PUBLIC HEALTH INSTITUTE
OF THE REPUBLIC OF SRPSKA

PHIRS

Research "Introduction of safety and quality standards among private healthcare providers in the Republic of Srpska (Bosnia and Herzegovina)"

conducted under Technical Services Agreement with WHO (reference 2016/655027-1)

Report on the second round of data collection: self-administered anonymous postal survey of private healthcare providers

Report submitted to:

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Acronyms and abbreviations

ANOVA – analysis of variance

ASKVA – Agency for Certification, Accreditation and Healthcare Quality Improvement in Republic of Srpska

LSD – least significant difference

MoHSW – Ministry of Health and Social Welfare

n – number

PCA – principal component analysis

PHPs – private healthcare providers

RS – Republic of Srpska

RS HIF – Health Insurance Fund of Republic of Srpska

RS PHI – Public Health Institute of Republic of Srpska

SD – standard deviation

SPSS – Statistical Package for the Social Science

WHO ERC – World Health Organization's Research Ethics Review Committee

1. Introduction

The research “Introduction of safety and quality standards among private healthcare providers in the Republic of Srpska (BiH)” is conducted in period July 2015 – December 2017, with support by the Alliance for Health Policy and Systems Research. It is financed through the Technical Services Agreement, concluded between the World Health Organization and the Public Health Institute of Republic of Srpska (WHO reference number: 2016/655027-1).

The intervention studied under the research relates to the implementation of regulation (mandatory safety and quality standards) for private healthcare providers in the Republic of Srpska. The diffusion of innovation theory has been used as a conceptual framework on which the research is based. A mixed method approach has been used in designing the proposed research. Primary data, needed for hypotheses testing, are collected through (1) face-to-face semi-structured in-depth interviews (third quarter of 2015 and last quarter of 2016) and (2) self-administered postal survey (third quarter of 2016).

The report on the second round of data collection was prepared jointly by all members of the core research team (Dr Siniša Stević, Prof Budimka Novaković, Prof Severin Rakić and Jelena Niškanović, PhD Psychology). The report is to serve as a starting point for preparation of the policy brief for local stakeholders.

The report begins with provision of contextual information, necessary for understanding the position and roles of the private healthcare providers (PHPs) in the Republic of Srpska’s healthcare system (section 2), After positioning of the postal survey as part of the overall research design and implementation, the research methods are described (section 3). The report continues with presentation of response rates and overall survey results (section 4). Key survey findings are then disaggregated by type of private healthcare provider and the main differences among three types are presented (section 5). Within and cross case findings are then discussed in relation to the hypotheses (section 6) and the conclusion is drawn, taking into account the research question (section 7). Finally, taking into account the survey findings, the recommendations for local stakeholders and policy makers are revised (section 8).

2. Contextual information

The Republic of Srpska, is one of the constituent parts of Bosnia and Herzegovina (the others being the Federation of Bosnia and Herzegovina and the Brčko District of Bosnia and Herzegovina), which has its own legislative and executive functions and responsibilities, including those related to healthcare. This section provides an overview of contextual information, necessary for understanding position and roles of the private healthcare providers in the Republic of Srpska's healthcare system.

2.1 Legal framework

Government of the RS health system is centralized, with planning, regulation and management functions held by the Ministry of Health and Social Welfare (MoHSW). The *RS Law on Healthcare* [1], enacted in 2009, provided the legal framework for strengthening the structures and the processes in the establishment and improvement of safety and quality systems in healthcare. The Law equalized public and private health care providers in the health system, classifying all of them in a broad category of "health facilities". It was a significant change for a number of PHPs, as they needed to undergo a re-registration process to obtain valid registration at the MoHSW and valid court registration. In addition to accreditation (based on broader and more demanding quality standards and voluntary for providers), the Law introduced mandatory certification of both public and private healthcare providers. Through the certification process, the Agency for Certification, Accreditation and Health Care Quality Improvement (ASKVA) certifies that providers comply with safety standards in service provision. After the initial assessment, the ASKVA performs re-assessments of the providers every four years. The ASKVA makes annual plans with schedules for certification of both public and private health care providers. Based on the ASKVA's recommendation, the MoHSW verifies the completion of the certification process by issuing its certificate to individual healthcare providers. The purpose and importance of the certification process was influenced by amendments of the Law, enacted in 2015, which (1) opened up the possibility of partial certification of healthcare providers (by organizational units), (2) extended re-assessment cycle from four to seven years, (3) removed provision that certification of provider is a precondition for provision of health services and (4) adjusted the ASKVA's sources of financing.

It took about three years to move from "having the Law in place" to actual implementation of the certification process. The MoHSW issued two necessary bylaws in the year 2012. The *Rulebook on certification procedure and registry of certified providers* [2] provided the legal framework for the assessment procedure and described roles of the ASKVA and healthcare providers in the certification process. Through the *Rulebook on certification standards* [3], the MoHSW endorsed mandatory safety standards for different types of healthcare providers [4-6]. The certification standards have a parallel focus on patients' safety (e.g. enforcing implementation of measures for control of nosocomial infections), staff safety (e.g. enforcing measures for occupational health and safety) and environment protection (e.g. enforcing adequate disposal of medical waste). Amendments of the *Rulebook on certification standards* [3] provided a more precise scope of dental practices' standards in 2013, while the new version

of standards for pharmacies was enacted by the 2014 amendment. Not all of the requirements of the certification standards were new to PHPs. The standards included some of the legal requirements, which had previously existed in regulations, such as keeping medical records, medical waste management, safety at work and control of nosocomial infections.

There are three chambers of healthcare professionals in the RS, established by the *Law on Health Chambers* [7]: Pharmaceutical Chamber, Chamber of Dentists and Chamber of Medical Doctors. Chamber membership is mandatory for all healthcare professionals.

2.2 Roles of private healthcare providers

There are three types of non-state providers in the Republic of Srpska: (1) private healthcare providers, (2) complementary and alternative medicine providers and (3) non-governmental organizations. The private healthcare providers significantly contribute to service delivery in the RS, particularly at the primary healthcare level. Significant part of dental services for adult population is provided by private dental practices. With only a few public pharmacies, the network of private pharmacies assures access to different types of medicines and medical supplies. The number of private family medicine practices is still low and they serve less than 5% of the RS population. The number of private specialist practices and specialist centres has grown in the RS since the RS HIF started contracting with selected private sector specialists (e.g. paediatrics, gynaecologists, ENT, ophthalmologists, dermatologists), in order to ensure access to such services in rural areas of the RS.

Table 1. Private healthcare providers in the Republic of Srpska (June 2016)

Types of private healthcare providers	Number of providers in the MoHSW's registries	Number of certified proveiders	% of certified providers
Pharmacy	404	194	48%
Specialist Practice	97	32	33%
Dental Practice	173	5	3%

2.3 Other important stakeholders

The RS Health Insurance Fund (RS HIF) administers the mandatory health insurance scheme, in accordance with the RS *Law on Health Insurance* [8]. The Fund contracts services of both public and private healthcare providers. The following types of the PHPs have contracts with the RS Health Insurance Fund:

- private pharmacies (all private pharmacies have been allowed to enter into the contract with the RS HIF at the time of survey)
- selected private specialist practices (contracting with specialist practices commenced in 2010; the 5-years contracts with the practices started to be renewed in 2016)
- private family medicine practices,
- selected private specialist centres and
- selected private hospitals.

The RS HIF's annually enacted rulebook on principles, conditions and criteria for contracting did not recognise certification status as one of the contracting criteria in the period 2014-2016 [9-11]. The RS HIF does not contract services of private dental practices (provision of selected dental services is contracted with public primary healthcare centres instead).

The Public Health Institute (RS PHI) supported the certification process mainly because of its own commercial interests (having experience with the preparation of public healthcare providers for certification, the RS PHI was able to offer its expertise and support to private providers on commercial basis). It provided services to individual PHPs, but also to the Association of Private Medical Doctors of the RS and Chamber of Dentists of RS.

The Inspectorate of the Republic of Srpska, established in accordance with the *Law on Inspections* [12], includes different types of inspections. The PHPs are subject of control performed by the Market Inspection, Health Inspection, Work Inspection, Fire Safety Inspection, and Urbanistic and Ecological Inspection.

3. Research objectives and methods

3.1 Research objectives

The intervention studied under the research is the implementation of regulation (mandatory safety and quality standards) for private healthcare providers in the Republic of Srpska (RS). The regulation has been in place since 2012, but not all private healthcare providers have adopted it yet. Adoption rates have differed among different types of private healthcare providers.

By studying the intervention, we seek to answer to the following research question: "Why does the rate of adoption of mandatory safety and quality standards vary among private pharmacies, dental practices and specialist practices in the Republic of Srpska?" Towards that objective, the five hypotheses were developed:

- Hypothesis 1: Perceived gains in professional status positively influence adoption of safety and quality standards.
- Hypothesis 2: Fear of negative financial consequences increases adoption of safety and quality standards.
- Hypothesis 3: Availability of information on safety and quality standards increases their adoption.
- Hypothesis 4: Opinions conveyed to private healthcare providers by peers influence adoption of safety and quality standards.
- Hypothesis 5: Perceived attitudes of chambers and professional associations influence adoption of safety and quality standards.

3.2 Study design

The mixed method approach is used for this research. It is being implemented with case study methodology, which allows integration of both quantitative and qualitative data. The explanatory type of case study covers multiple cases (case of private pharmacies, case of private dental practices and case of private specialist practices), in order to draw a single set of cross-case conclusions (why the rate of adoption vary among the cases) that could be applicable to other countries.

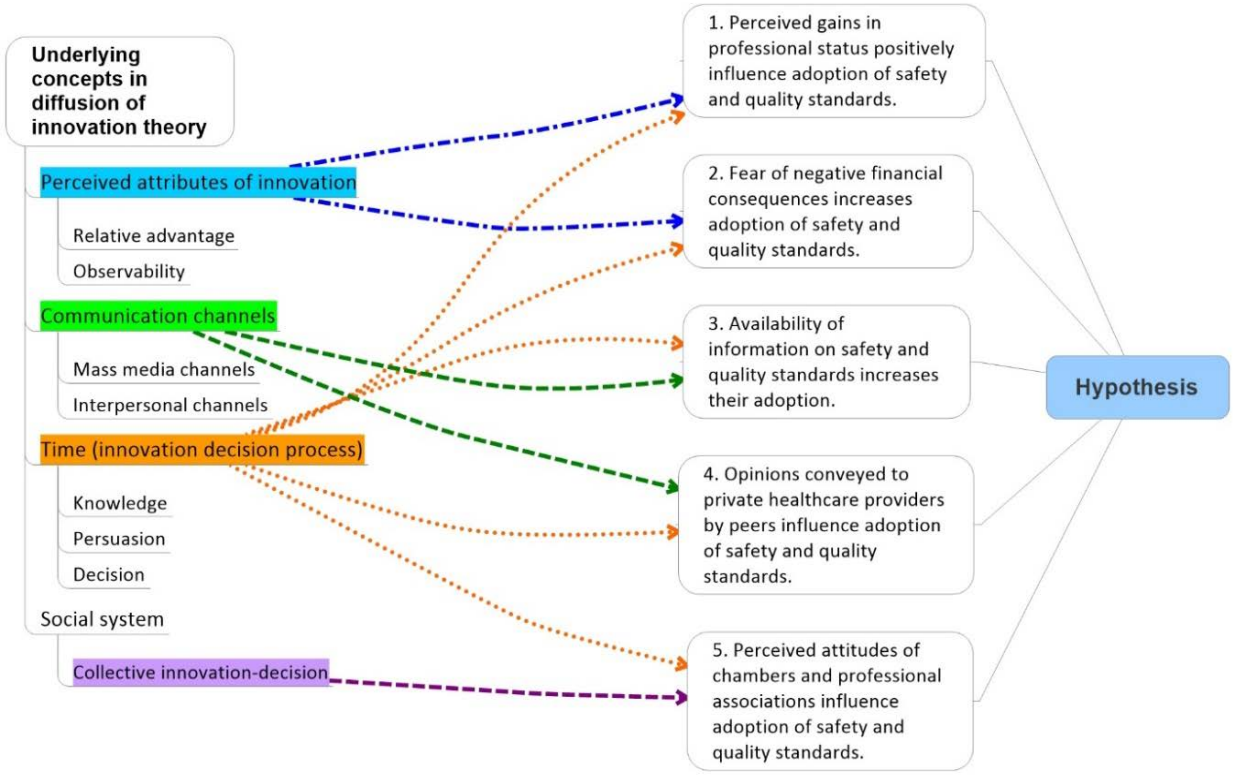
Multiple case study (holistic) design was necessary due to the very nature of the research question. In order to explain why there are differences in adoption rates among the three cases, each of them has to be studied separately first. Three cases of predominant PHPs were selected for analysis. The three groups of the PHPs (pharmacies, dental practices and specialist practices), which are our units of analysis, together account for share of 96% of all PHPs in the RS. Conclusions derived on basis of these three cases can be generalized to all PHPs in the RS.

3.3 Theoretical framework

The diffusion of innovation theory [13,14] has been used as a conceptual framework on which the research is based. Adoption of the same innovation (introduction of mandatory safety and quality standards) is studied in three different social sub-systems (dental practices, pharmacies

and specialist practices). The rate of adoption is the main dependent variable in all five hypotheses. It can be measured and monitored through number/percentage of certified PHPs, disaggregated by type.

Graph 1. Properties of innovation used in the research design



The diffusion of innovation theory defines diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system" [13]. The four main elements of the diffusion process are innovation (in terms of this research: introduction of mandatory safety and quality standards), communication channels (in terms of this research: the means by which information on mandatory safety and quality standards got to the PHPs), time (in terms of this research: decision to adopt certification process takes place over the time dimension) and the social system (in terms of this research: health system of the Republic of Srpska, part of which are interrelated private healthcare providers). These four elements are the main underlying concepts that were used in research design and that are used in interpretation of the research findings.

3.4 Refinement and pilot testing of the questionnaire

Given the scarce availability of publications based around selected type of diffusion research, we were not able to identify and use previously validated questionnaire. The questionnaire that was used had been specifically developed for this research (Annex 1). In development of scale, we used examples of validated questionnaires from other studies [15-17].

Constructs from the diffusion of innovation theory guided selection and development of questions in the questionnaire (Annex 2). We used two additional steps to ensure face validity, readability, consistency and relevancy of the questionnaire used for the survey:

1. The questionnaire was iteratively reviewed by members of the research team and 6 external experts from a variety of fields (2 representatives of local private healthcare providers, 2 representatives of policy makers and 2 quality experts). The reviewers' comments and suggestions helped in improving formatting, word choices and grammar.
2. The questionnaire was then further refined thought pilot testing with group of 22 private healthcare providers (7 pharmacies, 7 dental practices and 8 specialist practices). This helped in testing the internal reliability of the questionnaire and feasibility of survey administration. Pilot version of the questionnaire included 66 questions, divided into 8 subscales:
    - Attitude toward certification process
    - Observability of the certification process
    - Characteristics of standards/complexity
    - Active/passive knowledge
    - Perceived attitudes of professional associations
    - Interpersonal communications
    - Perceived attitudes of chambers
    - Intention to use innovation

    After piloting the questionnaire, data were entered in the SPSS database. Scale was analysed by applying factor analysis and Cronbach's alpha scale reliability analysis. Although factor analysis was not fully reliably, due to really small sample size (19 returned questionnaires), it has revealed four factors (social system, knowledge and intention to use innovation, visibility, and attitude toward certification). As these factors appeared to be combination of subscales used, we decided to continue with 8 subscales approach. For selection of subscale items we used Cronbach's scale item analysis (with option Cronbach's Alpha if scale item deleted) and comments of participants from piloting process. In its final form, the scale consists of 40 items divided in 8 subscales:
    1) Attitude (advantages and disadvantages) toward certification process (items 1-7, Cronbach's alpha - 0,878)
    2) Observability of the certification process (items 8-12, Cronbach's alpha - 0,857)
    3) Certification standards characteristics (items 13-17, Cronbach's alpha - 0,865)
    4) Access to information on certification process (active/passive knowledge on certification process) (items 18-22, Cronbach's alpha- 0,868)
    5) Influence of professional associations (items 23-27, Cronbach's alpha - 0,963)
    6) Interpersonal communications (items 28-31, Cronbach's alpha - 0,785)
    7) Professional chamber influence (items 32-36, Cronbach's alpha - 0,958)
    8) Intention to use innovation/ Willingness for accepting certification process (items 37-40, Cronbach's alpha - 0,911)

In its final version the questionnaire consisted of 49 close-ended questions in Serbian language, allowing for the collection of quantitative data. The last page of the questionnaire offered space for additional observation or comments by respondents. There were no significant deviation from the version of the questionnaire approved as part of the research protocol [18]. The questionnaire included no identifiers. The questions were arranged from the more demanding (Likert type items) to easier to respond to (yes/no answers). The questionnaire was created to be a self-administered, paper-and-pen based. As revisions of the draft questionnaire were not significant, there was no need to seek permission of the World Health Organization's Research Ethics Review Committee (WHO ERC) and the Ethical Board of RS PHI.

