

Quality registry, a tool for patient advantages – from a preventive caring perspective

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Aim The aim of this study was to describe nurses' experiences of a recently implemented quality register, Senior Alert, at two hospitals in Sweden.

Background In Sweden, in recent decades, a system of national quality registries has been established in health and medical services for better outcomes for patients, professional development and a better functioning system. Senior Alert (SA) is one quality registry, aimed at preventing malnutrition, pressure ulcers and falls in elderly care.

Methods The study comprised a total of eight interviews with nurses working with SA at the ward level. The interviews were analysed using manifest qualitative content analysis. Respect for the individuals was a main concern in the study. All persons who were asked to participate in the study consented to do so.

Results One category 'Patient Advantages' and three subcategories 'Conscious Persevering', 'Supporting Structure' and 'Committed Leadership' were identified to describe staff experiences of implementing SA.

Conclusions Implementation processes need to be sustainable at both staff and managerial levels. A key factor in implementing and using a quality registry in prevention care could be described as keeping the flame burning. However, further research is needed on how patient advantages could be developed using other quality registries in order to improve care from a patient perspective.

Implications for nursing management The results of this study could help other organizations implement quality registries or other change processes, for example new guidelines and treatment. Strategies concerning organizational structure and committed leadership could increase the usefulness of knowledge systems on all levels, which could enable continuous learning and quality improvement in health care.

Keywords: committed leadership, nurses' experiences, organizational structure, patient advantages, quality improvement

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Introduction

The Swedish health-care system is organized on three levels: national, regional and local. The regional level, through the county councils and together with central government, forms the basis of the health-care system. The county councils plan the development and organization of health care according to the needs of their residents. Their planning responsibility also includes collaborating closely with the municipalities as well as developing health services supplied by other providers, such as public and/or private practitioners. The Swedish health-care system is funded primarily through taxation. The social insurance system, managed by the Swedish Social Insurance Agency, provides financial security in cases of sickness and disability (Glenngård *et al.* 2005).

Swedish health-care and national health registries are dependent on a unique identifier, the personal identification number (PIN). The PIN was introduced in 1947 and every individual has a unique PIN based on their date of birth along with a four-digit number. The PIN forms the basis for the possibility to register linkages, and several authorities handle registry linkages for health and research purposes (Ludvigsson *et al.* 2009).

A system of national quality registries ($n = 89$) containing data concerning patients' problems/diagnoses, treatments/interventions and outcomes has been established in Sweden using central funding. Quality registries, which are professionalized, provide possibilities to follow up achievements in health care (Ayers *et al.* 2005). Most quality registries are disease-specific, for example the hip, cataract and rheumatology registers. One exception is Senior Alert (SA), launched in April 2008, a registry for preventive care processes. The SA was developed because of a need for a systematic approach within the areas of malnutrition, pressure ulcers and falls in acute hospital care, primary care and nursing homes at municipality level (SALAR 2011). Research by Eriksson *et al.* (2007) reported that functional outcomes in a quality registry are important. For example, simple self-reported items can be transformed into a modified ranking scale and used with a high precision for future comparisons of care to develop a better method of delivering care and improving health care.

In Sweden, about 91 000 elderly people live in nursing homes and about 159 000 receive home care or home service provided by one of the 290 municipalities in Sweden (National Board of Health and Welfare 2011). The increasing number of elderly in

the Western world will have doubled by the year 2050 (United Nations 2011), which is one motivation for improvements to health services. One way to handle effective care in elderly care was described by Dahlke and Phinney (2008). They showed two factors of importance: nurses' own experiences of societal beliefs and attitudes about the elderly as well as their working environment, which is not designed to meet the needs of elderly people. Moreover, Swedish legalization (Swedish Code of Statutes 2010:659) has pointed out the importance of safe and secure health care based on a patient perspective instead of the current professional perspective to achieve better outcomes for patients, better professional development and a better functioning system. Åberg *et al.* (2009) assert that a well-developed patient safety culture includes certain attitudes, routines and actions, and describe that prevention work will be seen by staff and patients as organizational characteristics. However, it is crucial to focus on interaction, facilitation and organizational culture when health-care organizations change. In their research, Rao *et al.* (2010) showed that engagement in outcome measurement in an implementation process was important, both at the organizational level and concerning professional aspects and personal resonance. They suggest that challenges in implementation work are multidimensional and described the possibilities for improving practice by minimizing waiting time and improving accessibility and care pathways. One conclusion was that change can be managed by working to minimize anxiety among staff, which is in line with the study by Rosengren *et al.* (1999) about staff experiences of hospital mergers.

