Quality improvement development in Swedish healthcare and welfare services

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Abstract

Purpose – Quality improvement has developed and spread, and today, all Swedish Regions emphasize that their strategies are based on systematic improvement. This paper aims to describe and illuminate the development of Quality Improvement (QI) in Swedish healthcare and welfare organizations by using publications in a Swedish context.

Design/methodology/approach – The overview synthesis is inspired by a scoping literature review approach of relevant literature. All publications relevant to Swedish healthcare and welfare settings between 1992 until 2020 were included.

Findings – In all, 213 papers, 29 books and chapters and 34 dissertations related to QI and research in Swedish healthcare and welfare context were identified. From 2011 to 2020, the publication rate increased rapidly. Six different focus areas emerged: systematic and value-creating improvement work; collaboration between organizations and healthcare providers; use of improvement methods and (theoretical) models; leadership and learning; measurements, quality registers and follow-up; and involvement and patient safety. Further QI development in Swedish healthcare and welfare points to an increased importance of collaboration between organizations and coproduction with beneficiaries for the healthcare and welfare services.

Originality/value – This paper is one of the first to describe and illuminate the QI development in the healthcare and welfare sector in a country. The trajectory also points to a need for coproduction to handle future challenges.

Keywords Quality improvement, Swedish healthcare and welfare services, QI development, Improvement research

Paper type Literature review

1. Introduction

Quality improvement (QI) is today an established concept in healthcare and welfare organizations. There is not one defined definition of QI in health care, but commonly it encompasses the IOM domains of safety, person-centeredness, effectiveness, efficiency, equity and accessibility (cited in Lachman, 2024). The aim is to bridge the gap between actual and ideal care and improve outcomes (Nilsen *et al.*, 2022), by using a set of models, tools and measurements (Dixon-Woods, 2019). In Sweden, all regions are currently working

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actively to develop and improve their operations. In the publication "National indicators on Good care", the National Board of Health and Welfare (2009) present guidelines on how QI can be applied in Swedish healthcare. Swedish healthcare and welfare laws and regulations include obligations to conduct QI development (SFS 2017:30, 2024; SOSFS 2011:9, 2024).

The QI field is diverse and consists of many different concepts, used in slightly different ways. QI knowledge mainly refers to the knowledge needed to perform improvements, emanating from Demings Profound Knowledge (Deming, 2000). QI work is systematic initiatives performed, mainly at a local level (Crisóstomo Portela *et al.*, 2015). The research aiming to understand QI initiatives also goes with a lot of different wordings, e.g. QI Science, Improvement Science, Improvement research. QI and QI research in healthcare settings has evolved during the 21st century (Batalden and Foster, 2021; Nilsen *et al.*, 2022), incorporating knowledge from different areas like change management, psychology, engineering, statistics and sociology, nicely framed by Demings profound knowledge (Lachman, 2024). The QI research aims to bridge the gap between best care and actual care, focusing on learning, and thereby, to improve patient outcomes and increase value. Improvement science uses a range of models and tools, originating from different research areas (Crisp, 2015). The QI epistemology emphases knowledge to evolve from "doing" more than on beforehand "knowing" (Nilsen *et al.*, 2022), and improvements should be useful in practice. Therefore, improvement science is grounded in a pragmatic worldview, focusing on what works when, for whom, where and why (Lachman, 2024).

QI has developed over time in slightly different directions. Other components in healthcare and welfare organizations have been linked to QI, such as patient safety work and collaboration (coproduction). Worldwide, healthcare embraced the concept of quality in the mid-1980s, starting in the USA. In 1993, Batalden and Stoltz published "A Framework for the Continual Improvement of Health Care" (Batalden and Stoltz, 1993), which describes that both traditional professional knowledge and QI knowledge are required to reform and improve healthcare.

The QI movement came to Sweden in the late 1980s, by the Swedish Association of Local Authorities and Regions (SALAR), in collaboration with the National Board of Health and Welfare, which became interested in quality-inspired instruments. Some years later, research studying which QI methods work, where and why was established, which pushed the QI development further. The purpose of this paper is to describe and illuminate the development and current status of QI and QI research in Swedish healthcare and welfare organizations by using publications performed in a Swedish context.

