



Izvirni znanstveni članek / Original article

## QUALITY AND SAFETY OF HEALTH CARE PROVISION: THE ROLE OF MIDDLE MANAGEMENT

### KAKOVOST IN VARNOST ZDRAVSTVENE OBRAVNAVE: VLOGA SREDNJEGA MENEDŽMENTA

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**Key words:** quality, hospitals, patient safety, middle management, employee, leaders

#### ABSTRACT

**Introduction:** Total quality management in health care should, in addition to focusing on the quality of services, also focus on the needs of employees. Middle management plays a crucial role in quality improvement. The aim of this study was to assess the level of professional competence and skills of middle management in health care organizations in terms of patient safety, risk management, and quality improvement.

**Methods:** The study included eight hospitals at the secondary and tertiary levels. A field study of non-experimental design with a descriptive work method was undertaken, using a written structured questionnaire. The work of leaders and employees was measured with a 25 item self-report questionnaire consisting of three thematic sets with reliability from 0.681 to 0.856. The total number of distributed questionnaires was 1.783, and the number of returned questionnaires was 897 (50.3%). Quota sampling was used for sub-groups of employees. The study was conducted from March to June 2008. We used descriptive statistic, one-way and two-way analyses of variance, Pearson's correlation coefficient multiple linear regression.

**Results:** Results of the study show that in the opinion of 35.4% of health care employees safety-related incidents never occur in their department, 37.5% maintain that they participate in risk management activities and 40% state that they participate in continuous quality improvement activities. Risk management was rated higher by: leaders compared to employees ( $p < 0.001$ ), respondents with a PhD compared to respondents with a secondary education ( $p = 0.42$ ), leaders and nursing professionals compared to other respondent groups ( $p = 0.044$ ). Continuous quality improvement was rated higher by leaders compared to employees ( $p < 0.001$ ), and respondents with a PhD compared to respondents with a secondary education ( $p = 0.007$ ). No statistically significant differences were revealed between health care and health administration for either risk management or continuous quality and safety improvement. Compared to other occupational groups, nursing professionals (both leaders and employees) had significantly higher mean results in both sets.

**Discussion and conclusion:** The results revealed that competence levels in quality improvement and risk management were relatively low for middle management in participating hospitals, despite the fact that both health care leaders and health administration leaders rate their competences relatively high. This goes against the principle of continuous quality improvement and patient safety improvement in the micro-system, as significant differences were shown in the results of leaders and employees.

**Ključne besede:** kakovost, bolnišnice, varnost pacientov, srednji menedžment, zaposleni, vodje

#### IZVLEČEK

**Izhodišča:** Celovito upravljanje kakovosti v zdravstvu ne sme imeti v ospredju samo kakovosti storitev, temveč se mora usmeriti tudi v potrebe zaposlenih. Vloga srednjega menedžmenta je pri izboljševanju kakovosti izjemno pomembna. Cilj raziskave je bil ugotoviti,

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kakšna je usposobljenost srednjega menedžmenta v zdravstveni organizaciji na področju varnosti pacientov, prevzemanja tveganj in izboljševanja kakovosti.

**Metode:** V raziskavo je bilo vključenih osem bolnišnic na sekundarni in terciarni ravni. Uporabljena je bila metoda zbiranja podatkov s pomočjo strukturiranega vprašalnika, ki je obsegal petindvajset trditev, razdeljenih v tri tematske sklope (Cronbachov  $\alpha$  po sklopih: od 0,681 do 0,856). Po načelu kvotnega vzorca je bilo razdeljenih 1.783 vprašalnikov, vrnjenih je bilo 897 (50,3 %). Raziskava je potekala od marca do junija 2008. Uporabili smo opisno statistiko, enosmerno in dvosmerno analizo variance (ANOVA), Pearsonov korelacijski koeficient in multiplo linearno regresijo.

**Rezultati:** Zaposleni v zdravstvu v 35,4 % menijo, da se varnostni incidenti na njihovem oddelku nikoli ne zgodijo, v 37,5 % so vključeni v aktivnosti na področju menedžmenta tveganj in v 40 % menijo, da stalno sodelujejo pri izboljševanju kakovosti. Vodje so področje obvladovanja tveganj ocenili boljše kot zaposleni ( $p < 0,001$ ), boljše osebje z doktoratom kot s srednješolsko izobrazbo ( $p = 0,042$ ), boljše vodje oziroma zaposleni v zdravstveni negi kot drugi ( $p = 0,044$ ). Področje nenehnega izboljševanja kakovosti so višje ocenili vodje kot zaposleni ( $p < 0,001$ ) in višje osebje z doktoratom kot osebje s srednješolsko izobrazbo ( $p = 0,007$ ). Za področje obvladovanja tveganj in nenehnega izboljševanja kakovosti in varnosti med zdravstveno in nezdravstveno dejavnostjo ni statistično značilnih razlik. Vodje oziroma zaposleni v zdravstveni negi imajo v primerjavi z ostalimi področji dela statistično značilno višje povprečne dosežke v obeh sklopih.

**Diskusija in zaključki:** Z raziskavo smo ugotovili, da so kompetence srednjega menedžmenta v proučevanih bolnišnicah s področja izboljševanja kakovosti in obvladovanja tveganj slabo razvite, čeprav vodje zdravstvene in nezdravstvene dejavnosti razmeroma dobro ocenjujejo lastne kompetence. Toda slednje ni v skladu z udeležanjem nenehnega izboljševanja kakovosti in varnosti pacientov v mikrosistemu, saj se rezultati trditev vodij in zaposlenih statistično pomembno razlikujejo.

## Introduction

The implementation of total quality management (TQM) in health care has been discussed in detail by several established authors (Francois et al., 2003; Hansson, 2000; Huq, Martin, 2000; Øvretveit, 2000; Taveira et al., 2003; Gregori et al., 2009). According to Gregori et al. (2009), TQM implementation should primarily be seen as an opportunity for human capital development, especially in terms of meeting the expectations of service users and employees, promoting the professional development of employees, increasing motivation, and fostering teamwork.

For TQM implementation to be successful, all employees must be familiar with the concept of TQM, with the goals and tools of TQM implementation, and with the implementation plan. Not only does this require specific knowledge from the employees, but they must also receive practical training for TQM implementation (Palo, Padhi, 2003) and be actively involved in the preparation and planning stages, and in the implementation of TQM procedures (Gregori et al., 2009).

In their study, Gregori et al. (2009) pointed out that TQM in health care should not only prioritize the quality of services, but also the needs of employees. This is the best way of overcoming resistance to change in employees (Striem, Øvretveit, Brommels, 2003), and of ensuring that employees are included in the change implementation process (Gregori et al., 2009). A key element to successful TQM implementation is the relationship between leaders and employees, a component depending on the characteristics of both groups. Knowledge of TQM cannot be standardized; it depends on the abilities and development potential of employees (Gregori et al., 2009).

The quality and safety of health care provision is

of great practical importance for treatment outcomes; however, current health care is often characterized by poor safety levels and a lack of evidence-based practice (Quality, 2002; McGlynn et al., 2003; Pajntar Verdenik, Leskošek, 2004). Middle management plays a key role in hospitals and other health care organizations. A strategic task of executive health care management is winning over and training middle management for continuous quality improvement and patient safety improvement (Weber, Joshi, 2000; Ham, 2003). Establishing clinical governance is crucial—it calls for the same degree of focus and determination as managing a health care organization. Clinical governance should be strict in its implementation, include the entire organization, be responsible in terms of its performance, and be progress-oriented. A well managed health care organization is characterized by complete integration of financial control, successful health care service implementation, and quality health care provision at all organizational levels (McSherry, Pearce, 2007).

Previous studies in Slovenian hospitals have shown significant deficiencies in the management, implementation and control of health care practice (Robida et al., 2007), particularly in terms of its heavy dependence on the culture and tradition of hierarchical leadership in hospitals (Yazbeck, Robida, 2004; Skela Savič, Pagon, Lobnikar, 2004; Skela Savič, Pagon, Lobnikar, 2006). Paradoxically, successful change implementation in Slovenian hospitals is explained best by team work, a category not supported or promoted by the established hierarchical organizational culture (Skela Savič, 2007; Skela Savič, Pagon, Robida, 2007). Significantly for middle management development potential, the role and inclusion of individuals at the middle level is extremely low, a fact which poses a great challenge to top and middle management in

terms of enhancing employee potential to achieve the organization's goals (Skela Savič, Pagon, 2008a; 2008b). Further, study results (Trunk, 2005) have revealed that quality policy in Slovenian hospitals is not clearly defined and that, in the organizational structure, the top-down deployment of quality policy is insufficient. On a sample of 27 Slovenian hospitals, the mentioned study revealed a lack of a systematic approach to quality management and patient safety management in hospitals, insufficient understanding of quality principles, unclear communication principles at the macro and middle levels, difference in the mindset of occupational groups resulting from the traditional structure of the educational system, identification with the occupational group culture and misinterpretation of physicians' autonomy (Robida, Skela Savič, Trunk, 2007).

Middle management is in charge of mid-level systems in a health care organization; it falls between top management whose role is to manage the macrosystem and professionals coming in direct contact with patients – the microsystem (Gray, 2006). The role of middle management – heads of wards, units and departments, and nurse leaders – is extremely important for quality improvement, but only limited research evidence testifies to its actual role in practice (Ham 2003; Balding 2005; Robida et al., 2007).

## Aim

The study's aim was to establish the current situation in the fields of safety, risk management, and continuous quality improvement in selected Slovenian hospitals. Specifically, the aim was to determine the professional competence of middle management in health care organizations for the issues in question by analyzing leaders' assessments of their work at the middle level and the assessments of employees.

## Methods

Quantitative descriptive analysis was used as a research method.

### *Sample*

The study included eight hospitals at the secondary and tertiary levels. The participating hospitals were selected with a purposive sample: they actively participated in the Ministry of Health programs designed to implement and promote quality in health care. Quota sampling was used for sub-groups of health care professionals employed in hospitals.

The total number of distributed questionnaires was 1.783, equaling approximately one third of all personnel in the participating hospitals (including medical doctors, nurses and health administrators). The number of

returned questionnaires was 897, giving a total response rate of 50.3%. No sampling was conducted for leaders; the questionnaires were distributed to all leaders at the hospital ward, unit and department levels. Of the 190 questionnaires distributed to health care leaders, 105 were returned, giving a response rate of 55%, which was close to that of health administration leaders with 27 distributed questionnaires and 14 returned questionnaires (a response rate of 52%). For health care employees, the number of questionnaires distributed was 1.357 and the response rate was 48% with 657 returned questionnaires. Further 209 questionnaires were distributed among health administration employees and 121 were returned, yielding a response rate of 58%.

The gender distribution of respondents was predominately female (706 respondents were female, which is 80% of the sample). The total share of female respondents is higher in the leaders group than in the employee group. The distribution for the level of education shows that the majority of respondents (46%) have a secondary school degree, followed by a degree from a professional college (25.5%), and a university degree (12.1%). The majority of leader respondents are either nursing professionals (N=42) or medical professionals (N=37). The total number of nursing employees was 465, followed by 77 health administration employees and 63 medical employees (Table 1).

### *Study design and measures*

A field study of non-experimental design with a descriptive work method was undertaken, using a written structured questionnaire. The respondents included in the study had to meet two criteria: at least a secondary school degree, and current employment at a Slovenian hospital as either a health care provider or a health administration worker. The questionnaires were separate for leaders and employees. The work of leaders was measured with a 25 item self-report questionnaire consisting of three thematic sets. Similarly, the work of employees (both health care providers and health administration workers) was measured with a 25 item questionnaire consisting of three thematic sets. At the beginning, the questionnaire included questions about the respondents' profile: age, gender, length of employment in a leading position (for leaders), length of employment in a hospital, level of education, and area of work. The thematic sets were drawn according to a review of relevant literature and previously conducted research. The reliability estimates for each thematic set are shown in Table 2.

The eight statements for the set 'risk management' were formulated on the basis of research evidence for patient safety improvement (Robida, 2004; Robida et al., 2007; Vincent, 2006) For 'quality improvement',

the statements were adapted according to the University of Birmingham questionnaire examining clinical governance (Freeman, Walshe, 2004), and the national guidelines on quality assurance in health care (Robida, 2006). For both sets, respondents were asked to indicate their agreement or disagreement

with the 23 statements on a scale with dichotomous items (yes/no). For the two statements in the 'patient safety' set, respondents were asked to rate each item on a Likert-type scale, with responses ranging from 1 (strongly disagree) to 5 (strongly agree) and the other values corresponding to each item on the scale.

