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Action research healthcare: Focus on patients, improve quality, drive down costs

Hilary Bradbury¹ and Svante Lifvergren²

Abstract
We discuss action research healthcare as a transformative approach that continuously innovates in healthcare, attending to the “quadruple” aim. This article is shaped around a decade of evidence in Sweden. At the heart of healthcare action research is the endeavour to “learn by doing” with the participation of key stakeholders, including the patient. Experience suggests that an action research approach is particularly relevant when treating patients with chronic diseases and complex care needs. This inclusion is itself a social learning process and is key to realizing the improved outcomes. Insights from objective quantitative studies can be balanced with personal and inter-subjective dialogue that aligns different parts of a system in a movement towards improvement. Close-up non-defensive self-inquiry in the company of colleagues, with trust dynamics building over time, may be a key point of leverage for such systemic improvement activities.

Introduction
Healthcare systems today face great challenges. An aging population and increasing numbers of patients having multiple illnesses require increasingly extensive care. Expensive treatments are introduced at accelerating rates, leading to increased healthcare expenditures. Simultaneously, the proportion of the elderly in the population increases as staff shortages in the health profession appear. Healthcare systems are encountering a growing demand for high-quality care at the very time that the resources they can command from society are decreasing. As Mohrman and Shani declares, “healthcare systems must deliver more with less, amidst profound changes in the population that need to be served, and changing healthcare priorities.”

Several reports signal the need to shift services from hospital-based care towards an emphasis on community health and wellness where services are delivered close to home (or even at home) and with a higher degree of continuity. Truly transformative approaches to such challenges demand a quality of leadership, learning, and creativity that largely lies beyond our current capacity. An action research orientation to healthcare exemplifies a shift in mind-set that redefines traditional notions of expertise and distributes authority to all key stakeholders, often across multiple complex systems and directly engages participants in personal reflection on their experiences.

We discuss action research healthcare as a transformative approach that continuously innovates in healthcare, attending to the “quadruple” aim, which seeks to (1) improve patient experiences and the health of populations, (2) reduce the per capita cost, (3) improve the work life of those who deliver care, and (4) bring healthcare providers into circumstances that allow for continuous learning together with patients.

Healthcare action research
A middle path between hypothesis testing and managing improvement projects through collaborative stakeholder learning, healthcare action research brings a learning orientation to all concerned stakeholders. Action research in the healthcare sphere often follows the principles of community-based participatory research. The key is that the stakeholders—patients and their loved ones, caregivers, co-workers, managers, and academics—collaborate as learning partners. Learning implies reflection on experience aimed at changing maladaptive practices. Therefore, establishing a space and time for reflection on shared experiences, with an explicit desire to continuously improve, lies at the heart of healthcare action research. While no single formulation of healthcare action research can be correct, Table 1 presents key elements.

Because of common power imbalances among healthcare stakeholders, action researchers invite a more participative, egalitarian, and practical approach. Experts meet with lay persons and emotional expression is welcome in the shared reflection, thus normalizing learning about experiences becomes part of the practice of healthcare. Insights from objective quantitative studies can be balanced with personal and inter-subjective dialogue that helps align different parts of a system towards improvement.

In the Swedish case, a healthcare action research ethos of learning together manifested in iterative “learning platforms,” introduced as sustainable (permanent) inter-organizational arenas for dialogue and learning to support continuous improvement. They provide a regular location and time (often planned around a visit from another healthcare system) in which key representatives of a system meet and talk about what could be improved. Individual and organizational learning manifest in new perspectives and vocabularies, frameworks and concepts, and procedures and tools.

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**Table 1. Action research comparison**