2. Methodological approach

The synthesis is inspired by an overview scoping review, gathering the body of literature (Munn *et al.*, 2018; Grant and Booth, 2009). A semi-systematic approach (Snyder, 2019), aiming to give a broad overview of the field and development over time, based on publications related to Swedish healthcare and welfare organizations, i.e. papers, dissertations in a Swedish context and by Swedish authors, as well as books and chapters in anthologies, were applied. Searches have been carried out in several steps and in several ways; based on the author's prior knowledge in the field, with help of a librarian at the library at Jönköping University, from reference lists in already existing material and via databases such as PubMed and CINAHL, including The Digital Scientific Archive and Google Scholar. Searches were performed in both Swedish and English, using search terms related to QI-knowledge, QI-research, Improvements, Improvement knowledge, Improvement research, QI development, Coproduction, Codesign, (patient) Collaboration and (patient) safety, combined with the terms healthcare, Health and Welfare, Health Service(s), Social care, Social Service(s). There were no limitations concerning dates.

The papers were read and sorted first by title and then by abstract. PhD dissertations and books were sorted by title and abstract, if applicable. Some publications that were not at all relevant to healthcare or well-being services were removed, but the selection has been very inclusive. The included publications are marked with * in the reference list. As the material shows breadth in terms of study designs and methods, as well as including books and dissertations, an overview synthesis of the papers and description of the focus in books, chapters and dissertations, has been carried out (Grant and Booth, 2009). The analysis was validated by a senior researcher whit excellent experience in the Swedish QI field.

3. Findings

3.1 The development of QI in Swedish healthcare and welfare organizations

QI, often referred to as development work or business development, has a long tradition, especially in the medical and technical parts of healthcare. In early 1990s, SALAR started QI programs, based on Total Quality Management. The goal was to achieve: customer satisfaction; cost-benefit and efficient use of resources; and job satisfaction. At the same time, various professional associations developed programs that contained quality concepts. In the mid-1990s, the concept of QI based on Deming (2000) profound knowledge and Batalden and Stoltz (1993) framework was introduced. In 2006, the first report Open Comparisons (the National Board of Health and Welfare) in healthcare was published. Open Comparisons were later introduced in other welfare organizations, i.e. social services and municipal health. The reports contain information on the quality, performance and costs. In the 2000s, several healthcare Regions adopted strategies for quality development. Today, all healthcare Regions use QI to varying degrees and emphasize that their strategies are based on systematic improvement work. Several municipalities state that they have started to use QI methodology.

A total of 213 papers, 34 PhD dissertations and 29 books and book chapters related to QI in a Swedish healthcare and welfare context were identified from 1992 until 2020 (Table 1). The first papers were published in 1992 and 1996 (Blomqvist, 1992; Ekvall, 1996). The first PhD dissertation was published in 2003 (Nordgren, 2003), and the first book in 2007 (Elg *et al.*, 2007a, 2007b).

3.2 Scope and focus areas

Publications in early years often focused on macrosystems perspective, hospital-wide development programs, leadership and regional development projects. Further, microsystem, evaluations of breakthrough programs, facilitation of improvement work and the importance of measurements were frequent. The use of national quality registers (NQR) is also beginning to emerge here, albeit on a modest scale.

Years	Papers	Dissertations	Books and chapters
1992–2000	2		
2001–2009	36	5	2
2010–2014	70	14	11
2015–2020	105	15	16
Summary	213	34	29

Source: Author's own work

Table 1. Material by type and annual intervals

From 2011, the publication rate increased rapidly. Concepts such as Lean Healthcare, Process Management, Six Sigma, value-based care and patient safety emerged. Both macro and micro perspectives, and different models and frameworks are present. Another focus is sustainability and a long-term approach. In 2016 the concept of Improvement Science appears. Studies in different diagnostic groups, with links to QI and patient safety, are more frequent. Person centeredness and participation arise, and concepts such as patient involvement and coproduction are introduced.

