



Leadership in Health Services

The Finnish healthcare services lean management: Health services managers' experiences in a special health care unit

Susanna Hihnala, Lilja Kettunen, Marjo Suhonen, Hanna Tiirinki,

Article information:

To cite this document:

Susanna Hihnala, Lilja Kettunen, Marjo Suhonen, Hanna Tiirinki, (2018) "The Finnish healthcare services lean management: Health services managers' experiences in a special health care unit", *Leadership in Health Services*, Vol. 31 Issue: 1, pp.17-32, <https://doi.org/10.1108/LHS-03-2017-0020>

Permanent link to this document:

<https://doi.org/10.1108/LHS-03-2017-0020>

Downloaded on: 10 February 2018, At: 02:22 (PT)

References: this document contains references to 55 other documents.

To copy this document: permissions@emeraldinsight.com

The fulltext of this document has been downloaded 45 times since 2018*

Users who downloaded this article also downloaded:

(2018), "Authentic leadership in healthcare: a scoping review", *Leadership in Health Services*, Vol. 31 Iss 1 pp. 129-146 https://doi.org/10.1108/LHS-02-2017-0007

(2018), "Leadership in crisis situations: merging the interdisciplinary silos", *Leadership in Health Services*, Vol. 31 Iss 1 pp. 110-128 https://doi.org/10.1108/LHS-02-2017-0010

Access to this document was granted through an Emerald subscription provided by emerald-srm:277069 []

For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.

The Finnish healthcare services lean management

Health services managers' experiences in a special health care unit

Health services managers' experiences

17

Susanna Hihnala, Lilja Kettunen, Marjo Suhonen and Hanna Tiirinki

Research Unit of Nursing Science and Health Management, Faculty of Medicine, University of Oulu, Oulu, Finland

Received 10 April 2017
Revised 20 May 2017
Accepted 5 July 2017

Abstract

Purpose – The purpose of this paper is to discuss health services managers' experiences of management in a special health-care unit and development efforts from the point of view of the Lean method. Additionally, the aim is to deepen the knowledge of the managers' work and nature of the Lean method development processes in the workplace. The research focuses on those aspects and results of Lean method that are currently being used in health-care environments.

Design/methodology/approach – These data were collected through a number of thematic interviews. The participants were nurse managers ($n = 7$) and medical managers ($n = 7$) who applied Lean management in their work at the University Hospital in the Northern Ostrobothnia Health Care District. The data were analysed with a qualitative content analysis.

Findings – A common set of values in specialized health-care services, development of activities and challenges for management in the use of the Lean manager development model to improve personal management skills.

Practical implications – Managers in specialized health-care services can develop and systematically manage with the help of the Lean method. This emphasizes assumptions, from the point of view of management, about systems development when the organization uses the Lean method. The research outcomes originate from specialized health-care settings in Finland in which the Lean method and its associated management principles have been implemented and applied to the delivery of health care.

Originality/value – The study shows that the research results and in-depth knowledge on Lean method principles can be applied to health-care management and development processes. The research also describes health services managers' experiences of using the Lean method. In the future, these results can be used to improve Lean management skills, identify personal professional competencies and develop skills required in development processes. Also, the research findings can be used in the training of health services managers in the health-care industry worldwide and to help them survive the pressure to change repeatedly.

Keywords Management, Lean management, Health care services, Development process, Lean method

Paper type Research paper

Introduction

Lean management is a potential way to develop management practices and strategies in the health-care environment in Finland. However, further research is necessary to find out how the Lean management model manifests itself in Finland and to develop the model for this particular national context. There have been studies on the Lean method's effectiveness in terms of management and development work in the Finnish health-care environment. In addition, there is evidence that teamwork increased in Lean workplaces (Jorma *et al.*, 2016). There are numerous research articles about Lean thinking and plenty of literature reviews.



There is also research examining evidence of outcomes of using Lean by identifying the facilitating factors in Lean initiatives (Andersen *et al.*, 2014). Research articles also exist which focus on dividing articles according to the area of application of Lean and various study purposes and criteria (Mazzocato *et al.*, 2010; de Souza, 2009). In Finland, we only have a few research papers regarding knowledge and understanding of managerial experience using the Lean method. The aim of this research is to discuss health service managers' experiences of management in a special health-care unit and their development efforts from the point of view of the Lean method. Additionally, the aim is to deepen the knowledge of the managers' work and the nature of the Lean method development processes in the workplace. The research focuses on those aspects and results of the Lean method that are currently being used in health-care environments in Finland.

Health care has its own special characteristics: the work is client-oriented, different professionals work together for the benefit of the client, financial resources may vary and be limited, and medical care is improving (Stenvall and Virtanen, 2012; Clarke, 2009). There are also increases in cooperation and networking (Morrow *et al.*, 2007) between organizations and institutions to provide public health services, and health care is always overseen and controlled by some type of steering group. In the health-care services, management is defined as the management of employees working under a manager in a unit (Aarva, 2009). This research looks at specialized health-care settings in Finland in which Lean method and management principles have been implemented and applied to the delivery of health care. Management is a relatively new concept in Finnish health, and it refers to overseeing daily operations in the workplace.

A manager is responsible for the services provided to customers and is, in charge of the staff, as well as having responsibility for operating budget (Aarva, 2009). According to Virtanen and Stenvall (2010), a manager oversees daily operational activities of a health-care unit while taking into consideration the whole organization through interactions at various interfaces. Effectiveness of the system can also be viewed from the perspective of the overall whole, and it can reveal factors that influence effectiveness. By focusing on essentials, a manager can improve effectiveness and management can become clearer and better defined (Andersen and Røvik, 2015). Although the management supports the fundamental tasks of the health-care service organization and aims to achieve the goals set for it, the management must also respond to ever-changing health-related questions from the environment, society and customers. In addition, it is important that managers comply with the values of the fundamental task they are assigned, and that they adhere to ethical standards and furthermore that they model professional behaviour, skills and competence (Nikkilä and Paasivaara, 2007; Niiranen *et al.*, 2010; Suhonen and Paasivaara, 2011a).

