The organization and work practice of change agents in health care organizations; effects on health care professionals' engagement and participation in improvement work

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1. Introduction

As a way of meeting the current and future demands and need for improvements, Swedish hospitals are implementing Lean-inspired management concepts. Translation and adaptation of the variety of tools springing from the original industry concept is a challenge to overcome in order to fully implement and engage health care professionals in improvement work. Furthermore, research shows that health care managers working conditions have deteriorated and their time to work with improvements has decreased. Therefore, hospitals tend to assign change agents (CA) supporting improvement work. There are few studies on how these kind of assigned resources affect health care professionals' engagement in improvement work. Thus, the aim of this study is to explore how the organization of change agents and their work practice affect the perception of, and actual engagement and participation of health care professionals in improvement work.

2. Method

Three Swedish hospitals with lean-inspired strategies for improvement work have been studied. 51 interviews have been conducted exploring in sum; hospitals´ and managers' implementation goals and strategies, change agents preconditions and work practice and health care professionals engagement and work content during implementation. Content analysis has led to the qualitative results concerning characteristics in organization of change agents (OCA) during implementation. A questionnaire has been distributed to assistant nurses, registered nurses and physicians at emergency units, medical units, surgical units and intensive care units in 2012 (N=1002) and 2013 (N=1005). The questionnaire included questions concerning; improvement suggestions from staff, engagement and participation and perception of impact during improvement work. The results from the questionnaire were analyzed through comparing paired mean values between groups and c between the types of OCA.

3. Results

The qualitative analysis of the interviews showed that there was a pattern in how respective hospital's OCA were separated in three types (fluent CA, clinic CA and central CA) according to the hospitals' strategies concerning; assignment level, task level and tasks (see table 1).

Table 3. Descriptives of different types of OCA.

	Assignment level and task level.	Tasks
Fluent CA	Assignment at clinic level. Tasks from unit/ clinic managers and mostly on health care professionals' initiative.	Introducing and leading lean-rounds, encourage health care professionals to come up with improvement suggestions that could become projects and method support in projects.
Clinic CA	Assignment at clinic level. Tasks on clinic management's initiative.	Provide clinic manager with metrics, evaluations and decision support. Method support in projects.
Central CA	Assignment at county council level. Tasks on county council management initiative.	Method support in project groups working with specific care processes.

In the quantitative analysis we first investigated if health care professionals' work with improvement suggestions was related to OCA. There was a significant difference in where there were clinic CAs, meaning that numbers of improvement suggestions had increased at follow up ($p<0.05$), and there was a tendency ($p=0.08$) of association between clinic CA and an increased number of implemented improvement suggestions (see table 2).

Table 4. Response rate (%), paired mean difference (m, sd) within types of OCA.

Type of OCA	**Fluent CA**			**Clinic CA**			**Central CA**		
Year and Response Rate (%) / Question	**-12 (77)**	**-13 (79)**	**n, sign. (paired t-test)**	**-12 (79)**	**-13 (72)**	**n, sign. (paired t-test)**	**-12 (38)**	**-13 (48)**	**n, sign. (paired t-test)**
Improvement suggestions per year *(5-graded scale, None-More than 10)* mean/sd	2,2/ 1,0	2,2/ 1,0	n=85 p>0.05	2,4/ 0,9	2,6/ 1,1	n=99 p<0.05	2,3/ 0,9	2,3/ 0,9	n=66 p>0.05
Discussed improvement suggestions per year *(5-graded scale, None-More than 10)* mean/sd	2,1/ 1,0	2,1/ 0,9	n=82 p>0.05	2,0/ 0,7	2,1/ 0,9	n=98 p>0.05	1,9/ 0,9	1,9/ 0,8	n=65 p>0.05
Implemented improvement suggestions per year *(5-graded scale, None-More than 10)* mean/sd	1,8/ 0,9	1,8/ 0,8	n=77 p>0.05	1,7/ 0,7	1,9/ 0,8	n=96 p=0.08	1,7/ 0,7	1,6/ 0,7	n=63 p>0.05
Having impact (3-item index) *(4-graded scale, not at all agree-very much agree)* mean/sd	2,7/ 0,6	4,0/ 0,9	n=83 p<0.05	2,7/ 0,7	3,9/ 0,9	n=100 p<0.05	2,7/ 0,7	4,1/ 1,0	n=65 p<0.05
Learning and developing (2-item index) *(4-graded scale, not at all agree-very much agree)* mean/sd	2,9/ 0,7	2,9/ 0,7	n=84 p>0.05	2,8/ 0,6	2,8/ 0,7	n=99 p>0.05	2,8/ 0,7	2,9/ 0,6	n=67 p>0.05
Achieving meaningful results (2-item index) *(4-graded scale, not at all agree-very much agree)* mean/sd	2,9/ 0,6	2,8/ 0,7	n=84 p>0.05	2,9/ 0,7	2,8/ 0,8	n=96 p<0.05	3,1/ 0,7	3,0/ 0,8	n=64 p>0.05

Second, we investigated if health care professionals' attitudes to engage in improvement work differed with regard to OCA. The results show that regardless of what type of OCA, the perception of having impact while engaging in improvement work, had increased significantly between 2012 and 2013. Also regardless of type of OCA there was a slight decrease in the perception of achieving meaningful results while engaging in improvement work. This small decrease was significant only were there was clinic CAs.

4. Conclusion

Organizing change agents as a clinic management support was related to an increased number of improvements from health care professionals. Seen from a 1 year-follow up there was no significant difference between the different types of OCA regarding perceptions related to engagement in improvement work.