Izzivi prihodnosti / Challenges of the Future, Članek / Article
Februar, February 2019, leto / year 4, številka / number 1, str. / pp. 15-36.

Quality Indicators in Primary Healthcare

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Abstract:
Research Question (RQ): Which are the most commonly monitored and gaged quality indicators in primary healthcare?
Purpose: The purpose of this research is to study and research the grounds for quality indicators and measuring thereof in primary healthcare.
Method: For this research we used the method of existing knowledge on quality indicators in healthcare and on monitored quality indicators in primary healthcare by systematical review of existing literature. We used triangulation to ensure better understanding of the problem, check and confirm data, and thus ensure the integrity of the research
Results: Research showed the origin of quality indicators in primary healthcare and quality indicators which are measured by organizations in primary healthcare.
Organization: Primary healthcare organizations will get an overview over most commonly monitored quality indicators in primary healthcare and thus the possibility to compare success and efficiency.
Society: Data on measured quality indicators should be public. Users of primary healthcare services can choose the most successful healthcare organization based only on these data.
Originality: A systematical review of the most commonly monitored and measured quality indicators in primary healthcare.
Limitations/Future Research: The research is limited due to a smaller number of existing sources used and due to a smaller sample of interviewees. In the future it would be meaningful to research which quality indicators are measure by the majority of healthcare centers in Slovenia and establish a new model of monitored or obligatory quality indicators in primary healthcare based on the findings of this research. .

Keywords: quality, triangulation, healthcare, primary healthcare services, quality indicators.

1 Introduction

The safety of healthcare users in Slovene healthcare is often at risk. We are facing declinations of medical treatment, high costs of poor-quality health services, dissatisfactions of healthcare service users, inequality in accessibility to health services and long waiting periods.

The European Union requires that its member states establish and maintain systems for better patient safety. Numerous healthcare practitioners have already established quality management systems. They have established external assessment (audit) of their compliance with quality standards, self-assessment, monitoring of quality indicators and reporting on the later. Quality indicators should be public data because they enable primary healthcare users

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Prejeto: 29. november 2018; revidirano: 1. december 2018; sprejeto: 15. december 2018. /
Received: November 29, 2018; revised: December 1, 2018; accepted: December 15, 2018.

and doctors to choose among healthcare service practitioners and enable doctors to monitor their success and efficiency with regards to goals set in plans and to take necessary measures in case of adverse events. The definition of primary healthcare quality indicators is not uniform and they cannot be found among public data, which consequently leads to inability to compare individual healthcare institutions.

It is generally known that "What's not being measured cannot be improved." If a quality indicator cannot be or is not being measured than there is no possibility of improvement. The most important quality indicator for patients is the result of medical treatment. Quality indicators should be measured based on existing data since this would not impose additional workload on healthcare workers.

With this purpose the method of balanced quality indicators was introduced. In 2010 the Manual on Quality Indicators (Priročnik o kazalnikih kakovosti) in healthcare was drafted, which defines 73 quality indicators, 18 of which were intended for primary healthcare. However, these proved to be useless for primary healthcare level and are not defined as quality indicators by practitioners, who collect these data only to draw up reports for the National Institute of Public Health (Nacionalni inštitut za javno zdravje).

The purpose and goal of this article is to define the origin of quality in healthcare and to determine which quality indicators are most frequently monitored by healthcare practitioners at primary level in Slovenia.

2 Theoretical background

2.1 Background of quality indicator development in healthcare in Slovenia

The European Union requires its member states to fully monitor and coordinate quality. Member states of the World Health Organization have adopted the document HEALTH21 - Health for all in the 21st century. By 2010 all member states had to ensure quality systems for improving patient safety. This was based on high percentage of declinations of medical treatment, high costs of low-quality healthcare services, high costs of medical services, dissatisfaction of patients, long waiting periods, and inequality in accessibility to healthcare services (Ministry of Health, 2006, pp 19-20).

