



Line managers and employees use of lean task boards in Norwegian municipal healthcare sector: A tool for action learning?

Journal:	<i>Leadership in Health Services</i>
Manuscript ID	LHS-04-2020-0020.R1
Manuscript Type:	Original Article
Keywords:	Learning, Lean, Action Learning, Management, Public health, Line management

SCHOLARONE™
Manuscripts

Line managers and employees use of lean task boards in Norwegian municipal healthcare sector: A tool for action learning?

Introduction

Leaders in the public sector healthcare services faces demands for better content and quality. A growing number of leaders in healthcare across various countries are now implementing the lean task board as a practice to help solve problems (Aij and Teunissen, 2017) . ‘Lean’ is a global management recipe for bringing a culture of continuous low-cost improvement using a system wide approach to organisations (Womack and Jones, 1996). Lean is a collective term and it contributes with specialist tools and techniques where employees and managers, based on their own experience, aim to reduce wasteful work tasks and enhance effectiveness (Pedersen and Huniche, 2011).

Leadership and ‘lean’ in healthcare has mostly been explored in the context of hospitals (Burgess and Radnor, 2013; Chiarini, 2013; D’Andreamatteo *et al.*, 2015; Chiarini and Baccarani, 2016; Henrique and Godinho Filho, 2020). [Empirical studies by Suarez Barraza *et al.* \(2009\); Chiarini \(2013\) and Chiarini and Baccarani \(2016\) and the reviews from Kovacevic *et al.* \(2016\) and Costa and Godinho Filho \(2016\) have documented how the use of lean tools has helped line managers and employees to improve organisation, resulting in better order at work areas, improved quality, saved space and resources and reduced time of response to requests from citizens or customers. Benders *et al.* \(2019a\) revealed how the use of lean task boards promoted more structured ways of working in the hectic work environment, resulting in reduced stress and work demands for care workers in nursing homes in the Netherlands.](#)

1
2
3 The use of lean practices may promote improvement and empowerment (Ballé and Régnier,
4 2007; Vidal, 2007). Employees and managers can cooperate openly and take shared
5 responsibility for learning possibilities (Ballé *et al.*, 2015), and the processes may improve
6 employees' work engagement (Benders *et al.*, 2019a). Drotz and Poksinska (2014) found that
7 the use of lean in Swedish municipalities improved the employees' relationship with authority
8 and had a positive effect on their work practice.

9
10
11
12
13
14
15
16
17
18
19 Research has shown that senior management commitment (Andersen *et al.*, 2014; Chiarini and
20 Baccarani, 2016; Aij and Teunissen, 2017), allocation of resources (Savolainen and Haikonen,
21 2007) and strategic capabilities increase the effect of using lean in public healthcare
22 organisations (Andersen and Røvik, 2015). Line managers are also essential for succeeding
23 with the implementation of lean according to Holmemo and Ingvaldsen (2016).

24
25
26
27
28
29
30
31
32
33 Review studies of empirical evidence from healthcare have indicated that lean practices do not
34 involve the whole organisation, but are often limited to small success stories where one or two
35 tools have been implemented to improve organisational practices (Burgess and Radnor, 2013;
36 Andersen *et al.*, 2014; D'Andreamatteo *et al.*, 2015; Hallam and Contreras, 2018). In Dutch
37 healthcare, the strategy has been actually to use only continuous improvement programs for
38 improving practices (Benders *et al.*, 2019b). In fact, leaders' implementation and use of lean
39 tools have yielded varying results (D'Andreamatteo *et al.*, 2015; Leite *et al.*, 2020), and this
40 may be because the logic of the public sector is to deliver service (Burgess and Radnor, 2013)
41 based on capacity with limited possibilities to influence demand (Radnor and Walley, 2008).
42 Kovacevic *et al.* (2016) also reported that lean is more difficult to implement in healthcare
43 organisations than industries because projects generally fail to have any visible measures for
44 assessment.

1
2
3
4
5 Drotz and Poksinska (2014) noted that the use of lean practices promotes standardisations while
6
7 healthcare practices need to become flexible to ensure that patients receive the best treatment.

8
9
10 Suarez Barraza *et al.* (2009) reported that the barriers for using lean methods in municipalities
11 were the lack of a consistent strategy which resulted in traditional public management
12 'firefighting' and the lack of operationalisation and institutionalisation of lean in strategic,
13 operational and public management systems. Also, line managers who did not support the lean
14 initiative made it difficult to find solutions across classical organisational barriers. These
15 findings were supported in a review of hospital barriers to implementing lean (Leite *et al.*,
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
2020).

According to reviews (Brandao de Souza, 2009; D'Andreamatteo *et al.*, 2015) and Benders *et al.* (2019a), we lack studies that have a critical perspective on the use of lean practices in healthcare. There is also a lack of qualitative case studies that investigate how tools such as the lean task board are implemented and used over time by leaders in municipalities (Hallam and Contreras, 2018; Henrique and Godinho Filho, 2020), especially in Nordic contexts (Madsen *et al.*, 2017).

This qualitative case study of a medium-sized Norwegian municipality's healthcare units analysed the line managers and employees' use of lean task boards over time. The research question in this study was: What kind of action learning processes do the line managers and employees' use of the lean task board promote in municipalities' healthcare units? This study critically investigated the use of the task board in municipalities' healthcare, which is an underexplored field. The use of action learning theory will contribute with a deeper

1
2
3 understanding of learning benefits and challenges for line managers and employees in using
4
5 lean task boards in municipalities' healthcare.
6
7
8
9

10 The task board, also referred to as 'visual management', is a tool for line managers and
11 employees to prioritise and improve work practices and to accomplish shared objectives. It is a
12 visual tool that helps managers and employees in departments or organisations to display tasks
13 that are upcoming, in progress or completed (Drotz and Poksinska, 2014). The tasks can be
14 arranged either as few columns drawn on a board or visualised at multiple levels of organisation.
15 In this case, the columns were organised into the following topics: problems, action plan,
16 answerable, carried out and failed to complete.
17
18
19
20
21
22
23
24
25
26
27