Table 1: *Demographics of respondents*

Variable	Description	Group				Total	
		HCL	HAL	HCE	HAE		
Gender (p<0.001)	Male	Frequency	32	8	102	34	176
		Percent	30.5%	57.1%	15.9%	28.1%	20.0%
	Female	Frequency	73	6	540	87	706
		Percent	69.5%	42.9%	84.1%	71.9%	80.0%
Education (p<0.001)	Secondary	Frequency	8	1	325	51	385
		Percent	7.7%	7.7%	52.7%	49.5%	46.0%
	Junior college	Frequency	9	1	71	13	94
		Percent	8.7%	7.7%	11.5%	12.6%	11.2%
	Professional college	Frequency	33	5	169	16	223
		Percent	31.7%	38.5%	27.4%	15.5%	26.6%
	University	Frequency	36	6	38	21	101
		Percent	34.6%	46.2%	6.2%	20.4%	12.1%
	MSc	Frequency	8	0	4	2	14
		Percent	7.7%	0.0%	0.6%	1.9%	1.7%
	PhD	Frequency	10	0	10	0	20
		Percent	9.6%	0.0%	1.6%	0.0%	2.4%
		Health care (p<0.001)		Health administration (p=0.191)		Total	
		Position					
			Leader	Employee	Leader	Employee	
Area of Work	Medicine	Frequency	37	63	2	1	103
		Percent	35.6%	10.2%	14.3%	1.1%	12.4%
	Nursing	Frequency	42	465	0	2	509
		Percent	40.4%	75.6%	0.0%	2.1%	61.5%
	Medical laboratory	Frequency	10	36	0	7	53
		Percent	9.6%	5.9%	0.0%	7.4%	6.4%
	Pharmacy	Frequency	2	8	/	/	10
		Percent	1.9%	1.3%	/	/	1.2%
	Medical imaging	Frequency	7	28	0	5	40
		Percent	6.7%	4.6%	0.0%	5.3%	4.8%
	Physical therapy	Frequency	2	6	0	3	11
		Percent	1.9%	1.0%	0.0%	3.2%	1.3%
	Health administration	Frequency	4	9	12	77	102
		Percent	3.8%	1.5%	85.7%	81.1%	12.3%

HCL - health care leaders, HAL - health administration leaders, HCE - health care employees, HAE - health administration employees

### Data collection

Prior permission was obtained to conduct the study from hospital directors who then assigned research coordinators for each hospital. Research coordinators were professionals from the first or second leadership levels whose assignments included implementing quality standards in hospitals and conducting

nursing leadership tasks. With the assistance from hospital management and research coordinators, questionnaires were distributed on a selected day to all employees in units who were present on that day. Respondents were given seven days to fill out the questionnaires and leave them in a folder in their unit, a process that ensured the respondents' anonymity.

Table 2: Reliability estimates for scales of total three set scores

Leaders together				Health care employees				Health administration employees			
Set	$\alpha$	Item	N	Set	$\alpha$	Item	N	Set	$\alpha$	Item	N
1	0.681	8	111	1	0.778	8	568	1	0.812	8	110
2	0.829	15	81	2	0.842	15	508	2	0.856	14	99
3	0.684	2	114	3	0.779	2	611	3	0.834	2	117

1 – risk management, 2 – quality improvement, 3 – patient safety,  $\alpha$  - Cronbach's alpha, N – number of respondents who provided answers for all items in a set

The study was conducted from March to June 2008, and the approval of an ethics committee was not required. The research was supported by the Ministry of Health of the Republic of Slovenia. The organization responsible for the research was the International Institute for Health Care Management Development.

#### Data analysis

Frequency divisions were performed for all the items researched, and appropriate descriptive statistics were calculated. Total results for individual sets of items were computed, with the exception of the first set (respondents' profile). Internal consistency for the total set results was assessed using Cronbach's alpha. A two-way analysis of variance (ANOVA) was then performed for each total score, with the two intergroup factors being the type of work performed (health care provision or health administration) and the respondent's position (leader or employee). Pearson's correlation coefficient was used to analyze the correlation of total set scores, and multiple linear regression was used to assess the correlation between respondents' characteristics and total set scores. The level of statistical significance

was set at  $p < 0.05$ .

#### Results

As previously mentioned, respondents were asked to rate the two 'patient safety' statements on a five-point Likert-type scale (1-strongly disagree, 5-strongly agree).

For health care leaders, the typical level of agreement with the statement 'all employees are familiar with the no-blame culture for individuals or groups' (statement 1, Table 3) was *agree* (43.3%), mean value (M) was 3.98, standard deviation (SD) was 0.93. Conversely, the predominant health care leaders' response (36.2%) to the second statement (Table 3) on the department/unit/ward never experiencing safety-related incidents was *disagree* (M=2.59, SD=1.15). Interestingly, 22.9% of leaders either *agree* or *strongly agree* that safety-related incidents do not occur at their units.

In health administration leaders, the most frequent response to the statement about the department/unit/ward never experiencing safety-related incidents was *strongly disagree* (50.0%, M=2.29, SD=0.83). Nobody in this leader group indicated that safety-related incidents never occur.

Table 3: Results for leaders' statements on patient safety

	N	1	2	3	4	5	M	SD
<b>Health care leaders</b>								
Statement 1	104	1.9%	4.8%	18.3%	<b>43.3%</b>	31.7%	3.98	0.93
Statement 2	105	17.1%	<b>36.2%</b>	23.8%	16.2%	6.7%	2.59	1.15
<b>Health administration leaders</b>								
Statement 1	14	7.1%	0.0%	<b>42.9%</b>	28.6%	21.4%	3.57	1.09
Statement 2	14	14.3%	<b>50.0%</b>	28.6%	7.1%	0.0%	2.29	0.83

Statement 1 for leaders: All employees at the department/unit/ward are familiar with the no-blame culture of individuals or groups when safety-related incidents (errors, non-health care) occur.

Statement 2 for leaders: Safety-related incidents (errors, non-health care) never occur at the department/unit/ward which I lead.

N – number of respondents who provided an answer, M – mean value on a 1–5 scale, SD – standard deviation

Like health care leaders, health care employees often claim that safety-related incidents never occur in their department/unit/ward—they predominately expressed *disagreement* (35.4%) with statement 1, for health administration leaders 38.1%. Mean values

were low for both groups.

For the second statement, 15.8% of health care employees *agree* or *strongly agree* that safety-related incidents never occur, compared to 15.3% of health administration employees. Results are shown in Table 4.



Table 4: Results for employees' statements on patient safety

	N	1	2	3	4	5	M	SD
<b>Health care employees</b>								
Statement 1	640	5.3%	12.2%	<b>40.2%</b>	26.9%	15.5%	3.35	1.05
Statement 2	632	20.9%	<b>35.4%</b>	27.8%	12.2%	3.6%	<b>2.42</b>	1.06
<b>Health administration employees</b>								
Statement 1	119	11.8%	11.8%	<b>38.7%</b>	25.2%	12.6%	3.15	1.15
Statement 2	118	28.8%	<b>38.1%</b>	17.8%	13.6%	1.7%	<b>2.21</b>	1.06

Statement 1 for employees: When a safety-related incident (error, non-health care) occurs, leaders do not blame individuals but rather focus on the system/process in which the safety-related incident (error, non-health care) occurred.

Statement 2 for employees: Safety-related incidents (errors, non-health care) never occur at the department/unit/ward where I work. N – number of respondents who provided an answer, M – mean value on a 1–5 scale, SD – standard deviation

Table 5: Item results for given sets, separately for leaders and employees and a two-way analysis of variance for total scores

Questionnaire items: Leaders / Employees	Leaders				Employees			
	Health care provision (N=105)		Health administration (N=14)		Health care provision (N=649)		Health administration (N=121)	
<b>Risk management</b>	Two-way analysis of variance for total scores: position leaders : employees $p < 0.001$ activity health care provision : health administration $p = 0.834$							
	YES	%	YES	%	YES	%	YES	%
For each year, I prepare a systematic analysis of possible errors and their consequences for the processes which might have adverse effects on the patients or the staff. / My leader has familiarized me with an annual systematic analysis of possible errors and their consequences for the processes which might have adverse effects on the patients or the staff.	38	37.3%	7	50.0%	286	45.5%	51	43.2%
Over the last 12 months, I have organized employee training on using the forecast analysis system for errors and their consequences. / Over the last 12 months, I have participated in training on using the forecast analysis system for errors and their consequences.	30	29.7%	6	42.9%	159	25.3%	36	30.5%
I implement improvements to systems or processes where analysis has revealed latent errors. / Over the last 6 months, I have participated in improvement implementation to systems or processes where analysis has revealed latent errors.	85	81.0%	10	71.4%	144	22.9%	47	39.5%
At my department/unit/ward, I lead or organize an analysis of each safety-related incident in patient care provision (health care errors). / Over the last 12 months, I have participated in at least one analysis of a safety-related incident in patient care provision (health care errors) which occurred at our department/unit/ward.	83	81.4%	7	50.0%	216	34.5%	54	45.4%

Table continues

Questionnaire items: Leaders / Employees	Leaders				Employees			
I submit reports on patient safety-related incidents to the hospital patient safety system. / <i>Reports on patient safety-related incidents (health care errors) at the department/unit/ward are being submitted to the hospital patient safety system.</i>	66	66.7%	6	42.9%	355	60.9%	49	43.8%
I ensure that top management and the staff of the unit where a safety-related incident (error) has occurred are familiar with the analysis report. / <i>Unit head/leader ensures we are familiar with the reports on safety-related incidents which have occurred at our department/unit/ward.</i>	86	84.3%	11	78.6%	416	66.9%	85	71.4%
I ensure that improvements of the system or process where a safety-related incident has occurred are implemented. / <i>I participate in implementing improvements of the system or process where a safety-related incident/error has occurred.</i>	92	88.5%	13	92.9%	267	42.9%	51	43.2%
Over the last 12 months, I have organized employee training for handling safety-related incidents. / <i>Over the last 12 months, I have participated in training for handling patient safety-related incidents (health care errors).</i>	33	32.4%	/	/	194	31.4%	/	/
<b>Quality improvement in health care provision</b>	Two-way analysis of variance for total scores: position leaders : employees $p < 0.001$ activity health care provision : health administration $p = 0.150$ .							
Our hospital has an official quality management system. / <i>Our hospital has an official quality management system.</i>	91	87.5%	12	85.7%	466	76.9%	87	73.1%
At my department/unit/ward, I have designated a leader for quality improvement and safety assurance in health care provision. / <i>Our department/unit/ward has a leader for quality and safety assurance in health care provision.</i>	60	58.8%	5	35.7%	353	57.7%	57	48.3%
I have introduced general standards of health care provision for hospitals. / <i>I apply general standards of health care provision for hospitals to ensure my daily tasks are performed successfully.</i>	59	60.2%	6	46.2%	503	80.5%	60	55.0%
At my department/unit/ward, I prepare an annual plan of implementing clinical pathways, quality indicators and self-assessment of health care provision. / <i>My leader has informed me of an annual plan for implementing clinical pathways, quality indicators and self-assessment of health care provision and other quality assurance tools.</i>	63	63.0%	7	53.8%	325	52.8%	52	44.4%
Our team implements clinical guidelines, plans and implements clinical pathways, protocols, algorithms, rules, memorandums and instructions for implementing health care provision. / <i>Over the last 6 months, I have participated in the implementation or planning of at least one of the following tools: clinical pathways, protocols, algorithms, rules, memorandums and instructions for implementing health care provision.</i>	91	87.5%	11	84.6%	209	33.4%	52	43.7%