<table>
<thead>
<tr>
<th>Purpose Basic (power) orientation</th>
<th>Action research</th>
<th>Applied patient research</th>
<th>Conventional health research</th>
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<tbody>
<tr>
<td>Researcher (decision-makers)</td>
<td>Embedded. Problem co-definer, learning co-designer, co-implémenter</td>
<td>Expert who knows what good outcomes should look like and helps to move situation towards them</td>
<td>External to the context. Problem definer, research designer, research implementer</td>
</tr>
<tr>
<td>Stakeholders (patients)</td>
<td>Problem co-definers, research co-designers, research co-implémenters</td>
<td>Sources of data; clients of research</td>
<td>Subjects of the research; sources of information; samples for testing conclusions</td>
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<tr>
<td>Evidence</td>
<td>Experiential, partial, emergent, dialogic, intuitive. Qualitative and quantitative. Includes stakeholders' first-person experience with interpersonal reflections and dialogue</td>
<td>Both qualitative and quantitative. Primarily impersonal and objective, also allows interpretive data</td>
<td>Both qualitative and quantitative data. Impersonal and objective data only</td>
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<tr>
<td>Learning process</td>
<td>Learning and dissemination integrated into the research process; questions about the status quo made possible; nested systems made visible. Iterative</td>
<td>Inquiry modes to define stakeholder problem and then match problem to existing intervention models or new combinations thereof. Linear</td>
<td>Knowledge development with researchers distant from the phenomena. Dissemination efforts passive and after the fact</td>
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<td>Strengths</td>
<td>Complex contexts where what to do “best” is a subject of discussion and negotiation; systems activity is coordinated inside political, pragmatic realities. Seeks to localize unique practices</td>
<td>Expert diagnosis, aiming at contractual arrangement with defined scope of work. Seeks to deploy “best practices”</td>
<td>Understands simple and complicated contexts by weighting variables or forces into deterministic sets, seeks generalizability</td>
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<td>Weaknesses</td>
<td>Many positive outcomes cannot be easily summarized quantitatively By those not familiar with action research can appear lacking in concern for objectivity</td>
<td>Efficiency orientation may conceive of new situations as versions of known prior ones, ignoring new knowledge creation opportunities. Delivering on a pre-determined contract can block emergent processes</td>
<td>Commitment to objectivity standards of the natural sciences render it as armchair speculation, that is, inactionable and potentially misleading</td>
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<td>Benefits</td>
<td>The work belongs to those involved. Builds problem-solving and learning competencies in groups, organizations, communities</td>
<td>Returns value to those who pay</td>
<td>Serves an academic community. May exploit the object of research</td>
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<td>Action outcomes</td>
<td>Action is coordinated as a seamless part of the research design. Learning platforms, workshops, experiments, new practices, new learning, new forms of knowledge/practice, sometimes also using peer review</td>
<td>Quick wins (may be short term only wins); may create stakeholder dependence, usually requires handover for follow-up for sustainable action which may be difficult to coordinate</td>
<td>Publication or communication of new information to disciplinary colleagues through peer-reviewed journals</td>
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**Patient-centric learning platforms:**

**Healthcare action research in Sweden**

The following are notable results from a decade-long application of action research in the West Skaraborg region in Sweden that serves an entire community’s care for elderly patients with complex care needs. A mobile and team-based care model has evolved, in which the patient and all care providers, the communities, the primary care centers, and the hospital are linked. This care model is currently being recommended by the National Healthcare Coordinator, appointed by the Swedish government, as a particularly good example of improving care efficiency and thus to be further adopted on a national basis. The model developed around action research principles for bringing stakeholders together into learning platforms. Since inception in 2005, quality of life has improved and care consumption has been dramatically reduced for these patients. Key indicators of success include:

- an 80% reduction in emergency visits;
- a 90% reduction in office visits as well as a reduction in hospital days by around 90%;
- most primary care physician visits have been eliminated;
- quantitative assessments have shown significantly improved quality of life as well as relief of troublesome symptoms among the patients; and
- qualitative evaluations including interviews and focus groups with patients, relatives, and co-workers in the surrounding system show that the care model is well functioning and greatly appreciated in the surrounding system.4,15-17
Swedish context

With healthcare costs around 9.5% of the gross domestic product, Sweden’s healthcare system is recognized as one of the better ones in Europe,4,18 an assessment consistent with recent world statistics in which Sweden had the 15th highest life expectancy and the 6th lowest infant mortality rate.5 Yet with an expected 130% increase of its citizens 85 years or older from 2015 to 2050 and birth rates relatively low,19 issues of chronic disease management are now salient and costly. Somewhere around 80%-85% of healthcare resources are spent on chronic care in Sweden. In Sweden, two healthcare providers, the primary and hospital healthcare, are organized at the regional level. The third-care provider is organized at the municipal level and is responsible for after-care services and home care. [AQ4]