3.5 Data collection

The PHPs are seen as the crucial source of information on their own attitudes and experiences. The research began with collection of qualitative data. The first round of in-depth interviews, completed in period November–December 2015, provided in-depth insight in both adopters and non-adopters perspectives and informed detailed design of the questionnaire used for the survey.

In the second round of data collection, data was collected through the self-administered anonymous postal survey of PHPs. Main purpose of the surveying stage was to gather quantitative data on experiences and attitudes of the PHPs, in order to allow assessment of importance of different issues for the PHPs' adoption of standards. The quantitative data was also used to complement and triangulate information collected through the first round of in-depth interviews. Availability of quantitative data provided an opportunity to go back to findings from interviews, reconsider them in light of additional information and increase our understanding of the innovation adoption process.

Population for the study was to consist of the pharmacies, specialist practices and dental practices registered in RS until the cut-off date (May 1, 2016). The providers' names and addresses were taken from the registries available at the MoHSW's web site. Results of the first phase of the research pointed out that some of the provider completed only the first of two registration steps (allowing them to legally operate, but not being included in the MoHSW's registry). The research team was aware of existence of 35 dental practices, 11 specialist practices and 1 pharmacy that were not fully registered as of mid-May 2016. Given the significant total number of such providers (47), they were also included in the population study.

Census sampling was the most suitable approach, as it could lead to the sufficient response rate. Both adopters and non-adopters of mandatory standards were included in the survey. Total number of surveyed providers was 660. As there was a questionable IT literacy among the PHPs, the survey was administered as postal survey. Anonymity of participants was ensured by provision of identical sealable preaddressed return envelopes (mailed together with the questionnaire).

The questionnaire was administered in Serbian language. Three-phase administration process was used in the postal survey, allowing us to conclude administration in period of 3 weeks:

1. The first letter (one page advanced notice letter) was sent to all private healthcare providers in the sample on June 7, 2016. The MoHSW's registries proved not to be fully updated, as the letters were returned from two addresses (as "not deliverable due to movement of recipient to other address"). These two providers were excluded from next steps in the survey.
2. Second letter was actual mail survey. It was distributed in the week following the advanced notice letter (sending of letters completed on June 17, 2016). In accordance to the research protocol, it contained (1) covering letter, (2) information sheet, (3) questionnaire and (4) preaddressed sealable return envelope with postage. The return envelope was addressed to the Principal Investigator. There was a clear warning sign printed on the return envelope that it should not be opened by any other person in the Public Health Institute. The letter returned from seven addresses, as providers were "temporary closed due to the annual leave". These providers were excluded from the next step in the survey.
3. The third letter was one page follow-up letter. It was sent to all members of the sample 7 days after the questionnaire (on June 24, 2016).

Number of letters sent to members of the sample is presented in the table below, disaggregated by type of the provider.

Table 2. Number of letters sent to members of the sample

	Pharmacies	**Specialist practices**	**Dental practices**	**Total**
Advanced notice letter	383	86	191	**660**
Mail survey	382	85	191	**658**
Follow-up letter	380	83	188	**651**

3.6 Data analysis

All the responses to the survey were transferred unopened to the Principal Investigator by the RS PHI secretarial staff. The Principal Investigator opened envelopes and collected completed questionnaires for transfer to data entry clerk. Each questionnaire was numerated before entry of data into MS Excel form. List of numerical codes for data entry (based on the codes included in the questionnaire) was prepared for use of the data entry clerk. Random check of 10% of entered data was perform, in order to verify accuracy of data entry.

Data were imported to SPSS from MS Excel tables and the SPSS was used for analysis of the quantitative data. Analysis began by considering number of members of sample who did and who did not return the survey and presenting respondents and non-respondents profile in the table format. Existences of the response bias was checked through the wave analysis. The wave

analysis was based on questionnaires returned in the last two weeks of the response period (i.e. responses of nearly non-responders).

Descriptive statistical analysis was provided for all independent (demographic and professional data on respondents) and dependent variables (attitudes related to properties of innovation). This included frequencies, means, standard deviations (SD) and range of scores. The principal component analysis (PCA) was conducted on the 40-items scale to reveal factorial structure of the Scale of perception of certification process properties. For all the scales (subscales), we computed the most commonly used type of internal consistency reliability, Cronbach's coefficient alpha. Regarding inferential statistics, association between two categorical variables (e.g significant differences of frequencies of categorical responses between different types of PHPs) was identified through cross tabulations using Chi-square test (χ^2).

We used the one-way ANOVA to examine differences on a scale dependent variables between two or more groups comprising the levels of scale dependant variables among different categories of independent variable or factor. Dependent variables (attitudes related to properties of innovation) were measured by Likert items so that sum of responses on several Likert items formed scale variable. Independent variables were categorical data with three groups/categories (completed/not completed certification process/ongoing; and three groups of PHPs: pharmacist/dentist/specialist practice). Independent t-test was used to determine the levels of scale dependent variables among different types of pharmacies (chain of pharmacies/independent pharmacy).

3.7 Compliance with the research protocol

One minor deviations from the research protocol was noted:

1. The research protocol defined that population for the study will be the PHPs listed in the MoHSW registries until the cut-off date. By inclusion of additional 47 private healthcare providers in the survey (not only fully, but also those partially registered by the MoHSW) population for the study was widened and higher number of responses were obtained.

3.8 Reflexivity

In order to avoid any influence of the research team members' positions, values and attitudes on the data collection and analysis process, the following measures were taken:

- Pretesting of the survey questions (external experts and pilot testing) allowed objective inclusion of values and attitudes of experts and providers outside of the research team.
- Overall objectivity of the data analysis was additionally ensured by the inclusion of a co-investigator from another research institution (Medical Faculty of University of Novi Sad) in the core research team.

4. Results

4.1 Response rates and characteristics of the sample

First responses to the survey came in on June 21, 2016. By July 22, 2016 we received a total number of 224 responses (dynamics of responses by type of provider is presented in Annex 3). The overall response rate to the survey was 34,4%, whereas the response rate was highest among the specialist practices and lowest among the pharmacies (Table 3).

Table 3. Response rates by type of private healthcare providers

		Pharmacies	**Specialist practices**	**Dental practices**	**Total**
Structure of the sample	n	380	83	188	**651**
	%	58,4%	12,7%	28,9%	**100%**
Response rate		27,1%	53,0%	40,9%	**34,4%**
Profile of respondents	n	103	44	77	**224**
	%	46,0%	19,6%	34,4%	**100%**
Profile of non-respondents	n	277	39	111	**427**
	%	64,9%	9,1%	26,0%	**100%**

Almost half of the respondents were pharmacies (103 pharmacies; 56 in chains of pharmacies and 44 independent pharmacies), followed by 77 dental practices and 44 specialist practices. One quarter of respondents (25,1%) is certified, certification is ongoing process for about one third (28,7%) of respondents, while 46,2% of respondents are not certified (Table 4).

The wave analysis was conducted, in order to check whether there was a response bias. The analysis was based on the assumption that those who returned questionnaires in the final weeks of the response period are nearly non-respondents [19]. Bias means that if non-respondents had responded, their responses would have substantially changed the overall results of the survey. Two waves of responses were compared, in order to determine if average responses changed (Annex 4):

1. The first wave included 203 responses received in first 3 weeks of the survey
2. The second wave (nearly non-respondents) included 21 responses received in last 2 weeks of the survey.

Comparison of two waves of responses was performed by χ^2 test. As there were no statistically significant differences between two waves of respondents, no significant effect of non-responses on survey results was found.

Table 4. Certification status by type of respondent within the research sample

Certification status	Pharmacies		Specialist practices		Dental practices		Total	
	n	%	n	%	n	%	n	%
Certification completed	44	42,7%	12	27,9%	0	0%	56	25,1%
Certification is ongoing	31	30,1%	16	37,2%	17	22,1%	64	28,7%
Certification not completed	28	27,2%	15	34,9%	60	77,9%	103	46,2%
Total	103	100%	43	100%	77	100%	223	100%

Pharmacies are in majority among certified respondents (42,7% of pharmacies completed certification, while 30,1% of pharmacies is in the process). There are 12 (27,9%) of certified specialist practices among respondents and 16 (37,2%) specialist practices are in the process of certification. The lowest level of certification adoption is among respondents from dental practices. None response was received from the certified dental practices and 77,9% of dental practices have not enter certification process yet. The differences among the types of private providers in the sample are statistically significant (χ^2=60,547, df=4, p=.000; Ficher's Exact Test-71,920, p=.000).

Table 5. General characteristics of respondents within the sample

		Min	Max	Mean (SD)
Years since foundation		0	25	9,73 (6,8)
Number of employees		1	122	4,20 (8,45)
Time since completion of certification	years	0	3	1,05 (0,92)
	months	2	38	17,63 (10,21)

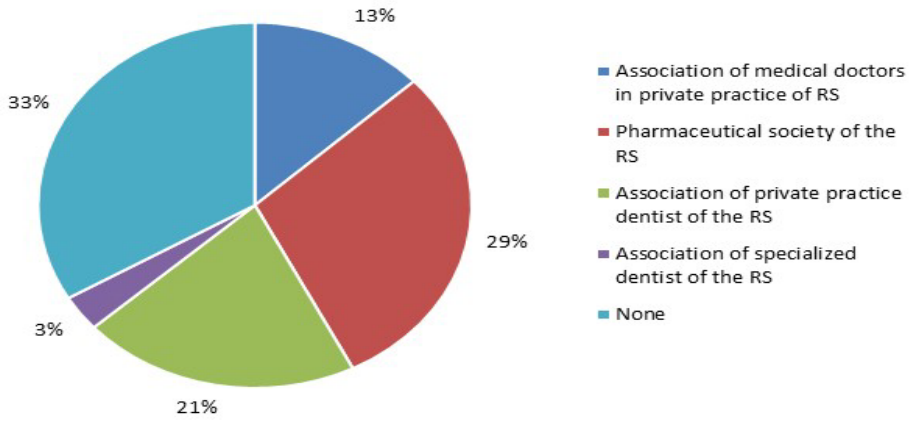
In average, certified respondents have completed certification process one year ago (Mean-1,05), while duration of their certification status range from 2 months to 3 years (Table 5). The overall distribution of certified respondents in the sample matches distribution in the RS health system (Table 1). Given the absence of certified dental practices in the sample and low absolute number of providers in some subcategories, it was not possible to analyze data at subcategory level (e.g. dental practices disaggregated by certification status).

Table 6. Profile of respondents within the sample

PHPs' characteristics		n	%
Pharmacy status	Chain of pharmacies	56	56,0%
	Independent pharmacy	44	44,0%
	Total	*100*	*100,0%*
Respondent's position in organization	Owner	29	13,6%
	Managing director	27	12,7%
	Owner and Managing director	108	50,7%
	Other	49	23,0%
	Total	*213*	*100,0%*
Contract with RS HIF	Yes	118	52,9%
	No	105	47,1%
	Total	*223*	*100,0%*

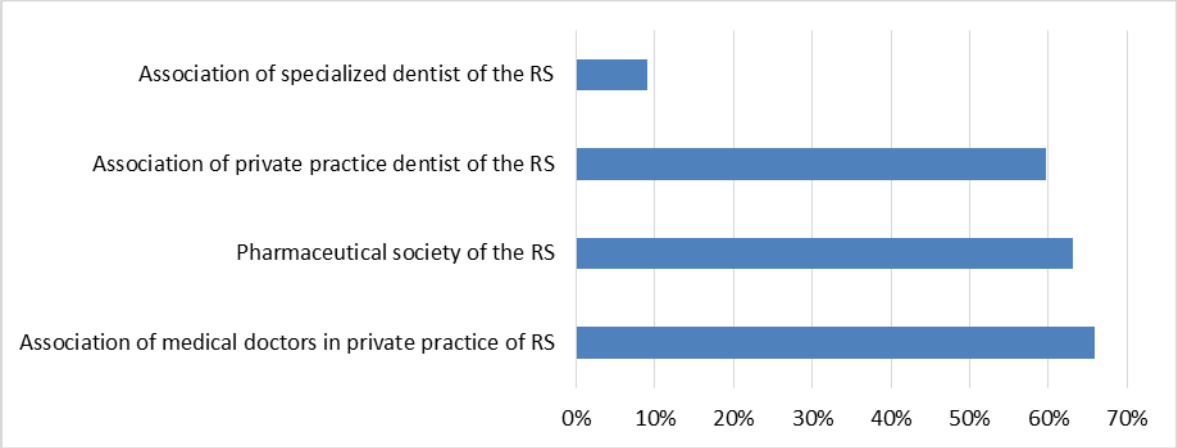
Responses to the questionnaire were mainly provided by owners and managing directors of the PHP, usually combined within a single person (Table 6). As both of these positions are responsible for decision on entering the certification process, it can be concluded that the group of respondents comprised sufficient number of PHPs' decision makers, able to provide valid insight into reasons for adoption/rejection of the certification process. All pharmacies and part of specialist practices have contract with the RS HIF, which also matches situation among the PHPs in the RS.

Graph 2. Membership of respondents from the research sample in professional associations (overall distribution)



About 2/3 of respondents are members of a professional associations (Graph 2). Membership in the associations differs among professions. Most of the medical doctors from private specialist practices are members of the Association of medical doctors in private practice of RS (Graph 3), while Association of specialized dentists of the RS has smallest membership (only 9,1% of dentists in the sample).

Graph 3. Membership of respondents from the research sample in professional associations (by type of PHPs)



4.2 Perception of certification process properties (questions 1-40)

The principal component analysis (PCA) was conducted on the 40-items scale and eight component with characteristic values above 1 was identified. These eight factors were able to explain 35%, 8,5%, 6,8%, 5,9%, 3,7%, 3,6%, 3,2%, 3% of the variance. Further analysis of factor weights revealed that factors 4 and 8 both group items related to unfavorable attitudes towards certification and quality and safety standards. At the same time, the factor 7 was able to group items from factors 2 and 3 and one item related to peer influence.

To avoid overlapping of properties of certification process under different factors, the six-factor option was selected instead. The six-factor model was based on previously defined properties of certification process. Certification standards characteristics, interpersonal communication and willingness for accepting certification process were not formed as separate factors. Unfavorable attitudes towards certification formed a distinct component from the favorable ones. The six-factor model consists of the following properties of certification process:

1. Advantages of certification (favorable attitude towards certification, Cronbach's Alpha- .93)
2. Influence of chamber (Cronbach's Alpha- .90)
3. Influence of professional associations (Cronbach's Alpha- .89)
4. Disadvantages of certification (unfavorable attitude towards certification, Cronbach's Alpha- .77)
5. Observability of certification (Cronbach's Alpha- .86)
6. Availability of information on certification (Cronbach's Alpha- .82)

Overall, the six-factor model explained 63,5% of variance in the set of 40 items. The first factor contribution was 35%, the second factor contributed with 8,5%, the third with 6,8%, the forth with 5,9%, the fifth with 3,7% and the sixth factor contributed with 3,6%. The oblimin rotation method was used in selection of factors. More detailed results of the factor analysis are presented in the Annex 5.

The final scale on perception of certification process properties consisted of six subscales (advantages of certification, influence of chamber, influence of professional associations, disadvantages of certification, observability of certification, and availability of information on certification). Summing of individual responses provided summary scores for each subscales, whereas higher score indicates higher representation of measured properties of innovation. Descriptive statistics for all subscales is provided in the Table 6.