Another aspect to consider in a change process is the leadership role (Batalden *et al.* 2003, Nelson *et al.* 2007, Rosengren 2008) at both the micro-level (ward) – to be present and available – and the macro-level (hospital), to be able to make decisions in order to improve care. Batalden and Davidoff (2007) stress that leadership in health care should pay attention to policies and practices of reward and accountability to enable connections between the aims, design and testing of changes for better care. Furthermore, staffs in health care have two tasks: doing their work and improving it.

Aim

The aim of this study was to describe nurses' experiences of a recently implemented quality registry, SA, at two hospitals in Sweden.

Method

Design

This study was carried out according to qualitative method. Qualitative studies are one way to go beyond a faithful and credible information to describe nurses' experiences of a recently implemented quality registry. Qualitative researcher work with transparency, verification, reflexivity, participant-driven inquiry, and insightful and artful interpretation (Polit & Beck 2012).

Setting

Senior Alert, a quality registry, was developed at Qulturum a centre for development of improvement knowledge and renewal in health care at the Jönköping County Council and subsequently implemented throughout Swedish health care. Staff – assistant nurses (ANs) registered nurses (RNs) and their leaders – shared responsibility for the implementation work with SA at the ward level. This change, from traditional work with nutrition, pressure ulcers and falls in elderly care to quality improvement work with SA, took place before the study started.

The study was carried out at two hospitals in Sweden that work with SA. Two wards were selected, one at each hospital, specializing in internal medicine and orthopaedic care with most patients aged 70 years and older.

Data collection

The study comprised a total of eight interviews with one AN and seven RNs; four of the RNs worked as leaders (Table 1). The data collection took place from December 2009 to April 2010. All interviews were carried out in privacy in a room adjacent to the ward, and were conducted by the second author (P.H.). The questions were based on the nurses' experiences of the implementation process of, and quality improvement work with the quality registry, SA. The interviews lasted between 30 and 90 minutes, and were tape re-

corded and transcribed verbatim. Each transcribed interview comprised 10–20 pages, with an average of 15 pages.

The interviews began with an open question: 'Which kind of quality registry is used at the ward?' Further questions were based on the informants' answers, and they were asked about their experiences of implementing and working with SA. Examples of situations, clarifications and further elaborations were requested. The data collection focused on the nurses' experiences of implementing and working with SA.

Data analysis

The interviews were analysed using manifest qualitative content analysis, suggested by Graneheim and Lundman (2004), in a step-by-step procedure. Written words were used as the basis for the analysis. Texts were read to acquire a first impression of the content. The manifest analysis addressed questions about the implementation of the SA quality registry in the Swedish health-care system on a content level. The analysis was performed in following steps: (1) Transcripts were read and re-read to obtain an understanding of, and familiarity with the text, (2) Meaning wards (words, sentences or paragraphs) were selected corresponding to the content areas (a) implementation of routines and (b) use of roles, and (3) Each meaning ward was condensed into a description of its content and labelled with a code, (4) Subcategories were identified and grouped into categories (e.g. Conscious persevering, Supporting Structure and Committed Leadership) and (5) one category, Patient Advantages, formed the main area (Table 2).

The coding and categorizing procedure suggested by the first author (K.R.) were discussed by the other two authors until agreement was reached. The emerging findings are illustrated by quotes in the Results section.

