

## COMPETITIVENESS OF PHYSICIAN PRACTICES IN LATVIA

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Human health is the most significant factor that influences the life quality of individuals. The first level of health care faced by any individual is a family physician, therefore, the availability of family physicians is of great importance. Primary health care is the key component of national health care system in providing health care. The tasks of primary health care are as follows promotion of health, prevention of diseases, treatment of diseases, rehabilitation. As regards providing health care services in the regions of Latvia, regional differences increase in this respect; in some places the situation may be regarded even as critical. The availability and quality of services is often inappropriate. To increase the accessibility of physician practices, new ways of improving the performance of physician practices in Latvia have to be searched for. One of the ways is to increase the competitiveness of physician practices to ensure sustainability in the performance of physician practices, which results in providing quality services to local residents as well as foreigners.

The paper gives a definition for the nature of competitiveness and characteristics of physician practices in Latvia, and the competitiveness factors of physician practice are identified and assessed. The research object is services of physician practices in Latvia. Hypothesis: performance of physician practices is affected by both exogenous and endogenous factors of competitiveness. The research aim is to investigate the basic factors determining and limiting the competitiveness of physician practices and to identify priorities for increasing the competitiveness of physician practices in Latvia. To achieve the aim, the following research tasks were set: to characterise and assess primary health care in Latvia, to identify the key basic factors that determine and limit the competitiveness of physician practices, and to identify measures preventing the basic factors that limit the competitiveness of physician practices.

To achieve the aim, the method of expert evaluation was employed. The following research methods were employed for studying the legal framework and developing proposals for its improvement: the abstract and logical methods, the monographic method, analysis and synthesis, and the calculation and constructive methods. For analysis of statistical data, statistical methods such as descriptive statistics and correlation analysis were employed. A sociological research method – questionnaire surveying – was used for identifying problems of physician practices. Finally, it was concluded that the key competitiveness factors are: qualifications of both managers of physician practices and their staff, use of medical and other modern technologies at physician practices, prices of services, location and accessibility, and government policy. The main factors limiting the competitiveness of physician practices and their prevention measures were identified. The main measures are as follows: provision of the accessibility of physician practices in rural areas by means of local government support, introduction of e-consultations or electronic consultancy via e-mail, as it enables patients to receive a consultation of specialist at a distance, setting an optimal number of patients per physician practice, planning the training of resident physicians, thus attracting new physicians for the profession of family physician, and expansion of physician practices with other medical specialists to increase the quality of health care services and cooperation among physician practices.

**Keywords:** patient, health care, physician practice, competitiveness.

## Introduction

The basis of health care in Latvia is formed of primary health care which is provided by family physicians. Family physicians are the first ones who are contacted by patients needing health care. According to a definition by the World Health Organisation, primary health care is the main component of health care which is based on scientifically justified and practical methods, which is accessible to individuals, and the cost of which is acceptable to the state and its society. Primary health care is the key component of national health care system in providing health care.

The tasks of primary health care are as follows:

- promotion of health,
- prevention of diseases,
- treatment of diseases,

- rehabilitation.

As regards providing health care services in the regions of Latvia, regional differences increase in this respect; in some places the situation may be regarded even as critical. The availability and quality of services is often inappropriate. The declaration of the government of Latvia states that it is necessary to provide equal availability of health care services in the entire territory of the country and equal quality of health care services, to increase the capacity of family physician teams, to expand cooperation between family physicians and patients, to promote more active involvement of individuals in maintaining their health, and to increase an opportunity of patients for freely choosing a place of consuming services.

To increase the accessibility of physician practices, new ways of improving the performance of physician practices in Latvia have to be searched for. One of the ways is to increase the competitiveness of physician practices to ensure sustainability in the performance of physician practices, which results in providing quality services to local residents as well as foreigners.

Successful competition of family physician practices is based not only on the supply of high quality services, but also the culture of service which includes in itself direct contacts with a customer, availability, price, qualification of medical staff, and medical technologies used – these might be the most important factors that determine the choice of a patient. A service provider has to objectively assess and try to quantitatively evaluate all the indicators that are significant to a patient. The competitiveness of physician practices is also affected by external factors such as:

- economic situation in the country;
- national policy;
- public transport;
- education system for physicians;
- geographic location of Latvia etc.

