

Original article



COMPARATIVE ANALYSIS OF THE MARKETING PLANS OF XXIIND AND XXIVTH DIAGNOSTICS AND CONSULTANCY CENTRES FOR THE PERIOD FROM YEAR 2016 TO 2018

Tsvetelina Mihaylova¹, Desislava Todorova², Tsvetomir Dimitrov³, Angel Enchev⁴

1) Department of Medical Pedagogy, Faculty of Public Health, Medical University of Sofia, Bulgaria

2) Department of Preventive Medicine, Faculty of Public Health, Medical University of Sofia, Bulgaria

3) Department of Health Care, Faculty of Public Health, Medical University of Sofia, Bulgaria

4) Symetria Corporis Clinic, Plovdiv, Bulgaria

ABSTRACT

Public healthcare is a field, in which the limited resources must be distributed upon competition between the different necessities of patients and in the setting of rivalry between health care institutions providing medical services. The aim of the study is disclosure of the factors, which influence the state and activity of two healthcare institutions for specialized medical aid in Sofia City. The task of analysis of the marketing plans of two diagnostics and consultancy centre (DCCs) was assigned for the period from the year 2016 to 2018. The analysis of the medical and demographic state of the population of Metropolitan Municipality showed that it is necessary efforts to be directed to complete enveloping of the population of up to 18 years of age and above 45 years of age with prophylactic examinations and their enveloping in groups of outpatient registration. The examinations based on outpatient registration were approximately 4% of the total scope of the activity of "DCC XXIInd-Sofia" and about 10% of the total scope of activity of "DCC XXIVth-Sofia". The analysis of the necessities from medical services and the possibilities of their offering showed that the usability of the capacity of XXIVth DCC was 61%, while the usability of the capacity of XXIInd DCC was 91%. The attention of the administration of health care institutions for specialized pre-hospital medical aid must be directed to contractual relations with the firms by voluntary health insurance companies or by the services of occupational medicine.

Keywords: specialized pre-hospital medical aid, marketing, healthcare

INTRODUCTION

The healthcare is a field, in which the available resources are limited. This requires their more effective usage. The main resources in health care are the labor resources, necessary equipment, and financial resources. The

resources must be distributed upon competition between the different necessities of patients and in the setting of rivalry between the health care institutions providing medical services. [1, 2]

Formation of the structure of health care institutions as independent legal entities with possibilities for economic independence and usage of own resource, and application of market mechanisms for the distribution of resources in the system of mandatory health insurance, by means of which favorable environment of competition to be initiated, leading to increase of the quality of services offered, are among the principles of public health care reform in Bulgaria. The specifics of Bulgarian public health care requires incorporation in the latter of a regulated market rather than an absolutely free market and competition. The main factor of market regulation in Bulgarian health care system is the National Framework Agreement (NFA), concluded between the National Health Insurance Fund (NHIF) and the Bulgarian Medical Association. [2, 3, 4]

AIM AND TASKS

The aim of the study is disclosure of the factors, which influence the state and activity of two healthcare institutions for specialized medical aid in Sofia City.

A task was assigned for analysis of the marketing plans of two diagnostics and consultancy centres (DCCs) for the period from the year 2016 to 2018.

MATERIAL AND METHODS

The analysis of the products and markets of "DCC XXIInd-Sofia" EOOD and "DCC XXIVth-Sofia" EOOD was performed based on usage of data from the two health care institutions and analysis of the market according to the available data from the National Statistical Institute (NSI) and the scientific literature on the subject.

Application of the main approaches to management was used in order this analysis to be applied - analysis of

the environment, analysis of the state of the organization, analysis of the products and market.

RESULTS AND CONSIDERATION

The implementation of health care reform in Bulgaria is impossible without the introduction of marketing mechanisms in the administration of healthcare institutions. [5] The long-term aims of the management of "DCC XXIIInd-Sofia" EOOD and of "DCC XXIVth-Sofia" EOOD are directed to:

- ✓ Improvement of the medical condition of the population in the region served;
- ✓ Combination of the social and marketing principle in the health care by means of balance of the interests of doctor and patient through the system of negotiation of financing;
- ✓ Formation of management conception for healthcare marketing, etc. [2, 4]

Based on the analysis of the condition and tendencies of the health of the population on the territory of Metropolitan Municipality, as well as on the system of health care at present, the possibilities of "DCC XXIIInd-Sofia" EOOD and "DCC XXIVth-Sofia" EOOD for accomplishing of their main mission may be analyzed.