In 2001 documents Quality of Healthcare System in the Republic of Slovenia (Kakovost v sistemu zdravstvenega varstva Republike Slovenije) and the National Program of Healthcare in the Republic of Slovenia (Nacionalni program zdravstvenega varstva Republike Slovenije) were introduced in Slovenia, which determined that professionals shall develop in the manner of improving the quality of healthcare for the healthcare system to comply with wishes and needs of the population and efficient use of sources. As a result of incapability of reaching an agreement a national authority for quality in healthcare wasn't established. Consequently, in 2004 the Department for Quality and Safety (Oddelek za kakovost in varnost) was established within the framework of the Ministry of Health (Ministrstvo za zdravje, 2006, p 32).

Quality indicators can be defined as statistical or other measurable units, showing the quality of healthcare. In this perspective they (in-) directly show the successfulness of the healthcare units and subunits downright to the individual medical experts pursuing the goal of maintaining the positive health level. (Ministrstvo za zdravje, Robida, 2004, str. 1)

General healthcare quality indicators are those, which can be used for any given individual and for any given health condition. Clinical specific healthcare quality indicators, on the other hand, correspond to the non-specific clinical conditions. Process indicators correspond to specific processes, where critical control points should be established in order to collect the data or perform the measurements at these points. Outcome indicators care considered to be seen as current and future health condition of the individual patients in connection to the received treatment. (Ministrstvo za zdravje, Robida, 2004, str. 1)

In November 2010 the Manual on Quality Indicators (Priročnik o kazalnikih kakovosti) was published under the leadership of the Department for Quality and Safety at the Ministry of Health (Oddelek za kakovost in varnost pri Ministrstvu za zdravje). Healthcare practitioners should calculate quality indicators in order to have self-control over services in medical institutions. This way the the Health Insurance Institute of Slovenia -HIIS (Zavod za zdravstveno zavarovanje - ZZZS) would get information on efficient use of resources and patients would have the possibility to choose the best provider of healthcare services (Pribaković et al., 2010, pp 8–10).

Table 1: Comparison of the state of in healthcare in Slovenia between 2006 and 2016

	2006	2016
QIs in hospitals	6 quality indicators	76 quality indicators
Clinical paths	No	yes, 14 and more
Accreditation of hospitals	No	22 hospitals
Questionnaire on patients' experiences in hospitals	No	yes
Patient's rights	No increased attention	legislation
Supervisions of the National Commission for Prevention and Control of Hospital-Acquired Infections and the National Commission for Efficient Use of Antimicrobial Medicine	No	yes (5 audits yearly)
Warning adverse events	4 notifications	10 notifications in 9 months
Commissions for Quality and Safety in Hospitals	No	Yes
Council for Quality and Safety in Healthcare in the Republic of Slovenia	No	Yes
Project group for education on quality and safety in healthcare	No	Yes
e-support (prescriptions, appointments)	No	Yes
Evaluation of quality at primary level of healthcare	No	Partially by introducing referential outpatient clinics
Evaluation of quality of health services in old people's homes and other residential care institutions	No	No
Integrated treatment	yes (preparation of proposal for implementation)	Renewed increase of attention

According to *"10 Years of Quality Management in Slovene Healthcare, Experiences, Good Practice, Obstacles", Ministry of Health, Tušar et al., 9th Days of Angela Boškin, Journal, 2016, p 15" (»10 let vodenja kakovosti v slovenskem zdravstvu, izkušnje, dobre prakse, ovire«, Ministrstvo za zdravje, Tušar et al., 9. dnevi Angele Boškin, Zbornik prispevkov, 2016, str. 15.)*

2.2 Primary healthcare quality indicators in other countries

Kringos et al. (2010, pp 1-8) described the development of primary healthcare quality indicators, which enable trans-European comparison. The dimensions of primary healthcare are classified according to:

- Structure: quality indicators of managements, economic results and development of workforce,
- Processes: quality indicators of continuity, accessibility, integrity and coordination of primary healthcare services,
- Result of medical treatment: quality indicators of success and efficiency, fairness in health.

In 2014 a group of researchers (Rotar et al., 2014, pp 398–404) sent questionnaires to 30 OECD member states in order to find out which quality indicators of healthcare are being monitored and reported on. The results have shown that member states most frequently report on quality indicators of illnesses and quality indicators of healthcare system. The emphasis is

places mostly on quality indicators of cancer and patient treatment. Less common are countries' reports on quality indicators of patient safety and the least on quality indicators of medicine prescription. Reports on quality indicators of mental healthcare and patient's experience with ambulatory treatment are very rare. The main reason for differences among reporting on healthcare quality indicators lies in different organization of healthcare systems.

