characteristics of various nosological forms of infectious complications. A medium portion of morning urine after surgery was subjected to bacteriological examination. for 3 days.

Research results and discussion. In most cases, a gram-negative flora was detected, while bacterial associations, mainly represented by an aerobic-anaerobic mixed infection, were less frequently distinguished during the observations. According to the results of studies, after surgical intervention and against the background of diagnosing urinary tract infections, the urinary microbial spectrum changes more markedly in the pathogenic side in patients with diabetes mellitus, as evidenced by the quantitative indicators of frequent pathogens of acute pyelonephritis, urethritis and pyonephrosis, i.e. E. coli, and Ps . Aeruginosa.

Conclusions. When analyzing the results of clinical and laboratory studies conducted against the background of a urinary tract infection, changes were revealed that indicated a decrease in the functional activity of some components of the immune system.

Microbiological monitoring of patients with urolithiasis allows you to monitor changes in the quantitative and qualitative indicators of the leading pathogens of urinary tract infection, their resistance and, against this background, develop rational antibacterial therapy.

To improve the quality and results of treatment of urological patients with infectious and inflammatory complications and background somatic pathology, it is recommended to conduct in-depth studies to identify the disadvantages, advantages and prescription of antibacterial drugs that optimize the prevention of antibiotic resistance.

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ОБЗОР ОБЩЕСТВЕННОГО ОТНОШЕНИЯ К ИЗМЕНЕНИЯМ МОДЕЛИ СТРАХОВАНИЯ ЗДОРОВЬЯ В БОЛГАРИИ

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SURVEY ON PUBLIC ATTITUDES TOWARDS CHANGES OF THE HEALTH INSURANCE MODEL IN BULGARIA

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АННОТАЦИЯ

Целью данной работы является изучение отношения общественности к предлагаемым изменениям в модели медицинского страхования. Был изполэван документальный и социологический **метод**. Анализ охватывает обсуждаемые варианты и результаты опроса среди 574 человек. Значительная часть респондентов против обязательного дополнительного медицинского страхования и увеличения медицинского страхования. Частичная демонополизация фонда медицинского страхования поддерживается. Небольшая часть респондентов говорят, что готовы доплачивать. **Вывод**: Лучше всего получить вариант, состоящий из двухуровневой модели медицинского страхования, включающей пакет базовых медицинских услуг, финансируемых из фонда медицинского страхования, и конкуренцию между различными фондами за модернизацию пакета добровольного медицинского страхования пакета мероприятий. **Заключение:** Накопившееся недовольство и недоверие населения к действующей модели медицинского страхования в Болгарии требует проведения изменений для повышения уровня удовлетворенности населения, эффективности и результативности системы здравоохранения.

ABSTRACT

The aim of the work is to investigate public attitudes towards proposed changes in the health insurance model. Documentary **method** used. The analysis covers the options discussed and the results of a survey among 574 individuals. A significant part of the respondents is against compulsory supplementary health insurance and an increase in health insurance. Partial demonopolisation of the health insurance fund is supported. A small proportion of respondents say they are willing to pay extra. **Conclusion:** The option consisting of two-pillar health insurance model that includes basic solidarity medical services package financed by the health insurance fund and competition between different funds for upgrading a voluntary health insurance and/or insurance package of activities is best received. In **conclusion** the accumulated resentment and distrust among the public towards the current health insurance model in Bulgaria requires undertaking changes to raise the level of satisfaction among the population, effectiveness and efficiency in the healthcare system.

Ключевые слова: демонополизация фонда медицинского страхования, базовый пакет медицинской деятельности, финансирование страховых фондов.

Keywords: health insurance fund demonopolisation, a basic medical activities package, financing insurance funds.

INTRODUCTION: The development and improvement of the health insurance model in the country is an urgent need in order to achieve better health status of the population. The unsolved problems in the sector related to the financing of the system require an in-depth analysis and a broad public discussion of possible health care changes. Increasing public funds is a necessary but not sufficient condition for improving the quality of medical activities and, respectively, health indicators. Regardless of the type of changes in the health care system, it is of utmost importance to carry out regular monitoring of public opinion reflecting the expectations and satisfaction of patients [6].

