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COMPETITIVENESS OF HEALTHCARE INSTITUTIONS IN THE REPUBLIC OF KAZAKHSTAN: THEORY, EVALUATION METHODS, DEVELOPMENT MECHANISM

The paper explores the concept of competitiveness. General evaluation methods of healthcare institutions competitiveness are studied. The analysis of some competitiveness indices for healthcare institutions in the regions of Kazakhstan is carried out. The integral index to evaluate competitiveness of healthcare institutions is formed and the priority measures on the improvement of healthcare institution competitiveness are outlined.

Keywords: healthcare; competitiveness; competitive policy; competitive advantage.

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КОНКУРЕНТОСПРОМОЖНІСТЬ ЗАКЛАДІВ ОХОРОНИ ЗДОРОВ'Я РЕСПУБЛІКИ КАЗАХСТАН: ТЕОРІЯ, МЕТОДИКА ОЦІНКИ, МЕХАНІЗМ РОЗВИТКУ

У статті розглянуто поняття конкурентоспроможності, проаналізовано основні методи оцінювання конкурентоспроможності медичних установ. Здійснено аналіз окремих показників конкурентоспроможності закладів охорони здоров'я за регіонами Казахстану. Сформовано інтегральний показник оцінювання конкурентоспроможності закладу охорони здоров'я та виокремлено пріоритетні заходи з підвищення конкурентоспроможності закладу охорони здоров'я.

Ключові слова: охорона здоров'я; конкурентоспроможність; конкурентна політика; конкурентна перевага.

Рис. 3. Табл. 1. Літ. 13.

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КОНКУРЕНТОСПОСОБНОСТЬ УЧРЕЖДЕНИЙ ЗДРАВООХРАНЕНИЯ РЕСПУБЛИКИ КАЗАХСТАН: ТЕОРИЯ, МЕТОДИКА ОЦЕНКИ, МЕХАНИЗМ РАЗВИТИЯ

В статье рассмотрено понятие конкурентоспособности, проанализированы основные методы оценки конкурентоспособности медицинских учреждений. Осуществлен анализ отдельных показателей конкурентоспособности учреждений здравоохранения по регионам Казахстана. Сформирован интегральный показатель оценки конкурентоспособности учреждения здравоохранения и выделены приоритетные меры по повышению конкурентоспособности учреждения здравоохранения.

Ключевые слова: здравоохранение; конкурентоспособность; конкурентная политика; конкурентное преимущество.

Problem statement

Today, one of the factors of the healthcare system effectiveness is the competitiveness of medical institutions. Problems of its evaluation are related to the priority of the provided medical services quality, determined by many factors, including: skills level of medical personnel, maintenance supply, developed infrastructure.

Latest research and publications analysis

Competitiveness issues were studied by such classics of marketing science as I. Ansoff (1989), F. Kotler (1999), M. Porter (2005), K. Prahalad (2005), G. Hamel

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(2005); and medical industry competitiveness issues were covered in the papers of such scholars as S.O. Elsinovskaya (2009), T.A. Siburina (2007). However, the mechanism to evaluate the competitiveness of healthcare institutions has not been covered yet in full.

Research objectives

Accordingly, the objectives of this paper are to analyze the methods for evaluating the competitiveness of medical institutions and to find the directions of its further development.

Research findings

Competitiveness of healthcare institutions is defined as an advantage over other institutions, formed on the basis of complex internal and external factors, opens up new possibilities for the development and market penetration.

Competitiveness of healthcare institutions in a broad sense is an advantage over other institutions in the industry, ensured by favorable financial performance, resource efficiency, effective management system, positive goodwill, which helps to gain under influence of many factors of internal and external environment as well as economic, financial, social and other factors. Competitiveness of healthcare institutions in a narrow sense is a set of financial, economic, resource, commercial and technological characteristics forming its competitive potential. The competitiveness evaluation methodology is based on a significant number of evaluation methods that can be grouped by forms, results and according to the integratedness of evaluation results (Table 1).