In their research Rusforth et al. (2015, pp 1–9) have emphasized that quality indicators are often nor measurable so when developing these quality indicators it is necessary to be careful not to include those quality indicators whose measurement would cause additional work for healthcare workers. They have determined 18 most important quality indicators, which focus only on chronical diseases and not on quality of these patients' treatments.

Brubakk et al. (2015, pp 2–8) have established that quality indicators are mainly monitored by healthcare institutions which are certified/accredited. Most commonly monitored quality indicators are: patient satisfaction, number of patients treated with medicine, accessibility do medical data, soundness (completeness) of medical records, completeness of perioperative records, markings of sick leave and evaluation of toilets in hospitals.

According to Saut et al. (2017, p 1–9) the main reasons for accreditation or certification are high costs of healthcare, adverse events, complexity of new technologies, ageing of population and quick spreading of transmissible diseases across the world.

Alameddine et al. (2015, pp 1–14) have conducted a research on willingness of healthcare workers to report on quality indicators in primary healthcare in Lebanon in cooperation with 105 primary level medical centers. Due to fear from sanctions doctors have most difficulties with regards to reporting on adverse events. On the other hand, nurses are complaining about lack of time for reporting on quality indicators, therefore, a restructuring would be useful since this would ensure nurses more time for reporting on quality indicators.

In their study Khampang et al. (2017, pp 1–10) have established that the development of quality indicators in primary healthcare based on clinical guidelines represents the basis for efficient implementation of medical programs and for better medical treatment results. A major problem in monitoring quality indicators is also data, since healthcare personnel forgets or does not have time to keep records on quality indicators. In addition, the information system does not enable monitoring of all desired data for quality indicators.

Croes et al. (2017, pp 1–15) already discuss the effect of better quality evaluations of primary healthcare services on competiveness of healthcare service providers on the market. The research proved that better evaluated quality indicators of healthcare services attract more patients which means that hospitals with higher quality assessments are far more competitive on the market.

3 Method

3.1 Data collection

We have reviewed expert and scientific writings on quality and quality indicators in healthcare systems in Slovenia and abroad with key word quality indicators in healthcare. We have researched monitored quality indicators in primary healthcare abroad, specified starting points for the development of quality in healthcare, therefore, we used a slightly older writings which explain the origin, purpose and development of quality and quality indicators in healthcare. We have reviewed data in financial reports of healthcare centers in Slovenia, which are public documents accessible in the websites of individual healthcare centers. We have combined a questionnaire and an interview in telephone conversations with quality management system administrators and checked the compliance of findings in five healthcare centers in Slovenia. The interviewees wanted to stay anonymous.

4 Results

4.1 Results 1 – The origin of quality in healthcare

The purpose of the quality indicators of healthcare success and patient safety is to encourage patient safety and continuously improve the quality of healthcare services. Hospitals will be able to compare themselves according to structure indicators, process quality indicators and the quality indicators of quality and patient experiences results (Ministry of Health, 2006, p. 8).

4.2 Results 2 – Monitored quality indicators in healthcare centers in Slovenia

Healthcare service is implemented at primary, secondary and tertiary level. Primary level healthcare comprises basic healthcare and pharmacy. Secondary level healthcare includes specialist's clinics and hospital services. Tertiary level of healthcare encompasses performing services of clinics, clinical institutes and other authorized healthcare institutions (Act on health services, Article 2).

In Slovenia healthcare centers are located according to HIIS regional units. There are regional units listed and number of healthcare centers in individual regional unit (RU).