Further investigation is required as to how the Lean management model can be successfully incorporated as part of health-care management (Timmons *et al.*, 2014). Lean management can be used to distribute new roles and areas of responsibility and to change the organization's culture. The best way to achieve positive outcomes in health care with the Lean method is to use it as a part of the management and leadership processes (Clark *et al.*, 2013). This is considered good because health-care managers face multifaceted changes and have limited resources at their disposal (Lammintakanen *et al.*, 2010; Foshay and Kumziemsky, 2014).

Background

Today, Finnish health care finds itself in the midst of restructuring municipalities and municipal health services have introduced new functional and co-operative structures to the social welfare and health care sector (Stenvall and Virtanen, 2012; Surakka *et al.*, 2008). The

Health Care Act (2010/1326) lays the groundwork for providing welfare services and dissolving barriers (Surakka *et al.*, 2008). However, these will be impossible to achieve if employees in the health-care sector do not create new processes and job content and monitor performance (Seppänen-Järvelä and Vataja, 2009).

In today's Finnish society, much is demanded of managers. In the health-care workplace, nurse managers play a significant role in executing development work and, in particular, in achieving set goals and implementing proposed reforms (Suhonen and Paasivaara, 2011a). Development work aims to create new and better ways to execute work related activities. In Finland, this refers to a set of one-off activities oriented toward producing results (Suhonen and Paasivaara, 2011a). Several studies indicate an increasing need for change management skills (Weberg, 2010). According to Stenvall and Virtanen (2012), development work in the health-care environment is an important way to enable progress particularly in the workplace. They also note that customer orientation and the aim to achieve a high level of quality in patient care pose challenges for health-care services (Stenvall and Virtanen, 2012; Tomey, 2009).

Lean in health care

There is a need for in-depth knowledge on Lean method principles and a better understanding of the process of Lean management. In other words, we need to understand Lean better and how to use it most effectively. In this research study, the development of managers within a Lean processes became clearer and created a foundation for developing individual management styles. However, there were also respondents who thought that Lean methods had not added anything new to their individual development of managerial skills. Lean thinking is expected to reduce preventable medical errors, and at the same time, it provides health-care professionals with opportunities to redesign more effective procedures without additional financial investment (Mazzocato *et al.*, 2012, 2010).

Lean management originally referred to a certain corporation's vehicle production system. It focused on respecting the customer, fast process and the elimination of "waste" (Ohno, 1988). The Lean method considers working methods, process control, continuous improvement, employee's commitment and problem solving (Spear and Bowen, 1999). The Lean Enterprise Institute defines Lean in the following terms:

Lean is a set of concepts, principles and tools used to create and deliver the most value from the customers' perspective while consuming the fewest resources and fully utilizing the skills and knowledge of those who do the work (www.leanenterprise.org).

In health care, most of the time the customer is a patient and the employees are health-care professionals or professionals providing support services. The goal of the Lean approach is to reduce waste. However, it is not possible, or sensible, to eliminate all waste. In manufacturing and service processes, there is always some waste, which interferes with smooth-flows and productivity. Usually, the waste is the consequence of poor planning and/or non-standard operations (Grabau, 2012). It has been observed that many clinicians raise doubts about Lean methods. In their opinion, nursing and medical professions currently include many unnecessary and irrelevant processes, and there is no need for new "isms". However, it is also possible to think about the situation from the opposite point of view, i.e. that Lean methods could actually focus on eliminating unnecessary and irrelevant processes from the work of health-care professionals (Caldwell, 2012).

The most important function of the Lean method is to support the organization's management and organizational culture. Employees are trained, information gets updated and managers participate in teamwork by being physically present in the situation

(Al-Balushi *et al.*, 2014). Kim, Spahlinger, Kin and Billi reported on health-care organizations' first experiences with Lean projects, where analysed the differences between health-care and manufacturing cultures (Kim *et al.*, 2006). According to their analysis, common counter arguments include, "people are not automobiles", "each patient is unique", "hospitalists are at the forefront of delivering care", "Lean is just cutting and layoffs in disguise" and comments that individual units would operate "as autonomous 'silos'". Nevertheless, the aforementioned authors reported that Lean thinking would have a lot to contribute to their own organization, the University of Michigan and the private health-care sector as well. According to Radnor, Holweg and Waring, unlike in the public sector, the customer and buyer are one and the same in the private health-care sector (Radnor *et al.*, 2011). Health care is also capacity-led, and therefore, it has limited ability to influence demand. When they studied four cases of implementation of Lean in the English NHS, they first observed that each unit defined customer and customer value in a different and incompatible way. Second, the implementation of Lean within these organizations was poorly coordinated. Third, Lean was marked as a tool-based approach rather than as a management philosophy and leadership method. Fourth, they observed that sooner or later Lean projects hit a low glass ceiling within the organization. This last observation means that service leaders in the field were trained to use a certain Lean tool without understanding the principles of the Lean method.

Management and development in health care

In today's Finnish society, much is demanded of managers in the health-care workplace. Managers play a significant role in executing development work and, in particular, in achieving set goals and implementing proposed reforms (Suhonen and Paasivaara, 2011a). Successful implementation of reforms in the workplace requires flexibility and collaboration skills from the whole staff, but at the same time, it provides professional development opportunities for individual employees (Suhonen and Paasivaara, 2011a, 2011b). On the other hand, according to Hantula *et al.* (2011), supporting employees, fostering team spirit in the workplace and the manager's own enthusiasm for development work play a central role in the manager's development work. In health care, managers have many duties that are connected to development work, and this research paper aims to provide information on how, with the help of Lean management principles, development work can be made more effective in the future. Successful implementation of reforms in the workplace requires flexibility and collaboration skills from the staff overall, but at the same time, it provides professional development opportunities for individual employees (Suhonen and Paasivaara, 2011a, 2011b).