Table 1. Methods for evaluation of institution competitiveness

1	Groups of methods	Name
By the form of competitiveness evaluation		
1	Analytical	Methods based on the models of competitiveness evaluation
2	Parametric	Application of parametric indices
3	Expert	Individual, collective
4	Statistical	Market share compared to competitors
By the evaluation results		
5	Matrix methods	Matrix of Hamel-Prahalad (Hamel, 2005), I. Ansoff matrix (Ansoff, 1989), McKinsey matrix, matrix of Porter's competitive strategies (Porter, 2005)
6	Methods of indices application	Method based on the definition of production competitiveness. Method based on the theory of effective competition. Method based on the determination of force of the reactive position. Benchmarking
7	Methods of competitiveness indicators application	Indicators of market share, marketing appeal, market monopolization (HHI, Herfindahl-Hirschman Index), Rosenbluth Index (Ir) (Hovart, 1970) and others
8	Graphical methods of evaluation	Competitiveness polygon Competitiveness radar
By the integratedness of evaluation results		
9	Unit	Evaluation by means of metrics
10	Integral	Evaluation by means of integral index

Source: Developed and summarized by the author based on (Ansoff, 1989; Kokov, 2012; Kotler, 1999; Porter, 2005; Hamel, 2005; Herfindahl-Hirschman Index; J. Hovart, 1970; McKinsey & Company).

All the existing evaluation methods have their advantages and disadvantages. In this case, auxiliary methods of competitiveness analysis are the following: SWOT-analysis, PEST-analysis, SLEPT-analysis, PESTLE-analysis, STEEPLE-analysis (Kotler, 1999). In our opinion, the most reasonable for the evaluation of competitiveness of a healthcare institution is the evaluation by means of integral index by the following groups of factors:

Group I: Evaluation of resource and infrastructure capacity of a healthcare institution: long-term assets and accumulated depreciation (of medical and diagnostic equipment), condition of service rooms, bed complement per 1 patient, availability of consumables and medication per 1 patient.

Group II: Evaluation of staffing: staffing of doctors and young skilled professionals with medical education per one healthcare institution, availability of pharmacists and paramedical personnel per 1 patient.

Group III: Assessment of innovation and research provision of a healthcare institution: investment in innovation of an institution, introduction of innovative processes into medical practice (technological - methods, prophylaxis techniques, diagnosis and treatment on the basis of available medicine (equipment); organizational innovations, economic innovations, information and technological innovations (Siburina, 2007)), availability of patents and licenses for treatment practices, the intangible value of an institution.

Group IV: Evaluation of financial and economic support of a healthcare institution: amount of healthcare institution financing from the budget, amount of paid medical services, costs of maintaining the hospital, liquidity and solvency of an institution.

Group V: Evaluation of marketing and external relations: the cost of marketing effort of an institution, external relations of an institution with other medical and research institutions, including international ones (exchange of experience, training, employment of technologies).