28 Lean principles is in line with in-organisational action learning theory that explains how
29 learning from employees and managers creates a base for identifying, creating and
30 implementing better work practices (Vince *et al.*, 2018). Action learning means to 'tackle
31 important organisational or social challenges and learn from their attempts to improve practice'
32 (Pedler and Abbott, 2013).
33
34
35
36
37
38
39
40
41

42 This article starts with a Literature section describing leaders' challenges from the New Public
43 Management (NPM) reforms in municipalities in Norway. We then present our analytical
44 framework that is the theory of action learning in organisations. The methods section describes
45 the case, data collection and analysis. We present findings in the results section. The discussion
46 section elaborates on the findings and the leaders' use of lean task boards for action learning in
47 the public healthcare sector. We summarise our main findings in the conclusion, also including
48 implications for practice and future research.
49
50
51
52
53
54
55
56
57
58
59
60

Literature section

The context: NPM in municipalities healthcare in Norway

Norway has received top ratings on socio-economic factors, such as democracy, co-determination (Nergaard, 2014), education and competence development in working life (OECD, 2017). In Norway, the government provides funding and legislation for reasonably high-quality healthcare for everyone. The municipalities have the responsibility for primary health and social care, regardless of age and diagnosis. Norwegian municipalities healthcare sector is organised and lead by professionals (Christensen and Lægreid, 2008). Public organisations' traditions for management with rules and bureaucracy may hinder line managers and employees' participation in processes aimed at improving organisational practices. In addition, the NPM reforms in Norway have resulted in reinforced fragmentation, decentralisation and downsizing of organisational structures (Christensen and Lægreid, 2008).

NPM emphasises efficiency, quality and standardisation of services (De Vries and Nemec, 2013). The model is said to facilitate unbiased, impartial and fair distribution of services (Christensen and Lægreid, 2008). As such, the professional judgements, concerns, deliberation and knowhow from line managers and employees, are marginalised and decisions have to a larger extent been based on formalised criteria, classifications and service-statements. NPM reforms introduce more managerial tasks and performance management that give the line-managers a more administrative and distant leadership role in municipalities health sector (Kristiansen *et al.*, 2016b). Line managers in the Norwegian health sector experience capacity problems for supporting their employees in problem-solving and they have challenges in making sense of and communicating contradictions between the managerial logics from NPM reforms and professional logic from traditional work (Kristiansen *et al.*, 2016a).

1
2
3 The NPM reforms are criticised as not being flexible enough to take into account rapidly
4
5 changing needs and contextual influences, to example care burdens (Rasmussen and Vabø,
6
7 2014). The reforms have also created a range of problems and a silo mentality in municipalities.
8
9
10 Different units have developed their own routines and work independently of the rest of the
11
12 organisation (Lægreid *et al.*, 2006). In sum, the NPM reforms have increased the need for
13
14 leaders to promote learning horizontally in healthcare units in municipalities.
15
16
17
18

19 *Action learning in organisations – an analytical framework*

20
21 Action learning describes the process where individuals are encouraged and supported to reflect
22
23 on their experiences together with peers, which is aimed at improving their actions (Vince *et*
24
25 *al.*, 2018). Individuals can also work together with change proposals to improve their actions
26
27 in the organisation (Pedler and Abbott, 2008). Action learning in healthcare demands space and
28
29 time for collective reflective learning between managers and employees (Traeger, 2017). Lean
30
31 uses the participants' actions and experience as a starting point, and learning from these
32
33 processes can be a method that promotes action learning in the organisation.
34
35
36
37
38
39

40 We describe the process of action learning based on a modified version of Tiller's reflective
41
42 learning stairway model (Tiller and Gedda, 2017). The purpose of the model is to create an
43
44 analytic tool to investigate the level of learning that employees and line managers initiate from
45
46 using lean task boards. Learning can start on all levels in this theoretical model, and it is possible
47
48 to go up or down or even skip steps in the process. The results of any level of action learning at
49
50 work may result in following the established practices and reveal barriers to new actions (Vince
51
52 *et al.*, 2018) or creating new practices or new routines.
53
54
55
56
57

58 Each step in the action learning stairway includes the following learning processes:
59
60

- 1
2
3 1. Loose talk about individual work experiences among colleagues creates a potential for
4
5 action learning.
6
- 7
8 2. Experiences need to be block sorted, categorised and systemised to identify main
9
10 patterns in the organisation to promote action learning progress and to avoid ending up
11
12 in an experience talk loop. Block sorting and systemising of experiences involves dialog
13
14 and discussions, and this learning is experience-based.
15
- 16
17 3. Connecting experiences to theory and new concepts may uncover challenges, patterns,
18
19 power relations or social differences. The process gives a deeper understanding of the
20
21 practice in the organisation and creates potential for action learning. In the process,
22
23 reflection is used to make tacit knowledge more explicit (van Woerkom, 2004).
24
- 25
26 4. Critical reflection can be stimulated from action learning (Vince *et al.*, 2018). Critical
27
28 reflection does not have to focus on the how-to of action but trying to ‘uncover and
29
30 investigate our paradigmatic, prescriptive and causal assumptions that inform how we
31
32 practice’ (Brookfield, 2009). Critical reflection in organisations touches on power
33
34 relations and political contexts that can utilise new solutions to problems, such as
35
36 wicked problems, or on the contrary, reveal conflicts and problems that cannot be solved
37
38 (Vince *et al.*, 2018).
39
40
41
42
43

44 Pedler and Abbot (2008) distinguish between type 1 or type 2 actions. They argue that type 1
45
46 actions solve our normal work tasks, while type 2 actions involve changing a system or
47
48 implementing new organisational practices (including routines and procedures, structures,
49
50 technologies, systems and so on). Continuing type 1 actions involves little risk and does not
51
52 involve the improvement of work. Type 2 actions are risky as they can contribute to mistakes.
53
54 However, it is challenging to go from action learning to actually implementing new
55
56
57
58
59
60

1
2
3 organisational practices as organising naturally reduces variety and stability (Weick and
4
5 Westley, 1996).
6
7
8
9

10 The literature review indicates that action learning among line managers and employees in
11
12 single units limits the possibility to share experiences and produce system change across the
13
14 whole organisation (Pedler and Abbott, 2008). The inclusion and support from line managers,
15
16 senior managers and participants from other units and sectors increase potential to discuss
17
18 issues such as new changes across organisational boundaries. Solving wicked problems would
19
20 demand connecting experiences to theory and critical reflection that result type 2 actions.
21
22
23
24
25