In this Swedish case, much as Glouberman and Mintzberg8 insist, sustainable change in the healthcare system was accomplished by embracing the complexity that surrounds patient health through the pursuit of sustainable collaborations among all the various stakeholders in the system. Key to this was the patient! Ironically, although patients are central, they are usually not sufficiently involved in the development of their actual care systems.20 Yet as Hellström et al.21 argue, it is critical to involve the patient. Patient inclusion and honest dialogue may explain the Swedish outcomes in that conforming a healthcare system around patients’ needs became a central activity and the potent unifier of the various stakeholders. The slow dissemination and diffusion of innovations22 was overcome as learning forums moved beyond piecemeal to become a permanent feature, as learning platforms, of a new mobile, team-based healthcare delivery structure. Ensuring robust “relational space” in which voices could be heard allowed for new ideas to become shared experiments23 through which the system could be nudged towards improvement by those involved.

Thus, the West Skaraborg learning platform, involving all three care-providing organizations at managerial as well as co-worker level, has used action research principles for the continuous improvement of integrated care for patients with chronic diseases since the early 2000s.24-26 Drawing from more than a decade of experiences, it has been evident that the Swedish traditional care system is not designed to care for patients with chronic diseases and more complex care needs, regardless of age (see Figure 1).4 These insights, therefore, led the learning platform to focus on the design and implementation of networked mobile and team-based care models that have been superimposed on the traditional care system.42

In particular, the mobile network care model, developed by frontline healthcare staff with continuous input from patients and their families, is coordinated and integrated based on each patient’s individual care needs using a person-centred approach.27 Cross-professional teams from the three care-providing organizations collaborate to fulfill the needs of the individual patient. The goal is to empower the patient and to support a good quality of life at home, avoiding unnecessary admissions or outpatient visits. The care model rests on a few network design principles (see Figure 2).

Basic care at home is provided by nurses and assistant nurses from the communities. In a country that leads in the world of mobile communications, the primary care team is mobile. Thus, rather than a patient having to come to the healthcare provider, the healthcare provider will go to the patient. The team consists of a general practitioner and a nurse...
and supports all home care activities as needed. The mobile specialist teams, consisting of geriatricians, cancer specialists, and specialized nurses, deliver advanced home care for medically unstable patients. There is always a coordinating “process owner” (most often the nurse in the community) who coordinates all care teams in line with the patient’s individual care plan. Emergency beds are always available at the hospital (although very seldom utilized). The network has a close collaboration with the surrounding healthcare system, thereby encouraging early identification of unstable patients. Managers from the three care-providing organizations meet regularly to jointly manage the system on an operational level.

So far, evaluations of the care model usage for elderly patients with complex care needs as well as for patients with palliative care needs have shown excellent results as outlined above. Currently, the mobile network model is being tested and adapted for other large patient groups with chronic diseases, for example, adults as well as children with psychiatric disorders and patients with dementia.

**Transformative features of action research healthcare**

The success of the Swedish example highlights the importance of coordinating care around the patient, sharing information with all co-workers in the care network, and empowering the stakeholders to act with the system in mind. Learning platforms are key because process owners from different projects update their colleagues on their experiments and take feedback on the next best steps.

In the learning platform, the patient experience is either directly represented by patients who are present or by their being indirectly represented. For example, those involved in cancer care sought to improve cancer patients’ experiences generally, deciding first to focus specifically on the patient’s experience of a new cancer diagnosis. The coordinating process owner, a healthcare provider with 20% of her time paid for project coordination, experimented with the action research practice known as “photovoice,” which invites stakeholders to voluntarily participate. Moreover, a rich mix of personal and interpersonal learning is made possible in the learning platforms, what contemporary action research refers to as “the potent integration of first, second, and third-person research/practice”. Personal, first-person practice/reflections bring a purposefully critical perspective to improvement initiatives not frequently encountered in the practices associated with improvement science. This close-up, non-defensive, self-inquiry in the company of colleagues, with trust dynamics building over time, may be a key point of value creation from the learning platforms.

**Embracing complexity, changing cultures of healthcare**

Rather than establishing and verifying conventional truths about what currently exists, the idea operating in this action research approach to healthcare is to interrupt habitual practice by exploring and inspiring innovative alternatives. Perhaps, the holy grail of transformed healthcare is patient activation inside communities of partnership that assist with chronic disease and encourage prevention. Ultimately, human-centric healthcare management—as action research itself—is flexible, optimizing, empowering, and liberating.