The aim of the work is to explore the attitudes towards implementing the possible changes proposed by the Ministry of Health (MoH) concerning the development of the health insurance model. **The tasks** to accomplish the aim are: 1. Analyze the proposed changes. 2. Survey on public attitude towards the development of the health insurance model. **Materials and Methods:** The used tools included documentary and sociological method, as well as descriptive statistics. The options proposed by the Ministry of Health for changes in the financing of the health insurance model were analysed. An anonymous survey was conducted in the period November 2018 – March 2019 among 574 persons of which 243 people employed in the health care sector. Questions were aimed at studying the perception of the proposed changes to address the challenges and the opinion regarding the positive and negative impacts in the system.

RESULTS AND DISCUSSIONS

Financing of the Bulgarian healthcare system is based on capabilities, not on needs. Bulgaria allocates the scarce amount of 4.2% of Gross domestic product (GDP) on health care, while the average for European countries amounts to 10% [4]. The absence of an integrated information system and e-health, lack of valuation of medical activities, ineffectiveness of control of the spending of public money are the main obstacles to determine the actually needed resources to ensure quality health care. The inadequacy of funds and their improper distribution is the cause of a number of outstanding challenges in the system – lower prices of medical services, limited income of medical institutions, significant amount of indebtedness to contractors, not sufficiently high salaries of medical staff and intensive emigration of medical professionals. The chronic underfunding is the reason for the rapid increase in direct private additional payments for medical services. According to Eurostat data for 2015, in Bulgaria they reached the significant 48%, which exacerbates the negative attitude towards the health insurance model [3]. Facts support the opinion that the public resources are absolutely insufficient to meet the cost of health needs of the population. The outstanding challenges require immediate complex changes well-thought on an expert level.

The proposals for discussion made by the Ministry of Health team concern the financing of the system. The change proposed on 26.09.2018 (round table, National Palace of Culture) includes the existence of three health insurance pillars: *First pillar of compulsory health insurance; Second pillar of supplementary compulsory health insurance and a Third pillar of voluntary health insurance*. The Ministry of Health team proposed an annual fixing of a financial limit for the one-off value of medical activities performed under a clinical pathway (CP), and the second compulsory pillar shall be activated beyond it as a payer. This proposal carries the risk of transfer of responsibility for costly hospital services to insurance funds, respectively patients. Another proposal was related to the setting of national maximum prices for paying healthcare institutions, but also the possibility for each medical establishment (ME) to set higher prices for activities. In these cases, the difference would be offset by patient's cash or the third voluntary pillar. According to experts, in case of a compulsory second obligation, only the honest payers would be financially charged again, and the risk of low collection of health insurance or insurance remains. In practice, supplementary compulsory health insurance represents a mechanical increase in the health contribution and would make the establishment of a second pillar unnecessary.

The proposed changes, after a discussion in working groups at Ministry of Health, a year later, on 15.07.2019, were amended and may be summarized as follows: No change in: *compulsory health insurance with retained amount of the health contribution and additional voluntary health insurance.* Introduction of *complete demonopolization of the National Health Insurance Fund (NHIF)* and competition between financial institutions. Insurance companies shall be obliged to establish *a reserve and guarantee fund* and can *make a profit*. The Funds shall have no right to refuse the persons who have selected them, but they can *selectively contract with medical care providers and negotiate with them about the prices of the activities.*

According to many experts, the *demonopolization of NHIF* is the possible change creating conditions for competition between financing funds and more effective control of payments to ME, but *it does not automatically guarantee a positive change in the quality of the medical service.* The choice is between full or partial demonopolization concerning only supplementary health insurance or insurance is a subject of broad public discussion and in-depth analysis.

Given the specificity of the health market, free competition between funding institutions could lead to the emergence of poor practices and defects in the delivery and use of medical activities, such as informed selection of mostly younger patients in good health and

solvent; referral and concentration of patients mainly to ME owned by the funds; most often performing high-paying medical activities and more. The experience in European countries with active large number of health funds , indicates weaknesses such as: a higher risk of bankruptcy of health funds; increasing the administrative burden on contractors when declaring the performed medical activities to many health insurance funds; reduction of the actual public funds from health insurance contributions for medical activities as a result of the spending of about 40% by each health fund to administer and allocate funds to establish a guarantee and reserve fund; selection of risk by selection of patients and others.