Table 6. Summary statistics for subscales on perception of certification process properties

Subscales	n	Minimum	Maximum	Mean	SD
Advantages of certification	218	7,00	35,00	20,3761	9,11907
Influence of chamber	208	5,00	25,00	15,8510	5,97272
Influence of professional associations	211	5,00	25,00	15,8199	6,09651
Disadvantages of certification	221	5,00	25,00	20,9548	4,36908
Observability of certification	206	4,00	20,00	11,2379	4,58382
Availability of information on certification	215	4,00	20,00	14,1163	4,53032

The one-way ANOVA is used to determine statistically significant differences in perceptions of properties of certification process by different types of private healthcare providers. The Table 7 provides average values for subscales (properties of certification process) for pharmacies, dental practices and specialist practices. The high scores indicate high representation of measured properties of innovation.

There are statistically significant differences among perception of advantages of certification by different types of PHPs (F=35,906, p=.000, eta-squared-0,25). Advantages of certification were mostly pointed out by pharmacies and least by the dental practices. Eta-squared value indicates significant difference between provider types. Additional analysis (LSD post hoc test) confirmed that (1) means for three types of providers significantly differ, (2) pharmacies point out more advantages of certification than other two types of PHPs and (3) specialist practices point out more advantages of certification than dental practices.

There are significant differences among perception of influence of chamber by different types of PHPs (F=9,533, p=.000) and the difference between mean values is of medium intensity (eta-squared-0,08). Additional analysis (LSD post hoc test) confirmed that (1) pharmacies have more positive attitudes on influence of chamber than other two types of PHPs and (2) there are no statistically significant differences between perception of chambers' influences by dental practices and specialist practices.

There are significant differences among perception of influence of professional associations by different types of PHPs (F=22,971, p=.000, eta-squared -0,18). Additional analysis (LSD post hoc test) confirmed that (1) pharmacies more emphasize positive influence of professional associations on adoption of certification than other two types of PHPs and (2) there are no

statistically significant differences between perception of professional associations' influences by dental practices and specialist practices.

There are significant differences among perception of disadvantages of certification by different types of PHPs (F=5,646, p=.004), but the real difference between mean values is small (eta-squared-0,05). Additional analysis (LSD post hoc test) confirmed that (1) pharmacies point out less disadvantages of certification than other two types of PHPs and (2) there are no statistically significant differences between perception of disadvantages of certification by dental practices and specialist practices.

Table 7. Summary perception of certification process properties (by type of private healthcare providers in the sample)

Subscales	Type of private healthcare provider	n	Mean	SD	F (p)
Advantages of certification	Pharmacies	101	24,5941	7,82327	35,906 (.000)
	Specialist practices	43	20,8837	8,95813	
	Dental practices	74	14,3243	7,43577	
	Total	*218*	*20,3761*	*9,11907*	
Influence of chamber	Pharmacies	98	17,6735	5,51806	9,533 (.000)
	Specialist practices	40	13,7750	6,52210	
	Dental practices	70	14,4857	5,57360	
	Total	*208*	*15,8510*	*5,97272*	
Influence of professional associations	Pharmacies	99	18,4747	5,17715	22,972(.000)
	Specialist practices	40	14,7250	7,27830	
	Dental practices	72	12,7778	4,89387	
	Total	*211*	*15,8199*	*6,09651*	
Disadvantages of certification	Pharmacies	102	19,9314	4,49920	5,646 (.004)
	Specialist practices	43	22,1860	3,57409	
	Dental practices	76	21,6316	4,33849	
	Total	*221*	*20,9548*	*4,36908*	
Observability of certification	Pharmacies	99	12,5960	4,43529	9,339 (.000)
	Specialist practices	38	10,4211	4,54783	
	Dental practices	69	9,7391	4,28970	
	Total	*206*	*11,2379*	*4,58382*	
Availability of information on certification	Pharmacies	102	16,1667	3,62085	31,068 (.000)
	Specialist practices	42	13,9048	4,75143	
	Dental practices	71	11,2958	4,04755	
	Total	*215*	*14,1163*	*4,53032*	

There are significant differences among perception of observability of certification by different types of PHPs (F=9,339, p=.000) and the difference between mean values is of medium intensity

(eta-squared-0,08). Additional analysis (LSD post hoc test) determined that (1) pharmacies point out more observability of certification than other two types of PHPs and (2) there are no statistically significant differences between perception of observability of certification by dental practices and specialist practices.

There are significant differences among perception of availability of information on certification by different types of PHPs (F=31,068, p=.000, eta-squared-0,23). Additional analysis (LSD post hoc test) confirmed that (1) means for three types of providers significantly differ, (2) information on certification was more available to pharmacies than to other two types of PHPs and (3) information on certification was more available to specialist practices than to dental practices.

Table 8. Summary perception of certification process properties (by certification status)

Subscales	Certification status	n	Mean	SD	F (p)
Advantages of certification	Completed	56	26,9821	7,08517	27,190 (.000)
	Ongoing	64	20,0469	8,29693	
	Not completed	97	16,8763	8,67258	
	Total	*217*	*20,4194*	*9,11776*	
Influence of chamber	Completed	56	16,9464	6,67810	1,321(.269)
	Ongoing	59	15,6780	6,04135	
	Not completed	92	15,3261	5,45936	
	Total	*207*	*15,8647*	*5,98388*	
Influence of professional associations	Completed	56	18,4464	6,68491	8,506(.000)
	Ongoing	59	15,7966	5,95610	
	Not completed	95	14,3579	5,31340	
	Total	*210*	*15,8524*	*6,09275*	
Disadvantages of certification	Completed	55	19,1273	5,07738	7,764 (.001)
	Ongoing	64	21,0781	3,67015	
	Not completed	101	21,9208	4,06862	
	Total	*220*	*20,9773*	*4,36617*	
Observability of certification	Completed	54	11,7963	5,12257	1,533(.218)
	Ongoing	58	11,7414	4,39521	
	Not completed	93	10,6452	4,34052	
	Total	*205*	*11,2585*	*4,58541*	
Availability of information on certification	Completed	56	16,8393	3,84129	24,237 (.000)
	Ongoing	62	14,7742	4,01807	
	Not completed	96	12,1354	4,31306	
	Total	*214*	*14,1308*	*4,53590*	

The one-way ANOVA is also used to determine statistically significant differences in perceptions of properties of certification process by private healthcare providers with different certification status. The Table 8 provides average values for subscales (properties of certification process) for certified providers, non-certified providers and the providers who are still in the certification process. The high scores indicate high representation of measured properties of innovation.

There are statistically significant differences among perception of advantages of certification (F=27,190, p=.000, eta-squared-0,20), disadvantages of certification (F=7,764, p=.001, eta-squared-0,07), influences of professional associations (F=8,506, p=.000, eta-squared-0,08) and availability of information on certification (F=24,237, p=.000, eta-squared-0,19) by the PHPs with different certification status. Additional analysis (LSD post hoc test) confirmed that (1) certified providers point out more advantages of certification than other two groups, (2) providers who are still in process of certification point out more advantages of certification than the non-certified providers who haven't entered the process yet, (3) certified providers more emphasize positive influence of professional associations on adoption of certification than other two groups of PHPs, (4) certified providers point out less disadvantages of certification than other two groups, (5) information on certification was more available to certified provider than to other two groups of PHPs and (6) information on certification was more available to providers who are still in process of certification than to the non-certified providers who haven't entered the process yet.

4.3 Gains and risks related to certification

The most important gains that respondents expected from the certification process (Table 9) were advantages in contracting with the RS HIF (49,6% of respondents), and the least important was possibility of gaining additional patients (36,9% of respondents).

Table 9. Gains that members of the sample expect(ed) from certification

Expected gains		n	%
Gains in professional status	Yes	98	45,6%
	No	117	54,4%
	Total	*215*	*100,0%*
Gains related to patient satisfaction	Yes	101	**47,2%**
	No	113	52,8%
	Total	*214*	*100,0%*
Gains related to staff satisfaction	Yes	96	44,9%
	No	118	55,1%
	Total	*214*	*100,0%*
Gaining additional patients	Yes	79	36,9%
	No	135	**63,1%**
	Total	*214*	*100,0%*
Advantages in contracting with the RS HIF	Yes	103	**49,5%**
	No	105	50,5%
	Total	*208*	*100,0%*

Overall, expected gains in professional status seem to be less significant than other factors in PHPs decision on adoption of quality and safety standards. Even though significantly more pharmacies (63,6%) expected gains in professional status than it was case with specialist practices and dental practices (χ^2=28,385, df=2, p=.000), the gains in professional status were not the most important expected gains for the pharmacies. Generally, pharmacies expected more gains from certification than other two types of PHPs (Table 10). The differences in expectations were also found to be statistically significant for gains related to patient satisfaction (χ^2=33,022, df=2, p=.000), gains related to staff satisfaction (χ^2=27,861, df=2, p=.000), gaining additional patients (χ^2=31,631, df=2,p=.000) and advantages in contracting with the RS HIF (χ^2=33,972, df=2, p=.000).

Table 10. Gains that members of the sample expect from certification (by type of private healthcare provider)

Expected gains		Type of provider					
		Pharmacy		Specialist practice		Dental practice	
		n	%	n	%	n	%
Gains in professional status	Yes	63	63,6%	18	**42,9%**	17	23,0%
	No	36	36,4%	24	57,1%	57	77,0%
	Total	*99*	*100,0%*	*42*	*100,0%*	*74*	*100,0%*
Gains related to patient satisfaction	Yes	67	**67,0%**	17	**41,5%**	17	23,3%
	No	33	33,0%	24	58,5%	56	76,7%
	Total	*100*	*100,0%*	*41*	*100,0%*	*73*	*100,0%*
Gains related to staff satisfaction	Yes	63	63,6%	15	36,6%	18	**24,3%**
	No	36	36,4%	26	63,4%	56	75,7%
	Total	*99*	*100,0%*	*41*	*100,0%*	*74*	*100,0%*
Gaining additional patients	Yes	56	56,0%	12	29,3%	11	15,1%
	No	44	44,0%	29	70,7%	62	84,9%
	Total	*100*	*100,0%*	*41*	*100,0%*	*73*	*100,0%*
Advantages in contracting with the RS HIF	Yes	69	**71,1%**	12	30,8%	22	**30,6%**
	No	28	28,9%	27	69,2%	50	69,4%
	Total	*97*	*100,0%*	*39*	*100,0%*	*72*	*100,0%*

Expected gains in professional status also seem to be less significant than other factors in adoption of certification, when data are disaggregated by certification status (Table 11). Even though slight majority (53,2%) of the PHPs in the certification process expects gains in professional status, the gains were not among the most important expected gains for the certified providers. Overall, the PHPs that completed certification expected more gains from certification than those who are in the process or haven't entered yet. The differences in expectations were found to be statistically significant for all expected gains: gains in professional status (χ^2=27,750, df=2, p=.000), gains related to patient satisfaction (χ^2=25,971, df=2, p=.000), gains related to staff satisfaction (χ^2=26,801, df=2, p=.000), gaining additional patients (χ^2=21,137, df=2,p=.000) and advantages in contracting with the RS HIF (χ^2=13,323, df=2, p=.001).

Table 11. Gains that members of the sample expect from certification (by certification status)

Expected gains		Certification status					
		Completed		Ongoing		Not completed	
		n	%	n	%	n	%
Gains in professional status	Yes	39	69.6%	33	**53.2%**	26	27.1%
	No	17	30.4%	29	46.8%	70	72.9%
	Total	*56*	*100.0%*	*62*	*100.0%*	*96*	*100.0%*
Gains related to patient satisfaction	Yes	40	**72.7%**	32	51.6%	29	**30.2%**
	No	15	27.3%	30	48.4%	67	69.8%
	Total	*55*	*100.0%*	*62*	*100.0%*	*96*	*100.0%*
Gains related to staff satisfaction	Yes	40	**72.7%**	28	45.2%	28	29.2%
	No	15	27.3%	34	54.8%	68	70.8%
	Total	*55*	*100.0%*	*62*	*100.0%*	*96*	*100.0%*
Gaining additional patients	Yes	33	60.0%	24	39.3%	22	22.7%
	No	22	40.0%	37	60.7%	75	77.3%
	Total	*55*	*100.0%*	*61*	*100.0%*	*97*	*100.0%*
Advantages in contracting with the RS HIF	Yes	36	69.2%	31	**51.7%**	36	**37.9%**
	No	16	30.8%	29	48.3%	59	62.1%
	Total	*52*	*100.0%*	*60*	*100.0%*	*95*	*100.0%*

Advantages in contracting with the RS HIF were the most important among expected gains, but least important among benefits that certified PHPs achieved upon completion of the certification process (Table 12). Gains related to staff satisfaction and gains in professional status were found to be the most important among achieved benefits (perceived by 43,6% of respondents).

Table 12. Benefits that certified members of the sample achieved through the certification process

Achieved benefits		n	%
Gains in professional status	Yes	24	**43,6%**
	No	31	56,4%
	Total	*55*	*100,0%*
Gains related to patient satisfaction	Yes	23	41,8%
	No	32	58,2%
	Total	*55*	*100,0%*
Gains related to staff satisfaction	Yes	24	**43,6%**
	No	31	56,4%
	Total	*55*	*100,0%*
Gaining additional patients	Yes	14	25,9%
	No	40	74,1%
	Total	*54*	*100,0%*
Advantages in contracting with the RS HIF	Yes	12	23,5%
	No	39	76,5%
	Total	*51*	*100,0%*

The respondents perceived that the most important risks that can be mitigated by the certification process were risk of paying fines resulting from Inspectorate's visits (51,9%) and risks of harming the patients (51,4%). The respondents also perceived that certification is least important in mitigating risks of losing contract with the RS HIF and patients (Table 13).

Table 13. Risks that can be mitigated by the certification process

Risks		n	%
Risk of harming the patients	Yes	95	**51,4%**
	No	90	48,6%
	Total	*185*	*100,0%*
Risk of losing contract with the RS HIF	Yes	51	**29,3%**
	No	123	70,7%
	Total	*174*	*100,0%*
Risk of losing patients	Yes	31	**17,2%**
	No	149	82,8%
	Total	*180*	*100,0%*
Risk of paying fines resulting from Inspectorate's visit	Yes	95	**51,9%**
	No	88	48,1%
	Total	*183*	*100,0%*
Risk of having court processes initiated by patients	Yes	71	40,1%
	No	106	59,9%
	Total	*177*	*100,0%*
Risk of staff professional diseases and injuries	Yes	90	48,9%
	No	94	51,1%
	Total	*184*	*100,0%*

Respondents from pharmacies recognized the risk of harming the patients as the most important among the risks that certification can mitigate (64% of respondents in the sample). Mitigation of the risk is also important for specialist practices, while even 71,2% of respondents from dental practices does not consider certification to be able of mitigate risk of harming the patients (Table 14). The differences among three types of PHPs are statistically significant (χ^2=18,170, df=2, p=.000). The pharmacies are more inclined than other two types of PHPs to perceive that certification can mitigate risk of losing contract with the RS HIF (χ^2=15,490, df=2, p=.000). There are also statistically significant differences among respondents' perception of certification's potential to mitigate risk of staff professional diseases and injuries (χ^2=11,845, df=2, p=.003). Avoiding fines and court processes were perceived by respondents from dental practices as more important than other risks that the certification could mitigate.

