Quality Improvement in Healthcare

Experiences from a longitudinal case study using an action research approach

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Action Research

• “It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities” (Reason & Bradbury, 2001, p. 1).
• With, not on
Images of organizing and change
(modifierat från Palmer et al, 2009)

<table>
<thead>
<tr>
<th>Image of outcomes</th>
<th>Images of organizing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned: A leads to B</td>
<td>Linear, n-step</td>
</tr>
<tr>
<td>Partly planned: A may lead to B</td>
<td>Learning</td>
</tr>
<tr>
<td>Not planned: A does not lead to B, something else will probably happen (or not…)</td>
<td>Complex</td>
</tr>
</tbody>
</table>

Case West Skaraborg - Starting point

- In 2001 the Western Regional office forwarded a national directive concerning 'Integrated Care' to the Lidköping Hospital Group:
  - Improve integrated care
Healthcare

Patient

8 Projects – Learning Networks

Primary Care units
Local Care Units
Hospital Clinics

Patient Organizations
Labour Unions

Political Steering Committee
Steering Comité
Project Leaders
Working Committee
Research Group

Projects
Guiding principles

- Patient focused
- Involve all stakeholders
- Create learning networks between healthcare providers
  - Managers and co-workers but also with patients
- Process oriented methods
<table>
<thead>
<tr>
<th>Year/month</th>
<th>Strategic initiatives - activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2001</td>
<td>A national directive concerning ‘Integrated Care’ to the Skaraborg Hospital Group: Pilot project in West Skaraborg</td>
</tr>
<tr>
<td>2002</td>
<td>A management group for the development coalition (DCMG) is created. Senior managers from the primary care centres, the hospital and six local municipalities.</td>
</tr>
<tr>
<td>Sept 2002</td>
<td>The first democratic dialogue (DD). Project groups start.</td>
</tr>
<tr>
<td>April 2003</td>
<td>Cross-organizational, cross–professional and cross-level networks are established. The second DD conference is held.</td>
</tr>
<tr>
<td>October 2004</td>
<td>The third DD conference is held. DCMG decides to make the development coalition a permanent part of the Skaraborg healthcare organization, with its own organization, personnel, budget and balanced scorecard. Shared improvement facilitators.</td>
</tr>
<tr>
<td>October 2005</td>
<td>Diffusion activities take place via a regional conference between West and East Götaland and the Southern Region of Sweden.</td>
</tr>
<tr>
<td>2006 – 2010</td>
<td>The West Skaraborg coalition continues to lead the transformation process at the county and provides guidance to other counties in Sweden</td>
</tr>
</tbody>
</table>

- **Vårdtillfällen medklin**

![Graph showing Vårdtillfällen medklin trends from 1999 to 2003.](attachment://graph.png)
Still.....

- Drawing from an analysis in 2007, the DCMG concluded that although integrated care within the area had improved significantly for the last five years
- And TRUST had developed between the care providers
- It only really manifested itself in general networking terms,
- Integrated practices that involved direct everyday patient contact had not evolved sufficiently

Purpose

- How a cross-professional mobile team – a clinical microsystem – designed, tested, implemented and evaluated a network-inspired model for the care of elderly patients with multiple diseases in its embedded context.
The design of a mobile team

- During 2008, the team started to analyse how they wanted to work:
  - What evidence-based models could be found in the literature
  - How were things organized in other healthcare systems?
  - The team members engaged in several field trips to other places in Sweden where integrated care teams had been developed

Different types of teams

- Three ways of organizing teams, namely as
  - *Role-differentiated teams*
    - Sequential relations of independent and differentiated tasks in the labour process
  - *Role-integrated teams*
    - Parallel and co-operative relations between partly dependent and integrated tasks
  - *Role-complementary teams*
    - Mutual relations whereby tasks are parallel, tightly interdependent and complementary
Patient needs – value logics

- How do we create value for the patients?
- An increased focus on the customers’ real needs has in other industries changed how products and services are produced
- Several patient categories with different needs

Value configuration logics

- Chain
- Shop
- Network
Sven, 62

- No previous medical history
- Played football in his youth
- For the last three years accentuated pain from the right hip
- X-ray shows advanced arthrosis
- Sven needs:
  - New hip prosthesis including a swift, efficient and safe process

