

DOI: 10.5455/msm.2016.28.353-356

Received: 23 August 2016; Accepted: 05 October 2016

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## ORIGINAL PAPER

Mater Sociomed. 2016 Oct; 28(5): 353-356

## LEVEL OF COMPETENCIES OF FAMILY PHYSICIANS IN KOSOVO FROM DIFFERENT PERSPECTIVES

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## ABSTRACT

**Aim:** The aim of this analysis was to compare the level of self-perceived competencies of primary health care physicians in Kosovo with patients' viewpoint, as well as the necessary (required) level of such competencies from decision-makers' standpoint. **Methods:** Three cross-sectional studies were carried out in Kosovo in 2013 including: i) a representative sample of 1340 primary health care users aged  $\geq 18$  years (49% men; overall mean age:  $50.5 \pm 17.9$  years; response rate: 89%); ii) a representative sample of 597 primary health care physicians (49% men; overall mean age:  $46.0 \pm 9.4$  years; response rate: 90%), and; iii) a nationwide representative sample of 100 decision-makers operating at different primary health care institutions or public health agencies in Kosovo (63% men; mean age:  $47.7 \pm 5.7$  years). A structured self-administered questionnaire (consisting of 37 items) was used in the three surveys in order to assess physicians' competencies regarding different domains of the quality of health care. **Results:** There was a significant gap in the level of self-perceived physicians' competencies and patients' perspective in transitional Kosovo. Furthermore, there was a gap in the level of self-perceived physicians' competencies and the necessary (required) level of physicians' competencies from decision-makers perspective which was less evident in Prishtina, but considerable in the other regions of Kosovo. **Conclusion:** Our analysis provides valuable evidence about the level of competencies of primary health care physicians in Kosovo from different stakeholders' perspectives. There is an urgent need for continuous professional development of family physicians in post-war Kosovo.

**Key words:** competencies, decision-makers, family physicians, general practitioners, patients, primary health care.

## 1. INTRODUCTION

Quality improvement in different domains and components of health care services are currently recognized as vital elements in the health care practice (1, 2). This is particularly relevant for primary health care professionals worldwide who are currently facing growing demands in order to meet patients' expectations for higher quality health care services, as well as the rapid technological developments and scientific progress (1, 2). In the past few years, there have been suggested different models and frameworks of required or desirable abilities, skills and competences for health professionals, with a special focus on physicians (3). These competencies' frameworks are also considered valuable instruments for self-assessment of physicians who intend to improve their routine health care practice and advance in their career (2, 4, 5).

Kosovo proclaimed its independence in 2008 emerging as the newest state in Europe. This was after ten years under United Nations' administration as a consequence of an overwhelming war against Serbia (6). In the past decade, Kosovo has strived for an effective reorganization and restructuring of the health care system (7, 8). Compared with other European countries, post-war Kosovo is still characterized by higher mortality rates including traditional public health problems pertinent to infant mortality and maternal deaths (9). Nevertheless, at the same time, Kosovo is undergoing a rapid process of epidemiological transition characterized by an aging trend which is inevitably coupled with high cardiovascular and cancer mortality and morbidity along with an excess mortality in external causes of death and injuries among the adult population (9). Continuous professional development and retraining of health professionals

constitute an important element of the health care reform in Kosovo, particularly of physicians operating in the primary health care services (7, 8, 10). Nevertheless, one of the main challenges consists of brain drain, a situation which is similar to the neighboring Albania.

The information about the current level of competencies of physicians and health care professionals in general is scant for Kosovo. Some recent studies have reported on the self-assessed level of competencies of primary health care physicians (11), as well as the patients' perceived level of competencies of their family physicians (12). In addition, there is some evidence on the expected skills and competencies of family physicians from the decision-makers' viewpoint in Kosovo (13). Arguably, there is a need to compare the necessary (required) skills and competencies of physicians with their current self-perceived competencies, as well as the level of physicians' competencies from their respective patients' viewpoint.

In this framework, the aim of our analysis was to compare the level of self-perceived competencies of primary health care physicians with patients' viewpoint, as well as the necessary (required) level of such competencies from decision-makers' standpoint in Kosovo, a country in the Western Balkans which is currently facing a difficult period of political and socioeconomic transition.