Table continues

Questionnaire items: Leaders / Employees	Leaders				Employees			
I ensure that health care provision meets the clinical guidelines, clinical pathways, standards and other tools necessary for evidence based practice. / <i>At least once a week, my immediate leader checks if my work is in line with the clinical guidelines, clinical pathways, standards and other tools necessary for evidence-based practice.</i>	89	88.1%	12	85.7%	235	38.2%	44	37.3%
I ensure that the quality of performance at my department/unit/ward is measured with key indicators. / <i>I collect data on at least one quality indicator.</i>	80	79.2%	9	64.3%	164	26.5%	35	29.7%
At my department/unit/ward, work processes are improved based on quality and safety indicators and based on the changes in our work environment. / <i>Over the last 6 months, I have participated at least once in a team effort to improve work processes based on quality and safety indicators and based on the changes in our work environment.</i>	89	88.1%	11	78.6%	201	32.6%	37	31.4%
I ensure that the health care team conducts a self-assessment of their health care provision at least once every three months. / <i>Over the last 6 months, I have participated at least twice in a team self-assessment of health care provision.</i>	32	30.8%	5	35.7%	141	22.9%	20	16.9%
I submit the team self-assessment results for health care provision to the hospital database. / <i>My department/unit/ward submits team self-assessment results for health care provision to the hospital database.</i>	27	26.5%	6	42.9%	223	39.5%	39	34.2%
Over the last 6 months, I have led or organized training on self-assessing health care provision at least once at my department/unit/ward. / <i>Over the last 6 months, I have participated at least once in the training on self-assessing health care provision at my department/unit/ward.</i>	26	24.8%	3	21.4%	113	18.3%	30	25.4%
Over the last 6 months, we have modified our work methods at least once by introducing best practice examples as a result of comparing our self-assessment results with other practice examples in Slovenia and abroad. / <i>Over the last 6 months, our department/unit/ward has modified its work methods at least once by introducing best practice examples as a result of comparing our self-assessment results with other practice examples in Slovenia and abroad.</i>	59	57.8%	6	42.9%	215	35.2%	28	24.1%
In discussing clinical incidents, I ensure that not only one occupational group dominates. / <i>I am in an equal position in discussing clinical incidents; members from one occupational group do not dominate.</i>	86	85.1%	6	46.2%	367	59.2%	36	30.8%

Table continues



Questionnaire items: Leaders / Employees	Leaders				Employees			
Written rules exist for coordinating the work at our unit with other hospitals, primary health care and social care institutions in order to ensure continuous health care provision for patients. / I am familiar with the rules for coordinating the work at our unit with other hospitals, primary health care and social care institutions in order to ensure continuous health care provision for patients.	61	59.8%	11	78.6%	288	46.6%	34	29.6%
Over the last 6 months, I have participated at least once in improving health care provision involving several departments/units/wards. / Over the last 6 months, I have participated at least once in improving health care provision involving several departments/units/wards.	56	65.9%	/	/	137	22.3%	/	/

Table 6: Descriptivestatistics for results of both sets

Group	Set	Risk management	Health care quality improvement
Health care leaders	N	105	105
	M	67.3	62.8
	SD	24.7	22.7
Health administration leaders	N	14	14
	M	61.2	57.2
	SD	32.4	30.3
Health care employees	N	641	640
	M	37.5	40.0
	SD	29.9	25.9
Health administration employees	N	120	121
	M	45.6	37.4
	SD	42.9	35.7

N – number of respondents who provided an answer, M – mean value, SD – standard deviation

Table 7: Correlations for total set scores

<b>Leaders</b>	Risk management	Quality improvement
Risk management	1	0.495**
Quality improvement		1
<b>Health care employees</b>	Risk management	Quality improvement
Risk management	1	0.634**
Quality improvement		1
<b>Health administration employees</b>	Risk management	Quality improvement
Risk management	1	0.658**
Quality improvement		1

Pearson's r; \*\* p<0.001; \* p<0.05)

Table 8: Multiple linear regression results for total set scores predictors based on respondent characteristics

Set	Characteristic	<i>b</i>	SE <sub><i>b</i></sub>	β	<i>p</i>
<b>Risk management</b> (R <sup>2</sup> =0,09)	Area of employment (health administration/ health care providers)	50.185	40.295	0.058	0.228
	Employment position (leader vs. employee)	220.537	30.703	0.267	<0.001
	Age (years)	-0.067	0.258	-0.022	0.794
	Gender (F/M)	0.515	30.057	0.007	0.866
	Length of employment (years)	0.148	0.246	0.049	0.548
	No. of subordinate employees (leaders) or no. of employees (employees)	0.006	0.032	0.007	0.858
	Level of education (secondary ... PhD)	20.426	10.190	0.104	0.042
	Area of work = medical professional (yes/ no)	-50.258	40.547	-0.058	0.248
	Area of work = nursing professional (yes/no)	70.155	30.547	0.114	0.044
	Training and education (yes/no)	30.391	20.543	0.055	0.183
<b>Quality improvement</b> (R <sup>2</sup> =0,09)	Area of employment (health administration/ health care providers)	-60.402	30.784	-0.081	0.091
	Employment position (leader vs. employee)	150.138	30.246	0.204	<0.001
	Age (years)	-0.063	0.227	-0.023	0.783
	Gender (F/M)	-0.351	20.679	-0.005	0.896
	Length of employment (years)	0.030	0.217	0.011	0.892
	No. of subordinate employees (leaders) or no. of employees (employees)	0.045	0.028	0.060	0.108
	Level of education (secondary ... PhD)	20.815	10.038	0.138	0.007
	Area of work = medical professional (yes/ no)	-20.677	30.998	-0.034	0.503
	Area of work = nursing professional (yes/no)	30.986	30.148	0.072	0.206
	Training and education (yes/no)	20.735	20.223	0.050	0.219

*b*=Regression coefficient, SE<sub>*b*</sub>=standard regression coefficient error, β=standard regression coefficient; significant predictors are highlighted, R<sup>2</sup>= mean of all common achievements

Results for both variables are shown in Table 5, and the descriptive statistics for the results of both sets is shown in Table 6. Health care leaders rate their competences in both risk management (M=67.3, SD=24.7) and continuous quality improvement (M=62.8, SD=22.7) as high. These results are similar to those of health administration leaders for risk management (M=61.2, SD=32.4) and continuous quality improvement (M=57.2, SD=30.3). On average, 37.5% of health care employees state that they participate in risk management activities (SD=29.9), compared to 40% who state that they participate in continuous quality improvement activities (SD=25.9). Similar results were recorded for health administration employees (M=45.6, SD=42.9).

Significant differences for the two variables exist only between leaders and employees; no significant differences were established between occupational groups.

None of the sets revealed significant differences between mean total results in health care and health administration. In both groups, however, the results

showed significant differences between leaders and employees, which on average amounted to 10 points on a converted scale. No statistically significant interaction effects were demonstrated for the total results, indicating virtually the same margin in both the health care group and the health administration group (risk management interactions *p*=0.255; quality improvement in health care provision interactions *p*=0.977).

Correlation analysis for the total set results has shown a significant positive correlation between all sets at the *p*<0.001 level, both for leaders and employees. As expected, a general moderate correlation for all sets has been established, but significantly less so in leaders compared to employees. Results are shown in Table 7.

Table 8 shows results for the correlation of total set scores, according to respondent types. All regression models were found to be significantly higher than the fully unconditional model (*p* for the model as a whole <0.001). For both sets, the most prominent predictor was respondent position (the expected

results for leaders were higher by a grade compared to the expected results for employees, when all other variables remain the same). As can be seen from the results in Table 8, risk management was rated higher by: leaders compared to employees ( $p < 0.001$ ), respondents with a PhD compared to respondents with a secondary education ( $p = 0.042$ ), leaders and nursing professionals compared to other respondent groups ( $p = 0.044$ ). Continuous quality improvement was rated higher by leaders compared to employees ( $p < 0.001$ ), and respondents with a PhD compared to respondents with a secondary education ( $p = 0.007$ ). No statistically significant differences were established between health care and health administration for either risk management or continuous quality and safety improvement. Compared to other occupational groups, nursing professionals (both leaders and employees) had significantly higher mean results in both sets.

## Discussion

As concerns the patient safety, significant differences were established between leaders and employees, while no differences were identified between occupational groups. Employees maintain that, in resolving safety-related incidents at their unit, the focus is on the process and on placing blame on individuals. Further, both leaders and employees agree that safety-related incidents occur at their departments/units/wards, which is important for understanding the development of the error detection culture in health care. Thus, positive shifts have been noted compared to the study results from 2006 which included 27 Slovenian hospitals, where occupational subcultures were reported and misunderstanding of individuals' autonomy was noted (Robida et al., 2007).

Similarly, pronounced subculture differences were revealed by the study Skela Savič et al. conducted in 2005 (Skela Savič, Pagon, Robida, 2007). In our study, no significant differences were shown to exist between occupational groups for the examined variables, which means that respondents' opinions are relatively uniform regardless of the occupational group. Importantly, 22.3% of health care leaders believe that errors do not occur at their unit, compared to only 7% of health administration leaders, which points to the differences in understanding and recognizing safety-related incidents and errors at the management level. Of the participating health care employees, a total of 15.8% are convinced that errors do not occur, which is a lower figure in comparison with health care leaders, and the percentage is similar for health administration employees. Overall, the results demonstrate that the awareness of safety-related incidents and errors is higher in health care employees than in health care leaders. Together with

unjustified blaming of individuals for a safety-related incident, this fact highlights the current patient safety culture which was previously demonstrated in a pilot study on patient safety culture in three Slovenian general hospitals (Robida, 2011).

For risk management, statistically significant differences were found to exist between leaders and employees. Only a good third of health care leaders prepare a systematic analysis of errors and their consequences for work processes. Further, no more than a third of leaders train their employees on an annual basis for using the forecast error analysis system and only a fourth of health care employees state that, over the last 6 months, they have contributed to eliminating latent errors if these had been revealed. In the group of health care leaders, the reported percentage for the last item was significantly higher. Similar results were obtained for safety-related incidents, where reporting on these incidents to the hospital patient safety system and submitting reports on these incidents were assessed with over 60%. Only in about half of the cases the employees were asked to participate in the implementation of improvements as a result of a detected patient safety incident. Employees feel that they are asked to participate in half the cases or fewer when it comes to implementing improvements as a result of detected safety-related incidents. In addition, only a third of employees reported receiving training on safety-related incidents on an annual basis. According to the results, health care leaders rate their risk management competences as high, but employees are significantly more critical of their leaders' efforts in this area. The results for risk management indicate insufficient understanding of safety-related incidents and a preference for the personal over a systematic care and patient safety-related incident prevention model (Robida, 2009). For quality improvement in health care provision, significant differences were established between the opinions of leaders and employees. Most participating hospitals have established an official quality management system. Half of the respondents indicated that their unit has a leader for quality and safety improvement in health care provision, and that general standards of health care provision for hospitals mostly apply. These standards were formulated in 2004, yet none of the participating hospitals use them for self-assessment purposes, except in connection with monitoring quality indicators (Robida, 2004). Results have revealed low employee participation in the preparation of clinical pathways, protocols, algorithms, etc., and poor leader control over the use of tools such as clinical pathways, standards, rules, instructions, etc. Only a quarter of respondents collect data on at least one quality indicator. Low employee participation

in quality and safety improvement teams at their unit and elsewhere was reported, self-assessment levels of their health care provision were low, as was participation at the self-assessment training. Over half of employees agree they are in equal position with other occupational group members in discussing work events—a significant improvement compared with two previous study results, where a hierarchical culture and a lack of team work in Slovenian hospitals were reported (Yazbeck, 2004; Skela Savič, 2006; Skela Savič, 2007).

Results have shown that over a third of health care employees have noticed the implementation of risk management activities and continuous quality improvement activities, respectively. A similar trend was seen in health administration employees. For both variables, statistically significant differences existed between leaders and employees, with leaders rating their activities much better than employees.

Correlation analysis of total set scores according to the variables revealed a significant correlation between risk management and quality improvement. As expected, a moderate positive correlation exists between sets in general, but it is significantly lower for leaders than employees.

According to regression analysis results, significant predictors for the variable risk management include employment position, level of education and area of work. For the latter, nursing professionals (both leaders and employees) had significantly higher results in both sets compared to professionals from other areas of work. Our research shows that nursing professionals have a significantly higher impact on the development of quality monitoring in health care compared to other occupational groups, as has previously been demonstrated by international research. Statistically significant predictors for the variable quality improvement in health care provision were employment position and level of education.

The regression model has revealed two important factors: the role of leaders and the importance of education and training for health care employees. Gregori et al. (2009) have emphasized the need for strong workplace relationships between leaders and employees as one of the keys to successful total quality management (TQM) implementation. Such cooperation invariably depends on the characteristics of both groups. Further, knowledge of TQM cannot be uniform because it necessarily reflects employees' abilities and their readiness for change. According to Palo and Padhi (2003), employees should be familiar with TQM objectives, implementation tools and the implementation plan, they must be educated about and trained in TQM implementation and, finally, they should be actively involved in the entire process of elaboration and implementation of TQM. As was stressed by Gregori et al. (2009), the focus must

not only be on the quality of services but also on employee needs.