1) RU Celje: 7;

2) RU Koper: 6;

3) RU Kranj: 1;

4) RU Krško: 3;

5) RU Ljubljana: 18;

6) RU Maribor: 5;

7) RU Murska Sobota: 4;

8) RU Nova Gorica: 4;

9) RU Novo Mesto: 4;

10) RU Ravne na Koroškem: 7. Vir: (HIIS, 2017, pp. 15-30)

Business reports of individual healthcare centers are published on their websites. Mandatory items of financial business reports are determined in *Instructions for the closure of accounts of state and municipal budget and methodologies for drawing up a report on achieved objectives and results of direct and indirect budget users (Navodilu o pripravi zaključnega računa državnega in občinskega proračuna ter metodologije za pripravo poročila o doseženih ciljih in rezultatih neposrednih in posrednih uporabnikov proračuna – Ur. L. RS, No. 12/01, with amendment*s). Reporting on quality indicators is not obligatory.

Table 2: Monitored QIs in healthcare centers in Slovenia

Healthcare center	Realization of working program	Waiting periods	Satisfaction of employees	Proportion of those included in e-health	Satisfaction of service users	No. of complaints	Financial indicators of business performance	Quality indicators
Ajdovščina	X	X			X		X	
Brežice	X						X	X*
Cerknica	X		X		X		X	
Črnomelj	X			X			X	
Dravograd	X			X			X	
Gorenjska	X						X	
Gornja Radgona	X						X	
Ilirska Bistrica	X			X			X	
Ivančna Gorica	X		X		X		X	
Izola	X						X	
Kamnik	X	X	X		X		X	
Koper	X				X	X	X	
Krško	X	X	X		X	X	X	
Lendava	X		X	X	X		X	
Litija	X	X		X			X	
Ljubljana	X		X		X	X	X	X
Nova Gorica	X		X		X		X	
Novo mesto	X		X		X		X	
Ormož	X						X	
Ptuj	X	X		X			X	
Slovenska Bistrica	X		X		X	X	X	
Total	21	5	9	6	11	4	21	2

Note: Data are taken from financial business reports of listed healthcare centers, which are publicly accessible data on websites of individual healthcare centers.
*Business report of Healthcare center Brežice mentions quality indicators , however, these are not specifically stated and measured.

4.3 Results 3 – Results of qualitative and quantitative research

The combination of a questionnaire and an interview was performed in five healthcare centers in Slovenia. These differ from each other according to the number of employees. They are located throughout Slovenia – from Pomurje region, Štajerska region and Central Slovenia to Gorenjska and Notranjska region.

The questionnaire includes 26 open and closed-type questions and is anonymous

Table 3: Data on questioned healthcare center

question/interviewee	1	2	3	4	5
Number of employees	107	905	1500	142	410
Certification	yes	yes	yes	yes	yes
Quality standard	ISO 9001:2015	ISO 9001:2015	ISO 9001:2015	ISO 9001:2015	ISO 9001:2015
Year of first certification	2010	2003	2012	2011	2014
No. of years of certification	8	15	6	7	3

Most common reason why an organization decided to initiate the procedure of certification:

Table 4: Reasons for the certification of a healthcare center

Number of reasons	Type of reason	Frequency of reason
1	Improvement of processes	4
2	Transparency Safe and high-quality patient treatment	4
3	Reputation of organization	3
4	Competitiveness on public tenders	2
5	Simplified documentation management	1
6	Efficiency of organization	1

Table 5: Acceptance of activities related to quality in healthcare

Interviewee	1	2	3	4	5
How the employees accept activities related to quality in healthcare?	It is better now, in the beginning they lacked motivation	Badly, because this represents additional work for them	Very well	Well	Positively

Table 6: Are there any individuals among the personnel who stand out in accepting activities related to quality?

Answer/interviewee	1	2	3	4	5	Total
Yes	Doctors	Doctors	Individuals			3
No				X	X	2
Total						5

Table 7:Do you measure quality indicators?

	1	2	3	4	5	Total
Yes	X	X	X	X	X	5
No						0

Table 8: Why did you decide to measure quality indicators?

Reason	Frequency
Improvements	4
Following trends	2
Standard requirement	2

The explanation of quality indicator definition to employees:

- Something that can help them improve their work.
- Result of work, which reflects the quality of undertaken work.
- Result of the work of employees who would like to improve their work or something that can prove the quality of their work.
- Quality indicator is an acceptable result of work.
- Quality indicators means that you provide services with as little personnel and time as possible according to expert guidelines and without errors.