26 **Methods**

27
28 In this case study, we analysed qualitative data to develop analytical generalisations of the use
29
30 of lean in the Norwegian municipal healthcare sector (Yin, 2009). ~~Norway has received top~~
31
32 ~~ratings on socio-economic factors, such as democracy, co-determination (Nergaard, 2014),~~
33
34 ~~education and competence development in working life (OECD, 2017). In Norway, the~~
35
36 ~~government provides funding and legislation for reasonably high-quality healthcare for~~
37
38 ~~everyone.~~ The data were gathered from one municipality above the Arctic Circle with 20,000–
39
40
41
42 25,000 inhabitants that had specific deficits. The lean task boards were implemented in a
43
44 variety of public healthcare units, including nursing homes, home care services, day centres
45
46 and auxiliary centres, to improve the quality and efficiency of the service.
47
48
49
50
51

52 The second author of this paper and an external researcher first collected interview data over a
53
54 three-year period (2015 to 2017). A total of 25 interviews were conducted. The informants came
55
56 from various levels in the organisations. The HR manager, two line managers and two members
57
58 of the internal project team were interviewed two or three times during the project to capture
59
60

1
2
3 changes in the implementation process. In addition, employees concerned with or involved in
4
5 implementing lean task boards in different units were interviewed.
6
7
8
9

10 An open-ended semi-structured guide (Kvale, 2008) was used to investigate the experiences
11
12 with the use of lean task boards. The guide contained open questions to capture diversity in
13
14 experiences and to enable a constructive dialog about the use of task boards in the case. The
15
16 guide included, amongst others, the following questions that were relevant to our research
17
18 question:
19
20

- 21 • How is the work on lean supported at the senior management level?
- 22
- 23 • Do you experience any changes in your leadership role?
- 24
- 25 • Have you changed the way you exercise leadership?
- 26
- 27 • Have you increased the delegation of responsibility to employees?
- 28
- 29 • Have you changed the way of communicating with employees?
- 30
- 31 • How does the improvement board work as a tool?
- 32
- 33 • Does the improvement board bring forward more ideas /suggestions
34
35 from employees?
- 36
- 37 • What have been the effects of lean on your work?
- 38
- 39 • Has the lean work led to improved services or improved cooperation
40
41 inside and/or amongst different departments?
42
43
44
45
46
47
48
49
50
51
52
53
54

55 The interviews lasted from 30 to 60 minutes, and all were taped and transcribed. The target of
56
57 the analysis of the interview material was to capture the perceived interpretative realities of the
58
59 actors. The first author of the paper analysed the data using the software NVivo 11. First, the
60

1
2
3 data were interpreted inductively by sorting all similar statements together with broad-brush or
4 bucket coding (Bazeley, 2007). To determine overarching themes, the process included coding
5 whole sentences and sequences based on their content. We used process memos to write down
6 researcher reflections with the purpose of generating ideas for categorising the data (Maxwell,
7 2012). After the initial bucket coding, the material was recoded by merging similar codes or
8 deleting codes with few statements.
9

10
11
12
13
14
15
16
17
18
19 Next, the first author compared the codes to start to identify patterns in the data (Maxwell,
20 2012). The codes that were qualified contained statements that were used frequently and that
21 explained actions and processes that the informants found important. Both researchers then used
22 a large whiteboard as a creative visual tool for finding and qualifying an explanatory relation
23 among the codes (Yin, 2009). The analysis highlighted the importance of senior management's
24 support and how line managers could empower their employees when using the task boards.
25 These findings are presented in the results section.
26
27
28
29
30
31
32
33
34
35
36

37 A weakness in our data is the small amount of interview data, which also lacked precise
38 descriptions of the content and learning from the lean task board processes. However, after
39 the interview data analysis, the municipality provided internal self-recorded logs from task
40 board sessions from the six different healthcare units with the most experience in using them.
41 The data from the recordings described sessions, problems discussed and solved and who was
42 responsible for following up the processes (see Table 1).
43
44
45
46
47
48
49

50
51 **SET IN TABLE 1 HERE**
52
53
54
55

56 The analysis of the qualitative interview data offered ideas for looking at patterns in the
57 internal registration. Both researchers sorted similar sessions into substantive categories
58
59
60

(Maxwell, 2012) based on what kind of reflection and learning processes they contributed to, for example, establishing new routines, tidiness/orderliness, organising work, purchasing and improvement of the facilities. We then aggregated theoretical categories that further explained the data (Maxwell, 2012): these are systemising, management and professionalism. In the validation of the categories we revisited the analysis from the interviews. The qualitative interview data was more positive about the value of lean task boards for action learning than opinions expressed in the recordings. The registration, together with the analysis of the qualitative interview data, gave us a deeper understanding about using lean task boards. The presentation of the categories in the results section includes data from both the registrations and interviews. After this process, we revisited the literature about lean and action learning and developed the research question during the writing of the article. A weakness in the recorded task board sessions is the high number of short descriptions and lack of precision. As the units had solved so many problems, there is a concern that self-assessment resulted in the over reporting of positive results. As the two researchers found consensus, this triangulation strengthened the inter-rater reliability of the analytical work.

Results

Senior management's intentions of using task boards to create continuous improvement

In 2010, the case municipality initiated a management development programme for all managers about how to stimulate action learning processes in units. During the programme, experiences from lean were introduced. Afterwards, the municipality first started with lean value stream mapping (Rother and Shook, 2003) to identify challenges and possibilities in 35 different work flows. After identifying and initiating quick-fix improvements, the senior management then ordered the implementation of the lean task boards for the improvement of

1
2
3 work inside single units. Senior management hired an external national consultant company to
4 present, deliver and train key personnel in using the task board. In the implementation phase,
5 the task board method was adapted with some changes to make the boards easier to use in the
6 units. The task board was also renamed to ‘continuous improvement’ in the municipality. The
7 task board became the strategy and method to plan, do and implement other projects, and the
8 new name made it more relevant for the municipality’s ambition to be a learning organisation.
9
10 The senior management spoke positively about the lean task board as illustrated in the following
11 statements:

22 The improvement board is the most important meeting point between management
23 and employees. It is through this meeting point that you talk about continuous
24 improvement and make staff responsible. (Senior Management)

29 Middle managers who have from 20 to 60 employees, using this board, they get a
30 methodology and tool to stick to when they conduct weekly business meetings. They
31 get a template that makes them stand safer as line managers. However, this poses
32 other leadership requirements than what they are used to. (Senior Manager)

38 These statements highlight an expectation from senior management that the task board
39 methodology would help line managers to establish improvement and change on the agenda in
40 their daily work. Senior management funded two internal project leaders with the responsibility
41 for giving support to line managers in using the task board. According to our contacts, the
42 internal project team gave essential support and supervision to line managers and employees
43 who facilitated the process of using the task board.