The second predictor highlighted by the regression model is the role of leaders. This factor has been well researched in the Slovenian health care system (Skela Savič, Pagon, Lobnikar, 2004; Skela Savič, 2007; Skela Savič, Pagon, 2008a; Robida, Skela Savič, Trunk, 2007; Lorber, Skela Savič, 2011; Bregar, 2010; Filej et al., 2009). The body of research has revealed that leaders in the health care system lack the necessary competences and skills. Studies from other countries show that leadership training makes leaders more self-assured and confident, improves their communication skills, helps them deliberate and adopt decisions, facilitates formulation of a clearer vision, increases their leadership accountability, promotes employee empowerment and increases the transparency of work tasks. Improvements in clinical leadership also affect patient-oriented communication, continuity of care, and inter-professional collaboration (Dierckx de Casterlé et al., 2008). Career development of leaders in Slovenian health care should, for all the previously stated reasons, be of crucial importance. Unfortunately, however, previous research has shown that the system is still very much based on the concept, good experts make good leaders' (Skela Savič, 2002; Skela Savič, 2007; Skela Savič 2011a; 2011b).

Importantly, leadership training correlates significantly with patient safety and risk management, but our research results have failed to yield optimistic results in risk management. Meanwhile, a literature review by Richardson and Storr (2010) and research by Wong and Cummings (2007) have pointed out a significant correlation between positive leadership practices and a reduction in the occurrence of adverse events, leading to greater patient safety. In their prospective study, Spence Laschinger and Leiter (2006) have found that leaders play a crucial role in ensuring the appropriate conditions for meeting work obligations, and the resulting safety of health care provision. According to Vogus and Sutcliffe (2007) the number of adverse events correlated directly with leadership which is based on trust and the application of clinical pathways. In hospitals across the USA, the number of adverse events with a fatal outcome varies between 44.000 and 98.000 annually; half of these events could be prevented (Kohn, Corrigan, Donaldson, 2000). In Slovenia, the estimated number of unnecessary deaths due to adverse events is 400-900 annually; half of them as a result of errors. Despite the fact that data transfer from other studies is not scientific, we believe that Slovenian health care is, from a technical perspective, no better than health care in the USA.

Our research results indicate that in Slovenia, little progress has been made in implementing patient

safety and quality improvement—the obtained results do not differ significantly from a 2007 study which showed that Slovenian hospitals lack a systematic approach to quality and patient safety improvement. They are frequently faced with poor understanding of quality principles, and suffer as a result of unclear communication in the macro-, mezzo- and microsystems (Robida et al., 2007). Even in hospitals with an established quality management system, employees usually maintain that quality programs are aimed at the top management level which then instructs middle management on the actions of personnel and health care teams in the microsystem (Ham, 2003). Thus, quality monitoring and improvement must constitute an integral part of a health care institution's management policy. Across all levels, leaders should help create appropriate organizational structures to ensure quality monitoring in practice, and serve as an example to employees by actively practicing quality monitoring. Moreover, managers in health care organizations must ensure that quality improvement is based on data collection and analysis, as well as on scientific methods and principles (Skela Savič, 2010).

More resources and reorganizations often fail to improve quality and safety because managers do not have sufficient management skills. What is needed is to strengthen management by training and recruiting for professional and business managers and by better management structures and processes on all levels of health care (Guidance, 2008).

In this research, as with any survey research, a representativeness of a sample might be questioned. The questionnaire was distributed to all leaders of participating hospitals; the latter were selected with a purposive sample. The employee sample was cross-sectional. Even though response rates in participating hospitals differed to a large extent, the purpose of our research was not an inter-hospital comparison but a situation assessment for all hospitals. Future in-depth research is required on the impact of middle management for the performance and efficiency of health care organizations and the health care system as a whole.

## Conclusion

The presented research was the first of its kind in Slovenia. Our results have confirmed some of the existing theoretical knowledge from this field for health care in Slovenia and, in general, the developed world, but the research has also yielded new evidence for middle management in the given fields.

Our research has shown that in participating hospitals the competences of middle management for quality improvement and risk management are low, despite the fact that both health care leaders and

health administration leaders rate their competences as relatively high. The opinions of leaders and employees significantly differ on this point, which goes against the principle of implementing continuous quality improvement and patient safety in the microsystem where both desired and adverse events occur to patients on a daily basis.

The research results advocate continued support from the Ministry of Health for quality and patient safety implementation to all health care institutions. This is a top-down approach which, in Slovenian health care, has contributed at least to raising the awareness, among nursing professionals more so compared to physicians, on the necessity of continuous quality management and health care safety management. All health care workers are responsible for ensuring high quality and safety in health care provision. However, the greatest responsibility lies with hospital directors and managers of other health care organizations and health facilities who should commit to adopting the necessary measures for changing the current health care practice model into a patient-oriented, strictly evidence-based practice with inter-professional and inter-disciplinary teams advocating continuous quality improvement of care, a reduction of adverse events, and the use of information technology. Middle management in health care organizations should, in a planned and systematic manner, first acquire and then implement competences, and develop skills for quality- and safety-related tasks. Also, they should have more time for managing microsystems in quality and safety, more purposeful sources, additional education and training in quality and safety in health care, and more support from top management. Personnel at the microsystem level have the best understanding of the frequent day-to-day issues at their workplace, and therefore also have the best insight on how to solve them. However, optimum solutions will not be reached without systematic training in the use of quality and patient safety tools.

*Note: The paper presents, in part, the results of a broader study entitled "Definition of skills and competences for hospital middle management". The study was financed by the Ministry of Health of the Republic of Slovenia (contract no. C2711-07Y000217 with the Ministry of Health). The body responsible for research implementation is the International Institute for Healthcare Management Development (IIHMD). Participating researchers include: Andrej Robida, PhD; Brigita Skela Savič, PhD; and Aleš Trunk. Statistical data analysis was conducted by Gaj Vidmar, PhD. The research report for the entire study is available on the online bibliographic database COBIB.si, on the Ministry of Health of the Republic Slovenia and on library of College of Nursing Jesenice.*



*Slovenian translation / Prevod v slovenščino***Uvod**

Uvajanje sistema celovitega upravljanja kakovosti v zdravstvu je s strani uveljavljenih avtorjev široko analizirano (Francois et al., 2003; Hansson, 2000; Huq, Martin, 2000; Øvretveit, 2000; Taveira et al., 2003; Gregori et al., 2009). Gregori in sodelavci (2009) pravijo, da gre pri uvajanju celovitega upravljanja kakovosti v prvi vrsti za upoštevanje perspektive razvoja človeškega kapitala v smislu upoštevanja pričakovanja uporabnikov storitev in zaposlenih, spodbujanje profesionalnega razvoja zaposlenih, ustreznega motiviranja in timskega dela.

Za učinkovito uvajanje celovitega upravljanja kakovosti je temeljnega pomena, da vsi zaposleni vedo, kaj predstavlja celovito upravljanje kakovosti, kaj so cilji uvajanja, orodja uvajanja in načrt uvajanja. To ne pomeni samo, da morajo biti zaposleni izobraženi na tem področju, temveč morajo biti tudi ustrezno usposobljeni (Palo, Padhi, 2003) in aktivno vključeni v celoten proces priprave in uvajanja (Gregori et al., 2009).

Gregori in sodelavci (2009) v svoji raziskavi ugotavljajo, da celovito upravljanje kakovosti v zdravstvu ne sme imeti v ospredju samo kakovosti storitev, temveč se mora usmeriti tudi v potrebe zaposlenih. To je najboljša pot za premagovanje odporov do sprememb (Striem, Øvretveit, Brommels, 2003); zaposlene je potrebno vključiti v sprejemanje odločitev (Gregori et al., 2009). Za uspešnost uvajanja celovitega upravljanja kakovosti je ključna povezava med vodji in zaposlenimi, njihovo sodelovanje pa je odvisno od značilnosti obojih. Znanja o celovitem upravljanju kakovosti ni mogoče uniformirati, le-to se namreč odraža v zmožnostih in sposobnostih razvoja zaposlenih (Gregori et al., 2009).

Kakovost in varnost zdravstvene obravnave imata velik vpliv na izide zdravljenja. Za današnje zdravstveno obravnavo pa lahko trdimo, da ni varna in da prepogosto ni osnovana na znanstvenih dokazih (Quality, 2002; McGlynn et al., 2003; Pajntar Verdenik, Leskošek, 2004).

Pomembno vlogo v bolnišnicah in drugih zdravstvenih organizacijah ima srednji menedžment. Pridobivanje in usposabljanje srednjega menedžmenta za nenehno izboljševanje kakovosti in varnosti pacientov je ena od strateških nalog izvršnega zdravstvenega menedžmenta (Weber, Joshi, 2000; Ham, 2003). Vzpostavitev termina upravljanje zdravstvene prakse je pomembno, ker zahteva enako pozornost in moč kot poslovanje zdravstvene organizacije. Upravljanje zdravstvene prakse mora zajeti celo organizacijo, biti mora strogo izvajano, odgovorno glede uspešnosti izvajanja in razvojno usmerjeno. Dobro vodena zdravstvena organizacija je

tista, kjer so finančna kontrola, uspešnost zdravstvenih storitev in kakovostna zdravstvena obravnava na vseh ravneh organizacije popolnoma integrirani (McSherry, Pearce, 2007).

Ugotovitve nekaterih v slovenskih bolnišnicah že opravljenih raziskav kažejo, da upravljanje, ravnanje in obvladovanje zdravstvene prakse poteka zelo pomanjkljivo (Robida et al., 2007) in sloni predvsem na kulturi in tradiciji hierarhičnega vodenja v bolnišnici (Yazbeck, Robida, 2004; Skela Savič, Pagon, Lobnikar, 2004; Skela Savič, Pagon, Lobnikar, 2006). Na drugi strani uspešnost uvajanja sprememb v slovenskih bolnišnicah najbolj pojasnjuje timsko delo, ki pa ga obstoječa ugotovljena hierarhična organizacijska kultura ne podpira in ne spodbuja (Skela Savič, 2007; Skela Savič, Pagon, Robida, 2007). Pomembna za razvoj srednjega menedžmenta je tudi ugotovitev, da je vloga in vključenost posameznika na srednjem nivoju izjemno majhna, kar predstavlja izjemno velik izziv za vrhnji in srednji menedžment, da usmerita potencial vsakega zaposlenega v doseganje ciljev organizacije (Skela Savič, Pagon, 2008a; 2008b). Druga raziskava (Trunk, 2005) kaže, da tudi politika kakovosti v zdravstvenih organizacijah ni jasno opredeljena in da se v organizacijski strukturi na nižje organizacijske ravni ne prenaša zadostno. Raziskava v sedemindvajsetih slovenskih bolnišnicah je pokazala, da v bolnišnicah manjka sistematični pristop k razvoju kakovosti in varnosti pacientov, prepoznano je nerazumevanje načel kakovosti, nedorečena komunikacija znotraj makro- in mezosistema, razlike v mišljenju poklicnih skupin, kar je posledica tradicionalnega izobraževalnega sistema in poistovetenja s kulturo poklicne skupine ter napačnega razumevanja avtonomnosti zdravnikov (Robida, Skela Savič, Trunk, 2007).

Srednji menedžment vodi mezosisteme in je v zdravstveni organizaciji umeščen med vrhnje vodstvo, ki vodi makrosistem, in osebje, ki neposredno skrbi za pacienta – mikrosistem (Gray, 2006). Vloga srednjega menedžmenta, kamor sodijo predstojniki klinik, oddelkov, vodje služb, oddelkov, enot in vodilne medicinske sestre, je pri izboljševanju kakovosti izjemno pomembna, a o tem, kaj se v resnici dogaja, je malo raziskav (Ham 2003; Balding 2005; Robida et al., 2007).

**Namen in cilj raziskave**

Namen raziskave je bil ugotoviti stanje na področjih varnosti in obvladovanja tveganj in nenehnega izboljševanja kakovosti v nekaterih slovenskih bolnišnicah. Cilj raziskave je bil ugotoviti, kakšna je usposobljenost srednjega menedžmenta v zdravstveni organizaciji na proučevanem področju z vidika ocene

lastnega dela vodij na srednjem nivoju vodenja in ocene zaposlenih.