1. Demographic processes and analysis of the medical and demographic situation in the districts served.

The population of Metropolitan Municipality numbers 1 316 557 residents (about December 31, 2014), distributed in the following age categories:

- < 19 years of age - 230 511 residents (18%);
- > 19 to 65 years of age - 866 253 residents (65%);
- > 65 years of age - 217 771 residents (17%).

The population in the age category from 19 to 65 years of age predominates on the territory of Metropolitan Municipality - the biggest share of that age category has the group from 25 to 44 years of age. In all age groups, the main cause of mortality has diseases of organs of blood circulation (65.9%), followed by neoplasms (16.6%), and diseases of respiratory system organs (3.6%).

In Metropolitan Municipality 13 853 babies were born in the year 2014; 13 790 of them were liveborn. The coefficient of birth-rate was 10.5 per thousand, which is second by significance quantity for the Republic of Bulgaria after Sliven Province with 12.4 per thousand. 15 358 residents died in the year 2014 (about December 31, 2014). The natural growth for Metropolitan Municipality was -1.2 per thousand (about December 31, 2014). At a permanent level of negative natural growth for Bulgaria for the last 15 years, positive values, namely 0.2-0.1 per thousand, were observed in its capital during the period 2009-2010.

The internal migratory index was highest in the capital - 8 482 residents (about December 31, 2014). The migratory processes towards the capital, related to education and work, determine the increase in population, which was followed by the year 2002 on.

In Metropolitan Municipality are registered and work 6 229 doctors. There are 211 residents per one doctor. The health professionals in nursing are 10 169.

In the territory of Metropolitan Municipality 416 health care institutions for pre-hospital medical aid, of which 43 DCCs, 116 Medical Centers (MCs), and 218 independent medical and diagnostic laboratories are active on December 31, 2014, based on data of the NSI.

Seven health care institutions ("DCC XXIIInd Sofia" EOOD, "DCC XVIIth Sofia" EOOD, Medical Center "GYNECA" OOD, Medical Center "Evromedic Diagnostic Sofia 3", Medical Center "Slatina" OOD, Medical Center "Sveti Naum" EOOD, DCC "Vita"), two private laboratories (Medical and Diagnostic Laboratory "Cibalab" EOOD, and Specialized Medical and Diagnostic Laboratory "Ramus"), Medical Center "Sveti Naum" EOOD, etc. currently implement the pre-hospital specialized medical aid on the territory of Slatina and Izgrev districts. "DCC XXIIInd-Sofia" EOOD is a health care institution for specialized pre-hospital medical aid, which serves the population of Slatina and Izgrev districts in regard to diagnostics, therapy, expert opinion on the temporary loss of work capacity, physical therapy and rehabilitation, prophylaxis and health promotion.

The specialized pre-hospital medical aid is currently implemented on the territory of Nadezhda and Vrabnitsa districts by "DCC XXIVth-Sofia" EOOD, "DCC VIIIth-Sofia" EOOD, and another eight medical centres. "DCC XXIVth-Sofia" EOOD is a health care institution for specialized pre-hospital medical aid, which serves the population of Nadezhda and Vrabnitsa districts, and also the residents of villages of Trebich, Mirovyane, Voluyak, and Mramor in regard to diagnostics, therapy, expert opinion on temporary loss of work capacity, physical therapy and rehabilitation, prophylaxis and health promotion.

The determinate health priorities in Sofia Province are of considerable significance for the activity of both healthcare institutions. The criteria for the derivation of health priorities in Metropolitan Municipality are: children's mortality; mortality of socially significant diseases in adults; the most frequent causes of morbidity; the most frequent causes of disability; morbidity. [3, 6, 7, 8, 9]

2. Social and economic factors

Based on the analysis of the main social and economic factors, attention must be paid to some of both main macroeconomic and microeconomic factors, that can exercise influence on the activity of DCC. [10]

The consumer price index (CPI) is an official measurer of the inflation in the Republic of Bulgaria. It measures the total relative change of the prices of commodities and services, which are used by the Bulgarian (residential) households for personal consumption. The harmonized consumer price index (HCPI) is a comparative measure of inflation in the countries of European Union. The HCPI measures the total relative change in the level of prices of commodities and services of all households, including the institutional (collective) and foreign ones on the territory of Bulgaria. According to preliminary data of NSI, the harmonized consumer price index for the month of January 2016 compared to December 2015 is 99.9%, i.e. the monthly inflation is minus 0.1%, for health care it is -0.1%,

while for pre-hospital medical services it is 0.1%.

During the month of January, the prices of medicinal products decreased, and the prices of medical services increased.