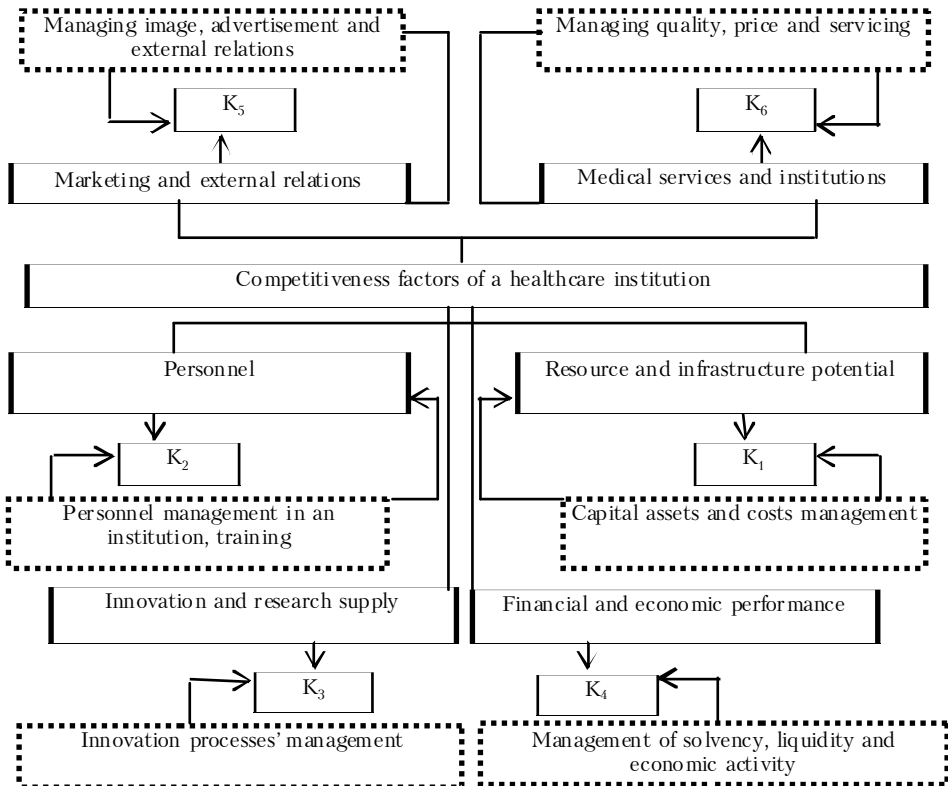
Group VI: Assessment of medical services: the cost of rendered medical services, prime cost of medical services, demand for medical services. Based on the given factors in absolute measurement, the intermediate indicators of competitiveness are scored: resource and infrastructure competitiveness (K_1), personnel competitiveness (K_2), innovation competitiveness (K_3), financial and economic competitiveness (K_4), marketing and business competitiveness (K_5) competitiveness of medical services of an institution (K_6) (Figure 1).

It is reasonable to study competitiveness of healthcare institutions in the context of individual groups of institutions: outpatient clinics, day hospital institutions, patient care institutions, dispensaries, as well as the territories of their location - cities, villages, provinces, regions and the whole country.

Competitiveness can be evaluated by comparing the actual level of indicators with the basic (standard) level, see equation (1):

$$K_i = K_{ri} / K_{bi} \rightarrow \max, \quad (1)$$

where K_{ri} - the score of actual indicators of the institution competitiveness; K_{bi} - the score of basic indicators of competitiveness.



Source: Developed by the author

Figure 1. Complex of factors of a healthcare institution competitiveness

The comparison can be made according to particular branch standards, international standards, maximally competitive healthcare institutions.

We use the letter *K* as an integral index of competitiveness of a healthcare institution. Due to the fact that each index of competitiveness ($K_1, K_2, K_3, K_4, K_5, K_6$) has a different degree of importance for the calculation of the average figure of competitiveness of healthcare institution, criteria significance coefficients should be determined by means of the expert method.

The integral index of competitiveness of healthcare institution (*K*) is determined on the basis of the weighted averages of competitiveness groups and its function will be of the following form (2):