To date, supplementary voluntary health insurance/sickness insurance is predominantly corporate and very limited. In order to overcome barriers to the development of voluntary insurance, the funds insist on clarity regarding the activities paid for by the NHIF. The discrepancy between the health care package and its financing from health insurance contributions impose the need to clearly define a basic package, determined on the basis of analysis of reliable information and actuarial calculations. The refinement of the scope and the volume of the medical activities included in the basic package will allow upgrading with various health insurance packages competitively offered by supplementary insurance and/or sickness insurance. These packages will cover additional medical activities not included in the basic package funded by health insurance contributions [6]. 83.5% of respondents are not aware of the difference between health insurance and sickness insurance. Despite the similarities between them, it should be remembered that these are different forms of social protection each with its advantages and disadvantages. Health insurance guarantees the continuous joint and several receipt of medical services and manages costs by controlling the activities provided. Sickness insurance covers damages in the event of a certain risk, managing and redistributing the risk of occurrence of an insurance event included in the package of medical activities. For this reason, insurance packages involve different amounts of coverage (the amount the person is insured for) and premiums (the amount paid by the insured person) , depending on the risk of illness, age, health, family burden, lifestyle of each insured person and others [6].

The issue of voluntary or compulsory supplementary health insurance/sickness insurance is debatable regardless of the number of upgrading pillars in the system.

The results of the *survey* indicate the *overwhelmingly critical attitude of the respondents towards the current health insurance model and moderate optimism about the proposed changes.* A significant proportion of respondents gave a negative answer regarding the effectiveness of the current model. The insured persons determine the health insurance in Bulgaria as ineffective (53.1% responded with a firm "No" + 42.5% cannot say = **95.6%**). More than half of those surveyed (51.2%) gave a negative assessment of healthcare, which is an expression of dissatisfaction. Just over a quarter (28.6%) have declared themselves in support of the current model, and 20.2% cannot give a clear opinion. 76% are of the opinion that public funds are insufficient and put the health system in a state of chronic deficiency. According to 16.1%, the funding of system is of adequate size, but the funds allocation is improper and the cost control is lowered. 7.9% of the respondents do not feel competent and cannot give an opinion. *The data clearly indicate the recognized need for radical changes in the health insurance system.* According to a large part of the surveyed medical staff (89.6%) and just over half (58.3%) of the other respondents, it is necessary to increase the public funds for financing the healthcare system. At the same time, the share of those who support the increase in health insurance contribution is only 6.7% of medical staff and 4.1% of other respondents. The answer of this question was difficult for 7% of medical staff they individuals, while for the remaining respondents the share is four times higher (29.4%).

The answers to the necessary solutions are also interesting to look at before implementing changes in the financing of the health insurance model, reflected in Figure 1.

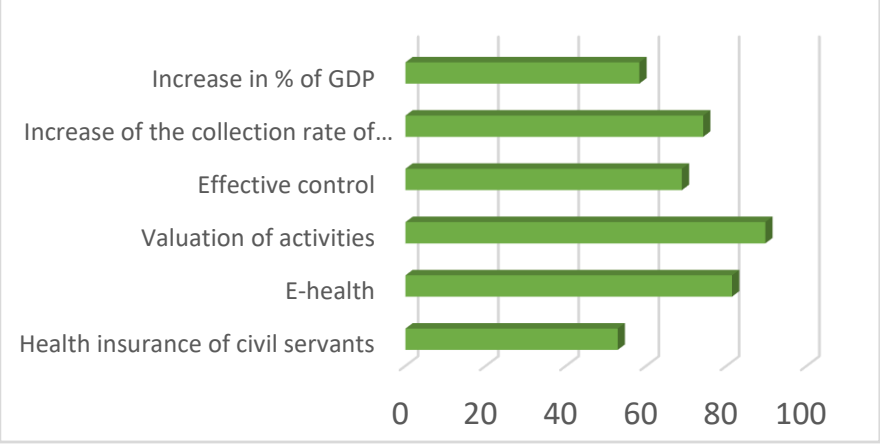

Fig. 1. Recommendations for optimizing the system before changing the health insurance model

To date, it is clear how much the health fund spends, but due to lack of e-health, valuation of medical activities, low collection rate of health insurance contributions, ineffective control over public spending and other objective reasons, there is no clarity regarding the extent of funds inadequacy to the system in order to guarantee quality healthcare. It would be possible to elaborate of possible development of the health insurance model only when having objective information.