Process: Hip replacement

Need:  
- New hip

Output:  
- Improved function
- No pain
Anna, 40

- No previous medical history
- Noticed a tumor in left breast a couple of days ago
- Needs:
  - Relieve anxiety; immediate diagnosis to exclude malignant disease
  - If malignant tumor
    - Information about treatment
    - Treatment plan

(One-stop) Solution workshop – Patient center
Peter, 76

- Diabetes and COPD for many years
- Last years admitted to hospital on numerous occasions due to exacerbations and high blood sugar etc
- Needs:
  - Security, safety and high quality of life at home
  - No admittances
  - Knowledge about his diseases and to manage them
  - Someone to call (contact nurse) when needed
  - Contact with other patients with similar experiences

Network - prerequisites

- Patient self-management
- Monitoring/self-monitoring techniques
- Co-creation of care/"IKEA"
- Center for coordination and integration of care activities
- Mobile teams
Healthy elderly people

Elderly people with multiple chronic diseases in unstable condition and taken care of by the integrated mobile care team

7% of elderly population

Elderly people with one or two stable chronic diseases and taken care of by the 'ordinary' care system

Elderly people with multiple chronic diseases but in stable condition and taken care of by the 'ordinary' care system

Healthy elderly people

Figure 2. Conceptual figure developed by the team together with the researchers that illustrates the different proportions of elderly people with different care needs in the actual area.
Test: The first visit

- Two hours on this first visit - no stress
- Always two persons from the team, one physician and one nurse
- A nurse from the municipality is also present during the visit.
- Patient's symptoms and quality of life
  - Nine different symptoms are assessed using VAS
- Regular medical check-up including pulse, saturation, blood pressure and routine lab
- Risk evaluation; falls, pressure ulcers and malnutrition, the medication list

The first visit

- The care plan is communicated to all existing care resources around the patient

- Christina:
  - “We put a lot of effort to integrate and coordinate the already existent care resources around each patient. We try to involve them in the care, but we also let them know of each other. The point is that we want the original care system to function better so that we can eventually refer the patient back”
Patients – flow/characteristics

- At any given time, there are about 20 patients in the “top” and the team usually manage to take care of these patients simultaneously.
- In December 2011 the team had handled 166 (267 in 2014) patients all in all.
- Out of these, 55 had died during the time the team had been responsible for the care.
- Heart failure was the most frequently represented diagnosis, affecting one-fourth of the patients.
  - Other common diagnoses were diabetes, ischemic heart disease and chronic obstructive pulmonary disease.
- The most serious symptoms are fatigue, dyspnoea and unsteadiness.

Results - evaluation
Table 1: Wilcoxon's signed ranks test has been used to compare the patient symptoms before (at admission) and after/at discharge (2-3). The symptoms have been measured subjectively by patients on a scale 1-10, where 10 is the worst condition and 1 is the best condition. An exception is sleeplessness, satisfaction and quality of life, where the scale has been reversed. Significant differences bolded.

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Z</th>
<th>Asymp. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dizziness</td>
<td>-2.861*</td>
<td>.004*</td>
</tr>
<tr>
<td>Unsteadiness</td>
<td>-2.603*</td>
<td>.008*</td>
</tr>
<tr>
<td>Pain</td>
<td>-1.857*</td>
<td>.063</td>
</tr>
<tr>
<td>Nausea</td>
<td>-3.680*</td>
<td>.000*</td>
</tr>
<tr>
<td>Poor appetite</td>
<td>-1.442*</td>
<td>.149</td>
</tr>
<tr>
<td>Difficulty of swallowing</td>
<td>-1.090</td>
<td>.277</td>
</tr>
<tr>
<td>Thirst</td>
<td>-1.242*</td>
<td>.210</td>
</tr>
<tr>
<td>Obstipation</td>
<td>-1.099*</td>
<td>.275</td>
</tr>
<tr>
<td>Leakage of urine</td>
<td>-0.014</td>
<td>.990</td>
</tr>
<tr>
<td>Peripheral edema</td>
<td>-2.542*</td>
<td>.011*</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>-2.668*</td>
<td>.009*</td>
</tr>
<tr>
<td>Chest pain</td>
<td>-2.673*</td>
<td>.008*</td>
</tr>
<tr>
<td>Sleeplessness</td>
<td>-2.629*</td>
<td>.023*</td>
</tr>
<tr>
<td>Fatigue</td>
<td>-1.874*</td>
<td>.061</td>
</tr>
<tr>
<td>Loneliness</td>
<td>-1.522*</td>
<td>.128</td>
</tr>
<tr>
<td>Depression</td>
<td>-2.056*</td>
<td>.040*</td>
</tr>
<tr>
<td>Meaninglessness</td>
<td>-1.912*</td>
<td>.056</td>
</tr>
<tr>
<td>Uncertainty</td>
<td>-2.679*</td>
<td>.008*</td>
</tr>
<tr>
<td>Anxiety</td>
<td>-2.032*</td>
<td>.042*</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>-1.335*</td>
<td>.182</td>
</tr>
<tr>
<td>Quality of Life</td>
<td>-1.008*</td>
<td>.308</td>
</tr>
<tr>
<td>Walking range</td>
<td>-1.362*</td>
<td>.173</td>
</tr>
</tbody>
</table>
Some voices from relatives