## Metode

Uporabljena je opisna kvantitativna neeksperimentalna raziskovalna metoda.

### Vzorec

V raziskavi je sodelovalo osem bolnišnic na sekundarni in terciarni ravni. Bolnišnice so izbrali po načelu namenskega vzorca. K raziskavi smo povabili bolnišnice, ki so v obdobju 2000–2008 aktivneje delovale na področju uvajanja in razvoja kakovosti v zdravstvu v okviru projektov Ministrstva za zdravje, ter bolnišnice, ki so sodelovale v nekaterih skupnih projektih meddržavnega slovensko-avstrijskega združenja Saniacademia. Bolnišnice so bile med seboj primerljive po številu postelj in številu zaposlenih.

Izvedli smo kvotno vzorčenje med različnimi poklicnimi skupinami, ki delajo v bolnišnicah: medicina, zdravstvena nega, upravna dejavnost. Skupno smo razdelili 1.783 vprašalnikov, kar je predstavljalo okvirno tretjino vseh zaposlenih v poklicnih skupinah v bolnišnicah, vključenih v raziskavo. Med vodji vzorčenja nismo izvedli, vprašalnike smo razdelili vsem vodjem na nivoju oddelkov, enot in klinik. Vrnjenih smo prejeli 897 vprašalnikov, odzivnost anketirancev je bila 50,3%. Vodjem v zdravstveni dejavnosti smo razdelili 190 vprašalnikov, vrnjenih je bilo 105 (55 %). Vodjem v upravni dejavnosti smo razdelili 27 vprašalnikov, vrnjenih je bilo 14 (52 %). Zaposlenim v zdravstveni dejavnosti smo razdelili 1.357 vprašalnikov, vrnjenih je bilo 657 (48 %). Zaposlenim v upravni dejavnosti bolnišnice smo razdelili 209 vprašalnikov, vrnjenih je bilo 121 (58 %).

Glede na spol anketirancev je bilo v raziskavi 80 % (706) žensk. Razmerje med spoloma v skupini vodje ni toliko v korist žensk, kot je to v skupini zaposlenih. Največ anketirancev (46 %) je imelo srednješolsko izobrazbo, sledijo anketiranci z visokošolsko strokovno (26,5 %) in univerzitetno izobrazbo (12,1 %). Najmočnejši skupini vodij sta s področja zdravstvene nege (N = 42) in medicine (N = 37). 465 anketirancev predstavljajo zaposleni v zdravstveni negi, 77 zaposleni v upravni dejavnosti in 63 zaposleni v medicini. Podatki o vzorcu so prikazani v Razpredelnici 1.

### Instrumentarij

Izvedena je bila terenska študija neeksperimentalne oblike. Za izvedbo raziskave smo uporabili metodo anketiranja v obliki pisnega strukturiranega vprašalnika, ki je bil namenjen anketirancem, ki

imajo najmanj srednješolsko izobrazbo in delajo na področju zdravstvene ali upravne dejavnosti v bolnišnici. Uporabljen je bil vprašalnik v dveh različicah, ena za vodje, druga za zaposlene. Za oceno dela vodij in zaposlenih smo oblikovali petindvajset trditev, razdeljenih v tri vsebinske sklope: obvladovanje tveganj, izboljševanje kakovosti in varnost pacientov. Pred vsebinskim delom so bila postavljena še vprašanja o demografskih podatkih: starost, spol, število let na vodilnem položaju (za vodje), število let zaposlitve v bolnišnici, stopnja najvišje dosežene izobrazbe in področje dela anketiranca. Vsebinska področja vprašalnika so bila pripravljena na osnovi pregleda literature in že izvedenih raziskav. Ocena zanesljivosti posameznih vsebinskih sklopov vprašalnika je prikazana v Razpredelnici 2.

Podlaga za osem trditev v sklopu obvladovanje tveganj so bile raziskave o izboljševanju varnosti pacientov (Robida, 2004; Robida et al., 2007; Vincent, 2006). Trditve na področju nenehnega izboljševanja kakovosti smo priredili po anketnem vprašalniku za merjenje upravljanja zdravstvene prakse, ki so ga razvili na Univerzi Birmingham (Freeman, Walshe, 2004) in na podlagi Nacionalnih usmeritev za razvoj kakovosti v zdravstvu (Robida, 2006). Anketiranci so se do triindvajsetih trditev v prvih dveh sklopih opredelili na dihotomni lestvici z možno izbiro med DA in NE. Do dveh trditev na področju varnosti pacientov (tretji sklop) so se anketiranci opredelili po lestvici Likertovega tipa, kjer je 1 pomenilo – *sploh se ne strinjam*, 5 – *popolnoma se strinjam*.

### Postopek izvedbe anketiranja

Dogovori o poteku raziskave so v prvi fazi potekali z direktorji bolnišnic, pri neposredni izvedbi raziskave so direktorji v posameznih bolnišnicah določili koordinatorje raziskave, ki so po funkciji bili na prvem ali drugem nivoju vodenja in so v okviru svojih del in nalog bili odgovorni za uvajanje kakovosti v bolnišnici ali pa so bili odgovorni za vodenje področja zdravstvene nege v bolnišnici. Število vprašalnikov smo s pomočjo vodstva posamezne bolnišnice in njihovega koordinatorja razdelili na naključno izbrani dan po oddelkih bolnišnice med zaposlene, ki so bili tisti dan na delovnem mestu. Anketiranci so imeli teden dni časa, da so vprašalnik vrnili v zbirno mapo na oddelku. Tako smo zagotovili anonimnost anketirancev.

Raziskava je potekala od marca do junija 2008. Za izvedbo raziskave nismo potrebovali soglasja etične komisije, imeli smo soglasje vsake vključene bolnišnice. Raziskavo je podprlo in sofinanciralo Ministrstvo za zdravje. Odgovornost za izvedbo raziskave je imel Mednarodni institut za razvoj menedžmenta v zdravstvu.

Razpredelnica 1: Demografski podatki o anketirancih

Lastnost	Vrednosti	Skupina				Skupaj	
		VZ	VU	ZZ	ZU		
Spol (p<0,001)	moški	število	32	8	102	34	176
		delež	30,5 %	57,1 %	15,9 %	28,1 %	20,0 %
	ženske	število	73	6	540	87	706
		delež	69,5 %	42,9 %	84,1 %	71,9 %	80,0 %
Izobrazba (p<0,001)	srednja	število	8	1	325	51	385
		delež	7,7 %	7,7 %	52,7 %	49,5 %	46,0 %
	višja	število	9	1	71	13	94
		delež	8,7 %	7,7 %	11,5 %	12,6 %	11,2 %
	visoka strokovna	število	33	5	169	16	223
		delež	31,7 %	38,5 %	27,4 %	15,5 %	26,6 %
	univerzitetna	število	36	6	38	21	101
		delež	34,6 %	46,2 %	6,2 %	20,4 %	12,1 %
	magisterij	število	8	0	4	2	14
		delež	7,7 %	0,0 %	0,6 %	1,9 %	1,7 %
	doktorat	število	10	0	10	0	20
		delež	9,6 %	0,0 %	1,6 %	0,0 %	2,4 %
		Dejavnost				Skupaj	
		zdravstvena (p<0,001)		upravna (p=0,191)			
		Položaj				Skupaj	
		vodja	zaposleni	vodja	zaposleni		
Področje dela	medicina	število	37	63	2	1	103
		delež	35,6 %	10,2 %	14,3 %	1,1 %	12,4 %
	zdravstvena nega	število	42	465	0	2	509
		delež	40,4 %	75,6 %	0,0 %	2,1 %	61,5 %
	laboratorijska dejavnost	število	10	36	0	7	53
		delež	9,6 %	5,9 %	0,0 %	7,4 %	6,4 %
	farmacija	število	2	8			10
		delež	1,9 %	1,3 %			1,2 %
	rentgen	število	7	28	0	5	40
		delež	6,7 %	4,6 %	0,0 %	5,3 %	4,8 %
	fizioterapija	število	2	6	0	3	11
		delež	1,9 %	1,0 %	0,0 %	3,2 %	1,3 %
upravne dejavnosti	število	4	9	12	77	102	
	delež	3,8 %	1,5 %	85,7 %	81,1 %	12,3 %	

VZ – vodje, zdravstvena dejavnost, VU – vodje, upravna dejavnost, ZZ – zaposleni, zdravstvena dejavnost, ZU – zaposleni, upravna dejavnost

Razpredelnica 2: Ocene zanesljivosti za lestvice skupnih dosežkov po treh sklopih

Sklop	Vodje skupaj			Zaposleni, zdravstvena dej.				Zaposleni, upravna dej.			
	$\alpha$	Trditve	N	Sklop	$\alpha$	Trditve	N	Sklop	$\alpha$	Trditve	N
1	0,681	8	111	1	0,778	8	568	1	0,812	8	110
2	0,829	15	81	2	0,842	15	508	2	0,856	15	99
3	0,684	2	114	3	0,779	2	611	3	0,834	2	117

1 – obvladovanje tveganj, 2 – izboljševanje kakovosti, 3 – varnost pacientov,  $\alpha$  – Cronbachov  $\alpha$ , N – število anketirancev z odgovori na vse trditve v sklopu

## Statistična obdelava podatkov

Za vse obravnavane postavke smo izdelali frekvenčne porazdelitve in izračunali ustrezne vrednosti opisne statistike. Za vse sklope postavk razen za prvega (splošni podatki o anketirancu) smo izračunali in analizirali tudi skupne dosežke. Zanesljivost z vidika notranje skladnosti smo pri skupnih dosežkih preverili s Cronbachovim koeficientom  $\alpha$ . Za vsak skupni dosežek smo izvedli dvosmerno analizo variance (ANOVA) z dejavnostjo (zdravstvena ali upravna dejavnost) in položajem anketiranega (vodja ali zaposleni). Medsebojno povezanost skupnih dosežkov po sklopih smo analizirali s Pearsonovim korelacijskim koeficientom. Povezanost demografskih značilnosti s skupnimi dosežki po sklopih smo analizirali z multiplo linearno regresijo. Statistična značilnost je bila pri  $p < 0,05$ .

### Razpredelnica 3: Rezultati trditev za vodje o varnosti

	N	1	2	3	4	5	PV	SD
<b>Vodje v zdravstveni dejavnosti</b>								
Trditev 1	104	1,9 %	4,8 %	18,3 %	<b>43,3 %</b>	31,7 %	3,98	0,93
Trditev 2	105	17,1 %	<b>36,2 %</b>	23,8 %	16,2 %	6,7 %	2,59	1,15
<b>Vodje v upravni dejavnosti</b>								
Trditev 1	14	7,1 %	0,0 %	<b>42,9 %</b>	28,6 %	21,4 %	3,57	1,09
Trditev 2	14	14,3 %	<b>50,0 %</b>	28,6 %	7,1 %	0,0 %	2,29	0,83

Trditev za vodje 1: Vsi zaposleni na oddelku/enoti/sluzbi so seznanjeni s kulturo neobtoževanja posameznika ali skupine, ko pride do varnostnega incidenta (napake; v nezdravstveni dejavnosti).

Trditev za vodje 2: Na oddelku/enoti/sluzbi, ki jo vodim, nikdar ne pride do varnostnega incidenta (napake; v nezdravstveni dejavnosti). N – število odgovorov, PV – povprečna vrednost na lestvici od 1 do 5, SD – standardna deviacija

Pri vodjih upravne dejavnosti je bil najpogostejši odgovor na trditev, da na oddelku/enoti/sluzbi nikdar ne pride do napake, *sploh se ne strinjam* (50,0 %; PV=2,29, SD=0,83). Nihče od vodij upravne dejavnosti ne trdi, da nikdar ne pride do napake.

Podobni odgovori, da na oddelku/enoti/sluzbi nikdar ne pride do varnostnega incidenta, so bili pri zaposlenih v zdravstveni dejavnosti. Pri zaposlenih v

## Rezultati

Do dveh trditev na področju varnosti pacientov so se anketiranci opredeljevali na lestvici od 1 do 5 (1 – *sploh se ne strinjam*, 5 – *popolnoma se strinjam*).