Ethical considerations

At the time of the study, no ethical approval was required in Sweden for research on staff members. Permission for the study was obtained from the managers of the two hospitals wards. Respect for the individuals was a major concern during the whole study. All who were asked to participate in the study consented to do so. Nurses were informed about voluntary participation and consented to participate in the study, knowing they had the right to withdraw at any time, and that their answers would be kept confidential. Ethical guidelines for human and social research were followed throughout the study (Codex 2011).

Table 1

Description of the study group with regard to profession

| <i>Professional category of nurses</i> | <i>Numbers</i> |
|--|----------------|
| Assistant nurse (AN) | 1 |
| Registered nurse (RN)* | 7 (4) |
| | <i>n</i> = 8 |

*Leader/manager.

Table 2

Example of description of analysis of content into subcategories that formed a category

| Condensed content | Coding | Subcategory 1 | Subcategory 2 | Category |
|--|-----------------|--------------------------|----------------------|--------------------|
| A management issue Good leadership at the ward level Good and clear direction Motivate staff to do it | Clear direction | Kind but firm leadership | Committed Leadership | Patient Advantages |

Results

One category, 'Patient Advantages' and three subcategories, 'Conscious Persevering', including the individual feature, 'Supporting Structure', including the organizational feature, and 'Committed Leadership', including the manager feature, were identified as describing nurses' experiences of implementing the SA quality registry. The relationships between the category, the three subcategories and their related categories are shown in Figure 1.

'Patient Advantages'

The category 'Patient Advantages' describes nurses' experiences of implementing SA, such as performing the tasks to improve practice and having a tool to work with evidence-based care. A changing of mindset from traditional care in nutrition, pressure ulcers and falls in elderly care to the quality improvement work with SA through a preventive approach was described. The nurses pointed out the importance of working with patients and their relatives within SA to prevent the misunderstanding that nutrition is not about bad cooking but rather the frequency of snacks, drinks and

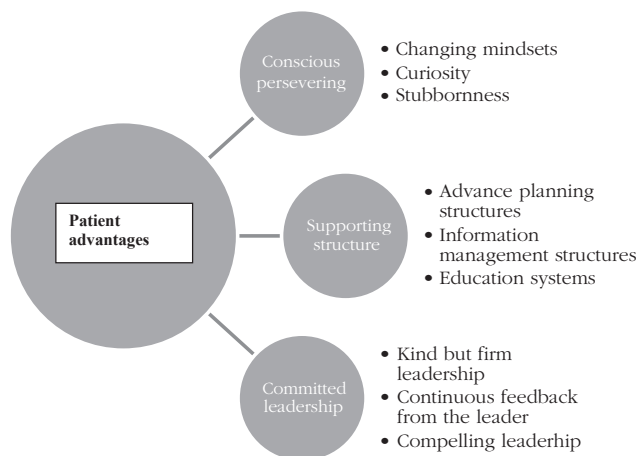
other energy diets. The whole team does their very best to improve practice by using different competencies. The nurses stressed the importance of improving and using evidence-based practice within an advance planning structure. They reported a need for support in developing knowledge about and competencies in SA because of new tasks in their daily routine. They also stressed a need for education systems, driven by both hospitals and other health-care organizations, to develop tasks around SA and for better outcomes for the patients. The importance of leader support for the change process in daily work was described as necessary for knowing what to do to improve practice and how to do it. Strategies for committed leadership were described as useful tools for visualizing nursing research and caring situations for continuous learning and quality improvement in health care.

'Conscious Persevering'

The subcategory 'Conscious Persevering' emerged from the nurses' descriptions of 'changing mindsets' to be able to increase the use of a preventive approach through 'curiosity' and 'stubbornness'. No differences were experienced at Hospitals A or B regarding caring activities becoming evident in daily work. The nurses described it as an 'eye-opener' for caring and nursing (i.e. making better outcomes possible for patients).

'Conscious Persevering' was experienced as 'keeping the flame burning', despite a too-high workload and time-consuming activities. Nurses were well-informed about falls, nutrition and pressure ulcers, but SA highlighted the importance of working with evidence-based care and of evaluating care.