Quality indicators measured by healthcare centers in Slovenia:

1 Patient satisfaction
2 Satisfaction of employees
3 Satisfaction of business partners
4 Number of complaints and praise
5 Waiting periods in specialized clinics
6 Number of non-conformities at external audit
7 Proportion of complaints related to stomatoprothetic products
8 Success in cardio- pulmonary resuscitation
9 Achieving average access time at interventions
10 Average time of patient treatment at emergency department
11 Realization of the plan of dental education and preventive
12 Realization of HIIS programs in individual practices
13 Proportion of preventive check-ups of children, pupils and young persons

14 Proportion of preventive check-ups od adults in reference clinics
15 Proportion of performed preventive check-ups of women
16 High-level of vaccination of pre-school children and pupils
17 Average time from the beginning of the appointment to the issuance of the result for urgent laboratory examination
18 Exclusive breast-feeding of newborns at the end of community nursing
19 Prescription of antibiotics according to professional guidelines in view of Slovene average
20 Number of diagnostically useless radiographs
21 Success of workshops on smoking cessation
22 Success of workshop related to body weight
23 Proportions of complaints related to supplies
24 Number of failures of individual appliances
25 Realization of the plan of trainings and education
26 Realization of the plan of preventive maintenance of monitoring-measuring devices
27 Measures after inspections
28 Timeliness of performed procedures of public procurement
29 Proportion of implemented annual interviews
30 Vehicle fuel consumption

Table 9: Manner of data collection for the purpose of measuring quality indicators

Answer/interviewee	1	2	3	4	5	Total
Routinely collected data	X	X	X	X	X	5
Manually collected data	X	X	X	X	X	5

Despite additional work due to manual data collection for the purpose of measuring quality indicators only one of the interviewed healthcare centers removed one of quality indicators. Other interviewed healthcare centers haven't removed any of the quality indicators due to additional work related to data collection.

When establishing quality indicators at organizations only one of five interviewed healthcare centers considered the guidelines from the Manual on quality indicators.

Table 10: Quality indicators from the Manual on quality indicators measured by organizations

Defined and measured quality indicator	1	2	3	4	5	Total
Proportion of vaccination against measles		X	X			2
Proportion of vaccination against diphtheria, tetanus and whooping cough		X	X			2
Proportion of vaccination against hepatitis B		X	X			2
Proportion of vaccination against influenza of persons older than 65			X			1
Incidence of measles						0
Incidence of whooping cough						0
Incidence of hepatitis B						0
Risk factors for cardiovascular diseases – coronary risk						0
Risk factors for cardiovascular diseases – cholesterol						0
Risk factors for cardiovascular diseases –blood pressure						0
Risk factors for cardiovascular diseases – normal BMI						0
Risk factors for cardiovascular diseases – moderately increased BMI						0
Proportion of smokers	X	X				2
Injuries with sharp objects – personnel		X	X	X	X	4

Table 11: Other data from the questionnaire

Statement/interviewee	1	2	3	4	5	Total
Reporting on quality indicators to the Ministry of Health						0
Feedback information to providers on quality indicators from the Ministry of Health						0
Categorization of quality indicators into process quality indicators, structure quality indicators and quality indicators of results						0
Recording and analysis of medical treatment declination		X				1
Recording and analysis of warning adverse events for the Ministry of Health			X		X	2
Achieving quality indicators goals	90-100%	80-90%	90%	90%	85%	
Increasing of goals	X	X	X	X	X	5
Time range of increasing goals	2–3 years	2–3 years	Once per year	Once per year	Once per year	
Introduction of Corrective actions based on quality indicators	X		X			2
Education on quality indicators	X	X	X	X		4
Monitoring of patient satisfaction	X	X	X	X	X	5
Monitoring of accessibility to healthcare services	X	X	X	X	X	5
Monitoring of employees' treatment of patients	X	X	X	X	X	5

None of the interviewed healthcare centers has categorized quality indicators into structure quality indicators, process quality indicators and quality indicators of medical treatment results. All five interviewed healthcare centers have classified the quality indicators only according to processes.