The overview synthesis resulted in six different focus areas: systematic and value-creating improvement work; collaboration between organizations and healthcare providers; use of improvement methods and (theoretical) models; leadership and learning; measurements, quality registers and follow-up; and involvement and patient safety. The focus areas are not exclusive, several of the papers deal with more than one focus. All included material is marked with * in the reference list.

3.3.1 Systematic and value-creating improvement work. The development towards systematic and sustainable QI work is described in several papers (Andersson Gäre and Neuhauser, 2007; Bodenheimer *et al.*, 2007; Staines *et al.*, 2015). Strategies to facilitate the introduction of continuous improvement as a concept in healthcare are discussed (Kunkel *et al.*, 2007; Nyström *et al.*, 2014a, 2014b). Investigation whether and how systematic work with improvement methods from health care can be transferred, and thus contribute to increased value in social welfare is also occurring (Neubeck *et al.*, 2014a, 2014b). Implications of QI knowledge for healthcare (Kunkel and Westerling, 2006), readiness for change and climate of change are other perspectives (Carlfjord *et al.*, 2010; Kammerlind *et al.*, 2004a, 2004b; Andersson *et al.*, 2014a, 2014b). Some publications, especially in professional journals in Swedish, have the character of wanting to propagate the possibilities and benefits of QI knowledge in healthcare (Thor, 2002; Book *et al.*, 2003; Lundberg, 2013). Challenges and possible obstacles to successful improvement work are also common (Elg *et al.*, 2007a, 2007b; Øvretveit, 2011; Andersson *et al.*, 2013a, 2013b). Staff's perspective on the relationship between organizational culture and quality in relation to value conflicts when introducing IT systems as tools are highlighted (Skyvell-Nilsson *et al.*, 2018).

3.3.2 Collaboration between organizations and healthcare providers. Collaboration is a phenomenon that changes over time, as do the concepts used. In the earliest papers, concepts such as collaboration, learning and development appear (Olsson *et al.*, 2003a, 2003b; Nyström, 2009). Some method papers that concern different forms of collaboration, mainly the Breakthrough methodology, used for joint learning between different teams are found (Øvretveit *et al.*, 2002; Andersson *et al.*, 2014a, 2014b; Peterson *et al.*, 2015). Processes and management between and across organizational boundaries are another phenomenon (Hellström *et al.*, 2010; Kvarnström *et al.*, 2012a, 2012b; Nyström *et al.*, 2018a, 2018b). Collaboration is in many cases described as facilitating and improving care (Rejler, 2014; Kilander *et al.*, 2019), but also why it is not always easy to achieve (Janlöv *et al.*, 2016. Collaboration between organizations can facilitate and improve care services for patients needing care from several different care providers, while deeper organizational structures may create obstacles. This focus area also includes staff and patients' experiences of collaboration. A program highlighted in several publications is the "Esther" concept in Region Jönköping (Vackerberg *et al.*, 2016). "Esther" started in 1997 as a collaboration between municipalities, primary care, and specialist care to integrate and coordinate care efforts for people with complex care needs.

3.3.3 Use of improvement methods and (theoretical) models. Most books and anthologies are textbooks written for healthcare professionals, and are mainly about basic QI knowledge, models and methods (Elg *et al.*, 2007a, 2007b; Thor, 2012; Nygårdh, 2017; Andersson and Nordin, 2019). In papers, practical QI work improving care for certain

patients and diagnostic groups are common (Rejler *et al.*, 2012; Khatami and Rosengren, 2015), but also more general perspectives on how experiences of improvement knowledge can be used in other parts of the public sector (Wiig *et al.*, 2014; Poksinska *et al.*, 2017). Another focus area is the use of, and learning based on, measurements and results (Thor *et al.*, 2007; Norman *et al.*, 2013; Gremyr *et al.*, 2020). Some studies are conducted using as well as describing statistical methods, including the application of statistical process control (Thor *et al.*, 2007). Qualitative evaluations of the staff's perception of different quality concepts, and descriptions of different quality models and concepts, such as Lean or Six Sigma, occur, as well as the introduction of these in healthcare, and staff's perceptions of using them (Mazzocato *et al.*, 2014; Kaltenbrunner *et al.*, 2017). Questioning the introduction of quality concepts from the industry is raised (Bertholds, 2010; Poksinska *et al.*, 2017), and criticism points out the lack of evidence on whether the concept really works in healthcare. There are elements of how theoretical perspectives or models can be used or need to be considered in QI (Kjellström and Andersson, 2017; Rydenfält *et al.*, 2017a, 2017b; Nilsen *et al.*, 2019; Dahlin, 2020).