The scientific paper is produced based on studies conducted at practices of various physicians, a questionnaire survey of managers of physician practices conducted from May to August 2009, and a questionnaire survey of patients carried out from 19 July to 12 September 2010.

Hypothesis: performance of physician practices is affected by both exogenous and endogenous factors of competitiveness.

The research aim is to investigate the basic factors determining and limiting the competitiveness of physician practices and to identify priorities for increasing the competitiveness of physician practices in Latvia.

To achieve the aim, the following research tasks were set:

- 1) to characterise and assess primary health care in Latvia,
- 2) to identify the key basic factors that determine and limit the competitiveness of physician practices,
- 3) to identify measures preventing the basic factors that limit the competitiveness of physician practices.

To execute the research tasks and achieve the aim, the following sources of information were used: laws of the Republic of Latvia, decrees and reports of national institutions, studies, statistical data, theoretical literature, survey data, and other information materials. The following research methods were employed for studying the legal framework and developing proposals for its improvement: the abstract and logical methods, the monographic method, analysis and synthesis, and the calculation and constructive methods. For analysis of statistical data, statistical methods such as descriptive statistics and correlation analysis were employed. A sociological research method – questionnaire surveying – was used for identifying problems of physician practices. To assess competitiveness, expert analysis was employed.

### Characteristics of health care in Latvia

A disproportion between the number and accessibility of physician practices in rural areas and that in cities may be observed in the health care market, as well as differences in the numbers of doctors by speciality exist. Entry and exit in the market of health care services is not free. To enter the market

and exit from it, educational, licence, and permit barriers exist. Health care adapts to the individual needs of patients, therefore, it is hard to assess the quality of services. Health care features inelastic demand; patients needing medical care have a small chance to choose the price level, especially, if it is emergency medical care. Consumers of health care services have a small chance not to choose these services, as they have no alternative solution or there is no substitute services in case of health problems. It is hard to predict any disease, and in case of disease a patient is in a less favourable situation than a provider of services when discussing the price and quality of a service, as the patient usually is not able to postpone the consumption of this service. If the service is postponed as it is observed now, delayed treatment may require additional funds or it is not possible to supply a quality service to the patient.

The basic indicators of health care development in Latvia are summarised in Table 1 and their analysis is performed (Table 1).

**Table 1. Basic indicators of health care development in Latvia in 2005–2010**

Indicators	2005	2006	2007	2008	2009	2010
Number of hospitals (including centres)	109	106	94	88	69	67
Number of bed-places excluding those for temporary social care	17690	17599	17497	17001	14434	11920
Number of outpatient institutions, total	2991	3183	3285	4078	4583	4756
Number of doctors in thousands (including dentists)	8207	8341	8014	8437	7964	7951
Number of physician practices (family physicians, paediatricians, internists)	1130	1150	1146	1154	1310	1341
Doctor practices	509	540	557	603	813	879
Dentist practices	347	376	372	343	396	390
Other dentist institutions	290	312	331	374	415	432
Number of offices of doctor's assistants and midwives	242	246	240	224	227	205
Other outpatient institutions	473	559	639	859	902	950
Number of medical offices at educational institutions	0	0	0	521	520	541

Source: authors' calculation based on [www.csb.gov.lv](http://www.csb.gov.lv) data

Based on the table data, an increase rate, in %, and an index were calculated for the basic indicators of health care. The year 2005 was selected as the base year. An increase rate was calculated according to a formula (Rokasgrāmata, 2006).

**Table 2. Changes in the basic indicators of health care development in Latvia in 2005–2010**

Indicators	Years		Changes in basic health indicators	
	2005	2010	index	increase rate, %
<b>Number of hospitals (including medical centres)</b>	109	67	61.47	-38.53
Total number of outpatient institutions	2991	4756	159.01	59.01
Number of physicians in thousands (including dentists)	8207	7951	96.88	-3.12
Physician practices (family physicians, paediatricians, internists)	1130	1341	118.67	18.67
Doctor practices	509	879	172.69	72.69

Source: authors' calculation based on www.csb.gov.lv data

According to data of Table 2, the number of hospitals, in total, decreased in Latvia by 38.53% in the period 2005-2010. The greatest increase rate of 59.01% is observed for the number of outpatient institutions, which means that the numbers of family physician practices and other doctor practices sharply increased during the health care reform when the separation of primary health care from hospital-based care was started.