Najpogostejši odgovor vodij zdravstvene dejavnosti glede trditve, da so vsi zaposleni seznanjeni s kulturo neobtoževanja posameznika ali skupine (Razpredelnica 3, trditev 1), je *večinoma se strinjam* (43,3 %), povprečna vrednost (PV) je 3,98, standardna deviacija (SD) je 0,93. Pri trditvi 2 (Razpredelnica 3), da na oddelku/enoti/sluzbi nikdar ne pride do varnostnega incidenta, je bil najpogostejši odgovor *se ne strinjam* (36,2 %, PV=2,59, SD=1,15). Zanimivo je, da se 22,9 % vodij *večinoma* ali *popolnoma strinja*, da se napake na njihovih enotah ne dogajajo.

zdravstveni dejavnosti je bil najpogostejši odgovor *se ne strinjam* (35,4 %), pri zaposlenih v nezdravstveni dejavnosti prav tako (38,1 %), in sicer z nizkimi povprečji pri obeh skupinah.

Zaposleni v zdravstveni dejavnosti se v 15,8 % *večinoma* ali *popolnoma strinjajo*, da se napake ne dogajajo, zaposleni v upravni dejavnosti pa le v 15,3 %. Rezultati so prikazani v Razpredelnici 4.

### Razpredelnica 4: Rezultati trditev zaposlenih o varnosti pacientov

	N	1	2	3	4	5	PV	SD
<b>Zaposleni v zdravstvu</b>								
Trditev 1	640	5,3%	12,2%	<b>40,2%</b>	26,9%	15,5%	3,35	1,05
Trditev 2	632	20,9%	<b>35,4%</b>	27,8%	12,2%	3,6%	<b>2,42</b>	1,06
<b>Zaposleni v upravni dejavnosti</b>								
Trditev 1	119	11,8%	11,8%	<b>38,7%</b>	25,2%	12,6%	3,15	1,15
Trditev 2	118	28,8%	<b>38,1%</b>	17,8%	13,6%	1,7%	<b>2,21</b>	1,06

Trditev za zaposlene 1: Ko pride do varnostnega incidenta (napake; v nezdravstveni dejavnosti), vodje ne obtožujejo posameznika, ampak se osredotočijo na sistem/proces, kjer je prišlo do varnostnega incidenta (napake; v nezdravstveni dejavnosti). Trditev za zaposlene 2: Na oddelku/enoti/sluzbi nikdar ne pride do varnostnega incidenta (napake; v nezdravstveni dejavnosti). N – število odgovorov, PV – povprečna vrednost na lestvici od 1 do 5, SD – standardna deviacija

Razpredelnica 5: Rezultati posameznih trditvev za vodje in zaposlene z analizo variance med skupinama

Trditve po sklopih: vodje / zaposleni	Vodje				Zaposleni			
	Zdravstvena dejavnost (N = 105)		Upravna dejavnost (N = 14)		Zdravstvena dejavnost (N = 649)		Upravna dejavnost (N = 121)	
<b>Obvladovanje tveganj</b>	Dvosmerna analiza variance za skupne dosežke: <i>položaj (vodja : zaposleni), p&lt;0,001</i> <i>dejavnost (zdravstvo : uprava), p=0,834</i>							
	DA	%	DA	%	DA	%	DA	%
Imam izdelan letni načrt sistematične analize možnih napak in njihovih posledic za procese, ki bi lahko povzročile škodo za paciente ali osebje. / <i>Vodja me je seznanil z letnim načrtom sistematične analize možnih napak in njihovih posledic za procese, ki bi lahko povzročile škodo za paciente ali osebje.</i>	38	37,3 %	7	50,0 %	286	45,5 %	51	43,2 %
V zadnjem letu sem organiziral usposabljanje osebja za uporabo sistema analiziranja možnih napak in njihovih posledic. / <i>V zadnjem letu sem se usposabljal za uporabo sistema analiziranja možnih napak in njihovih posledic.</i>	30	29,7 %	6	42,9 %	159	25,3 %	36	30,5 %
Poskrbim za uvajanje izboljšav sistema ali procesa, kjer smo z analizo odkrili latentne napake. / <i>V zadnjih šestih mesecih sem sodeloval pri uvajanju izboljšav sistema ali procesa, kjer smo z analizo odkrili latentne napake.</i>	85	81,0 %	10	71,4 %	144	22,9 %	47	39,5 %
Na oddelku/enoti/službi vodim ali organiziram analizo vsakega varnostnega incidenta pri pacientih (zdravstvene napake). / <i>V zadnjih šestih mesecih sem sodeloval pri najmanj eni analizi varnostnega incidenta pri pacientu (zdravstveni napaki), ki se je zgodil na našem oddelku/enoti/službi.</i>	83	81,4 %	7	50,0 %	216	34,5 %	54	45,4 %
Poročila o varnostnih incidentih pri pacientih pošiljam v bolnišnični sistem varnosti pacientov. / <i>Poročila o varnostnih incidentih pri pacientih (zdravstvenih napakah) oddelek/enota/služba pošilja v bolnišnični sistem varnosti pacientov.</i>	66	66,7 %	6	42,9 %	355	60,9 %	49	43,8 %
S poročilom o analizi seznanjam vrhnje vodstvo in vse osebje oddelka, kjer je prišlo do varnostnega incidenta (napake). / <i>Predstojnik/vodja nas seznanja s poročili o varnostnih incidentih, ki so se zgodili na našem oddelku/enoti/službi.</i>	86	84,3 %	11	78,6 %	416	66,9 %	85	71,4 %
Poskrbim za uvajanje izboljšave sistema ali procesa, kjer je prišlo do varnostnega incidenta. / <i>Sodelujem pri uvajanju izboljšav sistema ali procesa, kjer je prišlo do varnostnega incidenta (napake).</i>	92	88,5 %	13	92,9 %	267	42,9 %	51	43,2 %
V zadnjem letu sem organiziral usposabljanje osebja za ravnanje ob varnostnih incidentih. / <i>V zadnjem letu sem se najmanj enkrat usposabljal za uporabo sistema za ravnanje ob varnostnih incidentih pri pacientih (zdravstvenih napakah).</i>	33	32,4 %	/	/	194	31,4 %	/	/

Razpredelnica se nadaljuje



Trditve po sklopih: vodje / zaposleni	Vodje				Zaposleni			
<b>Izboljševanje kakovosti zdravstvene obravnave</b>	Dvosmerna analiza variance za skupne dosežke: <i>položaj (vodja : zaposleni), p&lt;0,001</i> <i>dejavnost (zdravstvo : uprava), p=0,150</i>							
V bolnišnici je uveden formalni sistem vodenja kakovosti. / V bolnišnici je uveden formalni sistem vodenja kakovosti.	91	87,5 %	12	85,7 %	466	76,9 %	87	73,1 %
Na oddelku/enoti/sluzbi sem imenoval vodjo za razvoj kakovosti in varnosti zdravstvene prakse. / Na oddelku/enoti/sluzbi je vodja za razvoj kakovosti in varnosti zdravstvene prakse.	60	58,8 %	5	35,7 %	353	57,7 %	57	48,3 %
Vpeljal sem splošne standarde zdravstvene obravnave za bolnišnice. / Za uspešno delo pri vsakdanjem delu uporabljam splošne standarde zdravstvene obravnave za bolnišnice.	59	60,2 %	6	46,2 %	503	80,5 %	60	55,0 %
Na oddelku/enoti/sluzbi pripravim letni načrt uvajanja kliničnih poti, kazalnikov kakovosti in presoje (samoocenjevanje) zdravstvene prakse. / Vodja me je seznanil z letnim načrtom uvajanja kliničnih poti, kazalnikov kakovosti, presoje (samoocenjevanja) zdravstvene prakse in drugih orodij kakovosti.	63	63,0 %	7	53,8 %	325	52,8 %	52	44,4 %
Skupaj s timom uvajamo klinične smernice, oblikujemo in uvajamo klinične poti, protokole, algoritme, pravila, opomnike in navodila za izvajanje zdravstvene prakse. / V zadnjih šestih mesecih sem sodeloval pri uvajanju ali oblikovanju najmanj enega od naštetih orodij: klinična pot, protokol, algoritem, pravilo, opomnik in navodila za izvajanje zdravstvene prakse.	91	87,5 %	11	84,6 %	209	33,4 %	52	43,7 %
Preverjam, ali se zdravstvena obravnava sklada s kliničnimi smernicami, kliničnimi potmi, standardi ali drugimi orodji, ki zagotavljajo na dokazih podprto zdravstveno obravnavo. / Moj neposredni vodja najmanj enkrat tedensko preverja moje delo glede skladnosti s kliničnimi smernicami, kliničnimi potmi, standardi ali drugimi orodji, ki zagotavljajo na dokazih podprto zdravstveno obravnavo.	89	88,1 %	12	85,7 %	235	38,2 %	44	37,3 %
Zagotavljam merjenje kakovosti oddelka/enote/sluzbe s ključnimi kazalniki. / Zbiram podatke o najmanj enem kazalniku kakovosti.	80	79,2 %	9	64,3 %	164	26,5 %	35	29,7 %
Na oddelku/enoti/sluzbi izboljšujemo procese na podlagi kazalnikov kakovosti in varnosti in na podlagi sprememb v našem delovnem okolju. / V zadnjih šestih mesecih sem najmanj enkrat sodeloval v timu pri izboljševanju procesa na podlagi kazalnikov kakovosti in varnosti ter na podlagi sprememb v našem delovnem okolju.	89	88,1 %	11	78,6 %	201	32,6 %	37	31,4 %
Zagotovim, da zdravstveni tim najmanj enkrat na tri mesece izvaja presojo (samoocenjevanje) lastne zdravstvene prakse. / V zadnjih šestih mesecih sem najmanj dvakrat sodeloval v timu pri presoji (samoocenjevanju) lastne zdravstvene prakse.	32	30,8 %	5	35,7 %	141	22,9 %	20	16,9 %

Razpredelnica se nadaljuje

Trditve po sklopih: vodje / zaposleni	Vodje				Zaposleni			
Podatke o presoji (samoocenjevanju) zdravstvene prakse timov pošiljam v podatkovno bazo bolnišnice. / <i>Oddelek/enota/slужba, kjer delam, pošilja podatke o presoji (samoocenjevanju) zdravstvene prakse timov v podatkovno bazo bolnišnice.</i>	27	26,5 %	6	42,9 %	223	39,5 %	39	34,2 %
V zadnjih šestih mesecih sem najmanj enkrat vodil ali organiziral usposabljanje o presoji (samoocenjevanju) zdravstvene prakse na oddelku/enoti/ službi. / <i>V zadnjih šestih mesecih sem se najmanj enkrat usposabljal za presojo (samoocenjevanje) zdravstvene prakse na oddelku/enoti/slужbi.</i>	26	24,8 %	3	21,4 %	113	18,3 %	30	25,4 %
V zadnjih šestih mesecih smo najmanj enkrat spremenili način dela z vpeljavo najboljše prakse s pomočjo primerjave rezultatov lastne prakse timov (samoocenjevanja) s praksami drugih, doma in v tujini. / <i>V zadnjih šestih mesecih smo na oddelku/enoti/slужbi najmanj enkrat spremenili način dela z vpeljavo najboljše prakse s pomočjo primerjav lastne prakse timov s praksami drugih, doma in v tujini.</i>	59	57,8 %	6	42,9 %	215	35,2 %	28	24,1 %
Poskrbim, da pri razpravi o kliničnih problemih ne prevladuje samo ena poklicna skupina. / <i>Pri razpravi o problemih sodelujem enakovredno, v razpravi niso aktivni samo posamezniki ene poklicne skupine.</i>	86	85,1 %	6	46,2 %	367	59,2 %	36	30,8 %
Zapisana imamo pravila za koordinacijo oddelka z drugimi bolnišnicami, primarnim zdravstvom in socialnimi ustanovami, da se zagotovi nemotena in nepretrgana zdravstvena obravnava pacienta. / <i>Poznam pravila za koordinacijo oddelka z drugimi bolnišnicami, primarnim zdravstvom in socialnimi ustanovami, da se zagotovi nemotena in nepretrgana zdravstvena obravnava pacienta.</i>	61	59,8 %	11	78,6 %	288	46,6 %	34	29,6 %
V zadnjih šestih mesecih sem najmanj enkrat sodeloval pri izboljševanju organizacije zdravstvene obravnave, ki zadeva več kot en oddelek/enoto/slужbo. / <i>V zadnjih šestih mesecih sem najmanj enkrat sodeloval pri izboljševanju organizacije zdravstvene obravnave, ki zadeva več kot en oddelek/enoto/slужbo.</i>	56	65,9 %	/	/	137	22,3 %	/	/

Rezultati trditve obeh spremenljivk so prikazani v Razpredelnici 5. Opisna statistika za skupne dosežke obeh spremenljivk je prikazana v Razpredelnici 6. Vodje zdravstvene dejavnosti kot dobre ocenjujejo svoje kompetence na področju obvladovanja tveganj (PV=67,3, SD=24,7) in nenehnega izboljševanja kakovosti (PV=62,8, SD=22,7). Rezultati pri vodjih upravne dejavnosti so podobni za obvladovanje tveganj (PV=61,2, SD=32,4) in za nenehno izboljševanje kakovosti (PV=57,2, SD=30,3).