Feelings of 'curiosity' grew over time and were the strongest when nurses saw results of their quality improvement, perhaps an award or media attention. They noted that it is not easy to use quality improvement when patients need different caregivers at different periods. Teamwork with different professionals was described as significant and positive in creating synergy,

**Figure 1**

Category and subcategories.

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but all nurses had to measure and communicate in a secure and efficient way.

'Stubbornness' was used to describe the nurses' work with implementation and development routines to be able to work with evidence-based care and use the possibilities of different systems, to avoid duplication of documentation owing to different computer systems and professional points of view. Old routines had been abandoned because of SA, which made caring more fun and influenced staff to become more observant of areas within SA. This was stressed as follows:

"...we talked about research on pressure ulcers and evidence, I described what happens in the body after one and two hours of pressure and told why liquids are important. An assistant nurse said, 'but then we won't massage the people who have red spots' ...ancient knowledge that has remained... it's already an injury in its early state...oh that's just what evidence is... you have to acquire knowledge about it... it's important to touch, but you should be careful with the skin... it was lifted by an 'aha' experience"(RN)

'Supporting Structure'

The subcategory 'Supporting Structure' describes experiences of working in an efficient organization. The nurses stressed that it took time to find a supporting structure because of 'advance planning structures', 'information management structures' and 'education systems' at the ward. Some differences emerged between the hospitals. Nurses at Hospital A described a more structural organization around SA compared with Hospital B. The implementation process was done in a kind of hurry in the light of different professions' work and tasks, which delayed the proper use of SA. Work with SA was performed ad hoc, and it was difficult to reach out to the staff.

'Advance planning structures' were described as planning, acting and evaluating. The nurses stressed the importance of choosing the 'right' members within the 'pilot group' and reported a need to both accelerate and decelerate people to implement SA at the ward. Divided work within SA at Hospital B was more problematic, with risk assessment done by ANs and documentation on the computer done by RNs. Clear and transparent instructions for SA were described as crucial for establishing standardized measurement tools. Structural change such as merging wards or recruiting new managers and staff members during the implementation process caused delays.

Regarding 'Information management structures', a need was described for better administrative routines to improve practice. Information from workplace meetings, whiteboards with SA results, information material in the waiting room, etc., were used as tools to improve practice. Moreover, the importance of understandable presentations of the SA results, over time, increased the use of the quality registry. The nurses highlighted that SA could reduce work pressure as a result of more effective and preventive methods such as standardized documentation, restricted accessories in the room, measurement of height and weight, nutritional drink, etc. This was described as follows:

'...they hear the estimates we make each day with patients, it's not difficult really... you look at the patient... the problem is the structure, that no-one's really decided that perhaps it should be estimated after three days... the nurse makes the call at arrival... so I think we need to think about waiting a bit... you don't need to do it twice, as it doesn't agree, but rather do things just because so much is about freeing up time and structuring it. Then I believe we'll succeed'(RN)

The 'education systems' were planned in a hurry and in the beginning was set in another geographic place. Owing to limitations in the planning process, educators were not fully prepared to educate the staff, which caused delays. Also, merging wards led to a lag in the educational process. Different knowledge about documentation rules and varying computer skills also caused problems in the SA documentation. Work with quality improvement included supportive practice, both within the team (i.e. different staff members) and within the organization itself.

'Committed Leadership'

The subcategory 'Committed Leadership' describes how important nursing management is in improving and influencing health care through a 'kind but firm leadership' built on 'continuous feedback from the leader' to achieve 'compelling leadership'. 'Committed Leadership' was described as one solution for dealing with staff resistance to change. There were some differences in leadership at the two hospitals: Hospital A was more patient-centered compared with Hospital B. However, nurses pointed out that SA resulted in an awareness of the importance of evidence-based care, with the leaders being interested in and involved in the improvement

work with SA on a daily basis. This was described as follows:

‘This is a management issue, because without the leadership this wouldn’t have been possible. There has been a good and clear direction, and they’ve been able to motivate the staff to do it... to explain why’(RN)

‘Kind but firm leadership’ was described as pushing nurse managers using ‘carrot and stick’ in an enthusiastic way when the change process was implemented. At both hospitals the leaders were keen to implement SA at the ward level. At Hospital A, the strategy was to plan for the unexpected. The nurses described the leaders’ ability to stand by their staff and to be sustainable through the SA implementation process. They reported that leaders who took an active part in the daily work of developing strategies for SA were two steps ahead (Hospital A). Hospital B’s strategy was described as solving problems when they arise. According to the staff, a positive attitude by the leader could clarify the gains and benefits of SA, for example united and equivalent measurements that follow a patient from caregiver to caregiver.