Table 12: Competitiveness of organizations based on quality indicators measuring

Answer/interviewee	1	2	3	4	5	Total
Yes			X		X	2
No	X					1
I don't know		X		X		2

5 Discussion

By 2010 the European Union member states had to establish healthcare systems which ensure high-quality healthcare services and patient safety. This resulted from bad medical treatment results, adverse events, high costs of low-quality healthcare services, dissatisfaction of service

users, long waiting periods in inequality in accessing healthcare services (Ministry of Health, 2006, pp 22–32)

Researches show that the monitoring of quality indicators increased at the secondary healthcare level. In 2006 only 6 healthcare centers monitored the indicators; in 2016 already 76 centers monitored the quality indicators. In this time numerous healthcare institutions have become certified or accredited. Healthcare centers have started to record quality assessment with the introduction of reference clinics (Ministry of Health, 9th Days of Angela Boškin, Tušar et al., 2016, p 15)

Our research shows that the Ministry of Health never required primary level healthcare to keep records and quality indicators. Most common reason for measuring quality indicators in healthcare centers according to the interviewees is the desire to make improvements in organizations, to follow trends and due to requirements of the international ISO 9001:2015 standard according to which all five interviewed healthcare centers are certified.

All five healthcare centers have defined all quality indicators they are measuring. However, only one of them used the *Manual on quality indicators (Priročnik o kazalnikih kakovosti),* the remaining four healthcare centers identified the manual as useless for the primary level of healthcare. Quality indicators in their organizations are not defined according to the manual. They collect data for quality indicators only due to the requirement of the *National Institute of Public Health (Nacionalni inštitut za javno zdravje)* to report data. Four of the interviewees mentioned that among all proposed quality indicators from the manual they only measure injuries with sharp objects of personnel, two healthcare centers measure also the proportion of vaccinations against measles, diphtheria, tetanus, whooping cough, hepatitis B and the proportion of smokers after attending the workshops for cessation of smoking.

Quality indicators in healthcare centers in Slovenia are not categorized according to structure, processes and medical treatment results. They are divided only according to processes. For all measured quality indicators the healthcare centers have defined goals which they achieve by 80-100%, which is why these are raised every 2 to 3 years.

»Kazalniki procesov kažejo ali delujejo skladno z določenim procesom – v procesu določimo kritične kontrolne točke, kjer bomo izvedli meritev ali zbrali podatke.« (Ministrstvo za zdravje. Robida, A., 2004, p 1)

Despite regular education on quality there are still some individuals among the personnel who do not accept activities related to quality with great enthusiasm. It was doctors who were exposed. Healthcare workers in majority of healthcare centers (4 questioned healthcare centers) accept these activities positively and well.

The interviewed healthcare centers listed following quality indicators as the most frequently measured quality indicators:

- Patient satisfaction,

- Satisfaction of healthcare workers,
- Satisfaction of business partners,
- Number of complaints and praise,
- Waiting periods in specialized clinics,
- Others, mentioned in table 4.3.7, are listed only by an individual healthcare center.

Data for quality indicator measurement are routinely or manually collected by all five healthcare centers. None of the healthcare centers has indicated to have measured quality indicators only based on routinely collected data. Only one of them has abandoned one of measured quality indicator due to additional work of manual data collection.

The reason for monitoring quality indicators is among others also the certification or accreditation of healthcare organizations according to quality standards. Certified or accredited institutions are thus much safer for patients and offer higher-quality healthcare services (Brubakk et al., 2015, pp 2–8).

Questioned healthcare centers most frequently listed following reasons for certification:

- Process improvement,
- Transparency of the institution,
- Safe and high-quality patient treatment and
- Reputation of the organization.

Healthcare institutions decide to get certification or accreditation mainly because of high costs in case of adverse events, complexity of technology, and ageing of the population (Saut et al, 2017, pp 1–9).

Alameddine et al. (2014, pp 1–14) have conducted a research in Lebanon on willingness of healthcare institutions to report on quality indicators. They have determined that doctors are not willing to report on adverse events since they are afraid of sanctions while nurses lack time for making reports.

The interviewed healthcare centers in Slovenia do not report on declinations of medical treatment and warning adverse events to the Ministry of Health since the later does not require them to submit such data.

Croes et al. (2017, pp 1–15) draw attention to the competitive meaning of quality indicators. Highly assessed quality indicators namely attract more patients, therefore the hospital with better results are proved to be more competitive on the market.