Management is a relatively new concept in the Finnish health-care system, and it refers to overseeing the daily operations in the workplace. A manager is responsible for the services provided to the customers and is in charge of the staff in addition to having and the responsibility for the operating budget. The manager runs the daily operations at the very boundary of customer service (Aarva, 2009). Management must support the fundamental tasks of the health-care service organization and achieve the goals set for it. However, management has to respond to the ever-changing health-related questions from the environment, society and customers as well. It is important that managers comply with the values of their fundamental tasks and, at the same time, adhere to ethical standards and provide models of professional leadership skills and competence (Nikkilä and Paasivaara, 2007; Niiranen *et al.*, 2010; Suhonen and Paasivaara, 2011a).

New ways of thinking will be necessary for managers to ensure successful outcomes for patients (Carney, 2009). In health-care development work, it is of paramount importance to

set achievable goals and objectives and incorporate them into everyday practice at work. One of the primary challenges in health-care development work is to find ways to facilitate development while simultaneously managing daily activities in the workplace (Suhonen and Paasivaara, 2011a, 2011b). The need for system-level development in health care has become a priority not only in Finland but globally as well. Organizations aim to meet this need by improving the effectiveness of process-based activities. The goal is to increase innovation in the domain of the hospital industry and to improve the effectiveness of health-care activities by changing processes and by lowering and curtailing ever-increasing costs (Burgess and Radnor, 2013; Holden, 2011; Saks, 2012).

Development which originates in the workplace community requires that we have a universally accepted definition of a workplace community. It is essential for forming a workplace community and keeping it functional that individuals share the same work objectives and goals for particular activities, and that they are in agreement with the purpose of these specific activities. In addition, it is important that there are agreements between actors about procedures (Kuusela, 2013). The term development illustrates well how we are actually concerned about recognizing uniting elements when we define the concept of workplace community (Paasivaara and Nikkilä, 2010).

In a health-care context, development work endeavours to explore and create new and better approaches and procedures. These refer to a one-off and purposeful set of tasks (Suhonen and Paasivaara, 2011a). The most important aspect of this development work is to set achievable goals and make the outcomes an integral part of professional practice for the workplace community. Finding the means to develop and execute new processes while engaged in day-to-day operations poses one of the greatest challenges in the health-care environment (Suhonen and Paasivaara, 2011a, 2011b). Yet, for the workplace community to develop, it is particularly important to engage in this development work.

Data collection and analysis

The data were collected from a number of thematic interviews. The participants were nurse managers ($n = 7$) and medical managers ($n = 7$) who applied Lean management in their work at the University Hospital in the Northern Ostrobothnia Health Care District. The thematic interview consisted of themes aimed at an awareness of local health care, as well as leaders' experiences with the Lean method and their deeper understanding of it (Appendix 2). The interviews with individual participants, which lasted anywhere between 20 and 40 min, were conducted in the presence of two of authors of this paper in October 2016. After a series of test interviews, the interview themes were modified. This resulted in four final interview themes (Appendix 3). Each interview was recorded and transcribed verbatim into written form.

The data analysis process firstly involved careful reading of the transcribed interviews, which gave a decent overview of the data, and then the researchers independently analysed the data using a qualitative content analysis method to present it in a concise form without losing essential information. During the analysis phases, the researchers became familiar with how the local managers in Finnish health care understood and experienced the use of the Lean method.

To illustrate the results, the researchers designed a graph and used direct quotations to illuminate the conclusions of their research. With the help of this research method, the researchers gained multifaceted information and the interviewees could freely disclose how they, as managers, experienced Lean management. Thematic interviews are a suitable data collection method because they can flexibly adapt to different situations and provide

researchers with an opportunity to repeat or clarify questions and phrasing. Moreover, the researchers can engage in a conversation with the respondent (Denzin and Lincoln, 2005).

The researchers followed accepted scientific practice and the highest ethical standards in research throughout the entire research process. The researchers applied for permission to conduct a research study. The research does not require an opinion of the Ethics Committee or a statutory authorization because the respondents were employees rather than patients. The researchers will notify the Health Care District concerning any changes in the research process including its completion or end of study, as well as any changes to funding or billing.

The researchers requested and obtained prior written consent (Appendix 1) for the study. The researchers ensured the right of the participants to anonymity in such a way that the identities of the individuals participating in the study cannot be recognized in the interview materials. Anonymity and confidentiality are protected throughout the entire study, and this protection extends to after the final report and publication as well (Denzin and Lincoln, 2011; Polit and Beck, 2011).

Data analysis process

Data for this research, which was collected from thematic interviews, were analysed using qualitative content analysis methods – more specifically, inductive content analysis processes were applied. Figure 1 describes how the original material is composed of sub-categories – which were based on pre-made themes. This sort of content analysis is particularly appropriate for the analysis of transcribed interviews. Denzin and Lincoln (2005) support selecting this method for data analysis of similar material. In this type of content analysis, researchers apply a systematic approach to collecting information about the studied phenomenon from raw data to construct an interpretation of the phenomenon (Elo and Kyngäs, 2007; Shank, 2012). The research purpose of the content analysis is to understand the core theme or essence of an issue through generating hypotheses. When using content analysis it is challenging to reduce the data in such a way that it still reliably reflects the research phenomenon. On the one hand, it is a challenge to remain systematic and, on the other hand, to preserve the balance between intuition and control. A reasonable and fair balance is achieved by logical reasoning, which provide the foundation for content analysis and interpretation (Ehrnrooth, 1995).

In this research, the content analysis, based on the collected data, proceeds in phases, which identifies it as an inductive form of content analysis (Miles and Huberman, 1994). In inductive content analysis, the researchers move from analysing data units towards building a conceptual description (Tuomi and Sarajarvi, 2009). At the beginning of the analysis process, the researchers developed and focused in on descriptive concepts and themes that describe a manager's development work from the perspective of Lean management. In the next phase, the researchers examined how suitable these concepts and themes fitted in the materials being analysed, as well matching previous data and the original statements. Finally, the researchers further defined their existing concepts.