54 Line managers use the task boards for empowerment of employees

57 Line managers that used the task board regularly expressed in interviews that it was a concrete
58 method to carry out improvement work during stressful workdays. Throughout the week,
59
60

1
2
3 employees and line managers wrote down and reported problems and issues they wanted to
4 solve. For each weekly session, the participants then picked from one to four of these
5 recorded problems to solve. Line managers argued that using the task board gave
6 opportunities to acknowledge the ideas from employees and to delegate the responsibility for
7 improvement to employees and make them accountable for change, illustrated in the
8 following statement:

9
10
11
12
13
14
15
16
17
18 I spend more time at other meetings and have a better time doing other tasks. You
19 have to show employees that you believe in the board and use it regularly. If you do
20 not follow up on the action list, people will see that it is not beneficial to take action,
21 and then it ends their interest. I have delegated the responsibility, but I like to keep
22 doing the task board meetings as a leader every month to be visible. (Line Manager)

23
24
25
26
27
28
29 Some line managers found that they could change their own leadership performance as they
30 were able to delegate responsibility and more easily follow up improvement of employees.
31 Using the task board created expectations amongst employees that there would be changes
32 initiated in practice that the line managers should support.

33
34
35
36
37
38
39
40 *Systemising work, management and being professionalism*

41
42
43 In Table 2, we present our findings from the analysis of the self-recorded sessions, including
44 substantive categories and theoretical categories. After the presentation of the table, we will
45 present the categories using data from the self-recorded sessions and interviews.

46
47
48
49
50
51
52 **SET IN TABLE 2 HERE**

53
54
55
56
57 The solutions from the lean processes included giving a message, simple purchase of needed
58 equipment or the need of the employees to work according to established routines or
59
60

1
2
3 establishing new routines. There were small variations among the units, where some reported
4
5 working more on routines and orderliness or purchasing, while others worked more on
6
7 organising work and professionalism. The trend is that the systemising of work is the major
8
9 part of the material, with professionalism the least considered factor.
10
11

12 13 14 *Systemising work*

15
16 Suggestions and solutions about systemising work is characterised as implementing new
17
18 routines and orderliness. Line managers and employees plan to introduce new practices or set
19
20 a focus on following established routines in every part of their work, for example, the handling
21
22 of laundry, reports, planning and messages. All employees in the units are responsible for
23
24 effecting the new routines.
25
26
27
28
29
30

31 Orderliness is more about systems and easier access to necessary equipment in, for example,
32
33 the users' room and medical lockers, illustrated in the following quotes.
34
35

36 You move the handcuffs into the nursery rooms, and this reduces the walking
37
38 distance for those employed, and make such processes easier. (Line Manager)

39
40
41 At the technical aids centre, they did a process to systemise the aids, so, after that,
42
43 less time was used to find the aid. (Senior Manager).
44
45
46
47

48
49 In sum, the line managers and employees expressed that the processes resulted in better order
50
51 and work flow. Better cleaning and cleanliness were also discussed and related problems
52
53 solved. The result of these systemising processes is improved service quality for the users. The
54
55 need for routines and orderliness may also be connected to a need for employees to be more
56
57 professional in solving their work tasks.
58
59
60

Management

'Management' captures the actions of line managers and employees who themselves sorted their own experiences to work on improving the daily organising of work and the facilities. The category 'organising work' captures issues, such as improving work, distribution of the work force and better service for the users. Such discussions also included quality improvement, for example, the handling of medicine for users.

The category 'purchasing and improving the facilities' captures all kinds of new equipment or much needed purchasing that were on the agenda in the task board sessions. The task includes a wide range of things that are missing or broken to new things that will improve the work or the quality off the service delivered to the users. Also, purchasing of groceries for the units was on the agenda. Employees also discussed how they could improve the rooms and maintenance of facilities on the agenda.

Professionalism

Professionalism involves sessions about the daily attitude among employees and initiating projects for users. Daily attitude involved experience sharing about inappropriate behaviour by employees related to users or relatives. Poor communication and solving daily work tasks, such as writing the obligatory reports, were also discussed. Also, a unit had gone from big deficits to balancing their budget after using the lean task board. After discussions about attitudes, the healthcare unit reduced both overtime work by fifty percent and sickness absenteeism among employees. The following statements illustrate how sickness absenteeism and values were discussed between line managers and employees in units.

We define goals to work for with self-assessment where the employees consider if they have contributed. We describe who will solve what and when (preparation).

1
2
3 Employees make plans for implementation and create sickness absence statistics.
4
5 We focus on improvement regularly. When you have the goals and the history on
6
7 the board, it makes the message very clear. We have reduced sick leave from 20%
8
9 to 10–12%. (Line Manager)

10
11
12 Yesterday, we had a great reflection round on our values because people do not fully
13
14 commit to them. We wanted to reflect on some values using the task board. But now,
15
16 when we start, they say they want other values, and it is clear that they will get other
17
18 values. Now, we will work on the new values. (Line Manager)
19

20
21 The line managers expressed that they were satisfied with the new changes, and this produced
22
23 a generally more positive work environment among employees. Employees also discussed new
24
25 activities for user's well-being in the task board sessions. The discussions were about following
26
27 established routines such as life mapping history, having cakes on Sunday or helping the users
28
29 to make dinner. In sum, being professional is also about solving planned tasks and following
30
31 established routines to increase quality.
32
33