Health care is often regarded as a right that is due to everyone. Doctors, too, are in a unique situation in this market, as they may control the supply of and demand for health care services. Doctors may cause a need for a health care service in a patient and, at the same time, provide this service to the patient. The market of health care services is a regulated one in which the key role is played by the government that allocates the main part of funding, especially to physician practices.

In the market of health care services, increases in supply and competition do not exist, and there are not many instruments that improve the performance of health care system. Informing a patient about the price of a service and the formation of this price allows shaping an opinion on its cost; therefore, the patient is able to balance the need and the financial affordability. The better the patient is able to do it, the more the patient is satisfied with health care.

Since cost depends on price and quantity, the following components have to be taken into account in measures for reducing the cost of services provided by medical institutions:

- 1) number of patients;
- 2) duration of medical treatment;
- 3) technologies used.

The third way of improving economic performance is to balance the price of a health care service with the value that is gained after this service is consumed. This value may be expressed in terms of both money and human lifespan. (Gūtmane S., Sīle V., 2009) As regards demand for health care services, there are features that make demand and the factors affecting it in this field different from the general factors shaping demand. In this case, necessity and need are different terms. A necessity for health care services is determined by a doctor. In health care, a need may be defined as a decision of health care specialists that a certain group of individuals has to definitely consume health care services that are available in the market to achieve the best possible human health condition. Health care services are related to both the latest scientific techniques for treating certain diseases and medical equipment and technologies and medicines as well. A necessity does not include a patient's wishes and financial abilities to consume or buy health care services offered. Opinions of a patient and doctor on these needs may differ. A patient's wishes may be influenced both by his/her attitude to some health problem and by his/her ability to pay the price of health care services. The interaction of these two factors – needs and wishes – shape demand for health care services.

Five factors that affect demand for services in health care:

- 1) a necessity for a health care service has to be medically justified – a patient has to have a disease, the prevention of which requires professional assistance;
- 2) a patient has to admit that he/she needs a health care service and visit a medical institution or a drugstore;
- 3) a patient has to have necessary funds (these may be both private funds and public funds, for instance, government funding for health care); to satisfy his/her necessity, the patient has to be financially able to pay for it to a medical institution or a drugstore;
- 4) a patient has to be motivated to look for assistance – the patient has to realise that the gains from a health care service received are greater than the funds spent on it;
- 5) a provider of health care services has to be accessible.

Demand in health care is promoted taking into consideration another type of demand which shapes the so called managed demand. A patient creates demand for health care services to gain more "health capital". At the same time, demand in health care differs from demand for the majority of other goods, as an individual spends funds to consume health care services and at the same time produce his/her health. It is not possible to exactly determine what "good health" is, but a need for it is great, and demand for health care services is theoretically unlimited. Yet, practically, it is limited by other factors promoting demand, for instance, a patient's ability to pay.

The demand for health care services in Latvia is affected by several specific factors:

- 1) the network of medical institutions and its structure – a large part of health care services are still provided at hospitals, however, providers of outpatient services also progress;
- 2) medical staffs and their structure – a comparatively low proportion of family physicians creates a large supply of services provided by medical specialists;
- 3) financial abilities of patients.

The demand for health care services in Latvia, to a great extent, is also created by their providers – medical institutions and drugstores. Therefore, it is important to regulate the network of providers of health care services, and one of its goals has to be efficiency increase as well.

Demand formation principles in health care have to be different from those in other industries. A doctor is simultaneously both a creator of demand for services and a provider of services. Besides, a large share of health care services may not be postponed, which does not allow a patient to discuss the price of a service. The market of health care services is not free; it is, to a great extent, a regulated market. (Gūtmane S., Šīle V., 2009)

**Key basic factors determining and limiting the competitiveness of physician practices**

An idea to systematically assess the competitiveness of physician practices is necessary to inform policy makers on necessary reforms or government support.

The competitiveness of physician practices is an ability to satisfy the needs of patients of physician practices for primary health care and provide the quality of services as high as possible by maximally efficiently exploiting the existing necessary government and private resources.

Based on the research on the nature of competitiveness of physician practices and the factors affecting it, the authors investigated and identified the key basic factors determining and limiting the competitiveness of physician practices, which are presented in Table 3.