"I remember the first visit; they asked me if I thought he was afraid of dying. I don’t know what it was – they were so sweet. I could tell that they had real sympathy for us…….

We felt taken care of, really…If you had any worries you could just call them…..//…….Lars really liked them (the mobile care team) tremendously…….

They just made such a good contact immediately. Doesn’t it always feel good when you’re not just a number? When someone really cares for you"
Learning theories

• Individual and organizational learning are prerequisites for organizational change
• Organizations can learn, as collective entities, but this requires individual learning at first
Lewis’ theory of Knowledge
"We need to be our own philosophers"

The sensuously given

A Priori: Concepts and their relations

Interpretations of the sensuously given Action and experience

Reflection
Organizational learning

**Institutionalization**
New interpretations and action shared within the organization
Organization - individual

**Integration**
Coordinated action based on shared interpretation and understanding
Group - organization

**Iteration**

**Intuition**
Individual/group, experiences, ideas, images, metaphors = new ideas

**Interpretation**
Common interpretation, language, shared images
Individual - group

Efter Crossan et al

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Learning mechanisms

- **Cognitive mechanisms**
  - Language, concepts, values, symbols, theories and frameworks.
  - Values, strategy and policies of the organization and, ideally, underpin the practice-based learning processes at different organizational levels.

- **Structural mechanisms** are
  - Organizational infrastructures that encourage practice-based learning, e.g. lateral structures that enable learning of new practices across various organizational units.

- **Procedural mechanisms**
  - Routines, methods, and tools that support and promote learning.
<table>
<thead>
<tr>
<th>Process</th>
<th>Level</th>
<th>Inputs and outcomes</th>
<th>Learning mechanisms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intuiting:</td>
<td>Individual (or small group)</td>
<td>Experiences</td>
<td>Cognitive mechanisms inspiring new images and symbols that lead to new insights</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ideas</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Images</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Metaphors</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Insights</td>
<td></td>
</tr>
<tr>
<td>Interpreting:</td>
<td>Individual (for small group)</td>
<td>Language</td>
<td>Cognitive mechanisms to develop meaningful interpretations of ideas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Verbal explanation of idea</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Conversation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dialogue/Understanding</td>
<td></td>
</tr>
<tr>
<td>Integrating:</td>
<td>Group to system</td>
<td>Shared understandings</td>
<td>Same as above but also procedural mechanisms to iteratively encourage movement between action and reflection</td>
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<tr>
<td></td>
<td></td>
<td>Clarity of implementation</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Move to action</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Routines</td>
<td></td>
</tr>
<tr>
<td>Institutionalizing:</td>
<td>System to individual</td>
<td>Procedures for implementation</td>
<td>All three mechanisms as laid out above, where the procedural mechanism could be seen as an iterative loop connecting all the four Es</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Self-evaluation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reflection</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4.3. Home-and-away learning, a structural learning mechanism. (From Docherty et al., 2003).
Reactions to the discourses

- “I have now read your last PM regarding processes many times. I noticed that you used the word “process” 28 times! I don’t have time with this because I have to attend to patients”

- “I'll try to elucidate why I believe that processes are foisted on us and that they seem to concern problems that are easy to measure rather than problems that matter to the patient and to us. I understand that the reason for the hospital process model is to improve care and that YOU believe in it. But I don’t think you work with the most important questions. I think one of the reasons for this is that you are eager to show results in order to authorize the existence of the process organization”
Some suggestions

- Different learning mechanisms might function as attractors for change in complex responsive processes
- AR practices and their associated theories may help us go beyond traditional step-for-step models in improvement initiatives