3.3.4 Leadership and learning. The papers are not about traditional management, but leadership for QI, and contain micro, meso and macro perspectives (Kammerlind *et al.*, 2004a, 2004b; Kjellström *et al.*, 2017). From a macro perspective, there are studies on how entire healthcare systems can be managed and controlled based on QI principles (Thor *et al.*, 2004a, 2024b; Anderson *et al.*, 2019), while the micro perspective is concerned with leadership support (Ulhassan *et al.*, 2015). Leaders' views on QI knowledge more generally are investigated, and their experiences of different models and concepts (Andersson, 2013a, 2013b; Kahm and Ingelsson, 2019). Different forms of leadership, such as coaching and the use of coaches in improvement work are studied (Godfrey *et al.*, 2013; Vackerberg *et al.*, 2016). Some dissertations handle leadership in relation to QI initiatives (Kunkel, 2008; Höög, 2014; Williamsson, 2018). Several early publications concern leaders' knowledge and understanding of QI knowledge and change management (Bergquist *et al.*, 2012), and that staff and managers often have different perceptions of how change-prone the unit is (Pukk *et al.*, 2003; Carlfjord *et al.*, 2010; Elg, 2011b). There are papers that emphasize that healthcare need leaders who inspire others to see QI work as part of their daily work (Bodenheimer *et al.*, 2007). Some papers deal with patients' learning and leadership, for example through self-care and learning cafés (Petersson *et al.*, 2016; Suutari *et al.*, 2019).

3.3.5 Measurements, quality registers and follow-up. In the material, there are publications that tries to identify systems and models for monitoring and following up improvement initiatives (Øvretveit and Gustafson, 2002; Elg *et al.*, 2007a). Other papers point out the challenge with existing in complex social interventions can be difficult to measure (Kolberg and Elg, 2006; Höög *et al.*, 2016).

Some studies develop or test instruments for measurement and follow-up, often focused on specific patients or diagnostic groups but also more generally to achieve safer care (Hagiwara *et al.*, 2011; Öhrn *et al.*, 2011). Quality indicators and NQRs are included in various ways, some papers focusing on specific registries or diagnostic groups (Peterson *et al.*, 2015; Lannering *et al.*, 2016; Algurén *et al.*, 2018), and books and chapters describe NQRs and exemplify their use (Thor, 2015; Thor *et al.*, 2016). In addition, there are several studies that investigate how the quality registers can be used and understood in the QI work (Ludvigsson and Myrelid, 2009; Edvinsson *et al.*, 2015; Nordin *et al.*, 2018a, 2018b). Some dissertations study and use NQRs (Petersson, 2017; Lannering, 2018).

3.3.6 Involvement and patient safety. Involvement and patient safety are found in several publications in different ways and with different focuses (Wilde Larsson and Larsson, 2009; Schildmeijer *et al.*, 2018). Conceptual confusion is common, and many

different concepts for involvement and participation are used (von Thiele Schwarz, 2016; Areskoug Josefsson and Andersson, 2017). Studies that examine the role of individuals and their views on participating in QI initiatives are common (Larsson *et al.*, 2011; Gustavsson *et al.*, 2016a, 2016b; Riggare, 2018), as well as how coproduction can improve outcomes and create increased value (Vackerberg *et al.*, 2016; Petersson *et al.*, 2017; McColl-Kennedy *et al.*, 2017a, 2017b). Papers also describe how the use of instruments can contribute to more involvement and achieving better results (Elg *et al.*, 2011a, 2011b; Ramfelt *et al.*, 2020). Some publication show examples of how different quality indicators can affect people's ability to participate, and Patient Reported Outcome Measures (PROMs) are highlighted as opportunities for improved and safer care (Nelson *et al.*, 2015; Prodinger and Taylor, 2018). In some papers, QI is linked to patient safety, better care and treatment outcomes (Öhrn *et al.*, 2011; Holmqvist *et al.*, 2019; Ridelberg *et al.*, 2020).