34 35 36 37 *Potential for action learning*

38
39 The use of task boards did not inspire line managers and employees to monitor and pay attention
40
41 to practices that were challenging across units. All the units created their own routines and
42
43 changes, and they possibly increased a variety of practices and fragmentation within the
44
45 municipality's healthcare sector. The new effective practices and routines in each unit did,
46
47 however, result in organisational 'slack' that in the future could be utilised to identify and reflect
48
49 on new practices. These thoughts were also expressed in the statements from senior
50
51 management.
52
53

54
55
56
57 Discussions about our need for a new coffee pot, can train employees on subjects
58
59 like how to make better routines for the drug trolley. Employees take the step further
60

1
2
3 with experience. The process depends on how leaders manage to set professional
4 subjects on the board agenda. It is about training and awareness. As a leader, I want
5 the board sessions to include discussions that are more professional. I see that some
6 managers are not there yet. (Senior Management)

7
8
9
10
11
12 Having a tool helps to achieve better management. You have something to begin
13 with, you ask questions about the culture and you get hold of things and get positive
14 experiences. Then, you'll start up with big things. Here the board works, it structures
15 practices. (Senior Management)

16
17
18
19
20
21 The findings indicate that after identifying and implementing new effective organisational
22 practice, the line managers and employees acquire knowledge that gives a potential for
23 reflective learning and critical reflection. There were no examples in our data suggesting that
24 the use of the task boards solved wicked problems within or between units. This is also
25 supported by the fact that line managers and the lean support team were thinking about using
26 service design methods to map and change working processes in the future.

27 28 29 30 31 32 33 34 35 36 37 38 **Discussion**

39
40 The study revealed that the senior managers had an expectation about the task board being a
41 tool for line managers in setting learning and improvement work on the agenda. Senior
42 managers that believed in the idea of lean thinking were a driving force in implementing and
43 following up the task board, a finding supported by other studies (Savolainen and Haikonen,
44 2007; Andersen *et al.*, 2014; Chiarini and Baccarani, 2016; Benders *et al.*, 2019b).

45
46
47
48
49
50 The line managers that used the task board to set improvement work on the agenda,
51 acknowledged the ideas from employees and delegated the responsibility for improvement to
52 employees and made them accountable for change similar to findings from Sweden (Drotz and
53
54
55
56
57
58
59
60

1
2
3 Poksinska, 2014), the Netherlands (Benders *et al.*, 2019a) and according to arguments from
4
5 Ballé *et al.* (2015). Line managers were key sources for implementing lean in our case, a finding
6
7 also documented by Pedersen and Huniche (2011) and argued by Holmemo and Ingvaldsen
8
9 (2016). As such, the use of lean task boards closes the increasing distance between line
10
11 managers and employees created as a result of the NPM reforms.
12
13

14
15
16
17 The task board also functioned as a project management system where management and work
18
19 issues ~~, such as distribution of work, daily purchasing, daily attitudes, work environment and~~
20
21 ~~user's well-being,~~ are all on the agenda. The use of the task board also involves reflection about
22
23 the possibilities for better organisation of employees for solving the daily work tasks inside the
24
25 units. Line managers and employees first identified quick-fix problems that improved the
26
27 effectiveness, order and quality of the service, as documented in other studies (Ballé and
28
29 Régnier, 2007; Radnor and Walley, 2008; Suarez Barraza *et al.*, 2009; Benders *et al.*, 2019a).
30
31 Line managers and employees gained valuable experience from starting to follow existing
32
33 routines or implementing new routines and this led to establishing a continuous improvement
34
35 culture in the units. Thus, the employee-driven processes reduce 'hassle and annoyance' and
36
37 improve routines and effectiveness and, as such, create more stable work conditions in single
38
39 units, as was also found by Radnor and Walley (2008) and Benders *et al.* (2019a). The findings
40
41 support the argument by Traeger (2017) and Ballé and Régnier (2007) that setting aside time
42
43 for line managers and employees to talk about their problems and to use their experience also
44
45 creates the potential for improvement in beleaguered systems.
46
47
48
49
50
51
52
53

54 The need for systemising work and daily management may have come down to the healthcare
55
56 units' need for rotation among employees to the different users 24/7. The healthcare units also
57
58 used some temporary staff because of a high rate of absenteeism. The need for routines,
59
60

1
2
3 management and discussions of professionalism are connected. To follow or adjust routines,
4 there is need for stability and professional employees, and the line managers used the task
5 boards to address professionalism in the form of employees' behaviour and quality for the users.
6
7 These improvements seem in line with lean's operational focus aiming for efficiency, flow and
8 quality (Ballé and Régnier, 2007; Pedersen and Huniche, 2011).
9
10
11
12
13
14
15
16

17 The analyses revealed that the level of action learning and the new implemented changes in the
18 organisation are based on 'loose talk about experiences' and that 'experiences are block sorted
19 and systemised'. The reflections may be characterised as 'productive-oriented' (Nicolini *et al.*,
20 2004), as they are about solving and improving details in our daily work tasks in the form of
21 type 1 learning (Pedler and Abbott, 2008) or what Van Woerkom (2004) calls 'narrow learners'.
22 Line managers' and employees' reflections based on experiences provides small necessary
23 incremental improvement, which has also been found in studies on Finnish companies
24 (Savolainen and Haikonen, 2007) and also documented in other studies (Kovacevic *et al.*,
25 2016). As such, the use of the task board did not promote learning processes that involve theory
26 and critical reflection. The twenty-minute-long task board sessions that included several
27 problems to be discussed also limited the time that was needed to actually engage in critical
28 reflections.
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

47 This study confirms how using lean tools in single units can be easier than implementing lean
48 philosophy across the entire municipality as documented (Burgess and Radnor, 2013;
49 D'Andreamatteo *et al.*, 2015; Hallam and Contreras, 2018). The value of using single lean tools
50 for solving quick fix problems inside units has also been supported by numerous studies
51 (Hallam and Contreras, 2018), for example Ballé and Régnier (2007) and Benders *et al.*
52 (2019a). After employees and line managers make simple improvements and systemise routines
53
54
55
56
57
58
59
60

1
2
3 and orderliness, there is potential for action learning. However, intra-organisational learning
4
5 from employees' experiences, which streamlines work in the organisation, will not necessarily
6
7 produce new creative solutions, a finding also supported by (Ballé and Régnier, 2007). Also,
8
9 focusing on positive effective solutions from employees and line managers may camouflage
10
11 and reject other learning possibilities and critical thinking in the organisation (Hackman, 2009).
12
13