‘Continuous feedback from the leader’ was described as strength and as broadening the improvement work through a balance of standardization and individualization. The nurses stressed that evidence-based care is difficult, and argue that a committed leadership could bridge the professional gaps in the area of evidence-based nursing, a requirement that makes staff work in the best way possible. Moreover, leaders who promoted SA in the daily agenda, for example during rounds at the wards, staff meetings, etc., supported staff in rethinking and reorganizing routines built on old and individual solutions. This was expressed as follows:

‘...registered nurses (RNs) administer medicine; we, assistant nurses (ANs) do the supplements with appropriate risk and MNA (Mini Nutritional Assessment)... you have an eye on the patient, he/she shouldn’t get a pressure ulcer or become malnourished... so even when they’re at risk, we can stop it. If there’s a risk of falling, we’ll add walkers and always have a light on in the bathroom... if everyone has the right training (in SA) it’s easier, less difficult anyway... poor coaching/leadership maybe (laughs)... Maybe every little bit of help we can get helps, SA has been overlooked a bit(AN)

‘Compelling leadership’ was achieved when leaders and staff members worked together across organiza-

tional boundaries, for example between different wards of the hospital or between different caregivers, such as primary and community health care. Overall, committed leadership could balance a high workload and stressful working environment using well planned strategies, standardized measurements and a common language.

Discussion

The aim of this study, to describe nurses’ experiences of a recently implemented quality registry (SA) at two hospitals in Sweden, was achieved. The results show both similarities and differences in how nurses handle an implementation process. The nurses highlighted that they had to change their mindset to be able to enhance a preventive approach using SA, which could be understood through Lewin’s (1951) change theory’s three phases of a change process: thawing, change and re-freezing. As individuals, the nurses had to understand the change to be able to consciously persevere throughout the implementation process, which is in line with the findings of other researchers (Dahlke & Phinney 2008, Rosengren 2008, Åberg *et al.* 2009, Rao *et al.* 2010) who assert that attitudes, routines and organizational culture rely on professional aspects and personal resonance based on results concerning curiosity and stubbornness about changing to improve practice. The results showed that using the ‘acceleration and brake pedals’ in the project group could balance the implementation process, which is in line with Segan *et al.*’s (2004) ideas about different stages of change being more important than the change process itself in enabling the prediction of outcomes. According to Dematteo and Reeves (2011), appreciative inquiry (AI) is an approach to initiating or managing organizational change using a positive, constructive approach through enthusiasm and energy in working lives and interprofessional relationships, which is in accord with this paper’s results about persevering as an individual. Some differences were found between the hospitals in their work using SA as well as their educational planning processes. One way to explain this could be by using Antonovsky’s (1987) research about sense of coherence (SOC) and the theory of salutogenesis. The concept of SOC (Lindström & Eriksson 2005) could be implemented as a systematic orientation, from perspectives of both daily activities and professional practice, to create empowering dialogues that enforce the strengths of nurses, patients and their relatives. This implementation work could be described as work with relationships to give people a sense of coherence within a change process.

Another perspective of the results showed the usefulness of SA as a quality registry as it makes patients’

caring needs visible. The value of work with prevention was stressed, which is interesting from a political perspective as budgets tend to be set for 1–3 years (Béland 2010, Carney 2010). But the value of SA results might be best realized in the future and is perhaps not always easy to evaluate using a preventive approach. This problematic situation is reported by van Gaal *et al.* (2011), who observed no overall difference in preventive pressure ulcers between an intervention group and a normal care group. They also measured falls and reported no more patients being at risk for falls when they had received preventive care using the comprehensive patient safety preventive programme ‘SAFE or SORRY?’ ‘SAFE or SORRY?’ effectively reduced the number of adverse events, but van Gaal *et al.* (2011) could not report an increase in preventive care given to patients at risk, which stresses the difficulties involved in measuring compliance with care guidelines.