The researchers investigated the data inductively with the aim to capture the managers' overall thoughts about the Lean management methods. After this, the analysis proceeded through a data reduction phase and grouping of the overall thoughts by theme towards conceptualization (Miles and Huberman, 1994). In the conceptualization phase, the researchers interpreted the materials and advanced to the level of generating theoretical concepts (Miles and Huberman, 1994). In this phase, the researchers returned to the transcribed interviews and examined them in the light of the developed main themes and if needed would possibly further define the formulated concepts. In the final phase of the

analysis, the researchers made an overview the research materials and considered the suitability of their comprehensive description.

The purpose of the questions posted during the interviews was to increase the researchers' knowledge about the understanding, of the managers' experiences and development from the point of view of Lean management. The research results from the analysis were grouped into three areas:

- (1) a common set of values in specialized health-care services;
- (2) development of activities; and
- (3) challenges for management and use of the Lean leadership development model to improve personal management skills.

The research results are presented under thematic headings and described in the data, which emerged from diagnostics of the manager's experiences, management and development using Lean methodology in specialized health-care services.

Trustworthiness

The strength of this study lies in the evidence that the interviewees had experience in using the Lean method. To ensure the reliability of the data, researchers focused on the accuracy of the transcriptions of interviews. Special attention was paid to transcribing the comments and arguments accurately (Polit and Beck, 2011). Furthermore, all analysis steps are carried out two times.

It is well within the realms of possibility that the interview situation may feel rather formal for the participants and that the tone of the interview would be quite tense. Therefore, it was important to create an atmosphere of trust and ambiance that was as relaxed and unrestrained as possible. These aspects have been considered in this research. In addition, researchers need to take into account that a respondent is aware of being subject to individual assessment and that researchers will scrutinize the respondent's every word carefully. The study results can be considered significant because the same themes recurred in one interview and another and the same experiences and observations emerged.

The researchers had also worked as managers, which helped them to understand the development work the interviewees' experiences (Table I).

Findings

A common set of values in specialized health care

A common set of values in specialized health-care services comprises a set of values that respects human dignity. This was discernible as the patient's and workplace community's common set of values. It is important that the patient receives timely and seamless care chain. With the help of the Lean method, the health-care operative processing time has shortened and practices have become more streamlined. Due to reduced time waste, examinations and assessments are conducted early and the patient receives the treatment and care he or she needs – without wasting additional resources. It is also important to respect patients and the Lean approach has increased both customer satisfaction and improved the quality of health care. During the research, it became apparent how crucial it is at times to step into the patients' shoes and consider their point of view.

A common set of values that reach beyond the boundaries of units, functions and work practices is based on mutual respect between work units and organizations and an appreciation for the individual patient's path through the health-care system. Following Lean training, and based on the hospital's values, the concept of respecting others has

Themes	Major category	Central questions	Subcategory	Original expressions
		What? How managers understand Lean methods?	Common set of values in specialized health-care services	“Lean has brought about shorter processing times and streamlined time does not get wasted and examinations are done on time and the patient gets the care she or he needs; it’s important to respect the patient” “Collaboration with other actors i.e. it’s always the diving lines, that we them functional”
Managers’ experiences in management and development	<i>Lean methods</i>	How? How are Lean methods manifested in the manager’s work in developing operations? Why? How is Lean management understood by managers in their workplace development work?	Development of operations Challenges of management, and use of the Lean managers development model to improve personal management skills	“We’ve had collaboration meetings where we’ve been contemplating the idea of smoothness of functioning . . . we are constantly reacting to changes in our operations.” “An eight-hour workday is simply not enough . . . You should oversee the realization of development work and I don’t have time to oversee it” “I’ve gotten a perspective how to increase output and I guess it has strengthened the idea that you should be able to measure the process and tell your employees about it”

Table I.

Formation of the categories of the original material

become more important in the health-care setting, and it has increased respect for other employees’ commitment to professionalism. A shared vision and clear goals also lead every employee pulling in the same direction. Lean is a transformational process which occurs with a temporal progression. Its tools and techniques can be used effectively to redesign, streamline and reform activities and practices. In addition, there is evidence that the implementation of the Lean method increased collaboration across professional boundaries to reach operational objectives and further led to improved cooperation between actors. As two of the interviewed participants aptly put it:

Lean has brought about shorter processing times and streamlined time does not get wasted and examinations are done on time and the patient gets the care she or he needs; it’s important to respect the patient.

Collaboration with other actors i.e. it’s always the diving lines, that we them functional.

Development of operations

It emerged from the interviews that, with the help of the Lean method, units managed to improve both operations and customer satisfaction. Kaizen, in particular, improved the

workplace community's performance and streamlined procedures. Managers reported that with the help of a Lean display board they could make activities more visible and it increased discussion on topical issues pertinent to the workplace community.

Statistical data, which is made visible to the employees, increased awareness and understanding of their work. With the help of standardization and visualization, the workplace community's work methods were homogenized, efficiency improved and resources were allocated properly. Cloning of rooms made it easier and more efficient for employees to do their work. As result of these efforts, everyone knows where items are and time wasted searching for them is reduced. The 5S workplace organizational methodology improved work environment cleanliness. It also increased clarity and flexibility in the way that people work. It emerged from the results of this study that the best way to organize and put a workstation is with the help of the 5S method. The workplace community deemed that receiving and giving training was important to perform basic tasks. The concept of plan-do-check-plan has allowed the management to solve existing problems.

It was important for the workplace community to receive and give training to perform their basic tasks. As a result of Lean training, the use of visual indicators has made central issues pertinent to the work more visible. Joint meetings have ensured the smooth flow of business and units have been able to respond to change faster. As one respondent puts it:

We've had collaboration meetings where we've been contemplating the idea of smoothness of functioning [. . .] we constantly reacting to changes in our operations.