14 15 **Conclusion**

16
17 This article have investigated the research question: What kind of action learning processes do
18
19 the line managers and employees' use of the lean task board promote in municipalities
20
21 healthcare units?
22
23

24
25
26
27 Line managers that are pressed for time to initiate improvement work use the lean task board
28
29 regularly to initiate learning processes that optimise work through routines, orderliness,
30
31 purchasing and improving the facilities, organising work, daily attitude, work environment and
32
33 users' well-being. This study's use of an action learning theory model revealed that line
34
35 managers and employees write ideas for improvement based on loose talk about experiences
36
37 and then block sort and systemise their experiences and come up with new ideas to be
38
39 implemented. Even though the senior managers and line managers attended a common
40
41 management program aiming at enhancing action learning in the organisation, the use of the
42
43 lean task board did not promote action learning where experiences were connected to theory
44
45 and promoted critical reflections. There were no data that indicated that the lean task board
46
47 process involved promoting different views.
48
49
50
51

52
53
54 Although we found that the use of the task board method was spread across units, new ideas
55
56 and routines from the sessions were not spread to other units. Line managers and employees
57
58 expressed that, as they got more experience in using the task board, its use did improve the level
59
60

1
2
3 of discussions and processes. Also, although systemising work, better daily management and
4
5 professionalism may give a foundation for more and deeper action learning later, such processes
6
7 were not evident in the analysis of the material in this study.
8
9

10 11 12 Practical implications

13
14 Our results indicate that line managers and employees can use the task board to set aside regular
15
16 time and space for improvement, even in busy work environments. The task boards are helpful
17
18 for line managers as a project management system to keep track of progress in experience-based
19
20 learning that improves work and quality. Using the board helps line managers to empower
21
22 employees and make them responsible for the improvement of work. The task board is well-
23
24 suited to promote learning processes that eliminate chaos in local healthcare organisations. Our
25
26 findings support the value of using task boards without implementing lean as a system approach
27
28 in the organisation (Benders *et al.*, 2019b).
29
30
31
32
33

34
35 The study indicated that leaders of units that have order, routines and stable work conditions in
36
37 their everyday practice will gain limited benefits from using the lean task board for the
38
39 improvement of work, as it primarily systemised work and promoted type 1 learning in the
40
41 municipality studied. Thus, we argue that the lean task board method has limitations as a means
42
43 for promoting reflective learning and critical reflection for improving services amongst
44
45 healthcare units. The wicked problems resulting from the NPM reforms in the Norwegian
46
47 municipalities cannot be solved by using the lean task boards as the sole strategy for learning
48
49 and development. A strategy focusing on using task boards inside single units may strengthen
50
51 fragmentation and, in the long term, hamper the development of the organisation. These
52
53 implications are also relevant to include and discuss in teaching about health management and
54
55 lean.
56
57
58
59
60

Future research

This case study has natural limitations as we only studied one municipality. The article contributes to understanding how action learning theory can be applied to the analysis of the results of lean task board sessions. The findings about the task board promoting experience-based solutions that neglects the possibility to learn from theory developed from research about municipalities or other organisations could be further investigated. The NPM reforms have created autonomy and wicked problems within and between units, and to solve these, there is the need to address potential solutions from different positions and units in the organisation. Addressing wicked problems inside the organisation may demand other tools and other approaches, and action learning may be a solution (Mathews *et al.*, 2017) that could be further investigated.

Lack of reflection and suggestions about system improvements facilitated by the use of task boards may be because the organisation lacks basic stability in maintaining its employees (Ballé and Régnier, 2007; Radnor and Walley, 2008) or it comes down to the complexity of public healthcare service discussed by Hallam and Contreras (2018) and Leite *et al.* (2020). It may be worth investigating further if lean's focus on promoting experience-based learning makes it impossible to implement a systemwide approach of lean to solve wicked problems in complex healthcare organisations.

References

- Aij, K. H. & Teunissen, M. 2017. Lean leadership attributes: a systematic review of the literature. *Journal of Health Organization and Management*, 31,7/8 713-729.
<https://doi.org/10.1108/JHOM-12-2016-0245>
- Andersen, H. & Røvik, K. A. 2015. Lost in translation: a case-study of the travel of lean thinking in a hospital. *BMC health services research*, 15,1 401.
<https://doi.org/10.1186/s12913-015-1081-z>