Moreover, ‘Patient Advantages’ could be optimized through web-based quality registries to allow patients and their relatives to better compare care, needs, costs and outcomes, which is in line with Öien’s (2009) research on RUT (register ulcer treatment). It is a winning concept for both patients and the overall health-care sector, and Öien (2009) stresses that early and adequate diagnosis as well as effective treatment improve care and reduce costs. Her conclusion is that different actors have to have knowledge and an understanding of specific areas to improve the quality of care, which is in accord with the present study’s findings on the importance of patient advantages in nutrition, pressure ulcers and falls in elderly care when a preventive approach is used. Research by Gunningberg *et al.* (2010) showed that competence in evidence-based practice increased when nurse managers took the responsibility of developing prerequisites for quality improvement and argued for national quality registries. Another article on benchmarking pain management at a cancer hospital showed that practice developments have taken place as a result of measuring and improving practices (Chandler *et al.* 2003). Evidence-based practice using guidelines, for example a quality registry such as SA, could be a good way to improve practice.

The results showed limitations in the education process, which could be result from educators at the ward level not being fully prepared. One way to improve the education system has been presented by Portillo and Cowley (2011), who highlight the importance of creating a holistic view without lack of time, knowledge, experience and/or communication skills. They describe that a change process needs nursing strategies to accept and/or adapt specific tasks through education, rein-

forcement of discharge planning and planning of emotional and social choices based on the assessment of individual needs and resources at the specific wards. Moreover, when different professionals with different educational backgrounds (for example, ANs and RNs) collect data for SA, could a lack of holistic perspective be present? Research shows that consensus-building and interdisciplinary learning is crucial in utilizing the change process among members of a multicultural, multinational workforce (Reinhardt & Keller 2009).

Quality registries such as SA could provide benefits, such as a standard approach, which could provide better opportunities for collaboration across organizational boundaries, for example between different wards at the same hospital or between different caregivers like hospitals, primary health care and nursing homes. Research in the community describes how multidisciplinary teams identify patients at risk and act accordingly (Ramzan 2011). Nurses in this study described their work with SA, but we did not include other professionals’ experiences. The failure to include different staff members in the teamwork might impair translation of the evidence into practice. One area that should be discussed is the importance of working in a team to make use of different professionals to address patients’ complex care needs. Boon *et al.* (2009) suggest that integration requires collaboration as a precondition, but that collaboration and integration should not be used interchangeably. They also argue that a critical starting point for any new interdisciplinary team is to articulate the goals of the model of care, which could be one factor to deal with in a change process such as the implementation of SA. Moreover, Kennedy and Lyndon (2008) state that effective teamwork occurs when tensions are relieved between aspects such as safe practice, communication and respect within the team, which is also a part of implementation work that needs to be considered.

Another key factor in working with a quality registry such as SA to improve practice could be to work with shared decision-making approaches (i.e. recognizing the autonomy and responsibility of both health professionals and patients) (Cribb & Entwistle 2011). However, to involve the team around the patient in decision-making might help all actors to tolerate the uncertainty that a change process like SA could establish. This is in line with research by Politi *et al.* (2011), that stresses significant interaction between patient involvement in decisions and communicating uncertainty in relation to patients’ satisfaction with decisions. Health professionals have an obligation to improve informed consent for all patients, and we can demonstrate this through the use of a quality registry at different

levels of health care to improve health outcomes (King *et al.* 2011).