Managers experienced a lack of time in the implementation of Lean methods. The physical structures of the workplace limited the development of day-to-day functions. However, through the application of various Lean methods, the documentation of work and reporting activities increased. At the same time, the increased documentation reduced the time available for other management activities. According to managers' experience, it was challenging for them to motivate and encourage employees using Lean methods when they did not have clear goals and objectives. They experienced that not all employees were self-directed or interested in job development. On the one hand, managers are frequently asked to make comments on issues, and it is challenging to implement changes effectively in the workplace community. On the other hand, the managers experienced that their insufficient training in the implementation of Lean methods and their lack of knowledge about the concepts diminished their self-confidence.

For some respondents, their leadership had become clearer with the help of the Lean method, and it had created a foundation for their own management style as well. However, some of the respondents experienced that Lean methods did not add anything new to their managerial development. The use of Lean methods brought the development of individual managers into sharper focus, strengthened the foundation of their work and emphasized the importance of the daily management of activities. In addition, it increased collaboration between managers. Yet, some managers found that Lean method did not add anything new to their personal development in terms of managerial expertise. According to their experience, management consisted self-control and learning, and it had more to do with psychology. As two of the respondents pointed out:

The eight-hour workday is simply not enough [. . .] You should oversee the realization of development work and I don't have time to oversee.

I've gotten a perspective on how to increase output and I guess it has strengthened the idea that you should be able to measure the process and tell your employees about it.

It emerged from the interviews that with the help of kaizen, a concept based on the Japanese word meaning “continuous incremental improvement” (Womack and Jones, 1996), they managed to improve both operations and customer satisfaction. Respondents experienced that with the help of the Lean display board they could make the activities more visible.

With the help of standardization and visualization, the workplace methods were homogenized, efficiency was improved and resources were allocated properly. The 5S working methods improved the work environment cleanliness and in turn increased clarity and flexibility in the way that work was carried out. It also emerged from this study that the participants thought that the best way to organize and put their workstations in order was with the help of the 5S method. The workplace community deemed that giving and receiving training was also important to perform basic tasks.

Based on the results of this research, it is clear that managers experienced a lack of time in the implementation of Lean methods and physical structures limited the development of day-to-day functions. Through the application of Lean methods, documenting standard work and reporting have increased. This in turn decreased the time available for other management activities. According to their experience, it was challenging to motivate and encourage employees using Lean methods.

The development of individual managers within Lean method has become clearer, and it has created a foundation for individual management style. However, some of the respondents experienced that Lean methods did not add anything new to their managerial development.

Discussion

The purpose of this research was to discuss health services managers’ experiences of management in the health-care industry and their development efforts from the point of view of Lean thinking. Additionally, the aim was to deepen the understanding of the managers’ work and the nature of Lean thinking development processes in the workplace. In this research study, the development of individual managers within the Lean process became clearer and created a foundation for individual management style. However, there were also respondents who thought that Lean methods had not added anything new to their individual leadership development.

Studies confirm that Lean is a potential tool in management and development work in the health-care environment in Finland (Jorma *et al.*, 2016). According to Pedersen and Huniche (2011a) and Yong and McClean (2008), time is needed to succeed in reaching the goals of Lean. They also state that systematic investment in Lean methods in Finnish health care is needed and that there is a need for more professionals who have been trained in these methods. In addition, there is a need for in-depth knowledge on Lean method principles and understanding about the process of Lean management. In other words, we need to understand Lean better and to use it more effectively.

The main objective of using Lean methods is to develop for an organization a process-oriented management strategy without waste. The method is composed of five main points, which aim to create process-oriented thinking and eliminate waste. In the Lean method, value is defined from the customer perspective, i.e. improvements are made to meet the needs of the customer. Instead of being satisfied with merely being good, the Lean method strives for better. It aims to do more for less and produce only what is necessary (Womack and Jones, 1996; Burgess and Radnor, 2013; Graban, 2012).

Because Lean methods can be improved to meet the needs of the customer, value needs to be defined from the point of view of the customer. Therefore, the organization should conduct some form of value stream mapping, which aims to make the least amount of waste in the process and make the process as smooth as possible. In Lean management

workflows are improved by work standardization, and this creates pull, which promotes the flow further (Womack and Jones, 1996; Burgess and Radnor, 2013; Graban, 2012). It emerged from this study that a common set of values that respects human dignity came more important. This was discernible as a common set of values shared by the patient and workplace community. These values, which flowed across traditional work boundaries, were based on respect for collaboration between various work units and organizations and an appreciation for the individual patient's path through the health-care system. With the help of standardization and visualization, the workplace community's work methods homogenized, efficiency improved and resources were allocated properly.

The objective of the Lean method is to avoid decline in the quality of products or services. It is important to make problems visible and keep the work environment neat and clean, i.e. each object or thing has its own place. The elimination of waste is connected, according to Sergei *et al.* (2013), to the creation of a continuous flow and the Just-in-Time system, which produces products only when required. The goal is to achieve systematic and balanced work, where employees correct mistakes immediately. The 5S workplace methodology improved work the environment cleanliness and in turn increased clarity and flexibility in the way people worked. The best way to organize and put a workstation in order was found in this study to be with the help of the 5S method (Takahara *et al.*, 2010).

It further emerged from the interviews that with the help of the kaizen concept organizations managed to improve both operations and customer satisfaction. Respondents found that with the help of the Lean display board they could make their activities more visible. The goal is to find areas of development and come up with solutions for the work and the organization. In multidisciplinary work teams kaizen is applied to produce the best results (Imai, 1986; Graban and Swartz, 2012). The aim is to start with small changes. The changes are not made for the sake of change or because people are pushed to make a decision to begin the continuous improvement. The objective of kaizen is to break traditional hierarchical models and create more collaboration between different professions (Imai, 1986; Graban and Swartz, 2012; Hicks *et al.*, 2015).