Table 14. Risks that can be mitigated by the certification process (by type of private healthcare providers)

Risks		Type of provider					
		Pharmacy		Specialist practice		Dental practice	
		n	%	n	%	n	%
Risk of harming the patients	Yes	57	**64,0%**	21	**56,8%**	17	28,8%
	No	32	36,0%	16	43,2%	42	71,2%
	Total	*89*	*100,0%*	*37*	*100,0%*	*59*	*100,0%*
Risk of losing contract with the RS HIF	Yes	37	42,5%	7	21,9%	7	12,7%
	No	50	57,5%	25	78,1%	48	87,3%
	Total	*87*	*100,0%*	*32*	*100,0%*	*55*	*100,0%*
Risk of losing patients	Yes	18	20,9%	4	11,4%	9	15,3%
	No	68	79,1%	31	88,6%	50	84,7%
	Total	*86*	*100,0%*	*35*	*100,0%*	*59*	*100,0%*
Risk of paying fines resulting from Inspectorate's visit	Yes	51	**58,6%**	18	51,4%	26	**42,6%**
	No	36	41,4%	17	48,6%	35	57,4%
	Total	*87*	*100,0%*	*35*	*100,0%*	*61*	*100,0%*
Risk of having court processes initiated by patients	Yes	33	39,8%	16	45,7%	22	**37,3%**
	No	50	60,2%	19	54,3%	37	62,7%
	Total	*83*	*100,0%*	*35*	*100,0%*	*59*	*100,0%*
Risk of staff professional diseases and injuries	Yes	50	56,8%	22	**59,5%**	18	30,5%
	No	38	43,2%	15	40,5%	41	69,5%
	Total	*88*	*100,0%*	*37*	*100,0%*	*59*	*100,0%*

As majority of certified PHPs in the sample were pharmacies and most of non-certified PHPs were dental practices, disaggregation of responses by certification status provided similar results to disaggregation by type of provider. Mitigation of risk of harming the patients was found to be the most important for certified PHPs in the sample, while the providers that haven't completed certification yet perceived avoidance of fines and court processes as more important than other risks (Table 15). There are also statistically significant differences among respondents' perception of certification's potential to mitigate risk of harming the patients (χ^2=19,517, df=2, p=.000) and risk of staff professional diseases and injuries (χ^2=16,306, df=2, p=.000).

Table 15. Risks that can be mitigated by the certification process (by certification status)

Risks		Certification status					
		Completed		Ongoing		Not completed	
		n	%	n	%	n	%
Risk of harming the patients	Yes	40	**72.7%**	27	**54.0%**	27	34.2%
	No	15	27.3%	23	46.0%	52	65.8%
	Total	*55*	*100.0%*	*50*	*100.0%*	*79*	*100.0%*
Risk of losing contract with the RS HIF	Yes	17	33.3%	13	28.3%	21	27.6%
	No	34	66.7%	33	71.7%	55	72.4%
	Total	*51*	*100.0%*	*46*	*100.0%*	*76*	*100.0%*
Risk of losing patients	Yes	11	21.2%	7	14.3%	12	15.4%
	No	41	78.8%	42	85.7%	66	84.6%
	Total	*52*	*100.0%*	*49*	*100.0%*	*78*	*100.0%*
Risk of paying fines resulting from Inspectorate's visit	Yes	26	50.0%	29	**59.2%**	39	**48.1%**
	No	26	50.0%	20	40.8%	42	51.9%
	Total	*52*	*100.0%*	*49*	*100.0%*	*81*	*100.0%*
Risk of having court processes initiated by patients	Yes	26	51.0%	16	33.3%	29	**37.7%**
	No	25	49.0%	32	66.7%	48	62.3%
	Total	*51*	*100.0%*	*48*	*100.0%*	*77*	*100.0%*
Risk of staff professional diseases and injuries	Yes	38	**71.7%**	23	46.0%	29	36.3%
	No	15	28.3%	27	54.0%	51	63.8%
	Total	*53*	*100.0%*	*50*	*100.0%*	*80*	*100.0%*

4.4 Information on certification process

The main sources on information on certification for the PHPs were peers, professional meetings and seminars, contacts with ASKVA's representatives, chambers and professional associations.

Comparing sources of information among three types of the PHPs (Table 17), it became evident that pharmacies and specialist practices more often used contacts with certified healthcare providers to obtain information about certification than dental practices did (χ^2= 10,577, df=2, p= .005). This is partially due to the low number of certified dental practices in the RS.

Table 16. Sources of information on certification process for members of the sample

Sources of information		n	%
TV, radio and newspapers	Yes	13	6,8%
	No	177	93,2%
	Total	*190*	*100,0%*
Professional magazines	Yes	54	28,6%
	No	135	71,4%
	Total	*189*	*100,0%*
Official Gazette	Yes	57	29,7%
	No	135	70,3%
	Total	*192*	*100,0%*
Internet	Yes	92	46,5%
	No	106	53,5%
	Total	*198*	*100,0%*
Direct contacts with peers	Yes	173	**83,6%**
	No	34	16,4%
	Total	*207*	*100,0%*
Contacts with certified healthcare providers	Yes	86	44,3%
	No	108	55,7%
	Total	*194*	*100,0%*
Professional associations	Yes	101	**52,1%**
	No	93	47,9%
	Total	*194*	*100,0%*
Chamber	Yes	109	**54,5%**
	No	91	45,5%
	Total	*200*	*100,0%*
Professional meetings and seminars	Yes	122	**63,9%**
	No	69	36,1%
	Total	*191*	*100,0%*
Contacts with representatives of ASKVA	Yes	114	**57,6%**
	No	84	42,4%
	Total	*198*	*100,0%*
Contacts with representatives of PHI RS	Yes	60	30,8%
	No	135	69,2%
	Total	*195*	*100,0%*
Contacts with representatives of MoHSW	Yes	32	16,8%
	No	158	83,2%
	Total	*190*	*100,0%*

Dental practices more often used its chamber (Chamber of Dentists of RS) to obtain information on certification (92,8% of respondents in the sample), than other two types of PHPs (χ^2=65,534, df=2, p=. 000). Contacts with representatives of the PHI RS were more important for specialist practices and dental practices as a source of information on certification, than it was case for pharmacies (χ^2=22,884, df=2, p=.000).

Table 17. Sources of information on certification process for members of the sample (by type of private healthcare provider)

Sources of information		Type of provider					
		Pharmacy		Specialist practice		Dental practice	
		n	%	n	%	n	%
TV, radio and newspapers	Yes	7	7,8%	4	10,5%	2	3,2%
	No	83	92,2%	34	89,5%	60	96,8%
	Total	*90*	*100,0%*	*38*	*100,0%*	*62*	*100,0%*
Professional magazines	Yes	31	34,4%	7	18,9%	16	25,8%
	No	59	65,6%	30	81,1%	46	74,2%
	Total	*90*	*100,0%*	*37*	*100,0%*	*62*	*100,0%*
Official Gazette	Yes	31	33,3%	13	35,1%	13	21,0%
	No	62	66,7%	24	64,9%	49	79,0%
	Total	*93*	*100,0%*	*37*	*100,0%*	*62*	*100,0%*
Internet	Yes	47	49,5%	16	42,1%	29	44,6%
	No	48	50,5%	22	57,9%	36	55,4%
	Total	*95*	*100,0%*	*38*	*100,0%*	*65*	*100,0%*
Direct contacts with peers	Yes	82	83,7%	35	85,4%	56	82,4%
	No	16	16,3%	6	14,6%	12	17,6%
	Total	*98*	*100,0%*	*41*	*100,0%*	*68*	*100,0%*
Contacts with certified healthcare providers	Yes	50	52,6%	19	51,4%	17	27,4%
	No	45	47,4%	18	48,6%	45	72,6%
	Total	*95*	*100,0%*	*37*	*100,0%*	*62*	*100,0%*
Professional associations	Yes	43	47,3%	20	54,1%	38	57,6%
	No	48	52,7%	17	45,9%	28	42,4%
	Total	*91*	*100,0%*	*37*	*100,0%*	*66*	*100,0%*
Chamber	Yes	37	39,4%	8	21,6%	64	92,8%
	No	57	60,6%	29	78,4%	5	7,2%
	Total	*94*	*100,0%*	*37*	*100,0%*	*69*	*100,0%*
Professional meetings and seminars	Yes	66	70,2%	21	60,0%	35	56,5%
	No	28	29,8%	14	40,0%	27	43,5%
	Total	*94*	*100,0%*	*35*	*100,0%*	*62*	*100,0%*
Contacts with representatives of ASKVA	Yes	61	63,5%	22	59,5%	31	47,7%
	No	35	36,5%	15	40,5%	34	52,3%
	Total	*96*	*100,0%*	*37*	*100,0%*	*65*	*100,0%*
Contacts with representatives of the PHI RS	Yes	13	14,1%	18	48,6%	29	43,9%
	No	79	85,9%	19	51,4%	37	56,1%
	Total	*92*	*100,0%*	*37*	*100,0%*	*66*	*100,0%*
Contacts with representatives of the MoHSW	Yes	15	16,9%	9	23,7%	8	12,7%
	No	74	83,1%	29	76,3%	55	87,3%
	Total	*89*	*100,0%*	*38*	*100,0%*	*63*	*100,0%*

Regardless of the certification status, direct contacts with peers are most commonly used to obtain information on certification (Table 18). Certified PHPs more often used contacts with ASKVA's representatives (χ^2=12,153, df=2, p=.002) and professional meetings and seminars,

while non-certified PHPs on information from chamber (χ^2=15,694, df=2, p=.000) and professional associations. There are also statistically significant differences among certified and non-certified PHPs' use of contacts with certified healthcare provider to obtain information on certification (χ^2=19,517, df=2, p=.000).

Table 18. Sources of information on certification process for members of the sample (by certification status)

Sources of information		Certification status					
		Completed		Ongoing		Not completed	
		n	%	n	%	n	%
TV, radio and newspapers	Yes	5	9.6%	6	10.5%	2	2.5%
	No	47	90.4%	51	89.5%	78	97.5%
	Total	*52*	*100.0%*	*57*	*100.0%*	*80*	*100.0%*
Professional magazines	Yes	13	25.5%	19	33.9%	22	27.2%
	No	38	74.5%	37	66.1%	59	72.8%
	Total	*51*	*100.0%*	*56*	*100.0%*	*81*	*100.0%*
Official Gazette	Yes	19	35.8%	17	29.8%	21	25.9%
	No	34	64.2%	40	70.2%	60	74.1%
	Total	*53*	*100.0%*	*57*	*100.0%*	*81*	*100.0%*
Internet	Yes	20	37.7%	33	55.0%	39	46.4%
	No	33	62.3%	27	45.0%	45	53.6%
	Total	*53*	*100.0%*	*60*	*100.0%*	*84*	*100.0%*
Direct contacts with peers	Yes	45	**80.4%**	50	**83.3%**	77	**85.6%**
	No	11	19.6%	10	16.7%	13	14.4%
	Total	*56*	*100.0%*	*60*	*100.0%*	*90*	*100.0%*
Contacts with certified healthcare providers	Yes	28	51.9%	31	**53.4%**	27	33.3%
	No	26	48.1%	27	46.6%	54	66.7%
	Total	*54*	*100.0%*	*58*	*100.0%*	*81*	*100.0%*
Professional associations	Yes	26	51.0%	26	44.8%	49	**58.3%**
	No	25	49.0%	32	55.2%	35	41.7%
	Total	*51*	*100.0%*	*58*	*100.0%*	*84*	*100.0%*
Chamber	Yes	18	34.0%	31	**53.4%**	60	**68.2%**
	No	35	66.0%	27	46.6%	28	31.8%
	Total	*53*	*100.0%*	*58*	*100.0%*	*88*	*100.0%*
Professional meetings and seminars	Yes	39	**75.0%**	35	**61.4%**	48	**59.3%**
	No	13	25.0%	22	38.6%	33	40.7%
	Total	*52*	*100.0%*	*57*	*100.0%*	*81*	*100.0%*
Contacts with representatives of ASKVA	Yes	42	**77.8%**	28	49.1%	44	51.2%
	No	12	22.2%	29	50.9%	42	48.8%
	Total	*54*	*100.0%*	*57*	*100.0%*	*86*	*100.0%*
Contacts with representatives of PHI RS	Yes	18	34.6%	18	30.5%	24	28.9%
	No	34	65.4%	41	69.5%	59	71.1%
	Total	*52*	*100.0%*	*59*	*100.0%*	*83*	*100.0%*
Contacts with representatives of the MoHSW	Yes	10	19.6%	12	20.7%	10	12.5%
	No	41	80.4%	46	79.3%	70	87.5%
	Total	*51*	*100.0%*	*58*	*100.0%*	*80*	*100.0%*

4.5 Influences in decision-making process

Majority of respondents in the sample (85,2%) asked for peers' advice in relation to the certification process, while nearly half of the respondents (47,4%) stated that opinions and actions of their peers influenced their decision on whether to adopt the certification process (Table 19). Influences of professional associations were least important for dental practices (20,6% of respondents), while influence of chamber was least important for specialist practices (only 10,3% of respondents). No statistically significant differences were discovered among three types of the PHPs.

Table 19. Influences in decision making on certification adoption by members of the sample (by type of private healthcare provider)

Influences in decision making		Type of provider							
		Pharmacy		Specialist practice		Dental practice		Total	
		n	%	n	%	n	%	n	%
Chamber influenced decision whether to adopt the certification process	Yes	18	20,2%	4	10,3%	19	27,9%	41	20,9%
	No	71	79,8%	35	89,7%	49	72,1%	155	79,1%
	Total	*89*	*100,0%*	*39*	*100,0%*	*68*	*100,0%*	*196*	*100,0%*
Professional association influenced decision whether to adopt the certification	Yes	25	28,4%	11	28,9%	14	20,6%	50	25,8%
	No	63	71,6%	27	71,1%	54	79,4%	144	74,2%
	Total	*88*	*100,0%*	*38*	*100,0%*	*68*	*100,0%*	*194*	*100,0%*
Asked for peer's advice in relation to the certification process	Yes	83	87,4%	35	92,1%	55	78,6%	173	85,2%
	No	12	12,6%	3	7,9%	15	21,4%	30	14,8%
	Total	*95*	*100,0%*	*38*	*100,0%*	*70*	*100,0%*	*203*	*100,0%*
Waited to hear experiences of peers before deciding to join the certification process	Yes	50	53,8%	25	67,6%	40	59,7%	115	58,4%
	No	43	46,2%	12	32,4%	27	40,3%	82	41,6%
	Total	*93*	*100,0%*	*37*	*100,0%*	*67*	*100,0%*	*197*	*100,0%*
Opinions and actions of peers influenced decision to adopt the certification process	Yes	44	48,4%	19	51,4%	27	43,5%	90	47,4%
	No	47	51,6%	18	48,6%	35	56,5%	100	52,6%
	Total	*91*	*100,0%*	*37*	*100,0%*	*62*	*100,0%*	*190*	*100,0%*

Regardless of the certification status, respondents asked for peers' advice in relation to the certification process (Table 20). There are statistically significant differences among certified and non-certified PHPs, in terms of the time they made decision whether to join the certification process (χ^2=13,012, df=2, p=.001). Less than half of certified PHPs (44,2%) waited to hear experience of their peers before deciding, while 72,4% of non-certified PHPs delayed their decision by the time they heard experience of their peers.

Table 20. Influences in decision making on certification adoption by members of the sample (by certification status)

Influences in decision making		Certification status					
		Completed		Ongoing		Not completed	
		n	%	n	%	n	%
Chamber influenced decision whether to adopt the certification process	Yes	13	25.0%	9	16.4%	19	21.3%
	No	39	75.0%	46	83.6%	70	78.7%
	Total	*52*	*100.0%*	*55*	*100.0%*	*89*	*100.0%*
Professional association influenced decision whether to adopt the certification	Yes	19	38.0%	11	20.0%	20	22.5%
	No	31	62.0%	44	80.0%	69	77.5%
	Total	*50*	*100.0%*	*55*	*100.0%*	*89*	*100.0%*
Asked for peer advice in relation to the certification process	Yes	44	83.0%	51	87.9%	78	84.8%
	No	9	17.0%	7	12.1%	14	15.2%
	Total	*53*	*100.0%*	*58*	*100.0%*	*92*	*100.0%*
Waited to hear experiences of peers before deciding to join the certification process	Yes	23	44.2%	29	50.0%	63	72.4%
	No	29	55.8%	29	50.0%	24	27.6%
	Total	*52*	*100.0%*	*58*	*100.0%*	*87*	*100.0%*
Opinions and actions of peers influenced decision to adopt the certification process	Yes	21	40.4%	26	45.6%	43	53.1%
	No	31	59.6%	31	54.4%	38	46.9%
	Total	*52*	*100.0%*	*57*	*100.0%*	*81*	*100.0%*

4.6 Additional comments by respondents

The last page of the questionnaire offered space for additional observation or comments by respondents. In total 57 respondents (25,4%) provided their observations/comments. Majority of observations/comments was provided by dental practices (29 observations), followed by pharmacies (16 observations) and specialist practices (12 observations). The key issues raised by the respondents correspond well to major findings from the first phase of the research.