Transformation is emergent. In the Swedish case, we see many inter-dependent variables, which are both the cause and the effect of one another. Within a map of these variables—something created over time as a result of learning platform gatherings—those involved could see feedback loops (eg, if a worried patient always knows whom to contact in their care network, they do not need to go to the emergency department, thus costs are halved immediately and the patient feels more relaxed). There are also smaller re-enforcing feedback loops within this system that, if also observed as experiments, can be potent leversages for change. Emergent higher level patterns occur when many independent actions create something that is of quite a different nature to the components that created it—for example, the patients staying away from emergency care release resources for additional preventive care. High-level emergent factors result from the many individual actions, patients and providers take to protect their health through upstream, preventive measures (such as diet change and routine exercise).

We might call the patient focus an “attractor” in the complex system of improved healthcare. As explained by Burns, an attractor is a set of attitudes, behaviours, or positions that represent a pattern of norms to which activity is drawn. Looked at from above, we can see what is happening over time as a major shift in attitudes and norms in relation to health. One pattern of system dynamics, that is, downstream in the value chain (hospital—disease-centered—reactive) is shifted formulated, never pushing the system too far, too fast. In this way, the learning platforms permit genuine dialogue and discourage posturing and defensiveness.

That the learning platforms accelerate the development of the actual care system is evident in the fact that people voluntarily participate. Moreover, a rich mix of personal and interpersonal learning is made possible in the learning platforms, what contemporary action research refers to as “the potent integration of first, second, and third-person research/practice”. Personal, first-person practice/reflections bring a purposefully critical perspective to improvement initiatives not frequently encountered in the practices associated with improvement science. This close-up, non-defensive, self-inquiry in the company of colleagues, with trust dynamics building over time, may be a key point of value creation from the learning platforms.
upstream (communities—well-being centered—proactive). In order for that shift to occur, an alternative attractor has to emerge. An alternative attractor represents a new possibility introduced into the system. This could be manifest (ie, a different pattern of behaviour that gradually draws more people to it) and/or it could be latent (ie, attitudes might be changing beneath the surface, in part related to public health education, which when they reach a critical mass allow the possibility for new types of action). It is important to be able to see how these attractors form, because they are what creates change in the system that we are engaging with, and at the same time, the creation of alternative attractors is the mechanism by which action researchers can build towards systemic change.

Key to the positive changes is emerging trends and relationships. For action researchers, knowing about emergence can be very helpful for understanding the dynamics of social groups and complex situations or systems. Lichtenstein identifies aspiration as the essential driver of complex systems emergence and notes the difference between that and what typically instigates change and transformation, namely, a crisis of some sort. Understanding this difference is especially useful for action researchers who are seeking to improve a healthcare system, or indeed any social system. In particular, the positive energy from which emergence draws helps align the vision of change leaders in a way that attracts others to participate, leading to much more creativity and greater potential for successful innovation in all corners of a system.

Conclusions

Even in the best of circumstances, most healthcare is more about patients’ diseases than their wellness, more about their management than their participation. This reflects an industrial-era approach to planning and fixing in a fragmented hierarchy. Improvement efforts that arise from this worldview continue to drive efforts at healthcare reform that turn patients into consumers. To more fully engage patients as active partners is to allow all stakeholders to engage in a new way of relating. Four relationships need to be held with equal vitality and intentionality: relationship with self (as care provider, and as someone needing to care for self); with patients/clients and their families/loved ones; with the caregiver teams we are a part of, and finally, with the communities that we serve, which gives rise to the broader concept of well-being.

This transformation of power dynamics allows for co-production of knowledge. The degree of collaboration described may be unusual, but its reality is appreciated most especially by patients:

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. We felt taken care of, really . . . (Patient reflection, 2016).

Action research healthcare illustrates a paradigm shift. Education and capacity building for this future may speed up if education models for the next generation of healthcare providers and their leadership teams can be updated to invite and allow personal learning experiments that together combine to deliver value to a healthcare context.

At the heart of action research is a human-centric model that celebrates the healing potential of personal and inter-subjective learning with an integrated vision of the healthcare system. It is an orientation to knowledge co-production in which healthcare providers themselves may become re-enganchaged with the very reasons they entered the field of healthcare.

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