**Table 3. Basic factors determining and limiting the competitiveness of physician practices**

Basic factors for the competitiveness of physician practices	
Endogenous factors	Exogenous factors
<ul style="list-style-type: none"> <li>• Location and accessibility of physician practices</li> <li>• Number of registered patients</li> <li>• Price of a service</li> <li>• Qualification of managers and staffs of physician practices</li> <li>• Use of medical and other modern technologies at physician practices</li> <li>• Financial situation at physician practices</li> </ul>	<ul style="list-style-type: none"> <li>• Government policy</li> <li>• Projects financed by the EU</li> <li>• Public transport</li> <li>• Research system</li> <li>• Educational system for doctors</li> <li>• Geographical location of Latvia</li> <li>• Business environment</li> <li>• Legal framework</li> <li>• Number of residents</li> <li>• Economic situation in the country</li> </ul>

Source: authors' construction

Competition assessment plays a significant role in the performance of physician practices, taking into consideration both endogenous and exogenous factors.

Criteria for competition assessment may be determined in various aspects, depending on a problem to be solved or a goal to be achieved. There are various competition assessment methods that are based on statistical indicators, expert evaluations, ranks etc. On 23 March 2011, with the participation of five experts, the competitiveness factors of physician practices were assessed by ranking them by significance.

**Table 4. Expert evaluation results, ranks, and concordance coefficients obtained in a Kendall's W test. Data were obtained by the expert commission by ranking the basic competitiveness factors of physician services on 23 March 2010**

Factors	Experts					Rank sum Li	di=Li - Lvid	di2	Rank R
	A	B	C	D	E				
	Ratings								
Location and accessibility	3	4	3	4	2	16	-26.38	695.90	4
Number of registered patients	9	11	13	3	5	41	-1.38	1.90	7
Price of a service	4	3	4	1	3	15	-27.38	749.66	3
Qualification of managers and staffs of physician practices	1	2	1	2	1	7	-35.38	1251.74	1
Use of medical and other modern technologies at physician practices	2	1	2	5	4	14	-28.38	805.42	2
Financial situation at physician practices	15	12	14	8	14	63	20.62	425.18	13
Government policy	6	5	5	7	6	29	-13.38	179.02	5
Projects financed by the EU	16	16	16	9	7	64	21.62	467.42	14
Research system	14	15	15	11	15	70	27.62	762.86	16
Public transport	11	13	12	12	13	61	18.62	346.70	12
Educational system for doctors	10	10	11	10	8	49	6.62	43.82	11
Geographical location of Latvia	12	6	6	6	9	39	-3.38	11.42	6
Business environment	13	14	10	16	16	69	26.62	708.62	15
Legal framework	8	7	7	13	12	47	4.62	21.34	10
Number of residents	7	8	9	13	11	48	5.62	31.58	9
Economic situation in the country	5	9	8	14	10	46	3.62	13.10	8
n= 16	m = 5					$\hat{\alpha}L_{j=}$ 678	0	S= 6515.75	

Source: authors' construction

$$L_{vid} = \sum L_i / n = 678 / 16 = 42.38$$

$$W = \frac{12S}{m^2n(n^2-1)} = \frac{12 \times 6515.75}{25 \times 16 (256 - 1)} = 0.77$$

where, W- concordance coefficient

n- number of factors

m- number of experts

S - sum of squared deviations

The experts unanimously (**W=0.77**) recognised the following competitiveness factors as appropriate: qualification of managers and staffs of physician practices, use of medical and other modern technologies at physician practices, price of a service, location and accessibility, and government policy.

### Key basic factors limiting the competitiveness of physician practices and measures for their prevention

To increase the competitiveness of physician practices, a local government has to ensure patients can access a physician, which is quite problematic in rural areas. The local government has to allocate additional funds from its budget to finance patient fees and other charges of poor patients (medical injections, home visits, medicines), so that it does not have to be done by the physician.