Respondents from ***dental practices*** additionally emphasized expenses and additional paperwork as the major disadvantages related to the certification process. They also expressed attitude that certification process should have been made voluntary, instead of mandatory. As the certified practices might become less competitive in the market, the ultimate result of certification might be lower income of certified practices and stimulation of illegal practice.

Observations from ***pharmacies*** indicate that respondents might have accepted certification as a legal obligation, though it has some important drawbacks (costs, administrative burden and staff time needed for compliance with standards). Few respondents recognized that certification process has advantages (better organization of work, more effective management and uniformity of practice among pharmacies in the chain).

Respondents from ***specialist practices*** used opportunity to additionally emphasize drawbacks of certification process (related expenses, complexity of the process and administrative burden). Tending to compare certification processes among private and public healthcare providers, respondents also highlighted lack of observable improvements of safety and quality of care in certified public primary healthcare centers.

5. Key findings

5.1 Summary for pharmacies

Out of 380 pharmacies, 103 (27,1%) responded to the survey. This was the lowest response rate, compared to specialist practices and dental practices. Still, it was the highest number of respondents per type of provider in the survey and highest percentage of certified providers was among pharmacies (42,7% of respondents from pharmacies completed certification and 30,1% of respondents from pharmacies have commenced the process). It is important to note that 56% of pharmacies in the sample belong to the chains of pharmacies and that all pharmacies have contracts with the RS HIF.

The survey findings, related to the properties of certification, showed that respondents from pharmacies in much higher rate pointed out advantages of certification than other two types of PHPs. Respondents from the pharmacies in significantly higher percentages agreed that the certification facilitates management of the provider organization, facilitates and improves the system of work, improves the safety and quality of services they provide and facilitates job orientation for new employees. Pharmacies have expected more gains from certification than other two types of PHPs (such as higher patient and staff satisfaction, gaining additional patients and possible advantages in contracting with the RS HIF). Considering risk mitigation, respondents from the pharmacies recognized that most important risk that could be reduced was the risk of harming the patients, followed by risk of losing contract with the RS HIF. Consequently, pharmacies also pointed out lesser disadvantages of certification than other two types of PHPs. Respondents from pharmacies indicate that they might have accepted certification as a legal obligation, though it has some important drawbacks. Most prominent disadvantages of the certification pointed by the respondents from pharmacies were financial and administrative burden, instigated by the certification process.

Results of the survey confirmed that respondents from pharmacies had more positive opinion on influence of chamber and professional organizations than respondents from other two types of PHPs. They have pointed out that chamber and professional association had clear attitudes on certification and were interested in certification. Also, respondents from pharmacies in much higher degree acknowledged that colleagues from other pharmacies had positive attitude towards certification, when compared to specialist practices and dental practices respondents.

There were significant differences among perception of observability of certification by different types of PHPs. Respondents from pharmacies indicated better observability of certification than other two types of PHPs (particularly in relation to observability of certification by pharmaceutical inspection, the RS HIF and patients).

There were significant differences among perception of availability of information on certification by different types of PHPs. Information on certification was more available to pharmacies than to other two types of PHPs. Comparing sources of information among three types of the PHPs, it became evident that the main sources of information on certification for the pharmacies were contacts with ASKVA's staff, followed by professional meetings/seminars and contacts with certified health providers (mainly other pharmacies).

5.2 Summary for specialist practices

The questionnaire was sent out to 83 specialist practices and 44 of them (53,0%) responded to the survey. There are 12 (27,9%) of certified specialist practices among respondents, 16 (37,2%) specialist practices are going through the process of certification and 15 (34%) that have not entered the certification process.

The survey findings, related to the properties of certification, showed that respondents from the specialist practices pointed out in lesser degree advantages of certification than those from the pharmacies (but in higher degree compared to respondents from the dental practices). More respondents from the specialist practices than respondents from dental practices agreed that the certification improves the safety and quality of services and facilitate management of the practices. Specialist practices expected fewer gains from certification process compared to the pharmacies, but more compared to the dental practices. Gains expected have mainly been gains in professional status, gains related to the patient and staff satisfaction and attracting of additional patients. Considering risk mitigation, respondents from specialist practices recognized the risk of harming the patients as the most important risk that could be reduced, followed by the risk of acquiring professional disease or injury. Respondents from the specialist practices in higher degree emphasized the disadvantages of the certification, compared to the pharmacies, especially in relation to financial and administrative burden and time required for meeting the standards (which should be devoted to patients, instead). Tending to compare certification processes among private and public healthcare providers, respondents also highlighted lack of observable improvements of safety and quality of care in certified public primary healthcare centers.

Influence of chamber and influence of professional associations were not pointed out by respondents from specialist practices as important factors in adopting the certification process or meeting the certification standards. The influence of the Chamber of Medical Doctors was the least important, when compared to influence of two other chambers (only 10,3% of respondents found it to be important). Respondents indicated that medical chamber and professional associations did not have clear attitude in regard with certification, have not provided support to the specialist practices in the process of preparation and have not provided sufficient information regarding the certification process. Influence of peers was the most important influence in specialist practices' decision making process, while opinions of peers on certification was less favorable in comparison to the peers opinions provided to respondents from pharmacies.

Respondents from specialist practices indicated worse observability of certification than those from pharmacies. They pointed out that their certification process was more observable to health inspection and general public compared than to Ministry of Health and Social Welfare, Health Insurance Fund of RS and patients.

Information on certification was more available to specialist practices than to dental practices, but less available in comparison to the pharmacies. Specialist practices used contacts with certified healthcare providers to obtain information about certification more often than dental practices, but less often than pharmacies. Contacts with representatives of the PHI RS were

more important for specialist practices as a source of information on certification, than it was the case for pharmacies.

5.3 Summary for dental practices

There were 77 dental practices (or 40,9% out of 188 dental practices) who responded to the survey. No response to survey was received from the certified dental practices. Only 17 practices (22,1%) have started with the certification process and 60 (77,9%) of dental practices have not enter certification process yet. There are no dental practices in the sample that had contract with the Health Insurance Fund of RS.

The survey findings, related to the properties of certification, showed that respondents from dental practices recognized less advantages of certification than other two types of PHPs. In their responses, they were more focused on disadvantages of certification, such as financial and administrative burden and time-consuming nature of certification activities. Their expectations of gains from certification were largely benefits related to staff satisfaction and potential advantages in relation with contracting with the RS HIF. Considering risk mitigation, respondents from dental practices expressed opinion that adoption of certification was reducing risk of paying fines to the inspection and risk of having court process initiated by the patients. The respondents also expressed attitude that certification process should have been made voluntary, instead of mandatory.

Professional associations had less influence to dental practices' decision making process in relation to adoption of certification (only important to 20,6% of respondents), than it was the case for other two types of PHPs. Respondents from dental practices had less positive opinion on attitudes and support of the Chamber of Dentists of RS and professional associations on adoption of certification process, when compared to pharmacies.

Majority of respondents in the sample (85,2%) asked peers for advice in relation to the certification process, while nearly half of the respondents (47,4%) stated that opinions and actions of the peers influenced their decision on whether to adopt the certification process. Dental practices pointed out observability of certification in lesser degree than other two types of PHPs. On the scale of perception of the observability of process of certification, the most significant observability was found to be in relation with health inspection and Ministry of Health and Social Welfare. The patients, Health Insurance Fund of RS and general public were not seen as stakeholders who could observe certification process for benefit of the dental practices.

Information on certification was significantly less available to dental practices than to other two types of PHPs. The main sources on information on certification for the dental practices were peers and the Chamber of Dentists of RS. Contacts with representatives of the PHI RS were also important source of information on certification for the dental practices.

5.4 Cross-case comparison of findings

Perceived attributes of innovation: Advantages of the proposed innovation (better management, regulation of work processes, orientation of new employees) have been

recognized by respondents from pharmacies, while specialist practices' and dental practices' respondents have noted significantly less advantages of the certification process. Disadvantages of the certification process were rated as minor by pharmacies, while owners of specialist and dentist practices mainly responded that the process has major disadvantages. Majority of respondents from specialist and dental practices emphasised cost, administrative burden and time required for meeting the standard requirements as major disadvantages. Risk mitigation was stressed by pharmacies in relation with patients and contracting with RS HIF, while specialist practices have stressed risk mitigation in relation to inspection fines and avoidance of court processes initiated by patients. Substantial observability of the innovation was only noticed by pharmacies, mostly in relation to pharmaceutical inspection, the RS HIF and patients, while specialist practices and dental practices did not find observability of the certification process to be significant.

Table 21: Comparison of findings for three types of private healthcare providers

Properties of innovation*	Subcategories	Pharmacies	Specialists practices	Dental practices
Perceived attributes of innovation	Advantages	Major	Medium	Minor
	Disadvantages	Minor	Major	Major
	Observability	Visible effects	No visible effects	No visible effects
Communication	Sources of information	ASKVA, Peers, Chamber, Professional association	Peers Public Health Institute of RS	Peers, Chamber, Public Health Institute of RS
	Communication channels	Internet, Seminars, Interpersonal communication	Interpersonal communication, Seminars	Interpersonal communication, Seminars
Influences from social system	Peers	Medium	Medium	Medium
	Chamber	Minor	Minor	Minor
	Professional associations	Minor	Minor	Minor

* Based on the diffusion of innovation theory [13]

Communication: The main sources of information about certification for pharmacies were the ASKVA and peers working in the certified pharmacies. For specialist practices, peers and the Public Health Institute of RS were important sources and for dental practices the main sources were peers, the Public Health Institute of RS and the Chamber of Dentists. It is interesting that interpersonal communication was intensively used and was the most important channel of

communication for all the private healthcare providers (next to Internet and seminars which were additional communicational channels used by pharmacies).

Influences from social system: Peers had some influence on all PHPs in decision making process related to adoption of the certification standards, while none of the medical chambers in health system of Republic of Srpska (the Chamber of Medical Doctor, the Pharmaceutical Chamber of RS or the Chamber of Dentist) or any of professional associations did not play significant role in decision making process regarding participation to the certification process.

6. Discussion

Hypothesis 1 was about influence of possible gains in professional status of providers on the adoption of quality and safety standards. Based on the findings presented in the report, expected gains in professional status seem to be less significant than other factors in PHPs' decision making process related to adoption of the quality and safety standards. Even though significantly more pharmacies than specialist practices and dental practices expected gains in professional status, the gains in professional status were not the most important expected gains even for the pharmacies. Therefore, the results of this phase of research do not allow for the hypothesis 1 to be confirmed.

Hypothesis 2 was about fear of negative financial consequences and its influence on adoption of mandatory quality and safety standards. More than half of members of the sample perceived that the most important risks that can be mitigated by the certification process was risk of paying fines resulting from Inspectorate's visits. The pharmacies were more inclined than other two types of PHPs to perceive that certification can mitigate risk of losing contract with the RS HIF. Avoiding fines and court processes were perceived by respondents from dental practices as more important than other risks that the certification could mitigate. Risk of paying fines resulting from Inspectorate's visit was also important for the representatives of specialist practices. Therefore, the results of this phase of research do suggest that hypothesis 2 can be confirmed.

Hypothesis 3 was about availability of appropriate information about innovation and its influence on decision making process. There were significant differences in perception of availability of information on certification between pharmacies, specialist practices and dental practices. Specifically, information on certification was more available to pharmacies than to other two types of PHPs. Information on certification was more available to specialist practices than to dental practices. Having on mind that highest rate of certified providers is among pharmacies, followed by specialist practices, it can be concluded that availability of information had influenced the rate of innovation adoption.

Hypothesis 4 was about opinions of peers and its influence on adoption of innovation. Majority of respondents in the sample asked for peers' advice in relation to the certification process, while nearly half of the respondents stated that opinions and actions of their peers influenced their decision on whether to adopt the certification process. More than half of respondents waited to hear experience of their peers before deciding to join certification process. It can be concluded that opinions of peers had in some degree influenced rate of adoption of the innovation.

Hypothesis 5 was about perceived attitudes of chambers and professional associations and its influence on adoption of safety and quality standards. Based on the findings presented in the report, it can be concluded that none of the chambers active in health system of Republic of Srpska (the Chamber of Medical Doctor of RS, the Pharmaceutical Chamber of RS or the Chamber of Dentist) or any of the professional associations did play significant role in decision making process regarding adoption of the certification process. The results of this phase of research do not allow for the hypothesis 5 to be confirmed.

7. Conclusions

In second phase of the study we aimed to explore the research question in more depth and to contribute to finding the answer to the question: “Why does the rate of adoption of mandatory safety and quality standards vary among different types of private healthcare providers in the Republic of Srpska?” Towards that answer, we tested five research hypotheses. Based on the findings of the survey, we have partially confirmed the conclusions of the first phase of the study:

1. Perceived gains in the professional status continued to have some positive but not crucial influence on adoption of safety and quality standards by private healthcare providers.
2. Fear of negative financial consequences (inspection fines and risk of losing contract with the RS HIF) continued to significantly increase adoption of safety and quality standards.
3. Availability of information on safety and quality standards increased their adoption.
4. Opinions conveyed to private healthcare providers by peers still have negative influence on adoption of safety and quality standards.
5. Perceived attitudes of chambers continued to have limited influence on adoption of safety and quality standards.
6. Level of support of professional associations to private health care providers in implementation of the certification has ceased to have significant influence on the level of adoption of the safety and quality standards.

In conclusion of the second phase of the research, we believe that rate of adoption of mandatory safety and quality standards continued to vary between different groups of private providers mainly due to (1) different level of fear from negative financial consequences and (2) different level of availability of information on safety and quality standards and certification process. These findings need to be additionally confirmed or disputed through the final stage of the research (interviews with selected resisters among the private healthcare providers).

8. Policy implications/Recommendations

Finding of the second phase of the research confirmed the following implications for policy makers, identified in the previous phase of the study (grouped according to the stakeholder who could be responsible for implementation of the recommendations):

1. ***Recommendations to the ASKVA:***
   - Put more efforts in information and education of PHPs. Organize a series of meetings/seminars, to explain to non-adopters what the certification is, what are its advantages, how certification process looks like, what it looks like to have certification implemented in private practice, how much time certification takes in everyday work, what additional work is required daily and how much time it takes away from patients.
   - Consider alternative approaches to covering assessment costs by the PHPs (e.g. payment in instalments).
   - Organize events to present results of the certification process and to share experience of certified PHPs with other providers.
   - Put more focus on public promotion of the providers who successfully completed certification process.
   - Put more focus on explanation of purpose and importance of the certification process to general public (e.g. current and future patients).

2. ***Recommendations to the Ministry of Health and Social Welfare of RS:***
   - Consider possibility of shifting some of the certification costs away from PHPs (to other sources of financing).
   - Consider possibility of more clearly providing public support to certification processes among the private healthcare providers.
   - Consider the need to make more direct announcements on certification of PHPs and explicitly demand from the providers to enter the certification process.
   - Consider the need to precisely define time needed for issuing decision on certification, after submission of certification assessment report by the ASKVA.

3. ***Recommendations to the RS Health Insurance Fund:***
   - Consider possibility of specifying completion of certification process as one of the mandatory criteria for contracting
   - Consider possibility of implementing selective contracting with the healthcare providers, on the bases of certification status
   - Consider possibility of the RS HIF's participation in promoting use of certified providers' services (as more safer for the insured population)

4. ***Recommendations to the chambers:***
   - Come up with official position on certification and announce it publicly to the members
   - Consider possibility of including healthcare quality and safety related issues in programs of healthcare professionals' continuous education

5. Recommendations to the professional associations:

- Continue and increase provision of support to individual pharmacies in complying with requirements of the certification standards (the Pharmaceutical Society of RS)
- Consider how experiences of the Pharmaceutical Society of RS could be useful in adjusting approached used for provision of support to members of the associations (other professional associations)

6. Recommendations to the Inspectorate of RS:

- Consider possibility of routinely checking on the certification status during all health inspectors' visits to PHPs.

7. Recommendations to the Public Health Institute of RS:

- Continue supporting certification process through provision of training on management of risks in infection control and assistance to PHPs with development of internal procedures.