We have selected at least two healthcare centers from each HIIS regional unit and thus reviewed 21 healthcare centers' business reports. There are 55 healthcare centers in total in Slovenia.

Research shows that following data are most commonly presented in business reports:

- Realization of work program: all 21 healthcare centers,
- Waiting periods: 5 healthcare centers,
- Satisfaction of employees: 9 healthcare centers,
- Proportion of those included in e-health: 6 healthcare centers,
- Satisfaction of healthcare service users: 11 healthcare centers,
- Number of complaints and praise: 4 healthcare centers,
- Financial indicators: all 21 healthcare centers.

The obligatory items of financial business reports are prescribed in in *Instructions for the closure of accounts of state and municipal budget and methodologies for drawing up a report on achieved objectives and results of direct and indirect budget users - Ur. L. RS, No. 12/01, with amendments (Navodilu o pripravi zaključnega računa državnega in občinskega proračuna ter metodologije za pripravo poročila o doseženih ciljih in rezultatih neposrednih in posrednih uporabnikov proračuna – Uradni list RS, št. 12/01, s spremembami).* Quality indicators are not defined as an obligatory item, therefore they are mainly not included in business reports.

6 Conclusion

The European Union member states are obliged to establish healthcare systems, which enable highest possible quality of healthcare services and patient safety. Reasons for this are mainly high percentage of medical treatment declinations, high costs of poor treatment, dissatisfaction of healthcare service users, long waiting periods and inequality in access to healthcare services (Ministry of Health, 2006, pp 19–20).

Measuring quality indicators presents the basis for healthcare systems to determine their success and efficiency. Quality indicators must be measurable, given in absolute values and comparable among organizations and countries. Reporting on quality indicators and publication of the data will enable patients and doctors to choose healthcare service providers with best quality indicators, while insurance companies will get an insight into efficient use of resources. Healthcare centers in Slovenia do not publish data on measured quality indicators at national level. Therefore, there are no comparable data on quality indicators in primary healthcare since the Ministry of Health does not require reporting on quality indicators.

Since 2010 all healthcare service providers should monitor a smaller set of quality indicators (Kiauta et al., 2010, p 9). Researches show that all five interviewed healthcare centers in Slovenia measure quality indicators mainly in order to ensure improvements in organizations, to follow trends and due to requirements of ISO 9001:2015 standard.

Kringos et al. (2010, pp 1–8) have developed quality indicators for pan-European comparison at the level of three dimensions: structure, process and medical treatment results. After reviewing literature we can establish that in foreign countries the emphasis is placed in

particular on quality indicators of medical treatment results. They have one big disadvantage since there are numerous factors like patient's age, seriousness of illness, social and economic status etc. which have an impact on these quality indicators.

Lawton (2016, pp 1–15) has established that primary level healthcare monitors mainly following quality indicators of medical treatment results: avoiding risky prescription of asteroid medication, treatment of diabetes, treatment of hypertension, use of anticoagulation therapy.

The reason why the emphasis is placed on quality indicators of medical treatment results is probably the accessibility to routinely collected data. Data on chronical illnesses are regularly collected, while for other quality indicators it would be often necessary to subsequently enter the data into the information system, for which the healthcare workers do not have time. In addition, quality indicators of medical treatment results are not the most appropriate for measuring success since patients can affect the value of quality indicators with their way of life and numerous other factors.

According to the research the interviewed healthcare centers did not classify quality indicators into structure quality indicators, process quality indicators and quality indicators of medical treatment results. The quality indicators in these healthcare centers are identified according to processes.

Quality indicators are monitored mainly by institutions which are certified or accredited and are therefore safer for patients (Brubakk, 2015, pp 2–8). The reasons why organizations apply for accreditation or certification have already been identified by Saut (2017, pp 1–9). These are high costs of medical treatment and adverse events. In Slovenia the interviewed healthcare centers decided to get certification mostly due to the introduction of improvements in the organization, transparency of the institution and safe treatment of patients.