- 1
2
3 Andersen, H., Røvik, K. A. & Ingebrigtsen, T. 2014. Lean thinking in hospitals: is there a
4 cure for the absence of evidence? a systematic review of reviews. *BMJ open*, 4,1
5 e003873. <http://dx.doi.org/10.1136/bmjopen-2013-003873>
6
7 Ballé, M., Chaize, J. & Jones, D. 2015. Inclusive versus exclusive learning: the secret
8 ingredient to creating a truly “lean” and “learning” culture. *Development and Learning*
9 *in Organizations: An International Journal*, 29,1 20-23. [https://doi.org/10.1108/DLO-](https://doi.org/10.1108/DLO-10-2014-0080)
10 [10-2014-0080](https://doi.org/10.1108/DLO-10-2014-0080)
11
12 Ballé, M. & Régnier, A. 2007. Lean as a learning system in a hospital ward. *Leadership in*
13 *Health Services*, 20,1 33-41. <https://doi.org/10.1108/17511870710721471>
14
15 Bazeley, P. 2007. *Qualitative Data Analysis with NVivo*, London, Sage Publications.
16
17 Benders, J., Bal, M. & Vermeerbergen, L. 2019a. Structure please; continuous improvement
18 and employee consequences in a dynamic task environment. *Sustainability*, 11,20
19 5564. <https://doi.org/10.3390/su11205564>
20
21 Benders, J., Van Grinsven, M. & Ingvaldsen, J. 2019b. The persistence of management ideas.
22 *The Oxford Handbook of Management Ideas*. Oxford University Press Oxford.
23 <https://doi.org/10.1093/oxfordhb/9780198794219.013.4>
24
25 Brandao De Souza, L. 2009. Trends and approaches in lean healthcare. *Leadership in health*
26 *services*, 22,2 121-139. <https://doi.org/10.1108/17511870910953788>
27
28 Brookfield, S. 2009. Engaging critical reflection in corporate America. In: Mezirow, J.,
29 Taylor, E. & Associates (eds.) *Transformative learning in practice: Insights from*
30 *community, workplace and higher education*. San Francisco: Jossey-Bass.
31
32 Burgess, N. & Radnor, Z. 2013. Evaluating Lean in healthcare. *International Journal of*
33 *Health Care Quality Assurance*, 26,3 220-235.
34 <https://doi.org/10.1108/09526861311311418>
35
36 Chiarini, A. 2013. Waste savings in patient transportation inside large hospitals using lean
37 thinking tools and logistic solutions. *Leadership in Health Services*, 26 4 356-367.
38 <https://doi.org/10.1108/LHS-05-2012-0013>
39
40 Chiarini, A. & Baccarani, C. 2016. TQM and lean strategy deployment in Italian hospitals:
41 Benefits related to patient satisfaction and encountered pitfalls. *Leadership in Health*
42 *Services*, 29,4 377-391. <https://doi.org/10.1108/LHS-07-2015-0019>
43
44 Christensen, T. & Lægreid, P. 2008. NPM and beyond—leadership, culture, and demography.
45 *International Review of Administrative Sciences*, 74 1 7–23.
46 <https://doi.org/10.1177/0020852307085730>
47
48 Costa, L. B. M. & Godinho Filho, M. 2016. Lean healthcare: review, classification and
49 analysis of literature. *Production Planning & Control*, 27,10 823-836.
50 <https://doi.org/10.1080/09537287.2016.1143131>
51
52 D’andreamatteo, A., Ianni, L., Lega, F. & Sargiacomo, M. 2015. Lean in healthcare: A
53 comprehensive review. *Health Policy*, 119,9 1197-1209.
54 <https://doi.org/10.1016/j.healthpol.2015.02.002>
55
56 De Vries, M. & Nemec, J. 2013. Public sector reform: an overview of recent literature and
57 research on NPM and alternative paths. *International Journal of Public Sector*
58 *Management*, 26,1 4-16. <https://doi.org/10.1108/09513551311293408>
59
60 Drotz, E. & Poksinska, B. 2014. Lean in healthcare from employees’ perspectives. *Journal of*
Health Organization and Management, 28,2 177-195. [https://doi.org/10.1108/JHOM-](https://doi.org/10.1108/JHOM-03-2013-0066)
[03-2013-0066](https://doi.org/10.1108/JHOM-03-2013-0066)
Hackman, J. R. 2009. The perils of positivity. *Journal of Organizational Behavior* 30,309-
319. <https://doi.org/10.1002/job.587>
Hallam, C. & Contreras, C. 2018. Lean healthcare: scale, scope and sustainability.
International Journal of Health Care Quality Assurance, 31,00-00.
<https://doi.org/10.1108/IJHCQA-02-2017-0023>

- 1
2
3 Henrique, D. B. & Godinho Filho, M. 2020. A systematic literature review of empirical
4 research in Lean and Six Sigma in healthcare. *Total Quality Management & Business*
5 *Excellence*, 31,3-4 429-449. <https://doi.org/10.1080/14783363.2018.1429259>
6
7 Holmemo, M. D.-Q. & Ingvaldsen, J. A. 2016. Bypassing the dinosaurs?—how middle
8 managers become the missing link in lean implementation. *Total Quality Management*
9 *& Business Excellence*, 27,11-12 1332-1345.
10 <https://doi.org/10.1080/14783363.2015.1075876>
11
12 Kovacevic, M., Jovicic, M., Djapan, M. & Zivanovic-Macuzic, I. 2016. Lean thinking in
13 healthcare: review of implementation results. *International Journal for Quality*
14 *Research*, 10,1. <https://doi.org/10.18421/IJQR10.01-12>
15
16 Kristiansen, M., Obstfelder, A. & Lotherington, A. T. 2016a. Contradicting logics in everyday
17 practice: the complex dynamics of performance management and professionalism in
18 Norwegian nursing homes. *Journal of health organization and management*, 30,1 57-
19 72. <https://doi.org/10.1108/JHOM-11-2013-0265>
20
21 Kristiansen, M., Westeren, K. I., Obstfelder, A. & Lotherington, A. T. 2016b. Coping with
22 increased managerial tasks: tensions and dilemmas in nursing leadership. *Journal of*
23 *Research in Nursing*, 21,7 492-502. <https://doi.org/10.1177/1744987116668940>
24
25 Kvale, S. 2008. *Doing interviews*, Thousand Oaks, Sage.
26
27 Leite, H., Bateman, N. & Radnor, Z. 2020. Beyond the ostensible: an exploration of barriers
28 to lean implementation and sustainability in healthcare. *Production Planning &*
29 *Control*, 31,1 1-18. <https://doi.org/10.1080/09537287.2019.1623426>
30
31 Læg Reid, P., Roness, P. G. & Rubecksen, K. 2006. Performance management in practice: the
32 Norwegian way. *Financial Accountability & Management*, 22,3 251-270.
33 <https://doi.org/10.1111/j.0267-4424.2006.00402.x>
34
35 Madsen, D. Ø., Risvik, S. & Stenheim, T. 2017. The diffusion of Lean in the Norwegian
36 municipality sector: an exploratory survey. *Cogent Business & Management*, 4,1
37 1411067. <https://doi.org/10.1080/23311975.2017.1411067>
38
39 Mathews, S., Golden, S., Demski, R., Pronovost, P. & Ishii, L. 2017. Advancing health care
40 quality and safety through action learning. *Leadership in Health Services*, 30,2 148-
41 158. <https://doi.org/10.1108/LHS-10-2016-0051>
42
43 Maxwell, J. A. 2012. *Qualitative research design: an interactive approach*, Thousand Oaks,
44 Sage publications.
45
46 Nergaard, K. 2014. Trade unions in Norway: coordinated wage bargaining and workplace
47 level co-determination. Friedrich-Ebert-Stiftung, Department for Central and Eastern
48 Europe.
49
50 Nicolini, D., Sher, M., Childerstone, S. & Gorli, M. 2004. In search of the “structure that
51 reflects”: promoting organizational reflection practices in a UK Health authority. *In:*
52 Reynolds, M. (ed.) *Organizing reflection*. London: Routledge.
53 <https://www.taylorfrancis.com/books/e/9781351913256>
54
55 Oecd 2017. OECD Reviews of innovation policy: Norway 2017.
56 <http://dx.doi.org/10.1787/9789264277960-en>. h
57
58 Pedersen, E. R. G. & Huniche, M. 2011. Determinants of lean success and failure in the
59 Danish public sector: a negotiated order perspective. *International Journal of Public*
60 *Sector Management*, 24,5 403-420. <https://doi.org/10.1108/0951355111147141>
61
62 Pedler, M. & Abbott, C. 2008. Lean and learning: action learning for service improvement.
63 *Leadership in Health Services*, 21,2 87-98.
64 <https://doi.org/10.1108/17511870810870538>
65
66 Pedler, M. & Abbott, C. 2013. *Facilitating action learning: a practitioner's guide*, Berkshire,
67 Mc Graw Hill.