## 2. METHODS

Three cross-sectional studies were carried out in Kosovo in 2013 including: i) a representative sample of 1340 primary health care users aged  $\geq 18$  years (661 men aged  $50.7 \pm 18.4$  years and 679 women aged  $50.4 \pm 17.4$  years; response rate: 89%) (12); ii) a representative sample of 597 primary health care physicians (295 men aged  $46.7 \pm 9.4$  years and 302 women; mean age:  $45.3 \pm 9.4$  years; response rate: 90%) (11), and; iii) a nationwide representative sample of 100 decision-makers operating at different primary health care institutions or public health agencies in Kosovo (63 men aged  $48.6 \pm 5.5$  years, and 65 women aged  $46.2 \pm 5.7$  years) (13). Details about the respective study populations and sampling procedures have been described elsewhere (11-13).

An international instrument was employed which was developed with the support of the European Community Lifelong Learning Program aiming to self-assess the level of skills, abilities and competencies of primary health care physicians (2). This instrument had been originally validated in Albania (14, 15).

Physicians included in this survey were asked to self-assess their current level of skills, abilities and competencies regarding the following six essential domains of quality of primary health care (2, 11): (i) Patient care and safety (8 items); (ii) Effectiveness and efficiency (7 items); (iii) Equity and ethical practice (8 items); (iv) Methods and tools (5 items); (v) Leadership and management (4 items), and; (vi) Continuing professional development (5 items).

Based on the same measuring instrument, primary health care users (patients) included in this study were asked to assess their perceived level of current competencies of their respective family physicians (12).

On the other hand, decision-makers included in this survey were asked to assess the expected/necessary/required

level of skills, abilities and competencies of family physicians in Kosovo (13) based also on the same instrument employed for physicians (self-assessment of the current level of competencies) and patients (assessment of the current level of competencies of their respective family physicians).

For each study group (patients, physicians and decision-makers), responses for each item of each subscale ranged from 1 ("novice"= physicians have little or no knowledge/ability, or no previous experience of the competency described and need close supervision or instruction) to 5 ("expert"=physicians are the primary sources of knowledge and information in the medical field).

An overall summary score (including 37 items; range: 37-185) and a subscale summary score for each of the six domains were calculated for each participant included in this study according to the respective groupings (patients, physicians and decision-makers).

Demographic data (age, sex and region) were also collected for each study participant.

The study was approved by the Ethical Board of the Ministry of Health of Kosovo.

Mean values (and their respective standard deviations) were used to describe the distribution of age for the patients, physicians and decision-makers included in this analysis. On the other hand, frequency distributions (absolute numbers and their respective percentages) were used to describe the distribution of sex and region of each group of study participants.

General linear model was used to compare physicians' self-perceived level of competencies with patients' viewpoint and the necessary (required) level of physicians' competencies from decision-makers' standpoint. Initially, crude (unadjusted) mean values of the overall level of physicians' competencies and their respective 95% confidence intervals (95% CIs) were calculated for each group of study participants (patients, physicians and decision-makers). Subsequently, multivariable-adjusted mean values and their respective 95% CIs were calculated. The multivariate models were adjusted for age (continuous variable), sex (men vs. women) and place of residence (Prishtina vs. other regions of Kosovo).

SPSS (Statistical Package for Social Sciences, version 15.0),

Variable	Patients (N=1340)	Physicians (N=597)	Decision-makers (N=100)
Age (years) [mean $\pm$ SD]	50.5 $\pm$ 17.9	46.0 $\pm$ 9.4	47.7 $\pm$ 5.7
<b>Sex [number (column percentages)]:</b>			
Men	661 (49.3)	295 (49.4)	63 (63.0)
Women	679 (50.7)	302 (50.6)	37 (37.0)
<b>Region:</b>			
Prishtina	611 (45.6)	201 (33.7)	41 (41.0)
Gjilan	149 (11.1)	98 (16.4)	14 (14.0)
Gjakova	142 (10.6)	97 (16.2)	13 (13.0)
Prizren	241 (18.0)	105 (17.6)	17 (17.0)
Peje	197 (14.7)	96 (16.1)	15 (15.0)
<b>Region:</b>			
Prishtina	611 (45.6)	201 (33.7)	41 (41.0)
Other regions	729 (54.4)	396 (66.3)	59 (59.0)

Table 1. Distribution of demographic characteristics in a representative sample of primary health care users, family physicians and decision-makers in Kosovo, in 2013

was used for all the statistical analyses.

### 3. RESULTS

Overall, mean age was 50.5±17.9 years in the sample of primary health care users (49.3% men and 50.7% women); 46.0±9.4 years in the sample of primary health care physicians (49.4% men and 50.6% women); and 47.7±5.7 years in the sample of decision-makers (63% men and 37% women) included in this survey (Table 1). About 46% of the patients were residing in Prishtina, compared with 34% of family physicians and 41% of decision-makers.