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10. Annexes

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Annex 1: Questionnaire used for the survey

ID ⌊_⌊_⌊_⌋ R/N

QUESTIONNAIRE FOR THE PRIVATE HEALTHCARE PROVIDERS

PLEASE PROVIDE THE FOLLOWING GENERAL INFORMATION:

Type of provider: 1 ☐ Pharmacy 2 ☐ Specialist practice 3 ☐ Dental practice

Tick status of your organization (for pharmacies only):

1 ☐ Chain of pharmacies 2 ☐ Independent pharmacy

Position in organization: 1 ☐ Owner 2 ☐ Managing director 3 ☐ Owner & Managing director

☐ Other: _____

When was your practice/pharmacy established: _____ year

Number of employees in your practice/pharmacy: _____

Does your practice/pharmacy have contract with Health Insurance Fund:

1 ☐ Yes 2 ☐ No

Has your practice/pharmacy completed certification process:

1 ☐ Yes 2 ☐ No 3 ☐ The certification is ongoing

If you completed the certification process, provide the month and year of completion:

_____

Membership in professional associations (tick all that apply):

1 ☐ Association of medical doctors in private practice of the Republic of Srpska
2 ☐ Pharmaceutical society of the Republic of Srpska
3 ☐ Association of private practice dentist of the Republic of Srpska
4 ☐ Association of specialized dentist of the Republic of Srpska
5 ☐ None

IN THE FOLLOWING PART OF THE QUESTIONNARE WE PRESENTED CLAIMS THROUGH WHICH WE EXSAMINES YOUR ATTITUDE AND EXPERIENCE RELATED TO THE CERTIFICATION PROCESS. PLEASE CHECK BOXES TO CHOOSE ONE OF AVAILABLE RESPONSES IN RELATION TO STATEMENTS:

		Strongly disagree	Partially disagree	Neither agree nor disagree	Partially agree	Strongly agree
Advantages and disadvantages of certification process						
1.	Certification facilitates and improves system of work.	☐	☐	☐	☐	☐

		Strongly disagree	Partially disagree	Neither agree nor disagree	Partially agree	Strongly agree
2.	Certification process is a financial burden for the organization.	☐	☐	☐	☐	☐
3.	Certification process improves safety and quality of healthcare providers' services.	☐	☐	☐	☐	☐
4.	Certification adds a lot of extra administration work.	☐	☐	☐	☐	☐
5.	Certification process takes time from provision of services to patients.	☐	☐	☐	☐	☐
6.	Certification process facilitates job orientation.	☐	☐	☐	☐	☐
7.	Certification facilitates management of the healthcare provider organizations.	☐	☐	☐	☐	☐
Visibility of the certification process						
8.	Patients observe the differences in functioning of certified health care providers.	☐	☐	☐	☐	☐
9.	Health Insurance Fund positively values certified healthcare providers.	☐	☐	☐	☐	☐
10.	Health Inspection positively values certified healthcare providers.	☐	☐	☐	☐	☐
11.	Ministry of Health and Social Welfare positively values certified healthcare providers.	☐	☐	☐	☐	☐
12.	Certified healthcare providers are recognized in the public as an example of good practice.	☐	☐	☐	☐	☐
Certification standards characteristics						
13.	Certification standards can be implemented in my practice/pharmacy.	☐	☐	☐	☐	☐
14.	Certification standards should be better tailored to the type and size of practice/pharmacy.	☐	☐	☐	☐	☐
15.	Requirements of the certification standards are clearly defined.	☐	☐	☐	☐	☐
16.	Certification standards are too voluminous and broad.	☐	☐	☐	☐	☐
17.	Certification standards are relevant to the services provided by my practice/pharmacy.	☐	☐	☐	☐	☐
Access to information on certification process						
18.	Adequate information about certification was available to me at the time of deciding whether to join the certification process.	☐	☐	☐	☐	☐
19.	We asked the different healthcare system institutions about everything unclear in relation to the certification process.	☐	☐	☐	☐	☐
20.	All information about certification process was available at the ASKVA's web site.	☐	☐	☐	☐	☐
21.	ASKVA sufficiently informed healthcare providers about the certification process	☐	☐	☐	☐	☐
22.	Healthcare providers were mostly left for themselves to seek information about the	☐	☐	☐	☐	☐

		Strongly disagree	Partially disagree	Neither agree nor disagree	Partially agree	Strongly agree
	certification process.					
Professional associations influence						
23.	Professional association had positive attitude towards the certification process.	☐	☐	☐	☐	☐
24.	Professional association was interested in the certification process	☐	☐	☐	☐	☐
25.	Professional association supported me in preparation for the certification.	☐	☐	☐	☐	☐
26.	Professional associate clearly expressed its position on the certification process.	☐	☐	☐	☐	☐
27.	Professional association provided all relevant information about the certification process	☐	☐	☐	☐	☐
Interpersonal communication						
28.	My peers had clear attitudes towards the certification process	☐	☐	☐	☐	☐
29.	My peers had had positive attitude towards the certification process	☐	☐	☐	☐	☐
30.	My peers were interested in the certification.	☐	☐	☐	☐	☐
31.	My attitude towards certification was mostly formed in contacts with peers who completed the process	☐	☐	☐	☐	☐
Professional chambers influence						
32.	Medical chamber had positive attitude towards the certification process.	☐	☐	☐	☐	☐
33.	Medical chamber was interested in the certification process	☐	☐	☐	☐	☐
34.	Medical chamber supported me in preparation for the certification.	☐	☐	☐	☐	☐
35.	Medical chamber clearly expressed its position on the certification process.	☐	☐	☐	☐	☐
36.	Medical chamber provided all relevant information about the certification process	☐	☐	☐	☐	☐
The willingness for accepting certification process						
37.	We would join the certification program even if it had not been mandatory.	☐	☐	☐	☐	☐
38.	We would recommend the certification to all healthcare providers.	☐	☐	☐	☐	☐
39.	We prefer different work methods in our organisations rather than one that is offered by the certification process.	☐	☐	☐	☐	☐
40.	I would recommend introduction of the certification standards to my peers.	☐	☐	☐	☐	☐
		(1)	(2)	(3)	(4)	(5)

PLEASE PROVIDE <u>YES OR NO</u> ANSWERS TO THE QUESTIONS 41-49:

41. Have you expected (or do you expect) any gains from the certification?

1)	Gains in professional status	Yes ☐	No ☐
2)	Gains related to patient's satisfaction	Yes ☐	No ☐
3)	Gains related to staff satisfaction	Yes ☐	No ☐
4)	Gaining additional patients	Yes ☐	No ☐
5)	Advantages in contracting with the Health Insurance Fund of the Republic of Srpska	Yes ☐	No ☐
6)	Other gains:_____	Yes ☐	No ☐
		(1)	(2)

If you have expected/expect some **gains** which were the most important to you:

_____

_____

42. Did you achieve any benefits from certification process (TO BE COMPLETED ONLY BY CERTIFIED PRIVATE PRACTICES)?

1)	Benefit in the professional status	Yes ☐	No ☐
2)	Benefits related to patient's satisfaction	Yes ☐	No ☐
3)	The benefits related to related to staff satisfaction	Yes ☐	No ☐
4)	The benefits from attracting additional patients	Yes ☐	No ☐
5)	Advantages in contracting with the Health Insurance Fund of the Republic of Srpska	Yes ☐	No ☐
6)	Other benefits:_____	Yes ☐	No ☐
		(1)	(2)

If you have expected/expect some **benefits** which were the most important to you:

_____

_____

43. Which of the risks did/can the certification process mitigate in your practice/pharmacy?

1)	Risk of harming the patients	Yes	☐	No	☐
2)	Risk of losing contract with Health Insurance Fund	Yes	☐	No	☐
3)	Risk of losing patients	Yes	☐	No	☐
4)	Risk of paying fines resulting from Inspectorate's visit	Yes	☐	No	☐
5)	Risk of having court processes initiated by patients	Yes	☐	No	☐
6)	Risk of staff professional diseases and injuries	Yes	☐	No	☐
7)	Other risks: _____	Yes	☐	No	☐
			(1)		(2)

Which of the risks was/is the most important to you: _____

_____

44. How did you obtain the information about the certification process?

1)	Through TV, radio and newspaper	Yes ☐	No ☐
2)	Through professional magazines	Yes ☐	No ☐
3)	Through Official Gazette	Yes ☐	No ☐
4)	Through Internet	Yes ☐	No ☐
5)	Through direct contact with my peers	Yes ☐	No ☐
6)	Through contacts with certified healthcare providers	Yes ☐	No ☐
6)	Through professional associations	Yes ☐	No ☐
7)	Through chamber	Yes ☐	No ☐
8)	Through professional meetings and seminars	Yes ☐	No ☐
9)	Through contacts with representatives of ASKVA	Yes ☐	No ☐
10)	Through contacts with representatives Public Health Institute	Yes ☐	No ☐
11)	Through contacts with representatives Ministry of Health and Social Welfare	Yes ☐	No ☐
12)	Through other sources: _____	Yes ☐	No ☐
		(1)	(2)

Which of the sources was/is the most important to you:_____

_____

45.	**Did the medical chamber influence your decision whether to accept the certification process?**	Yes ☐	No ☐
46.	**Did the professional association influence your decision whether to accept the certification process?**	Yes ☐	No ☐
47.	**Did you ask for advice from your peers in relation to the certification standards?**	Yes ☐	No ☐
48.	**Have you waited to hear experiences your peers before deciding whether to join to the certification process?**	Yes ☐	No ☐
49.	**Have the opinions and actions of your peers had influence on your decision to accept the certification process?**	Yes ☐	No ☐
		(1)	(2)

Space for additional observations or comment you'd like to share with us.

Annex 2: Relation between properties of innovation and questionnaire items

Properties of innovation	Variables	Definitions	Question number
Perceived attributes of innovation	Relative advantage	Degree to which adoption of mandatory safety and quality standards is perceived as better than retaining status quo.	1-7
	Observability	Degree to which the results of adoption of mandatory safety and quality standards are visible to different stakeholders.	8-12
	Complexity	Degree to which mandatory safety and quality standards are perceived as difficult to understand and adopt.	13-17
Communication channels	Mass media channels	All the means of transmitting messages, involving a mass medium, through which audience of many PHPs got information on certification process.	44
	Interpersonal channels	Face-to-face exchange of information on mandatory safety and quality standards between owner of PHP and other individuals.	28-31, 44
Innovation decision process	Knowledge	The first stage in innovation decision process, which occurs when PHP's owner is exposed to existence of safety and quality standards and gain some understanding on how the certification process functions.	18-22, 44
	Persuasion	The second stage in innovation decision process, which occurs when PHP's owner form a favourable or unfavourable attitude towards the standards and certification process.	37-43
	Decision	The third stage in innovation decision process, which occurs when PHP's owner engages in activities that lead a choice to adopt or reject the certification process.	45-49
Social system	Collective innovation-decision	Choices to adopt or reject certification process that are made by consensus among the members of medical chambers or members of professional associations of PHPs.	23-27 32-36

Annex 3: Dynamics of questionnaire returning

Date		Responses received	Type of PHP			MoHSW's registries		Total questionnaires returned
			Pharmacy	Specialist practise	Dental practise	Registered	Not fully registered	
Week 1	21.06.2016	12	4	2	6	11	1	12
	22.06.2016	12	3	6	3	11	1	24
	23.06.2016	16	7	5	4	16	-	40
	24.06.2016	18	7	4	7	16	2	58
Week 2	27.06.2016	11	7	1	3	11	-	69
	28.06.2016	1	1	-	-	1	-	70
	29.06.2016	14	7	3	4	14	-	84
	30.06.2016	18	5	5	8	17	1	102
	01.07.2016	46	25	6	15	43	3	148
Week 3	04.07.2016	24	10	4	10	21	3	172
	05.07.2016	12	6	3	3	12	-	184
	06.07.2016	3	2	-	1	3	-	187
	07.07.2016	10	6	-	4	10	-	197
	08.07.2016	6	3	1	2	5	1	203
Week 4	11.07.2016	3	2	1	-	3	-	206
	12.07.2016	2	1	-	1	1	1	208
	13.07.2016	1	-	-	1	1	-	209
	14.07.2016	4	1	1	2	2	2	213
	15.07.2016	5	4	1	-	5	-	218
Week 5	18.07.2016	1	-	-	1	-	1	219
	20.07.2016	2	2	-	-	2	-	221
	21.07.2016	2	-	1	1	1	1	223
	22.07.2016	1	-	-	1	1	-	224
TOTAL		**224**	**103**	**44**	**77**	**207**	**17**	**224**

Annex 4: Results of wave analysis

			Waves					
			Wave 1 (21.6- 8.7.16.)		Wave 2 (11.7-22.7.16.)		Total	
			n	%	n	%	n	%
Type of provider		Pharmacy	95	46,1%	8	44,4%	103	46,0%
		Specialist practice	41	19,9%	3	16,7%	44	19,6%
		Dental practice	70	34,0%	7	38,9%	77	34,4%
		Total	206	100,0%	18	100,0%	224	100,0%
Certification status		Completed	53	25,9%	3	16,7%	56	25,1%
		Ongoing	57	27,8%	7	38,9%	64	28,7%
		Not completed	95	46,3%	8	44,4%	103	46,2%
		Total	205	100,0%	18	100,0%	223	100,0%
Expected gains	Gains in professional status	Yes	90	45,7%	8	44,4%	98	45,6%
		No	107	54,3%	10	55,6%	117	54,4%
		Total	197	100,0%	18	100,0%	215	100,0%
	Gains related to patient satisfaction	Yes	93	47,4%	8	44,4%	101	47,2%
		No	103	52,6%	10	55,6%	113	52,8%
		Total	196	100,0%	18	100,0%	214	100,0%
	Gains related to staff satisfaction	Yes	89	45,4%	7	38,9%	96	44,9%
		No	107	54,6%	11	61,1%	118	55,1%
		Total	196	100,0%	18	100,0%	214	100,0%
	Gaining additional patients	Yes	74	37,8%	5	27,8%	79	36,9%
		No	122	62,2%	13	72,2%	135	63,1%
		Total	196	100,0%	18	100,0%	214	100,0%
	Advantages in contracting with the RS HIF	Yes	95	50,0%	8	44,4%	103	49,5%
		No	95	50,0%	10	55,6%	105	50,5%
		Total	190	100,0%	18	100,0%	208	100,0%
Achieved benefits	Gains in professional status	Yes	22	42,3%	2	66,7%	24	43,6%
		No	30	57,7%	1	33,3%	31	56,4%
		Total	52	100,0%	3	100,0%	55	100,0%
	Gains related to patient satisfaction	Yes	21	40,4%	2	66,7%	23	41,8%
		No	31	59,6%	1	33,3%	32	58,2%
		Total	52	100,0%	3	100,0%	55	100,0%
	Gains related to staff satisfaction	Yes	22	42,3%	2	66,7%	24	43,6%
		No	30	57,7%	1	33,3%	31	56,4%
		Total	52	100,0%	3	100,0%	55	100,0%
	Gaining additional patients	Yes	13	25,5%	1	33,3%	14	25,9%
		No	38	74,5%	2	66,7%	40	74,1%
		Total	51	100,0%	3	100,0%	54	100,0%
	Advantages in contracting with the RS HIF	Yes	10	20,8%	2	66,7%	12	23,5%
		No	38	79,2%	1	33,3%	39	76,5%
		Total	48	100,0%	3	100,0%	51	100,0%