According to the result of this research, there were two distinctly different viewpoints on training: those who had joined the Lean process late thought that there was too little training, and they had to go ahead with the methods while having an insignificant amount of information about them; and those who had participated since the very beginning and thought that the training had increased their knowledge and opened up the Lean method. Lack of knowledge and insufficient time block and create barriers for people to participate in training. The workplace community considered that it was important to both give and receive training to perform basic tasks. This also goes against the issues raised by Pedersen and Huniche (2011a) and Yong and McClean (2008).

All of the interviewed participants were in agreement that time is needed to succeed in achieving the goals of the Lean method. Based on the results of this research, it is clear that managers experienced a lack of time in the implementation of Lean methods and physical structures limited the development of day-to-day functions. As Lean methods increase both the documentation of work and reporting, there is less time for management activities. According to the respondents, it was challenging to motivate and encourage employees using Lean methods.

Conclusion

Based on the research, we can say that the experience of the Lean method by health-care managers was mainly positive. In addition, the organizations studied were progressing in the application of the Lean method, which indicates that the Lean method is seen as suitable

for daily work in health care and its development. The middle managers experience highlighted improved communication, greater operational efficiency, new tools for use in the workplace, as well as an increase in the discussion culture. On the basis of the experience of the managers, we can say that the Lean method is suitable for health care.

Features which have earlier received international criticism regarding the Lean method were also raised by the respondents in our survey. It is not possible to unequivocally measure and show that most of the positive experiences achieved by the method were actually due specifically to the activities in accordance with the method and the application of its various tools. However, the local managers felt that individual results can be achieved solely through the application of Lean tools. The research brings forth understanding and knowledge of managers experiences of the Lean method in Finnish health care. It emerged from this research study that a common set of values which respects human dignity developed due to the use of the method and was discernible as a common set of patient and workplace community values. The main objective of Lean methods is for an organization to develop a process-oriented management strategy without producing waste. Based on the results of this research, it is clear that managers experienced a lack of time for the implementation of Lean methods and physical structures limited the development of day-to-day functions as well. If the organization is not committed to the method, according to the interviews it will have little chance of success, given that the development policies require the allocation of resources for additional training, as well as the development of the relevant processes. This was reflected in interviews with concerns about how working time would be sufficient for all the development required.

With the help of Lean methods, it could be possible to develop a common set of values and develop operations to meet management challenges if the Lean management effort is facilitated. When using Lean methods, training provides better patient care and improves the workplace community. The customer orientation of the Lean method will lead to a mindset change with a focus on the flow and efficiency of individual components or the overall process. In the interviews, it was mentioned by respondents that the basic principles of the Lean method for determining value should come forth at the very beginning of the process and should involve a process of thinking about the customer perspective. More research is needed on how Lean management processes, which have an external facilitator, manifest themselves in Finnish health-care organizations. Research has shown that the Lean method can be a useful health-care method for changing ways of thinking and development practice. In the coming years, each task and its implementation mechanism will reach a broader review. A follow-up study would be useful to look at the health outcomes more deeply and develop appropriate metrics. The Lean method aims at improved customer service with less expense. The objective is to do more with less, and issues related to customer relationships, effectiveness and legitimacy of the activities of the operation of health-care principles have been raised.

This study supports previous research that the Lean method should be included in a health-care organization strategic plan. The implementation of the Lean method should be used for the organization own specialists, and so that local leaders could more easily get help in developing their own units. Thus, the use of the Lean method would be more efficient and become anchored in the unit.

References

- Aarva, K. (2009), *Hoidon ja hoivan lähijohtaminen*, Dissertation, Tampereen yliopisto, Tampere.
- Al-Balushi, S., Solah, A.S., Singh, P.J., Al Hajri, A., Farsi, Y.M. and Al Abri, R. (2014), "Readiness factors for lean implementation in healthcare settings – a literature review", *Journal of Health Organization and Management*, Vol. 28 No. 2, pp. 135-153.