Overall scale (score range: 37-185)			
Model	Mean value	95%CI	P
<b>Model 1: crude (unadjusted):</b>			<b>&lt;0.001</b>
Patients	118.0	116.8-119.1	<0.001
Physicians	147.7	146.0-149.3	<0.001
Decision-makers	160.0	155.9-164.2	reference
<b>Model 2: adjusted for age, sex and region:</b>			<b>&lt;0.001</b>
Patients	117.6	116.5-118.7	<0.001
Physicians	147.0	145.3-148.7	<0.001
Decision-makers	159.4	155.2-163.5	reference
Patient care and safety (score range: 8-40)			
Model	Mean value	95%CI	P
<b>Model 1: crude (unadjusted):</b>			<b>&lt;0.001</b>
Patients	25.6	25.4-25.9	<0.001
Physicians	31.5	31.1-31.9	0.010
Decision-makers	32.9	31.9-33.9	reference
<b>Model 2: adjusted for age, sex and region:</b>			<b>&lt;0.001</b>
Patients	25.6	25.3-25.8	<0.001
Physicians	31.4	31.0-31.8	0.013
Decision-makers	32.8	31.8-33.8	reference
Effectiveness and efficiency (score range: 7-35)			
Model	Mean value	95%CI	P
<b>Model 1: crude (unadjusted):</b>			<b>&lt;0.001</b>
Patients	22.4	22.2-22.6	<0.001
Physicians	27.1	26.8-27.5	<0.001
Decision-makers	28.9	28.0-29.7	reference
<b>Model 2: adjusted for age, sex and region:</b>			<b>&lt;0.001</b>
Patients	22.4	22.1-22.6	<0.001
Physicians	27.1	26.7-27.4	<0.001
Decision-makers	28.8	27.9-29.6	reference
Equity and ethical practice (score range: 8-40)			
Model	Mean value	95%CI	P
<b>Model 1: crude (unadjusted):</b>			<b>&lt;0.001</b>
Patients	25.7	25.4-26.0	<0.001
Physicians	33.7	33.3-34.2	<0.001
Decision-makers	37.1	36.0-38.2	reference
<b>Model 2: adjusted for age, sex and region:</b>			<b>&lt;0.001</b>
Patients	25.7	25.4-26.0	<0.001
Physicians	33.5	33.0-33.9	<0.001
Decision-makers	36.9	35.8-38.0	reference
Methods and tools (score range: 5-25)			
Model	Mean value	95%CI	P
<b>Model 1: crude (unadjusted):</b>			<b>&lt;0.001</b>
Patients	15.4	15.2-15.6	<0.001
Physicians	19.3	19.0-19.6	<0.001
Decision-makers	21.7	21.1-22.4	reference
<b>Model 2: adjusted for age, sex and region:</b>			<b>&lt;0.001</b>
Patients	15.4	15.2-15.6	<0.001
Physicians	19.2	19.0-19.5	<0.001
Decision-makers	21.7	21.0-22.4	reference

Leadership and management (score range: 4-20)			
Model	Mean value	95%CI	P
<b>Model 1: crude (unadjusted):</b>			<b>&lt;0.001</b>
Patients	12.6	12.5-12.8	<0.001
Physicians	15.8	15.6-16.0	<0.001
Decision-makers	17.4	16.8-18.0	reference
<b>Model 2: adjusted for age, sex and region:</b>			<b>&lt;0.001</b>
Patients	12.6	12.4-12.7	<0.001
Physicians	15.7	15.5-16.0	<0.001
Decision-makers	17.3	16.7-17.9	reference
Continuing professional development (score range: 5-25)			
Model	Mean value	95%CI	P
<b>Model 1: crude (unadjusted):</b>			<b>&lt;0.001</b>
Patients	16.1	16.0-16.3	<0.001
Physicians	20.2	20.0-20.5	<0.001
Decision-makers	22.1	21.4-22.8	reference
<b>Model 2: adjusted for age, sex and region:</b>			<b>&lt;0.001</b>
Patients	16.1	15.9-16.3	<0.001
Physicians	20.1	19.8-20.4	<0.001
Decision-makers	22.0	21.3-22.7	reference