			Waves					
			Wave 1 (21.6- 8.7.16.)		Wave 2 (11.7-22.7.16.)		Total	
			n	%	n	%	n	%
Risks mitigated by certification	Risk of harming the patients	Yes	87	51,8%	8	47,1%	95	51,4%
		No	81	48,2%	9	52,9%	90	48,6%
		Total	168	100,0%	17	100,0%	185	100,0%
	Risk of losing contract with the RS HIF	Yes	48	30,4%	3	18,8%	51	29,3%
		No	110	69,6%	13	81,2%	123	70,7%
		Total	158	100,0%	16	100,0%	174	100,0%
	Risk of losing patients	Yes	28	17,2%	3	17,6%	31	17,2%
		No	135	82,8%	14	82,4%	149	82,8%
		Total	163	100,0%	17	100,0%	180	100,0%
	Risk of paying fines resulting from Inspectorate's visit	Yes	89	53,0%	6	40,0%	95	51,9%
		No	79	47,0%	9	60,0%	88	48,1%
		Total	168	100,0%	15	100,0%	183	100,0%
	Risk of having court processes initiated by patients	Yes	68	42,0%	3	20,0%	71	40,1%
		No	94	58,0%	12	80,0%	106	59,9%
		Total	162	100,0%	15	100,0%	177	100,0%
	Risk of staff professional diseases and injuries	Yes	83	49,7%	7	41,2%	90	48,9%
		No	84	50,3%	10	58,8%	94	51,1%
		Total	167	100,0%	17	100,0%	184	100,0%
Sources of information on certification	TV, radio and newspapers	Yes	12	6,9%	1	5,9%	13	6,8%
		No	161	93,1%	16	94,1%	177	93,2%
		Total	173	100,0%	17	100,0%	190	100,0%
	Professional magazines	Yes	50	29,1%	4	23,5%	54	28,6%
		No	122	70,9%	13	76,5%	135	71,4%
		Total	172	100,0%	17	100,0%	189	100,0%
	Official Gazette	Yes	52	29,7%	5	29,4%	57	29,7%
		No	123	70,3%	12	70,6%	135	70,3%
		Total	175	100,0%	17	100,0%	192	100,0%
	Internet	Yes	84	46,4%	8	47,1%	92	46,5%
		No	97	53,6%	9	52,9%	106	53,5%
		Total	181	100,0%	17	100,0%	198	100,0%
	Direct contacts with peers	Yes	158	83,2%	15	88,2%	173	83,6%
		No	32	16,8%	2	11,8%	34	16,4%
		Total	190	100,0%	17	100,0%	207	100,0%
	Contacts with certified healthcare providers	Yes	76	42,9%	10	58,8%	86	44,3%
		No	101	57,1%	7	41,2%	108	55,7%
		Total	177	100,0%	17	100,0%	194	100,0%
	Professional associations	Yes	93	52,5%	8	47,1%	101	52,1%
		No	84	47,5%	9	52,9%	93	47,9%
		Total	177	100,0%	17	100,0%	194	100,0%

			Waves					
			Wave 1 (21.6- 8.7.16.)		Wave 2 (11.7-22.7.16.)		Total	
			n	%	n	%	n	%
Sources of information on certification	Chamber	Yes	101	55,2%	8	47,1%	109	54,5%
		No	82	44,8%	9	52,9%	91	45,5%
		Total	183	100,0%	17	100,0%	200	100,0%
	Professional meetings and seminars	Yes	113	64,2%	9	60,0%	122	63,9%
		No	63	35,8%	6	40,0%	69	36,1%
		Total	176	100,0%	15	100,0%	191	100,0%
	Contacts with representatives of ASKVA	Yes	106	58,6%	8	47,1%	114	57,6%
		No	75	41,4%	9	52,9%	84	42,4%
		Total	181	100,0%	17	100,0%	198	100,0%
	Contacts with representatives of PHI RS	Yes	55	30,9%	5	29,4%	60	30,8%
		No	123	69,1%	12	70,6%	135	69,2%
		Total	178	100,0%	17	100,0%	195	100,0%
	Contacts with representatives of MoHSW	Yes	31	17,9%	1	5,9%	32	16,8%
		No	142	82,1%	16	94,1%	158	83,2%
		Total	173	100,0%	17	100,0%	190	100,0%
Influences in decision making process	Chamber influenced decision whether to adopt the certification process	Yes	38	21,1%	3	18,8%	41	20,9%
		No	142	78,9%	13	81,2%	155	79,1%
		Total	180	100,0%	16	100,0%	196	100,0%
	Professional association influenced decision whether to adopt the certification	Yes	47	26,4%	3	18,8%	50	25,8%
		No	131	73,6%	13	81,2%	144	74,2%
		Total	178	100,0%	16	100,0%	194	100,0%
	Asked for peer's advice in relation to the certification process	Yes	157	84,0%	16	100,0%	173	85,2%
		No	30	16,0%	0	0,0%	30	14,8%
		Total	187	100,0%	16	100,0%	203	100,0%
	Waited to hear experiences of peers before deciding to join the certification process	Yes	107	59,1%	8	50,0%	115	58,4%
		No	74	40,9%	8	50,0%	82	41,6%
		Total	181	100,0%	16	100,0%	197	100,0%
	Opinions and actions of peers influenced decision to adopt the certification process	Yes	83	47,4%	7	46,7%	90	47,4%
		No	92	52,6%	8	53,3%	100	52,6%
		Total	175	100,0%	15	100,0%	190	100,0%

Annex 5: Results of factor analysis

Factor	Properties of innovation	Factor scor	Statement
1	Advantages of certification	,847	Certification facilitates and improves system of work.
		,871	Certification process improves safety and quality of healthcare providers' services.
		,631	Certification process facilitates job orientation.
		,723	Certification facilitates management of the healthcare provider organizations.
		,764	We would join the certification program even if it had not been mandatory.
		,759	We would recommend the certification to all healthcare providers.
		,708	I would recommend introduction of the certification standards to my peers.
2	Influence of professional chamber	,557	Medical chamber had positive attitude towards the certification process.
		,661	Medical chamber was interested in the certification process
		,921	Medical chamber supported me in preparation for the certification.
		,843	Medical chamber clearly expressed its position on the certification process.
		,886	Medical chamber provided all relevant information about the certification process
3	Influence of professional association	,642	Professional association had positive attitude towards the certification process.
		,730	Professional association was interested in the certification process.
		,882	Professional association supported me in preparation for the certification.
		,862	Professional associate clearly expressed its position on the certification process.
		,829	Professional association provided all relevant information about the certification process.
4	Disadvantages of certification	,576	Certification process is a financial burden for the organization.
		,736	Certification adds a lot of extra administration work.
		,704	Certification process takes time from provision of services to patients.
		,668	Certification standards should be better tailored to the type and size of practice/pharmacy.
		,654	Certification standards are too voluminous and broad.
5	Observability of certification	,752	Health Insurance Fund positively values certified healthcare providers.
		,741	Health Inspection positively values certified healthcare providers.
		,876	Ministry of Health and Social Welfare positively values certified healthcare providers.
		,497	Certified healthcare providers are recognized in the public as an example of good practice.
6	Availability of information on certification process	-,576	Adequate information about certification was available to me at the time of deciding whether to join the certification process.
		-,511	We asked the different healthcare system institutions about everything unclear in relation to the certification process.
		-,776	All information about certification process was available at the ASKVA's web site.
		-,712	ASKVA sufficiently informed healthcare providers about the certification process

Annex 6: Scale on perception of certification process properties (by type of private healthcare provider)

Item No	Statement	Responses	Total		Type of providers						Statistical tests (if significant)		
					Pharmacy		Specialist practice		Dental practice				
			n	%	n	%	n	%	n	%	χ^2	df	p
1	Certification facilitates and improves system of work.	Strongly disagree	57	25.9%	15	14.7%	8	18.6%	34	45.3%	33.083	8	.000
		Partially disagree	6	5.9%	3	7.0%	4	5.3%	6	5.9%			
		Neither agree nor disagree	19	18.6%	8	18.6%	14	18.7%	19	18.6%			
		Partially agree	34	33.3%	16	37.2%	21	28.0%	34	33.3%			
		Strongly agree	28	27.5%	8	18.6%	2	2.7%	28	27.5%			
		Total	102	100.0%	43	100.0%	75	100.0%	102	100.0%			
2	Certification process is a financial burden for the organization.	Strongly disagree	17	7.7%	7	6.9%	4	9.3%	6	8.0%			
		Partially disagree	5	2.3%	5	4.9%	0	0.0%	0	0.0%			
		Neither agree nor disagree	14	6.4%	11	10.8%	1	2.3%	2	2.7%			
		Partially agree	48	21.8%	30	29.4%	6	14.0%	12	16.0%			
		Strongly agree	136	61.8%	49	48.0%	32	74.4%	55	73.3%			
		Total	220	100.0%	102	100.0%	43	100.0%	75	100.0%			
3	Certification process improves safety and quality of healthcare providers' services.	Strongly disagree	61	27.9%	15	15.0%	12	27.3%	34	45.3%	32.245	8	.000
		Partially disagree	11	5.0%	5	5.0%	1	2.3%	5	6.7%			
		Neither agree nor disagree	29	13.2%	11	11.0%	5	11.4%	13	17.3%			
		Partially agree	57	26.0%	30	30.0%	11	25.0%	16	21.3%			
		Strongly agree	61	27.9%	39	39.0%	15	34.1%	7	9.3%			
		Total	219	100.0%	100	100.0%	44	100.0%	75	100.0%			
4	Certification adds a lot of extra administration work.	Strongly disagree	8	3.6%	4	3.9%	1	2.3%	3	4.1%			
		Partially disagree	7	3.2%	5	4.9%	0	0.0%	2	2.7%			
		Neither agree nor disagree	10	4.5%	5	4.9%	0	0.0%	5	6.8%			
		Partially agree	47	21.4%	28	27.5%	11	25.0%	8	10.8%			
		Strongly agree	148	67.3%	60	58.8%	32	72.7%	56	75.7%			
		Total	220	100.0%	102	100.0%	44	100.0%	74	100.0%			
5	Certification process takes time from provision of services to patients.	Strongly disagree	21	9.6%	12	11.8%	5	11.9%	4	5.4%			
		Partially disagree	14	6.4%	10	9.8%	0	0.0%	4	5.4%			
		Neither agree nor disagree	13	6.0%	7	6.9%	0	0.0%	6	8.1%			
		Partially agree	53	24.3%	27	26.5%	15	35.7%	11	14.9%			
		Strongly agree	117	53.7%	46	45.1%	22	52.4%	49	66.2%			
		Total	218	100.0%	102	100.0%	42	100.0%	74	100.0%			

Item No	Statement	Responses	Total		Type of providers						Statistical tests (if significant)		
					Pharmacy		Specialist practice		Dental practice				
			n	%	n	%	n	%	n	%	χ^2	df	p
6	Certification process facilitates job orientation.	Strongly disagree	72	33.2%	11	11.0%	21	48.8%	40	54.1%	63.704	8	.000
		Partially disagree	18	8.3%	13	13.0%	0	0.0%	5	6.8%			
		Neither agree nor disagree	30	13.8%	13	13.0%	1	2.3%	16	21.6%			
		Partially agree	57	26.3%	34	34.0%	12	27.9%	11	14.9%			
		Strongly agree	40	18.4%	29	29.0%	9	20.9%	2	2.7%			
		Total	217	100.0%	100	100.0%	43	100.0%	74	100.0%			
7	Certification facilitates management of the healthcare provider organizations.	Strongly disagree	78	36.1%	16	16.0%	15	35.7%	47	63.5%	52.565	8	.000
		Partially disagree	14	6.5%	9	9.0%	1	2.4%	4	5.4%			
		Neither agree nor disagree	29	13.4%	17	17.0%	2	4.8%	10	13.5%			
		Partially agree	49	22.7%	26	26.0%	14	33.3%	9	12.2%			
		Strongly agree	46	21.3%	32	32.0%	10	23.8%	4	5.4%			
		Total	216	100.0%	100	100.0%	42	100.0%	74	100.0%			
8	Patients observe the differences in functioning of certified health care providers.	Strongly disagree	98	45.8%	30	30.0%	15	35.7%	53	73.6%			
		Partially disagree	18	8.4%	11	11.0%	2	4.8%	5	6.9%			
		Neither agree nor disagree	49	22.9%	27	27.0%	12	28.6%	10	13.9%			
		Partially agree	35	16.4%	20	20.0%	11	26.2%	4	5.6%			
		Strongly agree	14	6.5%	12	12.0%	2	4.8%	0	0.0%			
		Total	214	100.0%	100	100.0%	42	100.0%	72	100.0%			
9	Health Insurance Fund positively values certified healthcare providers.	Strongly disagree	70	34.8%	32	32.0%	13	38.2%	25	37.3%			
		Partially disagree	17	8.5%	8	8.0%	3	8.8%	6	9.0%			
		Neither agree nor disagree	72	35.8%	32	32.0%	12	35.3%	28	41.8%			
		Partially agree	18	9.0%	12	12.0%	4	11.8%	2	3.0%			
		Strongly agree	24	11.9%	16	16.0%	2	5.9%	6	9.0%			
		Total	201	100.0%	100	100.0%	34	100.0%	67	100.0%			
10	Health Inspection positively values certified healthcare providers.	Strongly disagree	39	19.0%	12	12.1%	8	22.2%	19	27.1%	21.722	8	.000
		Partially disagree	15	7.3%	4	4.0%	3	8.3%	8	11.4%			
		Neither agree nor disagree	71	34.6%	31	31.3%	11	30.6%	29	41.4%			
		Partially agree	37	18.0%	24	24.2%	5	13.9%	8	11.4%			
		Strongly agree	43	21.0%	28	28.3%	9	25.0%	6	8.6%			
		Total	205	100.0%	99	100.0%	36	100.0%	70	100.0%			

Item No	Statement	Responses	Total		Type of providers						Statistical tests (if significant)		
					Pharmacy		Specialist practice		Dental practice				
			n	%	n	%	n	%	n	%	χ^2	df	p
11	Ministry of Health and Social Welfare positively values certified healthcare providers.	Strongly disagree	44	21.3%	18	17.8%	8	21.6%	18	26.1%			
		Partially disagree	16	7.7%	6	5.9%	2	5.4%	8	11.6%			
		Neither agree nor disagree	77	37.2%	32	31.7%	16	43.2%	29	42.0%			
		Partially agree	28	13.5%	19	18.8%	2	5.4%	7	10.1%			
		Strongly agree	42	20.3%	26	25.7%	9	24.3%	7	10.1%			
		Total	207	100.0%	101	100.0%	37	100.0%	69	100.0%			
12	Certified healthcare providers are recognized in the public as an example of good practice.	Strongly disagree	81	38.9%	25	25.5%	19	48.7%	37	52.1%			
		Partially disagree	8	3.8%	3	3.1%	1	2.6%	4	5.6%			
		Neither agree nor disagree	49	23.6%	27	27.6%	5	12.8%	17	23.9%			
		Partially agree	48	23.1%	27	27.6%	13	33.3%	8	11.3%			
		Strongly agree	22	10.6%	16	16.3%	1	2.6%	5	7.0%			
		Total	208	100.0%	98	100.0%	39	100.0%	71	100.0%			
13	Certification standards can be implemented in my practice/pharmacy.	Strongly disagree	16	7.4%	0	0.0%	4	9.5%	12	16.4%			
		Partially disagree	10	4.7%	5	5.0%	1	2.4%	4	5.5%			
		Neither agree nor disagree	23	10.7%	8	8.0%	1	2.4%	14	19.2%			
		Partially agree	63	29.3%	26	26.0%	10	23.8%	27	37.0%			
		Strongly agree	103	47.9%	61	61.0%	26	61.9%	16	21.9%			
		Total	215	100.0%	100	100.0%	42	100.0%	73	100.0%			
14	Certification standards should be better tailored to the type and size of practice/pharmacy.	Strongly disagree	8	3.7%	5	5.0%	1	2.4%	2	2.7%			
		Partially disagree	11	5.1%	10	9.9%	0	0.0%	1	1.3%			
		Neither agree nor disagree	26	12.0%	16	15.8%	0	0.0%	10	13.3%			
		Partially agree	36	16.6%	24	23.8%	4	9.8%	8	10.7%			
		Strongly agree	136	62.7%	46	45.5%	36	87.8%	54	72.0%			
		Total	217	100.0%	101	100.0%	41	100.0%	75	100.0%			
15	Requirements of the certification standards are clearly defined.	Strongly disagree	29	13.6%	2	2.0%	4	9.8%	23	31.9%			
		Partially disagree	15	7.0%	8	8.0%	1	2.4%	6	8.3%			
		Neither agree nor disagree	38	17.8%	16	16.0%	5	12.2%	17	23.6%			
		Partially agree	62	29.1%	35	35.0%	9	22.0%	18	25.0%	51.394	8	.000
		Strongly agree	69	32.4%	39	39.0%	22	53.7%	8	11.1%			
		Total	213	100.0%	100	100.0%	41	100.0%	72	100.0%			