4. Future discussion

The discussion will draw attention to where QI in healthcare and Welfare organizations are heading. A phenomenon that has emerged in recent years is the concept of "lead user patients". Only one paper appeared in the material, stating that if patients' knowledge and experiences were better used, a completely new (better?) healthcare system would be developed (Riggare, 2018). Although, participation and coproduction are an "upward trend" in healthcare. At the same time, it's really nothing new, but a further development of QI. Lachman *et al.* (2021) call it Quality 3.0, a continuous development based on QI. The first phase QI 1.0 consists largely of quality assurance measures, such as the development of checklists and certifications, which corresponds to the early material in this review. In the second phase, QI 2.0, systems, and a holistic approach are prominent, important components are processes and measurements. The third phase 3.0 involves a development towards a service logic, coproduction and value creation (Lachman *et al.*, 2021; Batalden and Foster, 2021). Those three phases can be recognized in the focus areas. To manage future challenges, QI and QI research needs to be conducted in close collaboration between researchers, practitioners and people in need of healthcare and welfare service (THIS Institute, 2021). Knowledge about how QI can contribute to better and safer healthcare and welfare, by collaborating and coproducing with all concerned: patients, users, relatives, staff, researchers, organizations and society at large are emphasized. In several places around the world, more and more QI and QI research are conducted together with patients, users and relatives (Locock *et al.*, 2019; Mulvale *et al.*, 2019; Jennings *et al.*, 2018).

As described in the personal involvement focus area, there is a confusion of concepts, which of course does not facilitate either development or research in the field. It is possible that the concepts and how they are applied will become clearer as more knowledge in the field emerges. Batalden *et al.* (2015) derive the concept and phenomenon of coproduction from Ellinor Ostrom, economist and Nobel prize winner who put forward the idea that citizens can co-produce public services through active participation. SALAR (2015) uses the concepts of patient influence and co-creation, and describes how people (patients, users and citizens in general) have gained more influence and a stronger position both regarding healthcare and welfare services. Taking advantage of the knowledge and commitment that exists among the people who need healthcare and welfare services is emphasized. In 2018, a report from the Swedish Agency for Health and Care Services Analysis showed that the experiences of patients and their families could be taken care of much better. QI and QI research can contribute to supporting the development towards more co-production, which is a natural development (Lachman *et al.*, 2021). QI and microsystems theory include persons and their next of kin as part of the same microsystem (Donaldson and Mohr, 2000).

QI and QI research span several different scientific paradigms. To take advantage of this, different perspectives need to be released and treated systematically (Javadi, 2021). The more perspectives, interdisciplinary and interactive approaches that can be applied, the more QI research can contribute, both theoretically and practically (Dixon-Woods, 2019; Javadi, 2021). The synthesis of the QI research in Swedish healthcare and welfare also points to a development where collaboration between organizations and co-creation with those for whom healthcare and welfare services is intended, is becoming an increasingly important factor (Batalden, 2018), even if the early publications have a preponderance towards organizational macrosystem perspectives. In the interim period, there is a general focus on practice and application of QI, while the later publications increasingly focus on sustainability and highlight the patient and user as an important partner in achieving a high-quality and safe healthcare and welfare services.

5. Conclusions and implications

QI has emerged and become a strategy in Swedish healthcare and welfare organizations. From the mid-1990s, the development has accelerated, and QI research has been added to strengthen the knowledge and deepening the understanding of what works and how. Several of the early actors were healthcare professionals who pushed importance of QI being based on evidence and one of the major challenges in QI research is to develop scientifically robust knowledge. QI is about learning from what we do and striving to do even better next time. This paper shows that QI research in Swedish healthcare and welfare is growing over time, involving a variety of focus areas. Participation and coproduction are an increasing trend, creating better conditions for healthcare and welfare in the future.

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