Table 2. Physicians' competencies level from different perspectives

In the overall sample of the patients, the summary score for the 37 items of the tool (score range: 37-185) was 118.0 (95%CI=116.8-119.1) (Table 3, model 1). On the other hand, in the overall sample of the family physicians, the (crude) summary score was 147.7 (95%CI=146.0-149.3). Conversely, in the sample of decision-makers it was 160.0 (95%CI=155.9-164.2). Adjustment for age, sex and region (model 2) affected only slightly the estimates: 117.6 (95%CI=116.5-118.7) for the patients, 147.0 (95%CI=145.3-148.7) for the physicians and 159.4 (95%CI=155.2-163.5) for the decision-makers. In both crude (unadjusted) and adjusted models, there was evidence of a significant graded relationship: the patients' perspective on the current level of competencies of their respective family physicians was substantially lower than the physicians' self-perceived level of their actual competencies which, in turn, was lower than the expected/required/necessary level of competencies from decision-makers perspective (linear trend:  $P<0.001$ ).

Similar to the summary score for the whole scale (37 items), there was evidence of a statistically significant graded relationship for each of the six domains (sub-scales) of the measuring instrument (Table 2), which was more pronounced for the "equity and ethical practice" subscale and somehow less so for the "patient care and safety".

A stratified regional analysis (Prishtina vs. other regions of Kosovo) revealed a significant interaction: the gap in the required level of physicians' competencies compared with their self-perceived level of current competencies was smaller in Prishtina compared with the other regions of the country (P-value of the interaction term:  $<0.001$ ) (data not shown in the tables).

### 4. DISCUSSION

Our analysis aimed at comparing the level of self-perceived competencies of primary health care physicians in Kosovo with patients' viewpoint, as well as the necessary (required) level of such competencies from decision-makers' standpoint. We obtained useful evidence about the gap between the self-perceived level of current competencies



of family physicians and the perceived level of physicians' competencies from their respective patients (users of primary health care services) in Kosovo. The mean value of the overall summary score for the 37-item instrument according to patients' perspective was considerably lower compared with the mean value of the physicians' self-assessed level of their competencies. Nevertheless, future studies should determine the underlying factors of this discrepancy in the competency level between health care providers (physicians) and users of services (patients) (11, 12).

In addition, our analysis revealed a gap in the expectations of decision-makers and the current level of self-perceived level of competencies of family physicians. The required (necessary) level of competencies from decision-makers standpoint was substantially higher than the current self-perceived level of the physicians' competencies.

Notably, the gap in the necessary (required) level of physicians' competencies compared with their self-perceived level of current competencies was bigger in regions other than the capital of the country (namely Prishtina). Differential reporting aside, these findings point to potential inequalities in the quality of human resources and health professionals in Kosovo, with availability of more qualified personnel in Prishtina compared with the other (deprived) areas of the country.

Several studies conducted previously at an international scale have linked the quality of health care services with health outcomes of the population (16, 17). This is especially important for primary health care services which are considered as the most important level of health care in most of the industrialized societies as well as developing countries. Hence, as argued earlier (11), physicians and other health care professionals working at primary health care level should be particularly concerned of users' demands, a process which is related to the need for continuous improvement of the quality of primary health care services.

Our analysis may have some limitations. We based our analysis on a large representative sample of primary health care users and family physicians in Kosovo and the response rate was high in both groups. In addition, we included in the analysis a nationwide representative sample of decision-makers from different regions of Kosovo. Yet, findings from this analysis should not be generalized to the general adult population in Kosovo as primary health care users differ from non-users of such services. The international instrument employed exhibited a high internal consistency and stability over time (test-retest reliability) in all the three groups of participants included in this analysis (patients, physicians and decision-makers) (11, 13). Beforehand, this instrument was cross-culturally adapted in Albania (14,15). Nonetheless, other things being equal, we cannot exclude the possibility of differential reporting from different groups included in this analysis, particularly self-reports from physicians and their respective patients' perspective.

In conclusion, notwithstanding these potential limitations, our analysis provides valuable evidence about the level of competencies of primary health care physicians in Kosovo from different stakeholders' perspectives. Findings from this analysis may guide and support policymakers and decision-makers in Kosovo to adjust job description

and work contracts of primary health care physicians all over the country. In any case, there is an urgent need for continuous professional development of family physicians in post-war Kosovo.

- **Source of support:** The instrument for this survey was developed with the support of the European Commission Lifelong Learning Program in the framework of the Leonardo da Vinci Project "Innovative lifelong learning of European General Physicians in Quality Improvement supported by information technology" (InGPInQI): No. 2010-1-PL1-LEO05-11473.
- **Conflicts of interest:** none declared.

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