V povprečju 37,5 % zaposlenih v zdravstveni dejavnosti ocenjuje, da se udeležujejo aktivnosti na področju obvladovanja tveganj (SD=29,9) in v povprečju 40 % jih tako ocenjuje aktivnosti na področju nenehnega izboljševanja kakovosti (SD=25,9). Podobno velja za zaposlene v upravni dejavnosti

(PV=45,6, SD=42,9).

Statistične razlike pri obeh spremenljivkah so le med vodji in zaposlenimi, medtem ko jih znotraj poklicnih skupin ni.

Pri nobenem od sklopov nismo ugotovili statistično značilnih razlik v povprečnih skupnih dosežkih glede na zdravstveno in upravno dejavnost. Pri obeh sklopih rezultati pokažejo statistično značilne razlike med vodji in zaposlenimi, ki v povprečju znašajo okoli 10 točk na pretvorjeni lestvici. Pri nobenem od skupnih dosežkov učinek interakcije ni statistično značilen, kar pomeni, da se pravzaprav enaka razlika pojavlja tako znotraj zdravstvene kot znotraj upravne dejavnosti (interakcije pri obvladovanju tveganj  $p=0,255$ ; interakcije pri izboljševanju kakovosti zdravstvene obravnave  $p=0,977$ ).

Razpredelnica 6: Opisne statistike za skupne dosežke v sklopih menedžment tveganj in izboljševanje kakovosti

Skupina	Sklop	Obvladovanje tveganj	Izboljševanje kakovosti zdravstvene obravnave
Vodje v zdravstveni dejavnosti	N	105	105
	PV	67,3	62,8
	SD	24,7	22,7
Vodje v upravni dejavnosti	N	14	14
	PV	61,2	57,2
	SD	32,4	30,3
Zaposleni v zdravstveni dejavnosti	N	641	640
	PV	37,5	40,0
	SD	29,9	25,9
Zaposleni v upravni dejavnosti	N	120	121
	PV	45,6	37,4
	SD	42,9	35,7

N – število odgovorov, PV – povprečna vrednost, SD – standardna deviacija

Razpredelnica 7: Korelacijska analiza med spremenljivkama menedžment tveganj in izboljševanje kakovosti

Vodje	Menedžment tveganj	Izboljševanje kakovosti
Menedžment tveganj	1	0,495**
Izboljševanje kakovosti		1
Zaposleni v zdravstveni dejavnosti	Menedžment tveganj	Izboljševanje kakovosti
Menedžment tveganj	1	0,634**
Izboljševanje kakovosti		1
Zaposleni v upravni dejavnosti	Menedžment tveganj	Izboljševanje kakovosti
Menedžment tveganj	1	0,658**
Izboljševanje kakovosti		1

\*\* Pearsonov korelacijski koeficient  $r$ ;  $p < 0,001$

Korelacijska analiza med skupnimi dosežki po sklopih pokaže statistično značilno pozitivno povezanost med vsemi sklopi na ravni  $p < 0,001$ , in sicer tako za vodje kot za zaposlene. Po pričakovanju so sklopi med seboj v splošnem zmerno pozitivno povezani, a pri vodjih bistveno manj kot pri zaposlenih. Rezultati so prikazani v Razpredelnici 7.

Povezanost skupnih dosežkov po sklopih z značilnostmi anketiranja je povzeta v Razpredelnici 8. Pri obeh sklopih je najizrazitejši napovedni dejavnik položaj (vodja ima za razred višji pričakovani dosežek od zaposlenega z enakimi ostalimi lastnostmi). Iz Razpredelnice 8 je razvidno, da so vodje področja obvladovanja tveganj ocenili bolje kot zaposleni ( $p < 0,001$ ), bolje osebje z doktoratom kot osebje s srednješolsko izobrazbo ( $p = 0,042$ ), boljše vodje oziroma zaposleni v zdravstveni negi kot drugi ( $p = 0,044$ ). Področje nenehnega izboljševanja kakovosti so višje ocenili vodje kot zaposleni ( $p < 0,001$ ) in boljše osebje z doktoratom kot osebje s srednješolsko izobrazbo ( $p = 0,007$ ). Tako za področje obvladovanja tveganj kot za področje nenehnega izboljševanja kakovosti in varnosti med zdravstveno in upravno dejavnostjo ni statistično značilnih razlik. Vodje

oziroma zaposleni v zdravstveni negi imajo v primerjavi z ostalimi področji dela statistično značilno višje povprečne dosežke v obeh sklopih.

## Diskusija

Na področju varnosti pacientov raziskava pokaže pomembne razlike v mnenju vodij in zaposlenih, medtem ko razlik med poklicnimi skupinami ni. Ugotavljamo, da zaposleni menijo, da se pri reševanju varnostnega incidenta na oddelku osredotoča tako na proces kot tudi na obtoževanja posameznika. Prav tako raziskava pokaže, da se tako vodje kot zaposleni strinjajo, da na oddelkih, enotah, kjer delujejo, prihaja do varnostnih incidentov. Slednje je pomemben podatek za razumevanje razvoja kulture odkrivanja in zaznavanja napak v zdravstvu in kaže na pozitivne premike glede na raziskavo, izvedeno leta 2006 v sedemindvajsetih slovenskih bolnišnicah, ko so bile ugotovljene tudi poklicne subkulture ter napačno razumevanje avtonomije posameznika (Robida et al., 2007).

Razpredelnica 8: Rezultati multiplih linearnih regresijskih analiz za napovedovanje skupnih dosežkov po sklopih na podlagi značilnosti anketiranega

Sklop	Značilnost	<i>b</i>	SE <sub><i>b</i></sub>	β	<i>p</i>
<b>Menedžment tveganj</b> (R <sup>2</sup> = 0,09)	Dejavnost (upravna : zdravstvena)	50,185	40,295	0,058	0,228
	Položaj (vodja : zaposleni)	220,537	30,703	0,267	<0,001
	Starost (leta)	-0,067	0,258	-0,022	0,794
	Spol (Ž : M)	0,515	30,057	0,007	0,866
	Leta zaposlitve	0,148	0,246	0,049	0,548
	Število podrejenih (vodje) oz. zaposlenih (zaposleni)	0,006	0,032	0,007	0,858
	Stopnja izobrazbe (srednja-doktorat)	20,426	10,190	0,104	0,042
	Področje dela – medicina (da : ne)	-50,258	40,547	-0,058	0,248
	Področje dela – zdravstvena nega (da : ne)	70,155	30,547	0,114	0,044
	Izobraževanje (da : ne)	30,391	20,543	0,055	0,183
<b>Izboljševanje kakovosti</b> (R <sup>2</sup> = 0,09)	Dejavnost (upravna : zdravstvena)	-60,402	30,784	-0,081	0,091
	Položaj (vodja : zaposleni)	150,138	30,246	0,204	<0,001
	Starost (leta)	-0,063	0,227	-0,023	0,783
	Spol (Ž : M)	-0,351	20,679	-0,005	0,896
	Leta zaposlitve	0,030	0,217	0,011	0,892
	Število podrejenih (vodje) oz. zaposlenih (zaposleni)	0,045	0,028	0,060	0,108
	Stopnja izobrazbe (srednja-doktorat)	20,815	10,038	0,138	0,007
	Področje dela – medicina (da : ne)	-20,677	30,998	-0,034	0,503
	Področje dela – zdravstvena nega (da : ne)	30,986	30,148	0,072	0,206
	Izobraževanje (da : ne)	20,735	20,223	0,050	0,219

*b* – regresijski koeficient, SE<sub>*b*</sub> – standardna napaka regresijskega koeficienta, β – standardizirani regresijski koeficient; osenčeni so statistično značilni napovedni dejavniki, R<sup>2</sup> – povprečje vseh skupnih dosežkov

Močno subkulturo znotraj poklicnih skupin pokaže tudi raziskava, ki so jo izvedli Skela Savič in ostali leta 2005 (Skela Savič, Pagon, Robida, 2007). V raziskavi, predstavljeni v pričujočem članku, različnost znotraj poklicnih skupin ni statistično značilna, saj med poklicnimi skupinami ne ugotavljamo razlik glede na proučevane spremenljivke, kar pomeni, da so mnenja zaposlenih ne glede na poklicno skupino dokaj poenotena. Pomembno je, da je še vedno 22,3 % v raziskavo vključenih vodij v zdravstveni dejavnosti mnenja, da na njihovih oddelkih do napak ne prihaja, medtem ko je takega mišljenja le 7 % vodij v upravni dejavnosti, kar kaže na različnost razumevanja in dojemanja varnostnih incidentov na vodstveni ravni. Pri zaposlenih v zdravstvu je mnenje, da napak ni, nižje (15,8 %), podobno je pri zaposlenih v upravni dejavnosti. Rezultati pokažejo, da je zavedanje

prisotnosti varnostnih incidentov in napak višje pri zaposlenih v zdravstvu kot pri njihovih vodjih. Le-to skupaj z neupravičenim obtoževanjem posameznikov za varnostni incident kaže na raven kulture varnosti pacientov, ki jo je pokazala tudi pilotna študija o kulturi varnosti pacientov v treh splošnih bolnišnicah (Robida, 2011).

Rezultati na področju obvladovanja tveganj pokažejo statistično značilne razlike med mnenji vodij in zaposlenih. Na področju zdravstvene dejavnosti ugotavljamo, da ima le dobra tretjina vodij izdelan načrt sistematične analize možnih napak in njihovih posledic za procese. Le ena tretjina vodij na letni ravni usposablja zaposlene za uporabo sistema analiziranja možnih napak in le ena četrtnina zdravstvenih delavcev meni, da so v zadnjih šestih mesecih sodelovali pri izboljšavah, če so ugotovili latentne napake. Mnenje

vodij je tukaj pomembno višje. Podobno raziskava pokaže pri reševanju varnostnih incidentov. Sporočanje varnostnih incidentov v bolnišnični sistem varnosti pacientov in poročanje o varnostnih incidentih sta ocenjena z več kot 60 %. Zaposleni so mnenja, da so le v manj kot polovici primerov varnostnih incidentov vključeni v uvajanje izboljšav. Prav tako le ena tretjina zaposlenih ocenjuje, da se enkrat letno usposablja na področju varnostnih incidentov. Ugotovimo, da vodje zdravstvene dejavnosti kot dobre ocenjujejo svoje kompetence na področju obvladovanja tveganj, zaposleni pa so statistično pomembno bolj kritični do dela vodij na tem področju. Rezultati o obvladovanju tveganj kažejo na nerazumevanje varnostnih incidentov in prevladujočo uporabo osebnega namesto sistemskega modela obravnave in preprečevanja varnostnih incidentov pri pacientih (Robida, 2009).

Rezultati na področju izboljševanja kakovosti zdravstvene obravnave pokažejo statistično značilne razlike med mnjenji vodij in zaposlenih. Na področju zdravstvene dejavnosti ugotavljamo, da je v večini v raziskavi sodelujočih bolnišnic uveden formalni sistem vodenja kakovosti. Polovica anketirancev odgovori, da je na oddelku imenovan vodja za razvoj kakovosti in varnosti zdravstvene prakse ter da se večinsko uporabljajo splošni standardi zdravstvene obravnave v bolnišnici. Ti standardi so bili oblikovani leta 2004, a nobena sodelujoča bolnišnica jih ne uporablja za samoocenjevanje, razen v delu spremljanja kazalnikov kakovosti (Robida 2004). Pokaže se slaba vključenost zaposlenih v pripravo kliničnih poti, protokolov, algoritmov idr. in slab nadzor vodij z vidika uporabe orodij, kot so klinične poti, standardi, pravila, navodila idr. Le ena četrtnina anketirancev zbira podatke o vsaj enem kazalniku kakovosti. Zaposleni so slabo vključeni v time za izboljševanje kakovosti na oddelku in izven, v presojo lastne zdravstvene prakse in se slabo izobražujejo za samoocenjevanje. Več kot polovica zaposlenih se strinja, da lahko enakovredno sodelujejo s člani drugih poklicnih skupin pri razpravi o problemih, kar je pomemben podatek glede na dve raziskavi o organizacijski kulturi, kjer so bili v ospredju hierarhični odnos in težave v timskem delu v slovenskih bolnišnicah (Yazbeck, 2004; Skela Savič, 2006; Skela Savič, 2007).