- Andersen, H. and Røvik, K.A. (2015), "Lost in translation: a case-study of the travel of lean thinking in a hospital", *BMC Health Services Research*, Vol. 15 No. 1, p. 401.
- Burgess, N. and Radnor, Z.J. (2013), "Evaluation of lean in healthcare", *International Journal of Health Care Quality Assurance*, Vol. 26 No. 3, pp. 220-235.
- Caldwell, G. (2012), "Clinically lean: 'cutting the crap'", *Acute Medicine*, Vol. 11 No. 3, pp. 161-165.
- Carney, M. (2009), "Leadership in nursing: current and future perspectives and challenges", Editorial, *Journal of Nursing Management*, Vol. 17 No. 4, pp. 411-414.
- Clark, D.M., Silvester, K. and Knowles, S. (2013), "Lean management systems: creating a culture of continuous quality improvement", *Journal of Clinical Pathology*, Vol. 66 No. 8, pp. 638-643.
- Clarke, S.P. (2009), "Three metaphors and a (mis) quote: thinking about staffing-outcomes research, health policy and the future of nursing", *Journal of Nursing Management*, Vol. 17 No. 2, pp. 151-154.
- de Souza, L.B. (2009), "Trends and approaches in lean healthcare", *Leadership in Health Services*, Vol. 22 No. 2, pp. 121-139.
- Denzin, N.K. and Lincoln, Y.S. (2005), *Handbook of Qualitative Research*, Sage Publications, Thousand Oaks, CA.
- Denzin, N.K. and Lincoln, Y.S. (2011), *The SAGE Handbook of Qualitative Research*, 4th ed., Sage Publications, CA.
- Ehrnrooth, J. (1995), "Intuitio ja analyysi", Teoksessa, Mäkelä, K. (Eds), *Kvalitatiivisen Aineiston Analyysi Ja Tulkinta*, Gummerus, Saarijärvi, pp. 30-41.
- Elo, S. and Kyngäs, H. (2007), "The qualitative content analysis process", *Journal of Advanced Nursing*, Vol. 62 No. 1, pp. 107-115.
- Foshay, N. and Kumziemsky, C. (2014), "Towards an implementation framework for business intelligence in healthcare", *International Journal of Information Management*, Vol. 34 No. 1, pp. 20-27.
- Graban, M. (2012), *Lean Hospitals: Improving Quality, Patient Safety, and Employee Engagement*, 2nd ed., CRC Press.
- Graban, M. and Swartz, J.E. (2012), "Healthcare kaizen: change for health", *Management Services*, Vol. 35 No. 2012, pp. 35-39.
- Hantula, R., Suhonen, M. and Paasivaara, L. (2011), "Projektit terveydenhuollon muutoksen keinona – hoitotyöntekijöiden näkökulma", *Hallinnon Tutkimus*, Vol. 31 No. 1, pp. 36-47.
- Hicks, C., McGovern, T., Prior, G. and Smith, I. (2015), "Applying lean principles to the design of healthcare facilities", *Production Economics*, Vol. 170 No. 2015, pp. 677-686.
- Holden, R.J. (2011), "Lean thinking in emergency departments: a critical review", *Annals of Emergency Medicine*, Vol. 57 No. 4, pp. 398-399.
- Imai, M. (1986), *Kaizen: The Key to Japan's Competitive Success*, McGraw-Hill, Figure 1.1, The Kaizen Umbrella, p. 4.
- Jorma, T., Tiirinki, H., Bloigu, R. and Turkki, L. (2016), "Lean thinking in Finnish healthcare", *Leadership in Health Services*, Vol. 29 No. 1, pp. 9-36.
- Kim, C.S., Spahlinger, D.A., Kin, J.M. and Billi, J.E. (2006), "Lean health care: what can hospitals learn from world-class automaker?", *Journal of Hospital Medicine*, Vol. 1 No. 3, p. 198.
- Kuusela, S. (2013), *Esimiehen Vuorovaikutustaidot*, Sanoma Pro, Helsinki.
- Lammintakanen, J., Kivinen, T. and Kinnunen, J. (2010), "Managers' perspectives on recruitment and human resource development practices in primary healthcare", *International Journal of Circumpolar Health*, Vol. 69 No. 5, pp. 462-469.
- Mazzocato, P., Holden, R.J., Brommers, M., Aronsson, H., Bäckman, U., Elg, M. and Thor, J. (2012), "How does lean work in emergency care? A case study of a lean-inspired intervention at the Astrid

- Lindgren's children's hospital, Sweden", *BMC Health Services Research*, Vol. 12 No. 1, available at: www.biomedcentral.com/1472-6963/12/28
- Mazzocato, P., Savage, C., Brommels, M., Aronsson, H. and Thor, J. (2010), "Lean thinking in healthcare: a realist review of the literature", *Quality & Safety in Health Care*, Vol. 19 No. 5, pp. 376-382.
- Miles, M.B. and Huberman, A.M. (1994), *Qualitative Data Analysis: An Expanded Sourcebook*, 2nd ed., Sage.
- Morrow, H., Collins, B.K. and Smith, D.R. (2007), "Public health coalitions: patterns and perceptions in state immunization programs", *Journal of Health and Human Services Administration*, Vol. 30 No. 2, pp. 156-175.
- Niiranen, V., Seppänen-Järvelä, R., Sinkkonen, M. and Vartiainen, P. (2010), *Johtaminen Sosiaalialalla*, Gaudeamus, Helsinki.
- Nikkilä, J. and Paasivaara, L. (2007), *Arjen Johtajuus – Rutiinijohtamisesta Tulkintataitoon*, Suomen Sairaanhoidajaliitto, Helsinki.
- Ohno, T. (1988), *Toyota Production System: Beyond Large-Scale Production*, Productivity Press, New York, NY.
- Paasivaara, L. and Nikkilä, J. (2010), *Yhteisöllisyydestä Työhyvinvointia*, Kirjapaja, Helsinki.
- Pedersen, E.R.G. and Huniche, M. (2011a), "Determinants of lean success and failure in the Danish public sector: a negotiated order perspective", *International Journal of Public Sector Management*, Vol. 24 No. 5, pp. 403-420.
- Polit, D.F. and Beck, C.T. (2011), *Nursing Research-Generating and Assessing Evidence for Nursing Practice*, 9th ed., Lippincott Williams & Wilkins, Philadelphia.
- Radnor, Z.J., Holweg, M. and Waring, J. (2011), "Lean in healthcare: the unfilled promise?", *Social Science & Medicine (1982)*, Vol. 74 No. 3, pp. 364-371.
- Radnor, Z.J., Holweg, M. and Waring, J. (2012), "Lean in healthcare: the unfilled promise?", *Social Science & Medicine (1982)*, Vol. 74 No. 3, pp. 364-371.
- Saks, M. (2012), "Defining a profession: the role of knowledge and expertise", *Professions and Professionalism*, Vol. 2 No. 1, pp. 1-10.
- Seppänen-Järvelä, R. and Vataja, K. (2009), "Mitä työyhteisölähtöinen prosessikehittäminen on?", Teoksessa, Seppänen-Järvelä, R. and Vataja, K. (Eds), *Työyhteisö Uusille Urille. Kehittäminen Osaksi Arjen Työtä*, PS-kustannus, Jyväskylä, pp. 13-16.
- Sergei, V., Lusiani, M., Langley, A.A. and Denis, J.L. (2013), "Saying what you do and doing what you say: the performative dynamics of lean management theory", Working Paper 35/2013.
- Stenvall, J. and Virtanen, P. (2012), "Sosiaali- ja terveystieteiden uudistaminen", *Kehittämisen Mallit, Toimintatavat ja Periaatteet*, Kirjoittajat jätietosanoma, Helsinki.
- Suhonen, M. and Paasivaara, L. (2011a), "Shared human capital in project management: a systematic review of the literature", *Project Management Journal*, Vol. 42 No. 2, pp. 4-16.
- Suhonen, M. and Paasivaara, L. (2011b), "Factors of human capital related to project success in health care work units", *Journal of Nursing Management*, Vol. 19 No. 2, pp. 246-253.
- Surakka, T., Kiikkala, I., Lahti, T., Laitinen, H. and Rantala, T. (2008), *Osastonhoitaja Ja Johtaminen*, Sanoma Pro, Helsinki.
- Takahara, A., McLoughlin, C. and Gilleland, S. (2010), *Clinical 5S for Healthcare*, Enna.
- Timmons, S., Coffey, F. and Paraskevas, V. (2014), "Implementing lean methods in the emergency department", *Journal of Health Organization and Management*, Vol. 28 No. 2, pp. 214-228.
- Tuomi, J. and Sarajarvi, A. (2009), *Laadullinen Tutkimus Ja Sisällönanalyysi*, Jyväskylä, Gummerus.
- Virtanen, P. and Stenvall, J. (2010), *Julkinen Johtaminen*, Tietosanoma, Helsinki.
- Weberg, D. (2010), "Transformational leadership and staff retention: a evidence review with implications for healthcare systems", *Nursing Administration Quarterly*, Vol. 34, pp. 246-258.