During the fourth trimester of the year 2015, the unemployed persons in Bulgaria were 216.0 thousand, and the coefficient of unemployment - 7.9%. Compared to the fourth trimester of 2014, the number of unemployed was with 26.4% lower, and the coefficient of unemployment - with 2.7 percentage points. The unemployment in Bulgaria during the month of December 2015 preserved its levels from the previous month - 8.8%. [3, 8, 9, 10, 11]

The following main conclusions can be drawn from the data presented:

The purchasing ability of the population is stable, but lower recourses are given for health care from the incomes of families, which exercise influence on the flows of money, especially on those with cash payments.

The higher percent of hidden unemployment, as well as not disbursement of payments for health insurance are factors, which make the population turn to the health care system with some delay.

Increase, and chronification of certain groups of diseases is expected - related to the unhealthy way of life -

irrational feeding, smoking, excessive consumption of alcohol, stress, etc.

3. Analysis of the activity

According to data from healthcare institutions for their activity in the year 2015, the prognosis of the flow of patients can be done - patients who will try to find specialized diagnostic and therapeutic medical aid in each of the healthcare institutions.[6,7]

The excerpt done shows that for "DCC XXIIInd-Sofia" EOOD the most charged medical speciality was dermatology and venereology, followed by ophthalmology, cardiology and neurology. The examinations with outpatient registration were approximately 4% of the total range of activity of the healthcare institution.

For "DCC XXIVth-Sofia" EOOD, the most charged medical speciality was surgery, followed by neurology, obstetrics and gynecology, and cardiology. The examinations with outpatient registration were about 10% of the total range of activity of the health care institution, which is a resource, related mainly to the expenses because of the methods, accepted by NHIF.

The medical and diagnostic activity (MDA) of the two centres for the year 2014 is presented in the following table:

Diagnostics and Consultancy Center / MDA (number) for the year 2014	XXIIInd DCC	XXIVth DCC
Clinical laboratory	69 537	21 465
Microbiology	823	0
X-ray examinations	8 867	5 981
Total	79 227	27 446

The analysis shows that XXIVth DCC has performed three times less medical and diagnostic activity than XXIIInd DCC for the year 2014.

One of the conditions for concluding an agreement with the National Health Insurance Fund (NHIF) according to article 189, paragraph 1 of the latter agreement from the year 2003 since the same year is following the so-called regulatory standard. That is calculation - according to the methods of NHIF - for every doctor of how many examinations (X-rays, laboratory examinations, etc.) and consultations may be allowed to be expended for a trimester depending on the number of primary examinations during the previous trimester, as well as the number and type of patients with outpatient registration.

Those methods of NHIF for calculation of the regulatory standards does not cover the real needs for medical examinations and consultations of patients, which makes the work of doctors difficult, does not provide a possibility for following the rules for good medical practice, and upon over-expenditure of examinations and consultations a sanction of the executer follows. That is one of the main market defects in the field of public healthcare - the vertical integration (presence of strictly defined technological

connections along the vertical in the field) - a system for directing for consultations, examinations, hospitalizations, etc. [2, 4] That is also a reason for decrease in the relative share of incomes from the State Administration for the year 2015 at the expense of increase of incomes in the private sector.

The current incomes for pre-hospital medical aid, according to the method of financing, underwent the following changes:

- The relative share of incomes from the section "State Administration", namely the ministries and departments, municipalities, NHIF and National Social Security Institute, decreased from 68.4% in the year 2003 to 56.6% in the year 2013;

- The relative share of incomes from the private sector increased from 35.2% in the year 2003 to 43.4% in the year 2013.

The health insurance system in the Republic of Bulgaria generates a monopoly of NHIF. In the aspiration for limiting the financial risk for the patients in the setting of the market for health care services, the system for health care insurance turns into a regulated market - a mixture of the private and public market. [2, 4, 5, 11]

4. Analysis of the needs of healthcare services and the possibilities for their offering

It is apparent from the data stated above for the activity of the two health care institutions for a previous period as well as from the health and demographic parameters, that their activity has satisfied the main necessities for specialized pre-hospital medical aid.

The practical needs for specialized pre-hospital medical aid were assessed as a sum of the actually served (satisfied necessity), and those in need, who were, however, not served (unsatisfied necessity) or died in their homes (at the base of the iceberg of morbidity). According to experts, the unsatisfied medical aid varies within the range of 10-40% of the satisfied one, while its relative share depends on the capacity of the healthcare institution, its specialization, and the organization of work. In this regard, accepting the data for the year 2015, the needs for the specialized medical aid of the population in the region served may be repeatedly calculated, as we accept that the unsat-

isfied medical aid is within the range of 15% for the region served by DCC and 30% for the whole country. Upon actual (satisfied) need for the year 2015 - 57 677 persons, the real need for specialized medical aid for Slatina and Izgrev districts was 69 212 patients. Upon actual (satisfied) need for the year 2015 - 33 619 persons, the real need of specialized medical aid in Nadezhda and Vrabnitsa districts was 38 660 patients. [6, 7] Based on that formulation, the appeals of the population to DCC may be planned as well as the necessary number of doctors, which satisfy the necessities of specialized medical aid by means of a formula in which the needs for medical aid; the working days in the year; the working hours according to the agreement with the healthcare institution and the average number of patients per one hour.