Alamedine et al. (2015, pp 1–14) have determined why data on quality indicators are not being reported on or why it is abandoned. Doctors fear to report on adverse events due to sanctions while nurses do not have time for making reports. Unfortunately, the Ministry of Health in Slovenia does not require primary healthcare to report on measured quality indicators despite the fact that they issued *the Manual on quality indicators*.

Consequently, it would be necessary to restructure workplaces with an employee who would be responsible for measuring quality indicators and reporting on them. At the same time, it is still likely in healthcare to accuse individuals of their mistakes without trying to find reasons in the system and introducing corrective measures. Data for measuring quality indicators in healthcare centers in Slovenia are collected both routinely and manually. However, despite the large amount of time necessary for manual data collection only one of the five healthcare centers has abandoned one of the measured quality indicators.

Croes et al. (2017, pp 1–15) already deals with competitive advantages of healthcare centers which monitor quality indicators. If organizations report on quality indicators and if these are published, the patient has the possibility to choose the institution with the best quality indicators. Consequently, such organization is in competitive advantage since there is a far bigger demand after its services.

Currently there is no model of monitoring quality indicators in primary healthcare, only a rough record of the state of measured quality indicators in primary healthcare based on five questioned healthcare centers, which is the scientific contribution of this article. This article will give guidance to authorities for quality with regards to quality development at primary level since this is the only way to achieve successful and efficient healthcare system operation. Consequently, doctors would refer fewer patients to the secondary level, which would shorten waiting periods, decrease medical treatment costs and improve equality in accessibility to healthcare services, which is an important contribution to the society. Individuals/patients will thus have more options to choose among healthcare practitioners with the best quality indicators.

The research is limited to public data of healthcare centers on monitored quality indicators and to a questionnaire with a smaller sample of interviewees. Therefore, it would be meaningful to upgrade the research by interviewing a larger sample of healthcare centers in Slovenia which actually measure quality indicators and to determine to which extent these quality indicators are similarly defined and comparable. Based on this it would be relevant to develop a unified model of advisable or obligatory monitored quality indicators at the primary level of healthcare, which would be recognized as an improvement tool by the primary level healthcare organizations.

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Povzetek:
Kazalniki kakovosti v primarni zdravstveni dejavnosti

Raziskovalno vprašanje (RV): Kateri so najpogosteje spremljani in merjeni kazalniki kakovosti v primarni zdravstveni dejavnosti.
Namen: Namen raziskovanja je preučiti in raziskati izhodišča in merjenje kazalnikov kakovosti v primarni zdravstveni dejavnosti.
Metoda: Uporabili smo metodo že obstoječega znanja o kazalnikih kakovosti v zdravstvu in spremljanih kazalnikih kakovosti v primarnem zdravstvu s sistematičnim pregledom obstoječe literature in z triangulacijo zagotovili boljše razumevanje problema, podatke preverili, potrdili in tako zagotovili celovitost raziskave.
Rezultati: Raziskava je pokazala izvor kazalnikov kakovosti v zdravstvu in katere kazalnike kakovosti merijo organizacije v primarni zdravstveni dejavnosti.
Organizacija: Organizacije iz primarne zdravstvene dejavnosti bodo dobile pregled nad najpogosteje spremljanimi kazalniki kakovosti v primarni zdravstveni dejavnosti in s tem možnost primerjave uspešnosti in učinkovitosti.
Družba: Merjeni kazalniki kakovosti bi morali biti javno dostopni podatki. Le na podlagi tega lahko uporabnik zdravstvenih storitev izbere najbolj uspešno zdravstveno organizacijo.
Originalnost: Sistematičen pregled najpogosteje spremljanih in merjenih kazalnikov kakovosti v primarni zdravstveni dejavnosti.

Omejitve/nadaljnje raziskovanje: Raziskava je omejena z manjšim številom obstoječih virov, ki so uporabljeni in z manjšim vzorcem anketiranih. V prihodnosti bi bilo smiselno raziskati, katere kazalnike kakovosti meri večina zdravstvenih domov v Sloveniji in na podlagi tega oblikovati nov model spremljanih ali obveznih kazalnikov kakovosti v primarni zdravstveni dejavnosti.

Ključne besede: kakovost, triangulacija, zdravstvo, primarna zdravstvena dejavnost, kazalniki kakovosti.