-
- Womack, J.P. and Jones, D.T. (1996), *Lean Thinking - Banish Waste and Create Wealth in Your Corporation*, Free Press, New York, NY.
- Yong, T. and McClean, S. (2008), "A critical look at lean thinking in healthcare", *Quality & Safety in Health Care*, Vol. 17 No. 5, pp. 382-386.

Further reading

- Fagermoen, M.S. (1999), "Humanism in nursing theory: a focus on caring", in Kim, H.S. and Kollak, I. (Eds), *Nursing Theories: Conceptual and Philosophical Foundations*, pp. 157-183, Springer, New York, NY.
- Holden, R.J., Eriksson, A., Andreasson, J., Williamsson, A. and Dellve, L. (2015), "Healthcare workers' perceptions of lean: a context-sensitive, mixed methods study in three Swedish hospitals", *Applied Ergonomics*, Vol. 47 No. 2015, pp. 181-192.
- Virtanen, J.V. and Kovalainen, A. (2006), "Lääkärien ja hoitajien linjaorganisaatiot käytännön johtamisen näkökulmasta", *Suomen Lääkärilehti*, Vol. 61 No. 33, pp. 3247-3252.
- Wilhelmson, L. and Döös, M. (2002), "Sustainability in a rapidly changing environment", Docherty, P., Forslin, J. and Shani, A.B. (Eds), *Creating Sustainable Work Systems*, Routledge, Lontoo, pp. 101-113.
- Wise, K. (2008), "Why public health needs relationship management", *Journal of Health and Human Services Administration*, Vol. 31, pp. 309-331.

Appendix 1

DEAR LEAN FRONTLINE MANAGER

There is a need to develop frontline management in the health-care setting. In the coming years, the health-care industry will face many challenges related to frontline management. Currently, your hospital unit is applying Lean method and management tools. Our aim is to conduct one-on-one interviews in order to capture and record your experiences about it.

We endeavor to interview all frontline diagnostics managers in their area of responsibility (physicians and nurse managers) between the months of October and November 2016. We will conduct individual thematic interviews (each approximately 45 min long). We will send you the interview questions in advance so you can prepare for your interview.

Participation in this interview is completely voluntary. All of your information and interview responses will be kept confidential so as not to reveal the respondent's identity at any point of the study or identify an individual from the results. Research records will be destroyed after the publication of research results. I will provide further information about the research upon request.

Our research is a Pro-gradu thesis, and it is used to satisfy degree requirements in Master of Science degree program in the Institute of Nursing Science and Health Management Science at University of Oulu. Our research topic is the experiences of head nurses/nurse managers, who applied Lean management in the health-care workplace community in the Northern Ostrobothnia Health Care District. Our research advisor is University Researcher Hanna Tiirinki, PhD, at University of Oulu. The Institute of Nursing Science and Health Management Science, University of Oulu, will publish this research as a Pro-gradu thesis. An article about the research will be published in an international scientific journal and/or specialist publications.

I GIVE PERMISSION FOR THIS INTERVIEW. I HAVE BEEN INFORMED ABOUT THE INTERVIEW, I UNDERSTAND THE PURPOSE OF THE INTERVIEW AND MY RIGHT TO CANCEL THE INTERVIEW.

Dated _____._____. 2016 in Oulu

Signature of Subject and Printed Name _____
Kind regards,
Susanna Hihnala (susanna.hihnala@live.fi)
Lilja Kettunen (lilja.kettunen@hotmail.com)
Institute of Nursing Science and Health Management Science
University of Oulu
October 2016

Appendix 2

Draft research questions:

- RQ1.* What is Lean management in specialized health care?
- RQ2.* What is Lean frontline manager's development work in specialized health care?
- RQ3.* How do you experience and understand Lean management in specialized health care?
- RQ4.* From the point of view of the frontline manager, what are the challenges of Lean management?
- RQ5.* The goal of Lean management is to develop workplace community and improve operations and activities. How have these matters manifested themselves in your workplace community?
- RQ6.* How is Lean process visible in you workplace community?
- RQ7.* What have been accomplished in your workplace community with the help of Lean management?

Appendix 3

Research questions:

- RQ1.* How do you experience and understand Lean management in specialized health care?
- RQ2.* The goal of Lean management is to develop workplace community and improve operations and activities. How are these matters visible in your workplace community?
- RQ3.* From the point of view of the frontline manager, what are the challenges of Lean management?
- RQ4.* How has Lean process influenced your leadership?

Corresponding author

Lilja Kettunen can be contacted at: lilja.kettunen@hotmail.com

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgroupublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com