Raziskava pokaže, da v povprečju dobra tretjina zaposlenih v zdravstveni dejavnosti ocenjuje, da se udeležujejo aktivnosti na področju obvladovanja tveganj, in v povprečju dobra tretjina, da se udeležujejo aktivnosti na področju nenehnega izboljševanja kakovosti. Podobno mnenje so izrazili zaposleni v upravni dejavnosti. Pri obeh spremenljivkah rezultati pokažejo statistično značilne razlike med vodji in zaposlenimi, vodje svoje aktivnosti ocenijo mnogo bolje.

Korelacijska analiza med skupnimi dosežki po spremenljivkah pokaže statistično značilno

pozitivno povezanost med obvladovanjem tveganj in izboljševanjem kakovosti. Po pričakovanju so sklopi med seboj v splošnem zmerno pozitivno povezani, a pri vodjih bistveno manj kot pri zaposlenih.

Regresijska analiza pokaže, da so za spremenljivko obvladovanje tveganj statistično pomembni naslednji pojasnjevalni dejavniki: položaj, stopnja izobrazbe in področje dela, kjer imajo vodje oziroma zaposleni v zdravstveni negi v primerjavi z ostalimi področji dela statistično značilno višje povprečne dosežke v obeh sklopih. Regresijski model pokaže, da poklicna skupina zdravstvena nega pomembno bolj deluje razvojno na področju spremljanja kakovosti v zdravstvu. Statistično pomembni pojasnjevalni dejavniki za spremenljivko izboljševanje kakovosti zdravstvene obravnave sta položaj in stopnja izobrazbe.

Regresijski model izvedene raziskave izpostavi dva pomembna dejavnika: vlogo vodje in pomen izobraževanja zaposlenih v zdravstvu. Gregori s sodelavci (2009) poudarja, da je za uspešnost uvajanja celovitega upravljanja kakovosti ključna povezava med vodji in zaposlenimi. Sodelovanje je odvisno od značilnosti obojih. Znanja o celovitem upravljanju kakovosti ni mogoče uniformirati, le-to se namreč odraža v zmožnostih in sposobnostih razvoja zaposlenih. Palo in Padhi (2003) navajata, da morajo zaposleni vedeti, kaj so cilji, orodja in načrt uvajanja, imeti morajo znanja in biti usposobljeni za uvajanje ter biti aktivno vključeni v celoten proces priprave in uvajanja. Gregori s sodelavci (2009) pravi, da v ospredju ne sme biti samo kakovost storitev, temveč se je potrebno usmeriti tudi v potrebe zaposlenih.

Drugi pojasnjevalni dejavnik, ki ga izpostavi regresijski model, je vloga vodje. To je dejavnik, ki je bil v slovenskem zdravstvu že večkrat raziskovan (Skela Savič, Pagon, Lobnikar, 2004; Skela Savič, 2007; Skela Savič, Pagon, 2008a; Robida, Skela Savič, Trunk, 2007; Lorber, Skela Savič, 2011; Bregar, 2010; Filej et al., 2009). Raziskave so pokazale slabo usposobljenost vodij v zdravstvu. Mednarodne raziskave kažejo, da s pomočjo izobraževanja na področju vodenja vodje oddelkov postanejo bolj prepričani vase, samozavestnejši, pridobijo več komunikacijskih veščin, lažje oblikujejo in sprejemajo odločitve in lažje oblikujejo vizijo, poveča se njihova odgovornost za vodenje, opolnomočenje zaposlenih in jasnost delovnih nalog. Izboljševanje kliničnega vodenja vpliva tudi na k pacientu usmerjeno komunikacijo, kontinuiteto zdravstvene obravnave in medpoklicno sodelovanje (Dierckx de Casterlé et al., 2008). Karierni razvoj vodij v slovenskem zdravstvu je torej zelo pomemben. Dosedanje raziskave kažejo, da se ta sistem še vedno gradi na prepričanju »dober strokovnjak je dober vodja« (Skela Savič, 2002; Skela Savič, 2007; Skela Savič 2011a; 2011b).

Usposobljenost iz vodenja je pomembno povezana tudi z varnostjo pacientov in prevzemanjem



tveganja. Naša raziskava ne pokaže optimističnih rezultatov glede obvladovanja tveganj. Rezultati pregleda literature, ki sta jo opravila Richardson in Storr (2010), ter raziskave avtorjev Wong in Cummings (2007) opozorijo na značilno povezanost med pozitivno prakso v vodenju in zniževanjem pojavljanja neželenih dogodkov, kar se odraža v povečanju varnosti pacientov. Spence Laschinger in Leiter (2006) v prospektivni študiji ugotovita, da vodje igrajo temeljno vlogo v oblikovanju pogojev za izpolnjevanje delovnih obvez, s čimer je povezana varnost zdravstvene obravnave. Vogus in Sutcliffe (2007) ugotavljata, da je število neželenih dogodkov povezano z vodenjem, ki temelji na zaupanju, in z uporabo kliničnih poti. Pogostnost neželenih dogodkov v bolnišnicah, ki se končajo s smrtjo, se v Združenih državah Amerike giblje med 44.000 in 98.000 in približno polovico le-teh bi bilo mogoče preprečiti (Kohn, Corrigan, Donaldson, 2000). Ocena za nepotrebne smrti zaradi neželenih dogodkov za Slovenijo je med 400 in 900 na leto, približno polovica jih je posledica napak. Čeprav prenos podatkov iz drugih študij ni znanstven, menimo, da slovensko zdravstvo na tehničnem področju ni boljše od tistega v Združenih državah Amerike.

Raziskava pokaže, da bistvenega napredka pri udejanjanju varnosti pacientov in nenehnem izboljševanju kakovosti pri nas še ni, saj so rezultati podobni tistim iz leta 2006, ki so pokazali, da v bolnišnicah manjka sistematičen pristop k razvoju kakovosti in varnosti pacientov, da se večkrat pokažeta nerazumevanje načel kakovosti ter nedorečena komunikacija znotraj makro-, mezo- in mikrosistema (Robida et al., 2007). Za izboljšanje kakovosti zdravstvene obravnave in varnosti pacientov večji trud izvajalcev zdravstvene dejavnosti ne bo pomagal, pomagajo lahko le spremembe v kulturi in delovanju zdravstvenih organizacij in drugih izvajalcev zdravstvene dejavnosti. Tudi v bolnišnicah, kjer vzpostavljajo sistem kakovosti, osebje pogosto zaznava, da so programi za kakovost osredotočeni na vrhnje vodstvo, ki pove srednjemu menedžmentu, kaj naj naredi osebje oz. zdravstveni timi v mikrosistemu (Ham, 2003). Spremljanje in izboljševanje kakovosti mora biti zato sestavni del politike vodenja zdravstvenega zavoda. Odgovornost vodstva na vseh ravneh je, da z oblikovanjem ustreznih organizacijskih struktur zagotovi spremljanje kakovosti v vsakdanjem delu in z lastnim zgledom osebje spodbuja k sodelovanju. Prav tako mora vodstvo zdravstvene organizacije poskrbeti, da izboljševanje kakovosti poteka na osnovi zbiranja in analize podatkov ter na osnovi znanstvenih metod in načel (Skela Savič, 2010). Več materialnih virov velikokrat ne izboljša kakovosti. Ker menedžerji nimajo zadosti znanja za izboljševanje kakovosti in razvoj menedžerskih veščin, je eden izmed načinov, ki lahko pripelje do

vidnih izboljšav kakovosti in varnosti, izobraževanje vodij in zaposlenih na vseh nivojih (Guidance, 2008).

Kakor pri vsakem anketnem raziskovanju se tudi v pričujoči raziskavi najprej zastavlja vprašanje reprezentativnosti vzorca. Vprašalnik so prejeli vsi vodje v proučevanih bolnišnicah, izbor bolnišnic je bil namenski, izbor zaposlenih je bil presečen po principu kvotnega vzorca. Odziv se je med bolnišnicami tudi precej razlikoval, a namen študije ni bila primerjava med bolnišnicami, temveč slika stanja v vseh bolnišnicah skupaj. V prihodnosti je potrebno poglobljeno raziskovanje o pomenu srednjega menedžmenta za uspešnost in učinkovitost zdravstvene organizacije in zdravstva kot sistema.

## Zaključek

Raziskava je prva te vrste v državi. Potrdili smo že nekatera spoznanja na tem področju v slovenskem zdravstvu in v razvitem svetu, prav tako pa raziskava prinaša nova spoznanja na preučevanih področjih na nivoju srednjega menedžmenta v državi.

Z raziskavo smo ugotovili, da so kompetence srednjega menedžmenta v preučevanih bolnišnicah s področja izboljševanja kakovosti in obvladovanja tveganj slabo razvite, čeprav vodje zdravstvene in nezdravstvene dejavnosti razmeroma dobro ocenjujejo lastne kompetence. Slednje pa ni v skladu z udejanjanjem nenehnega izboljševanja kakovosti in varnosti pacientov v mikrosistemu, kjer se vsakodnevno dogajajo za paciente dobre in slabe stvari, saj se rezultati trditev vodij in zaposlenih statistično pomembno razlikujejo.

Rezultati raziskave podpirajo nadaljevanje podpore Ministrstva za zdravje zdravstvenim ustanovam z uvajanjem kakovosti in varnosti pacientov v celotnem zdravstvu, kar je pristop od zgoraj – navzdol, ki v je naših razmerah pripomogel vsaj k zavedanju o potrebnosti nenehnega izboljševanja kakovosti in varnosti zdravstvene obravnave, in sicer bolj pri medicinskih sestrah kot pri zdravnikih. Za kakovost in varnost zdravstvene obravnave so odgovorni vsi zaposleni, največ odgovornosti pa imajo direktorji bolnišnic, drugih zdravstvenih organizacij in drugih izvajalcev zdravstvene dejavnosti, da izvedejo dejanja, ki bi spremenila sedanji način izvajanja zdravstvene prakse v zdravstveno prakso, kjer bi bil pacient v središču, kjer bi se dosledno uporabljala na dokazih podprta zdravstvena praksa, kjer bi delo potekalo v večpoklicnih in večdisciplinarnih timih, kjer bi se nenehno izboljševala kakovost zdravstvene obravnave, zmanjševale zdravstvene napake in uporabljala informacijska tehnologija.

Srednjemu menedžmentu zdravstvene organizacije naj bo omogočeno načrtovano in sistematično pridobivanje in izvajanje kompetenc ter razvoj sposobnosti za izpolnitev nalog s področja kakovosti

in varnosti. Zagotovi naj se mu več časa za vodenje mikrosistemov na področju kakovosti in varnosti, več usmerjenih virov, izobraževanja in usposabljanja s področja kakovosti in varnosti v zdravstvu ter več podpore vrhnjega vodstva. Osebe v mikrosistemi najboljše pozna vsakodnevne probleme na svojih delovnih mestih in je zato najbolj poklicano za njihovo reševanje, a brez usposabljanja za uporabo orodij kakovosti in varnosti pacientov optimalnih rešitev ne bo moč doseči.

**Opomba:** V članku je predstavljen manjši del rezultatov obsežnejše raziskave »Opredelitev znanj in kompetenc za srednjo upravljavsko raven v bolnišnici«. Raziskava je bila financirana s strani Ministrstva za zdravje (Pogodba Ministrstvo za zdravje št. C2711-07Y000217). Odgovornost za izvedbo raziskave je prevzel Mednarodni inštitut za razvoj menedžmenta v zdravstvu (IIHMD), raziskovalci so bili: dr. Andrej Robida, dr. Brigita Skela Savič in Aleš Trunk. Statistično obdelavo podatkov je izvedel dr. Gaj Vidmar. Raziskovalno poročilo o celotni raziskavi je evidentirano v sistemu COBIB.SI in dostopno na Ministrstvu za zdravje ter v knjižnici Visoke šole za zdravstveno nego Jesenice.

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