANDARD 7: Local ownership of data systems/processes to drive improvements in care
CHOPs key principles

- Principle 1: Cognitive screening
- Principle 2: Delirium risk identification and prevention strategies
- Principle 3: Assessment of older people with confusion
- Principle 4: Management of older people with confusion
- Principle 5: Communication processes to support person-centred care
- Principle 6: Staff education on caring for older people with confusion
- Principle 7: Supportive care environments for older people with confusion
## Initiatives compared

<table>
<thead>
<tr>
<th>focus</th>
<th>QASC (stroke)</th>
<th>HIPS</th>
<th>CHOPS (delirium)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>‘Fever-sugar-swallow’ protocols</td>
<td>Standards for ortho-geriatric, allied health, and nursing collaboration</td>
<td>Key principles for preventing &amp; managing delirium in everyday practice</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>actual goal</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>staff adherence</td>
<td>multidisciplinary professionalism ensuring continuity of hip fracture care</td>
<td>sensitivity to patients’ cognitive impairment to enhance their care experience</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>context</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>√√√ ~ highly favourable (stroke pathway; stroke collaborative)</td>
<td>√√ ~ favourable (CEC, BHI hip fracture evidence ...)</td>
<td>√ ~ moderately favourable (dispersed activities &amp; resources)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>site/staff variability</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+++ ~ high</td>
<td>+++ ~ high</td>
<td>+++ ~ high</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>complexity</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>moderate</td>
<td>high</td>
<td>extreme</td>
</tr>
</tbody>
</table>
## Implementation ~ resources

<table>
<thead>
<tr>
<th>QASC</th>
<th>HIPS</th>
<th>CHOPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>++++</td>
<td>++++</td>
</tr>
<tr>
<td>- staffing: project officer</td>
<td>- staffing: network manager, implementation team support person, patient experience and consumer engagement officer, health economics and evaluation officer</td>
<td>- staffing: project officer, network manager, implementation team support person, patient experience and consumer engagement officer, health economics and evaluation officer</td>
</tr>
<tr>
<td>- education/training day</td>
<td>- high level endorsement</td>
<td>- public launches</td>
</tr>
<tr>
<td>- project &amp; training documentation</td>
<td>- project funding</td>
<td>- weekly meetings</td>
</tr>
<tr>
<td>- phone support</td>
<td>- weekly meetings</td>
<td>- targeted training</td>
</tr>
<tr>
<td>- site visits</td>
<td>- targeted training</td>
<td>- site visits</td>
</tr>
<tr>
<td></td>
<td>- site visits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- documentation: implementation guide; templates for setting up meeting agendas and meeting minutes, designing Gantt charts, managing communication with stakeholders, doing the diagnostic and formulating solutions, and keeping track of risks and important issues; a project management plan; a walk-around tool</td>
<td>- documentation: implementation guide; templates for setting up meeting agendas and meeting minutes, designing Gantt charts, managing communication with stakeholders, doing the diagnostic and formulating solutions, and keeping track of risks and important issues; a project management plan; a walk-around tool</td>
</tr>
<tr>
<td></td>
<td>- data analysis software</td>
<td>- data analysis software</td>
</tr>
<tr>
<td></td>
<td>- knowledge management resource (‘Tearoom’)</td>
<td>- knowledge management resource (‘Tearoom’)</td>
</tr>
<tr>
<td></td>
<td>- 1-on-1 coaching</td>
<td>- 1-on-1 coaching</td>
</tr>
</tbody>
</table>
Systems transformation – some considerations (1)

- Complexity of the transformation
  - **moderate** complexity (e.g. protocol adherence) – variability in uptake; resistance; local modification
  - **high** complexity (e.g. process [re]design) – variability in interpretation and realisation
  - **extreme** complexity (e.g. behaviour enhancement) – variability in learning potential and learning inclination

- Resourcing the transformation
  - resourcing decided at policy level
  - resourcing to suit transformation complexity
Systems transformation – some considerations (2)

- Designing the transformation
  - Do the diagnostic findings convert into solutions?
  - Do the solutions convert into practice improvements?

- Evaluating the transformation
  - complex transformations ~ complex evaluations
  - transformation variability requires sensitivity to local potential and achievement
Transformation - Facilitators

‘soft skills’:
* communication, negotiation, stress management, leadership and team skills, organising and admin skills, political skills, sensitivity to local experience and knowledge

ability to forge progress amidst complexity:
* knowledge management, negotiation of actionable agreements, reporting, scenario mapping

trade-offs between adherence and learning
* work ‘smarter, not harder’ - communities of learning

effective ACI-internal relationships:
* implementation team – network – site relationships
* ACI learning

evaluation of complex circumstances and developments
* balancing expectations of seeing measurable success vs. acknowledging the need for flexibility and local progress
Large systems change – emerging models

Models:

* **Top-down:** Instruction – dissemination of and training in protocols and guidelines by experts
* **Bottom-up:** Collaborative – practitioners collaborating on shared improvement interests and aims
* **Multivariate:**
  * Development + dissemination of **key principles** or **minimum standards**
  * **Audits** of practice against key principles; surveys; interviews and focus groups; environmental and observational audits
  * **Training** in practice / systems change: stakeholder engagement, project management, etc
  * **Horizontal communication** & learning across sites (hub/spoke)
  * **Coaching:** critical observer/friend
  * …
Standard / routine vs ‘nonroutine’

**STANDARD**
- identical repetition
- compliance
- procedures
- deviation

**ROUTINE**
- similar but not identical repetition
- selection
- clinical guidelines
- error

**NONROUTINE**
- non-repetitive
- interpretation
- intuition
- failure

‘Runaway care’

* multi-morbidity (we now die with +/- 3 diseases; 20% dies with 5+ diseases): care complexity;
* rising numbers / new types of treatments, drugs, technologies, tests;
* staff and patient churn (migration, training / treatment trajectories, short-term relationships, etc);
* regulatory pressures: new policies, guidelines, models of care; reporting & accreditation ...
Conclusion

Large systems transformation ...

* ... has to confront complexity;
* ... complexity cannot be ‘tamed’ purely on the basis of doing what is known;
* ... obliges people to devise on-the-spot decisions, solutions and collaborations: ‘adaptive self-organisation’;
* ... requires people to be competent (have knowledge) as well as capable (make knowledge).
* Strategies: multi-scenario building; feedback; mediation of knowledge about ways of working.