Item No	Statement	Responses	Total		Type of providers						Statistical tests (if significant)		
					Pharmacy		Specialist practice		Dental practice				
			n	%	n	%	n	%	n	%	χ^2	df	p
16	Certification standards are too voluminous and broad.	Strongly disagree	16	7.3%	11	10.8%	2	4.7%	3	4.1%			
		Partially disagree	10	4.6%	8	7.8%	0	0.0%	2	2.7%			
		Neither agree nor disagree	14	6.4%	8	7.8%	1	2.3%	5	6.8%			
		Partially agree	71	32.6%	39	38.2%	15	34.9%	17	23.3%			
		Strongly agree	107	49.1%	36	35.3%	25	58.1%	46	63.0%			
		Total	218	100.0%	102	100.0%	43	100.0%	73	100.0%			
17	Certification standards are relevant to the services provided by my practice/pharmacy.	Strongly disagree	30	14.2%	3	3.1%	6	14.6%	21	29.2%			
		Partially disagree	8	3.8%	3	3.1%	0	0.0%	5	6.9%			
		Neither agree nor disagree	39	18.5%	17	17.3%	5	12.2%	17	23.6%			
		Partially agree	79	37.4%	43	43.9%	18	43.9%	18	25.0%			
		Strongly agree	55	26.1%	32	32.7%	12	29.3%	11	15.3%			
		Total	211	100.0%	98	100.0%	41	100.0%	72	100.0%			
18	Adequate information about certification was available to me at the time of deciding whether to join the certification process.	Strongly disagree	40	18.7%	6	6.1%	5	11.6%	29	40.3%	63.009	8	.000
		Partially disagree	21	9.8%	4	4.0%	6	14.0%	11	15.3%			
		Neither agree nor disagree	28	13.1%	12	12.1%	4	9.3%	12	16.7%			
		Partially agree	60	28.0%	29	29.3%	14	32.6%	17	23.6%			
		Strongly agree	65	30.4%	48	48.5%	14	32.6%	3	4.2%			
		Total	214	100.0%	99	100.0%	43	100.0%	72	100.0%			
19	We asked the different healthcare system institutions about everything unclear in relation to the certification process.	Strongly disagree	29	14.1%	7	7.1%	4	10.5%	18	26.1%	28.415	8	.000
		Partially disagree	18	8.7%	7	7.1%	3	7.9%	8	11.6%			
		Neither agree nor disagree	42	20.4%	17	17.2%	8	21.1%	17	24.6%			
		Partially agree	49	23.8%	22	22.2%	9	23.7%	18	26.1%			
		Strongly agree	68	33.0%	46	46.5%	14	36.8%	8	11.6%			
		Total	206	100.0%	99	100.0%	38	100.0%	69	100.0%			
20	All information about certification process was available at the ASKVA's web site.	Strongly disagree	13	6.2%	0	0.0%	3	7.5%	10	14.3%			
		Partially disagree	14	6.6%	6	5.9%	6	15.0%	2	2.9%			
		Neither agree nor disagree	29	13.7%	9	8.9%	3	7.5%	17	24.3%			
		Partially agree	64	30.3%	28	27.7%	11	27.5%	25	35.7%			
		Strongly agree	91	43.1%	58	57.4%	17	42.5%	16	22.9%			
		Total	211	100.0%	101	100.0%	40	100.0%	70	100.0%			

Item No	Statement	Responses	Total		Type of providers						Statistical tests (if significant)		
					Pharmacy		Specialist practice		Dental practice				
			n	%	n	%	n	%	n	%	χ^2	df	p
21	ASKVA sufficiently informed healthcare providers about the certification process	Strongly disagree	31	14.6%	4	3.9%	8	19.5%	19	27.5%	39.998	8	.000
		Partially disagree	15	7.1%	4	3.9%	5	12.2%	6	8.7%			
		Neither agree nor disagree	39	18.4%	19	18.6%	5	12.2%	15	21.7%			
		Partially agree	65	30.7%	32	31.4%	9	22.0%	24	34.8%			
		Strongly agree	62	29.2%	43	42.2%	14	34.1%	5	7.2%			
		Total	212	100.0%	102	100.0%	41	100.0%	69	100.0%			
22	Healthcare providers were mostly left for themselves to seek information about the certification process.	Strongly disagree	42	19.6%	24	24.0%	11	26.8%	7	9.6%	19.718	8	.011
		Partially disagree	24	11.2%	13	13.0%	3	7.3%	8	11.0%			
		Neither agree nor disagree	30	14.0%	18	18.0%	4	9.8%	8	11.0%			
		Partially agree	59	27.6%	29	29.0%	11	26.8%	19	26.0%			
		Strongly agree	59	27.6%	16	16.0%	12	29.3%	31	42.5%			
		Total	214	100.0%	100	100.0%	41	100.0%	73	100.0%			
23	Professional association had positive attitude towards the certification process.	Strongly disagree	52	24.4%	5	5.0%	11	27.5%	36	49.3%			
		Partially disagree	9	4.2%	1	1.0%	3	7.5%	5	6.8%			
		Neither agree nor disagree	55	25.8%	29	29.0%	5	12.5%	21	28.8%			
		Partially agree	34	16.0%	21	21.0%	6	15.0%	7	9.6%			
		Strongly agree	63	29.6%	44	44.0%	15	37.5%	4	5.5%			
		Total	213	100.0%	100	100.0%	40	100.0%	73	100.0%			
24	Professional association was interested in the certification process	Strongly disagree	46	21.9%	6	6.1%	12	30.0%	28	38.9%			
		Partially disagree	10	4.8%	1	1.0%	2	5.0%	7	9.7%			
		Neither agree nor disagree	54	25.7%	26	26.5%	6	15.0%	22	30.6%			
		Partially agree	37	17.6%	20	20.4%	8	20.0%	9	12.5%			
		Strongly agree	63	30.0%	45	45.9%	12	30.0%	6	8.3%			
		Total	210	100.0%	98	100.0%	40	100.0%	72	100.0%			
25	Professional association supported me in preparation for the certification.	Strongly disagree	59	28.1%	15	15.6%	19	45.2%	25	34.7%	32.300	8	.000
		Partially disagree	15	7.1%	4	4.2%	0	0.0%	11	15.3%			
		Neither agree nor disagree	54	25.7%	32	33.3%	6	14.3%	16	22.2%			
		Partially agree	42	20.0%	20	20.8%	9	21.4%	13	18.1%			
		Strongly agree	40	19.0%	25	26.0%	8	19.0%	7	9.7%			
		Total	210	100.0%	96	100.0%	42	100.0%	72	100.0%			

Item No	Statement	Responses	Total		Type of providers						Statistical tests (if significant)		
					Pharmacy		Specialist practice		Dental practice				
			n	%	n	%	n	%	n	%	χ^2	df	p
26	Professional associate clearly expressed its position on the certification process.	Strongly disagree	33	16.0%	4	4.2%	12	30.8%	17	23.9%	29.993	8	.000
		Partially disagree	12	5.8%	2	2.1%	3	7.7%	7	9.9%			
		Neither agree nor disagree	62	30.1%	36	37.5%	6	15.4%	20	28.2%			
		Partially agree	34	16.5%	19	19.8%	8	20.5%	7	9.9%			
		Strongly agree	65	31.6%	35	36.5%	10	25.6%	20	28.2%			
		Total	206	100.0%	96	100.0%	39	100.0%	71	100.0%			
27	Professional association provided all relevant information about the certification process	Strongly disagree	48	23.1%	9	9.4%	16	40.0%	23	31.9%	30.719	8	.000
		Partially disagree	16	7.7%	3	3.1%	4	10.0%	9	12.5%			
		Neither agree nor disagree	50	24.0%	28	29.2%	5	12.5%	17	23.6%			
		Partially agree	45	21.6%	26	27.1%	7	17.5%	12	16.7%			
		Strongly agree	49	23.6%	30	31.3%	8	20.0%	11	15.3%			
		Total	208	100.0%	96	100.0%	40	100.0%	72	100.0%			
28	My peers had clear attitudes towards the certification process	Strongly disagree	34	15.9%	8	8.0%	10	24.4%	16	21.9%	20.171	8	.010
		Partially disagree	14	6.5%	6	6.0%	3	7.3%	5	6.8%			
		Neither agree nor disagree	48	22.4%	31	31.0%	5	12.2%	12	16.4%			
		Partially agree	57	26.6%	32	32.0%	12	29.3%	13	17.8%			
		Strongly agree	61	28.5%	23	23.0%	11	26.8%	27	37.0%			
		Total	214	100.0%	100	100.0%	41	100.0%	73	100.0%			
29	My peers had had positive attitude towards the certification process	Strongly disagree	75	35.0%	17	16.8%	17	40.5%	41	57.7%	45.432	8	.000
		Partially disagree	32	15.0%	14	13.9%	7	16.7%	11	15.5%			
		Neither agree nor disagree	43	20.1%	28	27.7%	5	11.9%	10	14.1%			
		Partially agree	49	22.9%	28	27.7%	13	31.0%	8	11.3%			
		Strongly agree	15	7.0%	14	13.9%	0	0.0%	1	1.4%			
		Total	214	100.0%	101	100.0%	42	100.0%	71	100.0%			
30	My peers were interested in the certification.	Strongly disagree	78	36.1%	19	19.2%	19	44.2%	40	54.1%	40.833	8	.000
		Partially disagree	28	13.0%	16	16.2%	3	7.0%	9	12.2%			
		Neither agree nor disagree	31	14.4%	14	14.1%	6	14.0%	11	14.9%			
		Partially agree	59	27.3%	31	31.3%	15	34.9%	13	17.6%			
		Strongly agree	20	9.3%	19	19.2%	0	0.0%	1	1.4%			
		Total	216	100.0%	99	100.0%	43	100.0%	74	100.0%			

Item No	Statement	Responses	Total		Type of providers						Statistical tests (if significant)		
					Pharmacy		Specialist practice		Dental practice				
			n	%	n	%	n	%	n	%	χ^2	df	p
31	My attitude towards certification was mostly formed in contacts with peers who completed the process	Strongly disagree	38	17.6%	12	11.8%	3	7.1%	23	31.9%	25.369	8	.001
		Partially disagree	11	5.1%	3	2.9%	3	7.1%	5	6.9%			
		Neither agree nor disagree	46	21.3%	24	23.5%	6	14.3%	16	22.2%			
		Partially agree	68	31.5%	31	30.4%	17	40.5%	20	27.8%			
		Strongly agree	53	24.5%	32	31.4%	13	31.0%	8	11.1%			
		Total	216	100.0%	102	100.0%	42	100.0%	72	100.0%			
32	Medical chamber had positive attitude towards the certification process.	Strongly disagree	49	23.4%	6	6.1%	11	26.8%	32	45.7%	51.135	8	.000
		Partially disagree	17	8.1%	7	7.1%	1	2.4%	9	12.9%			
		Neither agree nor disagree	52	24.9%	26	26.5%	13	31.7%	13	18.6%			
		Partially agree	37	17.7%	19	19.4%	8	19.5%	10	14.3%			
		Strongly agree	54	25.8%	40	40.8%	8	19.5%	6	8.6%			
		Total	209	100.0%	98	100.0%	41	100.0%	70	100.0%			
33	Medical chamber was interested in the certification process	Strongly disagree	40	19.2%	8	8.2%	9	23.1%	23	32.4%	37.229	8	.000
		Partially disagree	18	8.7%	5	5.1%	1	2.6%	12	16.9%			
		Neither agree nor disagree	57	27.4%	26	26.5%	15	38.5%	16	22.5%			
		Partially agree	41	19.7%	22	22.4%	7	17.9%	12	16.9%			
		Strongly agree	52	25.0%	37	37.8%	7	17.9%	8	11.3%			
		Total	208	100.0%	98	100.0%	39	100.0%	71	100.0%			
34	Medical chamber supported me in preparation for the certification.	Strongly disagree	48	23.2%	16	16.3%	16	41.0%	16	22.9%	18.450	8	.018
		Partially disagree	15	7.2%	5	5.1%	2	5.1%	8	11.4%			
		Neither agree nor disagree	57	27.5%	34	34.7%	9	23.1%	14	20.0%			
		Partially agree	45	21.7%	18	18.4%	7	17.9%	20	28.6%			
		Strongly agree	42	20.3%	25	25.5%	5	12.8%	12	17.1%			
		Total	207	100.0%	98	100.0%	39	100.0%	70	100.0%			
35	Medical chamber clearly expressed its position on the certification process.	Strongly disagree	30	14.5%	6	6.1%	12	30.8%	12	17.1%	19.649	8	.034
		Partially disagree	19	9.2%	9	9.2%	4	10.3%	6	8.6%			
		Neither agree nor disagree	59	28.5%	34	34.7%	9	23.1%	16	22.9%			
		Partially agree	40	19.3%	19	19.4%	5	12.8%	16	22.9%			
		Strongly agree	59	28.5%	30	30.6%	9	23.1%	20	28.6%			
		Total	207	100.0%	98	100.0%	39	100.0%	70	100.0%			

Item No	Statement	Responses	Total		Type of providers						Statistical tests (if significant)		
					Pharmacy		Specialist practice		Dental practice				
			n	%	n	%	n	%	n	%	χ^2	df	p
36	Medical chamber provided all relevant information about the certification process	Strongly disagree	48	23.0%	15	15.2%	18	45.0%	15	21.4%	19.717	8	.011
		Partially disagree	16	7.7%	11	11.1%	1	2.5%	4	5.7%			
		Neither agree nor disagree	57	27.3%	32	32.3%	9	22.5%	16	22.9%			
		Partially agree	46	22.0%	23	23.2%	7	17.5%	16	22.9%			
		Strongly agree	42	20.1%	18	18.2%	5	12.5%	19	27.1%			
		Total	209	100.0%	99	100.0%	40	100.0%	70	100.0%			
37	We would join the certification program even if it had not been mandatory.	Strongly disagree	86	40.0%	24	24.0%	15	36.6%	47	63.5%	39.115	8	.000
		Partially disagree	16	7.4%	8	8.0%	2	4.9%	6	8.1%			
		Neither agree nor disagree	30	14.0%	14	14.0%	9	22.0%	7	9.5%			
		Partially agree	52	24.2%	29	29.0%	10	24.4%	13	17.6%			
		Strongly agree	31	14.4%	25	25.0%	5	12.2%	1	1.4%			
		Total	215	100.0%	100	100.0%	41	100.0%	74	100.0%			
38	We would recommend the certification to all healthcare providers.	Strongly disagree	73	34.4%	18	18.2%	11	27.5%	44	60.3%	51.177	8	.000
		Partially disagree	11	5.2%	4	4.0%	4	10.0%	3	4.1%			
		Neither agree nor disagree	34	16.0%	15	15.2%	7	17.5%	12	16.4%			
		Partially agree	54	25.5%	29	29.3%	11	27.5%	14	19.2%			
		Strongly agree	40	18.9%	33	33.3%	7	17.5%	0	0.0%			
		Total	212	100.0%	99	100.0%	40	100.0%	73	100.0%			
39	We prefer different work methods in our organization rather than one that is offered by the certification process.	Strongly disagree	37	17.6%	24	24.5%	6	14.6%	7	9.9%	17.676	8	.024
		Partially disagree	14	6.7%	6	6.1%	4	9.8%	4	5.6%			
		Neither agree nor disagree	45	21.4%	22	22.4%	9	22.0%	14	19.7%			
		Partially agree	53	25.2%	28	28.6%	11	26.8%	14	19.7%			
		Strongly agree	61	29.0%	18	18.4%	11	26.8%	32	45.1%			
		Total	210	100.0%	98	100.0%	41	100.0%	71	100.0%			
40	I would recommend introduction of the certification standards to my peers.	Strongly disagree	63	29.6%	12	12.0%	9	22.0%	42	58.3%			
		Partially disagree	7	3.3%	2	2.0%	1	2.4%	4	5.6%			
		Neither agree nor disagree	41	19.2%	18	18.0%	9	22.0%	14	19.4%			
		Partially agree	57	26.8%	34	34.0%	11	26.8%	12	16.7%			
		Strongly agree	45	21.1%	34	34.0%	11	26.8%	0	0.0%			
		Total	213	100.0%	100	100.0%	41	100.0%	72	100.0%			