- 1
2
3 Radnor, Z. & Walley, P. 2008. Learning to walk before we try to run: adapting lean for the
4 public sector. *Public money and management*, 28,1 13-20.
5 <https://doi.org/10.1111/j.1467-9302.2008.00613.x>
6
7 Rasmussen, B. & Vabø, M. 2014. Inneklempt ledelse. In: Vabø, M. & Vabo, S. (eds.)
8 *Velferdens organisering*. Oslo: Universitetsforlaget.
9
10 Rother, M. & Shook, J. 2003. *Learning to see: value stream mapping to add value and*
11 *eliminate muda*, Boston MA, Lean Enterprise Institute.
12
13 Savolainen, T. & Haikonen, A. 2007. Dynamics of organizational learning and continuous
14 improvement in six sigma implementation. *The TQM Magazine*, 19,1 6-17.
15 <https://doi.org/10.1108/09544780710720808>
16
17 Suarez Barraza, M. F., Smith, T. & Mi Dahlgaard-Park, S. 2009. Lean-kaizen public service:
18 an empirical approach in Spanish local governments. *The TQM Journal*, 21,2 143-
19 167. <https://doi.org/10.1108/17542730910938146>
20
21 Tiller, T. & Gedda, O. 2017. *Metoden Gjort-Lært-Lurt - nye verktøy i skolens læringsarbeid*,
22 Oslo, Universitetsforlaget.
23
24 Traeger, J. 2017. What can action learning offer a beleaguered system? A narrative
25 representing the relationship. *Leadership in Health Services*, 30,2 129-137.
26 <https://doi.org/10.1108/LHS-09-2016-0042>
27
28 Van Woerkom, M. 2004. The concept of critical reflection and its implications for human
29 resource development. *Advances in Developing Human Resources*, 6,2 Mai 178-192.
30 <https://doi.org/10.1177/1523422304263328>
31
32 Vidal, M. 2007. Lean production, worker empowerment, and job satisfaction: a qualitative
33 analysis and critique. *Critical Sociology*, 33,1-2 247-278.
34 <https://doi.org/10.1163/156916307X168656>
35
36 Vince, R., Abbey, G., Bell, D. & Langenham, M. 2018. Finding Critical Action Learning
37 Through Paradox: the role of action learning in the suppression and stimulation of
38 critical reflection. *Management learning*, 49,1 86-106.
39 <https://doi.org/10.1177/1350507617706832>
40
41 Weick, K. & Westley, F. 1996. Organizational learning: affirming an oxymoron. In: Clegg,
42 S., Hardy, C. & Nord, W. (eds.) *Handbook of Organization Studies*. Thousand Oaks,
43 CA: Sage Publications.
44
45 Yin, R., K 2009. *Case study research: designs and methods*, Thousand Oakes, California,
46 Sage.
47
48
49
50
51
52
53
54
55
56
57
58
59
60

Table 1 Overview of unit use of lean task boards

Unit and duration of lean task board use	Number of sessions	Problems discussed	Problems solved	Problems in progress	Problems not solved
Day centre for developmental disability (2016–2017)	58	261	255	5	1
Home care service (2016–2017)	34	116	112	4	0
Nursing centre A (2015–2017)	26	101	49	51	1
Nursing centre B 2015–2017)	40	125	111	13	1
Auxiliary centre for youth and kids (2017)	20	90	74	15	1
Health centre (2017 Sept.–Nov.)	12	33	15	17	1
Total	190	726	616	105	5

Table 2 Analysis of self-recorded sessions

Central subjects from document analysis	Substantive categories	Theoretical categories
<ul style="list-style-type: none"> - Improving the systems of laundry, medicament delivery, week plans, reports, messages, order sheets, teeth care cards, nonconformity, procedures for fire watch, infection control routines, ordering taxi for users, cleaning users' hearing aid, diapers. 	Routines	
<ul style="list-style-type: none"> - Orderliness in linen closets, desks, rooms, medical lockers, medical cards, refrigerator, laundry, garbage room, rinse cups before setting them in the dishwasher, systemise loose-leaf binder. - Cleaning wheelchairs, toilettes, electric shavers, floors. 	Orderliness	Systemising work
<ul style="list-style-type: none"> - New medicine cabinet, PC to medicine room, laptop, dishcloth, silk sheets. - Dining table chairs, boots, microwave, chair weight, plastic boxes, order lunch, tubs for foot baths, tool basket, missing lights, cups, rucksack, equipment for cleaning, Spotify, 	Purchasing and improving the facilities	

<p>dishwasher, refrigerator.</p> <p>- Paint the house and mailbox, fix doors.</p>		
<p>- Daily routines need to be improved, Providing the services that we are assigned, need more activities for our users, personnel meetings to include temporary staff, better breaks during work, move lunchtime for users, distribute personnel to morning shift, need a common definition of quality in service, too many medicine bias cases.</p>	<p>Organising work</p>	<p>Management</p>
<p>- Communication when we leave users, do not take more work clothes than needed, talking at work, use of cell phones during work, handling relatives, write reports after user visits, loud talking about users.</p>	<p>Daily attitude and work environment</p>	<p>Professionalism</p>
<p>- Life history mapping, cake on Sundays, social and physical activities, help to make dinner, trips.</p>	<p>Users</p>	