**Table 5. Factors limiting the competitiveness of physician services and their prevention measures**

No	Factors	Measures
	Location and accessibility of physician practices	<ul style="list-style-type: none"> <li>Local governments have to ensure patients can access a physician.</li> <li>Local governments have to allocate additional funds from its budget to finance patient fees and other charges of poor patients.</li> <li>To support the establishment of rural physician practices.</li> <li>To introduce e-consultations.</li> </ul>
	Number of registered patients	<ul style="list-style-type: none"> <li>To set a smaller number of patients per physician practice.</li> <li>Within limits, to expand physician practices with other medical specialists.</li> <li>To establish joint physician practices.</li> </ul>
	Price of a service	<ul style="list-style-type: none"> <li>To promote the formation of a competitive price of services.</li> <li>To analyse the factors affecting price formation.</li> <li>To introduce obligatory health insurance.</li> </ul>
	Qualification of managers and staffs of physician practices	<ul style="list-style-type: none"> <li>To promote professional education and potential lifelong learning in relation to labour market requirements and increases in competitiveness and the quality of services by improving the acquisition of modern knowledge and qualifications.</li> <li>To introduce a single model of training of medical staff in medical technologies.</li> <li>To promote skills development abroad.</li> <li>To develop foreign language skills of staffs.</li> </ul>
	Government policy	<ul style="list-style-type: none"> <li>To develop a stable legislation framework and health care model.</li> </ul>

Source: authors' construction

It is necessary to introduce e-consultations or electronic consultancy through e-mail, as it enables patients to receive

a consultation of specialist at a distance. This measure has to be performed by the Latvian Cabinet of Ministers by making amendments to the Latvian legal framework, technological, legal, and informative issues have to be tackled by the Latvian Ministry of Health, and e-consultations have to be introduced and approved at physician practices together with patients.

It is necessary to set a smaller number of patients per physician practice. It has to be done by the Latvian Ministry of Health while planning the training of resident physicians, thus attracting new physicians for the profession of family physician, and the Ministry has to make amendments to the legislation regarding establishment and financing of physician practices.

Within limits, it is necessary to expand physician practices with other medical specialists, which is done by their managers when establishing joint practices together with doctors of other specialities, thus increasing the quality of health care services.

Obligatory health insurance has to be introduced and developed in the country, setting a minimum of health care services to be insured. Besides, it is required to introduce a single model of training of medical staffs for the purpose of learning to use medical technologies in order to enhance the culture of servicing at physician practices, and this problem has to be tackled by managers of physician practices in cooperation with the Association of Doctors by organising courses, seminars, exchange of experiences, and studies.

To make a stable government policy, it is necessary to establish a stable legal framework and a stable health care model.

### Conclusions

- Primary health care is the key component of national health care system in providing health care. Primary health care in Latvia is provided by family physicians.
- The health care of residents depends on the accessibility and timeliness of medical services, the work quality of medical staffs, medical technologies available at medical institutions, and the attitude of patients themselves to their health.
- Patients make their first contact with a provider of health care services at a physician practice, therefore, it is important that services are accessible and provided at high quality and in time, as further medical treatment will depend on the first visit to a physician.
- Competition assessment plays a significant role in the performance of physician practices, taking into consideration both endogenous and exogenous factors.
- The hypothesis proved to be true, as the majority of medical institutions in Latvia are registered in the Register of Enterprises as enterprises, therefore, the same economic principles relate to such enterprises, thus both endogenous and exogenous factors affect the competitiveness of any enterprise.
- According to the experts, the most significant factors are: qualification of managers and staffs of physician practices, use of medical and other modern technologies at physician practices, price of a service, location and accessibility, and government policy.
- The main factors limiting the competitiveness of physician practices and their prevention measures were

identified. The main measures are as follows: provision of the accessibility of physician practices in rural areas by means of local government support, introduction of e-consultations or electronic consultancy via e-mail, as it enables patients to receive a consultation of specialist at a distance, setting an optimal number of patients per physician practice, planning the training of resident physicians, thus attracting new physicians for the profession of family physician, and expansion of physician practices with other medical specialists to increase the quality of health care services and cooperation among physician practices.

- Managers of physician practices try to attract more patients with both their activity and quality and culture of service. It means that additional funding – from both the government's budget and patients themselves or their insurance companies – depends on the size of physician practices (i.e. the number of registered patients). A stable number of registered patients as well as visits of patients to a physician provide a stable and long existence of physician practices. Managers of physician practices search for additional resources for the operation of their practices. First, these are financial resources – loans, subsidies, donations; second, these are labour resources – physician's assistants, doctors-specialists for joint physician practices, and other medical employees who provide the availability of services to patients. Third, these are new technologies introduced to provide quality services – both medical and information technologies – and other resources.
- Competitiveness indicators of physician practices are not defined in Latvia, therefore, this research is a beginning for further studies in health care in relation to physician practices.

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