$$K = i \sum w \cdot Ki, \tag{2}$$

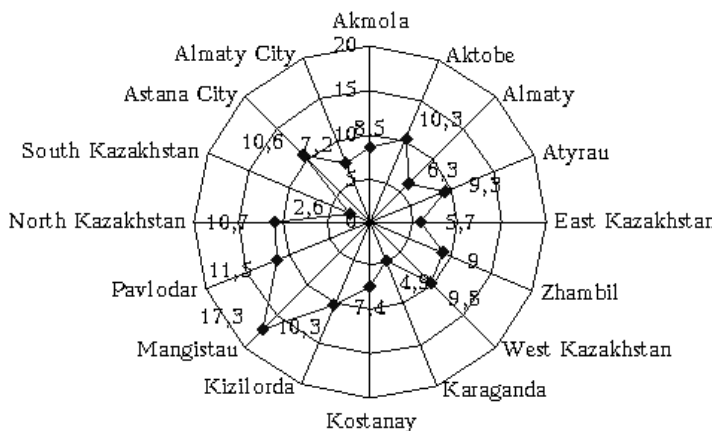
where w_i - unit weight of the indicator ($\sum w_i = 1$); K_i - the intermediate indicators of competitiveness of the factors of groups 1-6 ($K_1, K_2, K_3, K_4, K_5, K_6$).

Accordingly, the average figure should be determined by the following formula (3):

$$K = i \sum w \cdot Ki = w_1 \cdot K_1 + w_2 \cdot K_2 + w_3 \cdot K_3 + w_4 \cdot K_4 + w_5 \cdot K_5 + w_6 \cdot K_6 \tag{3}$$

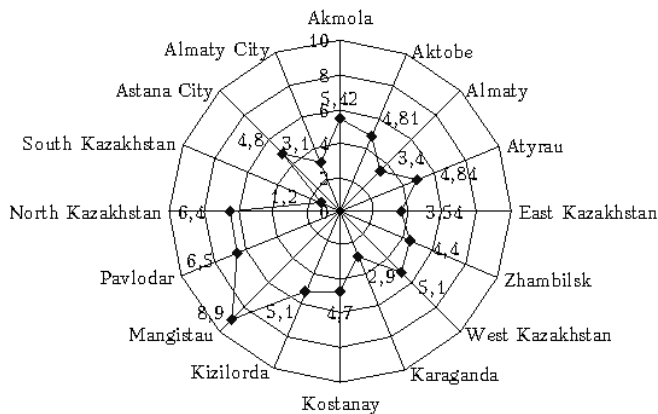
We get an average figure of competitiveness of a healthcare institution according to the suggested methodology. Then we study separate indicators of competitiveness components of an average figure of competitiveness of healthcare institutions by the

regions of Kazakhstan: the ratio of sickness rate to bed complement (the indicator within the scope of resource and infrastructure competitiveness (K_1)) (Figure 2), and the ratio of sickness rate of population to medical staff level (the indicator within the scope of personnel competitiveness) (K_2) (Figure 3).



Source: Developed and summarized by the author basing on the national statistics data.

Figure 2. Ratio of sickness rate of the population to bed complement by regions



Source: Developed and summarized by the author basing on the national statistics data.

Figure 3. Ratio of sickness rate of the population to medical staff level in healthcare institutions by regions

The ratio of sickness rate to bed complement by regions shows that the largest bed complement is in healthcare institutions of Mangistau, Pavlodar, North Kazakhstan regions and Astana City. And medical staff level is the highest in: Mangistau, Akmola, Atyrau, Kostanai regions and Astana.

In our opinion, the most important among the entire list of factors of the integral index of competitiveness of healthcare institutions (K) are the following ones: the cost of medical equipment and ageing of equipment, introduction of innovations, provision of patients with skilled medical personnel, the volume of financing for healthcare institution from budget, the quality and price of medical services.

Accordingly, the key priority measures to raise the competitive capacity of healthcare institutions are defined as follows: increasing the financial independence of medical institutions, requiring an increase in funding; balancing the system of financing of institutions by the priority of funding of emergency and first aid; improving staffing by skilled medical personnel; improving the system of practical training of future doctors; modernizing and equipment; broadening international cooperation of healthcare institutions.

Conclusions

Thus, the evaluation of competitiveness of healthcare institutions should be based on the integrated indicator of competitiveness, determined by the components of the resource and infrastructure, human resources, innovations, financial, economic, marketing and business competitiveness and competitiveness of medical services. Promising area for further research in this field is groundwork of mechanisms to increase the components of competitiveness of healthcare institutions.

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