Using SA enables an overview of caring activities through visible, available and useful measurements that can be used to generate feedback within a concrete patient care situation, for example pressure ulcers (i.e. evaluation in order to prevent illness and/or improve practice). This working method is in line with long-term follow-up to promote the sustained implementation of guidelines, for example Smith Higuchi *et al.* (2011) showed significant improvements in diabetes foot care. Moreover, to be able to use software such SA, computer proficiency among staff is one factor to deal with; another factor could be the availability of computers at a ward. Stephanies *et al.* (2011) explain that using peer coaches increases learning and results in satisfaction and confidence in the safe use of electronic health records. According to SA, the quality registry could provide results over a period of time and the technology supports possibilities to work with different improvement work at both the micro and the macro level, but nurses have to be well-trained both as individuals and as multidisciplinary teams. This result is in line with the study by Peterson *et al.* (2007) on the help quality registries can provide as tools in improving care for patients; however, they argue that data must be online and be presented in a new way. They showed that if multidisciplinary teams are trained to use improvement methodology they can deliver highly improved care.

To be able to follow through with the change, the nurses stress the importance of persevering by having a supporting organizational structure and committed leadership. The importance of a committed leadership in a well-organized ward is in accord with other researchers, who describe the change process as managerial work (Kotter 1996, Rosengren 2008, Fagerström & Salmela 2010). According to Kotter's (1996), it is important for managers to create motivation early in a change process among those involved to be able to form a team with the power to lead the change process forward and to develop and communicate a vision in order to get everyone involved. Other studies also highlight the leader's role, in a changing environment, in minimizing uncertainty and resistance in a change process (Batalden *et al.* 2003, Rosengren *et al.* 2007, Fagerström & Salmela 2010). However, it is important to work with the three aspects (the individuals as well as the organizational and leadership issues) to be able to 'hold on' (i.e. to reach the goal). To be able to use a quality registry as a tool to improve care, nurses need and expect leaders to focus on dialogue and continuous feedback to understand the implementation process of a

quality registry such as SA. The Situational Leadership model seems suitable for implementation work because of its focus on the maturity of the staff members. In the beginning, a 'telling' focus on task behaviour and a 'selling' focus on task and relationships are used. Later, depending on staff maturity, 'participating' and 'delegating' take over (Hersey & Blanchard 1988, Hersey *et al.* 2008).

Limitations

There are some limitations in this study. One of these limitations was that the implementation process was not followed over a longer period. Another limitation is that interviews were performed at two different hospitals with different professionals (one AN and seven RNs) with different involvement in the implementation process. This selection of informants could be problematic, as nurses were analysed as a group of nurses using a qualitative approach according to manifest qualitative content analysis (Graneheim & Lundman 2004, Elo & Kynga 2008). However, trustworthiness of the results was ensured through scientific systematic analysis performed by three different researchers, each with different experience, professional affiliations and fields. The study's validity could be discussed, and further studies are needed to develop knowledge about quality registries and the prevention approach because of rapid changes in health care as well as patients' stronger position in health care (Swedish Code of Statutes 2010: 659).

Conclusions

The implementation process needs to be kept alive, at both the staff and the managerial level. A key factor in implementing and using a quality registry in prevention work could be described as 'keeping the flame burning' to improve practice in the future. 'Patient Advantages' can be achieved by 'Conscious Persevering' through 'Supporting Structures' and 'Committed Leadership' at the ward/ward level. Nurses have to be sustainable in the implementation process; in other words, have the strength to change their own thinking to work with prevention through curiosity and stubbornness, i.e. to hold out, which could be described as a sense of coherence (SOC). Moreover, the ward has to have supporting structures that provide conditions for the development of a preventive caring perspective in a working environment based on routines, information, education systems, etc. Leaders of the change must be committed throughout the process, using a kind but

firm leadership and giving feedback in a committed way. This study suggests the need for further research about how 'Patient Advantages' could be developed using other quality registries to improve care.

Implications for nursing management

The results of this study could help other organizations to implement quality registries or other quality improvements, for example, new guidelines, treatments, etc., in the best way possible. Strategies identified in this article may help ensure the development of a knowledge system used for continuous learning, quality improvement and management in health care.

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Ethical approval

At the time of the study, no ethical approval was required in Sweden for research on staff members. Permission for the study was obtained from the managers of the two hospitals wards.

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