The capacity of the health care institution may be determined by means of a norm, recommended in the NFA, according to which every specialist is to spare an examination of a patient of not less than 20 minutes.

Specialty in XXIIInd DCC	Number of doctors on the staff	Effective fund of working time per one healthcare professional	Total effective fund in hours	Capacity of a health care institution in number of examinations	Actually performed examinations
Obstetrics and gynecology	1.25	1 050	1 312	3 936	1 698
Dermatology	2	1 050	2 100	6 300	8 049
Endocrinology	1	1 050	1 050	3 150	2 611
Cardiology	2.5	1 050	2 625	7 875	6 800
Neurology	1.5	1 050	1 575	4 725	5 221
Nephrology	1	1 050	1 050	3 150	2 201
Orthopedics	1	1 050	1 050	3 150	2 901
Otorhinolaryngology	1.75	1 050	1 840	5 520	4 963
Ophthalmology	2.5	1 050	2 625	7 875	6 854
Pediatrics	2	1 050	2 100	6 300	3 775
Psychiatry	0.5	1 050	525	1 575	644
Gastroenterology	1.25	1 050	1 312	3 936	970
Radiology	1.5	840	1 575	4 725	8 867
Urology	0.5	1 050	525	1 575	1 079
Physical therapy	1	1 050	1 050	3 150	2 816
Surgery	2.25	1 050	2 362	7 086	4 167
Total	24.5			69 978	63 566

A conclusion may be drawn from the calculations performed that the capacity of XXIIInd DCC for examinations numbers 69 978. The actual number of examinations performed in the year 2014 was 63 566, while the usability of capacity was 91%, i.e. an optimum correlation of health care professionals to the number of registered examinations. It was found upon analogous calculations that the capacity of XXIVth DCC for examinations numbered 55 437. The actual number of examinations performed in the year 2015 was 33 618, or the usability of the capacity was 61%.

CONCLUSIONS

1. The analysis of the social factors shows that the population in medical and social risk in Metropolitan Municipality has potentially high needs of medical care, mainly of primary medical care for finding and registering of the cases of diseases, their diagnosis specification and consultation by means of specialized pre-hospital aid, and adequate and timely treatment.

2. The analysis of medical and demographic condition of the population of Metropolitan Municipality shows that it is necessary efforts to be directed for complete and

real enveloping of population of below 18 and above 45 years of age with prophylactic examinations, to be enveloped in groups of outpatient registration by family doctors, together with doctors of the specialized pre-hospital medical care.

3. The examinations of outpatient registration were approximately 4% of the total volume of the activity of “DCC XXIIInd-Sofia” and about 10% of the total volume of activity of “DCC XXIVth-Sofia”. The analysis of the activity shows also that XXIVth DCC performed three times less medical and diagnostic activity than XXIIInd DCC in the year 2014.

4. The analysis of the needs of medical services and the possibilities of their providing showed that the usability of the capacity of XXIVth DCC was 61%, while the usability of the capacity of XXIIInd DCC was 91%, i.e. an optimum correlation of health care professionals to the number of registered examinations.

5. The engagement of employers in ensuring of

healthful and safe conditions of work, including performing of periodical prophylactic medical examinations of employees, must direct the attention of the administration of health care institutions for specialized pre-hospital medical aid to that contingent by means of active searching of contract relations with the firms themselves, by means of voluntary health insurance associations or by means of occupational medicine services.

FINAL STATEMENT

By means of introduction of market mechanisms in the management of healthcare institutions and competition on the market of medical services, a contradiction emerges between the market and social price of medical services, which is also found in the cases considered. The possibility to be assessed the use of certain equipment, procedure or therapy, and to be regarded to the expenses of the health care institution, in the setting of “market” in health care, will allow the making of more rational decisions.

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Address for correspondence:

Assist. Prof. Dr Tsvetelina Mihaylova,
Department of Medical Pedagogy, Faculty of Public Health, Medical University of Sofia,
8, Bialo more Str., 1527 Sofia, Bulgaria.
E-mail: tsvetelina.s.mihaylova@gmail.com,