We have examined the attitudes towards reforming the system in relation to the specific proposals of the Ministry of Health. The most significant is the share (52.1%) of medical staff who consider demonopolization of the NHIF to be the successful way to solve the challenges in the system. 36.2% of persons outside the medical sector support this idea. The existence of sickness insurance is reported by 25.9% of medical staff and 13.6% of the remaining interviewees. Respondents did not register a high level of willingness to make additional payments. With a small difference is the proportion of medical staff (28.3%) and other respondents (16.7%) stating willingness to pay extra cash for medical activities performed, provided there is a clear regulation and control of what is received by patients A significant proportion of respondents (69%) support the idea of partial demonopolization of the treasury only in respect of supplementary health insurance/sickness insurance, with 21% of them unsure of their judgement, answering "rather YES". The questions "for" or "against" compulsory supplementary health insurance/sickness insurance, the answers of the respondents are reflected in the graph in Figure 2.

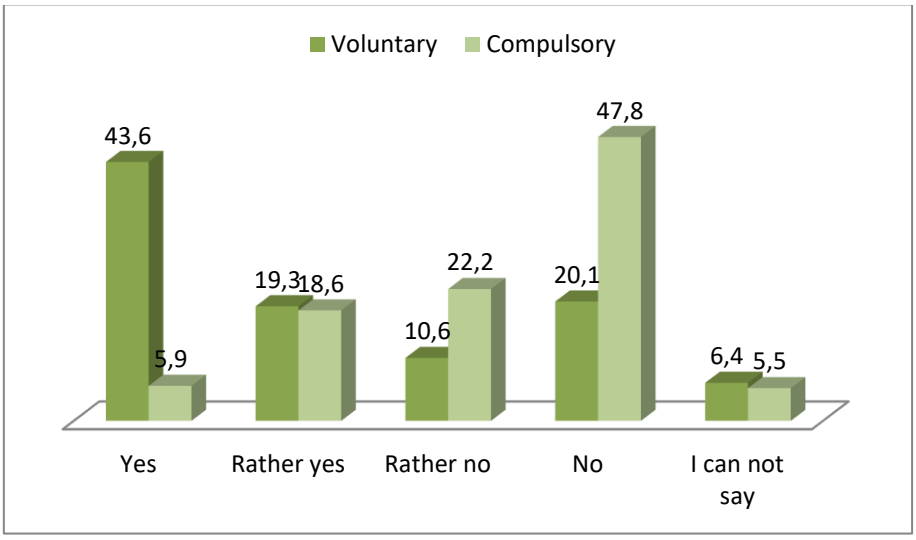

Fig. 2. Support for the introduction of compulsory supplementary health insurance/sickness insurance

More than half of the respondents (62.9%) support the supplementary voluntary health insurance/sickness insurance, while in the case of the compulsory insurance about one quarter of the respondents (24.5%) give affirmative answer. A significant proportion of respondents (70 %) are against the compulsory insurance. 46% set a condition for the introducing of compulsory or voluntary sickness insurance, only after ensuring the elimination of co-payments. Half of the respondents (49.5%) support preserving the solidarity principle, but only for use of the activities from an optimally reduced basic package funded by health insurance contributions (76.6% of medical staff).

CONCLUSIONS

A minor part of the respondents see as potential the possibility for increase of health insurance contribution. The partial monopolization of the NHIF is supported as means for successful reforming of the health system.

IN CONCLUSION the accumulated resentment and distrust among the public towards the current health insurance model in Bulgaria require undertaking changes to raise the level of satisfaction among the population, effectiveness and efficiency in the healthcare system.

At present, the most accepted option is the two-pillar health insurance model which includes a mandatory basic package of health services funded by health insurance and an optional voluntary health insurance and/or sickness insurance package.

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