

# IMPROVING ALGORITHMS FOR CALCULATING THE COST OF MEDICAL SERVICES FOR IMPLEMENTING STATE HEALTH INSURANCE

<sup>1</sup>Rasulova N.F., <sup>2</sup>Berdimuratov D.U., <sup>3</sup>Azamatova F.A.

<sup>1,2,3</sup>Tashkent Pediatric Medical Institute

<https://doi.org/10.5281/zenodo.10402788>

**Abstract.** *With the development of market relations and the growing demands of the population for the quality and volume of medical care, there is a lack of funding in many, including developed countries of the world. Healthcare is one of the high-cost industries in modern economic conditions. Even in industrialized countries, health care cannot be both cost-effective and accessible to the entire population. The system of estimated financing of the healthcare sector operating in the Republic of Uzbekistan is based on outdated mechanisms that do not correspond to international practice, which leads to inefficient use of financial resources and chronic underfunding of the industry.*

**Keywords:** *algorithm, calculation, medical services, implementation, state health insurance.*

**Introduction.** With the development of market relations and the growing demands of the population for the quality and volume of medical care, there is a lack of funding in many, including developed countries of the world. Healthcare is one of the high-cost industries in modern economic conditions [3]. Even in industrialized countries, health care cannot be both cost-effective and accessible to the entire population [4]. The system of estimated financing of the healthcare sector operating in the Republic of Uzbekistan is based on outdated mechanisms that do not correspond to international practice, which leads to inefficient use of financial resources and chronic underfunding of the industry. With the introduction of market mechanisms, including voluntary health insurance, paid medical services and the development of the private healthcare sector in the healthcare system, patients' choice of medical institutions begins to depend on their cost [6]. This may be the reason for directing the flow of consumers of medical services with weak ability to pay towards inexpensive, but not always effective services. Therefore, it is important to determine what causes the difference in prices in medical institutions that provide similar services and are often located in the same territory [7].

With the aim of providing accessible healthcare services to all citizens, many countries have implemented state health insurance programs. These programs often cover a wide range of medical services, ensuring that individuals receive the necessary care without financial burden. However, accurate and efficient cost calculation algorithms are crucial for the successful implementation of such programs.

Calculating the cost of medical services is a complex task that involves various factors, including the type of service, healthcare provider fees, geographical location, and prevailing market rates. The accuracy of these calculations directly impacts the financial sustainability of state health insurance programs and the equitable distribution of resources. Therefore, improving algorithms for cost calculation is essential for achieving efficiency and accessibility in healthcare.

One key objective of enhancing cost calculation algorithms is to accurately determine the fair and reasonable reimbursement rates for healthcare providers. Inaccurate or outdated algorithms may lead to either underpayment, discouraging providers from participating in the state health insurance program, or overpayment, straining the program's financial resources. By developing advanced algorithms that consider relevant factors and dynamically adjust reimbursement rates, the system can ensure that healthcare providers are adequately compensated while maintaining financial sustainability.

**Purpose of the study.** Scientific substantiation and implementation of modern methods for determining the cost of medical services for the introduction of state health insurance.

**Materials and research methods.** We assessed the opinions of managers and doctors of medical institutions working in the Syrdarya region. The questionnaire consisted of 13 questions that were sent to study the issues of relations and mechanisms for the implementation of compulsory health insurance in inpatient and outpatient clinics. The study was conducted in 2022. The target group consisted of 116 managers and doctors of medical institutions. The survey results were entered into a computer program based on Microsoft Excel. In addition, the MIS (medical information system) information system was studied, according to which the methodology for introducing relative cost weighting and the weighting coefficient of medical services were determined.

**Results and discussions.** Studying the opinions of health care facility managers, conducting explanatory work about the essence of reforms, explaining ways and methods of introducing modern information and communication technologies is one of the urgent tasks and can directly influence the results of ongoing reforms in the healthcare system. Therefore, studying the opinions of health care facility managers using a survey method can help and identify difficulties in implementing some areas of reform when introducing compulsory health insurance. One of the objectives of the study was to determine the impact of financing methods on the quality of medical care. Respondents were asked the question: - Is the current method of financing healthcare effective in improving the quality of medical care? Respondents' opinions on this question were divided. The majority, that is, 91 (79%) respondents YES and they believe that the current financing system is effective in improving the quality of medical care and 24 (21%) disagree and answered in contrast to the current system of financing healthcare facilities with compulsory health insurance, depending on There are significant differences in the methods of providing medical care and financing health care facilities. If outpatient clinics receive funding based on the assigned population, while inpatient medical facilities are funded based on the work done, that is, the number of patients treated. Thus, only 5% of respondents chose the most correct answer, and according to this we believe that managers and doctors should know the method of financing, because their direct salaries depend on their fulfillment of the amount of financing, which differs significantly from the current system of financing inpatient health care facilities and may stimulate improvements in the quality of medical care. Financing of staff units based on the norms of the assigned population 60 (52%), payment is calculated for services provided per capita at a fixed rate 44 (38%), financing from private funds of patients 3 (3%), and I don't know 9 answered (8%) respondents.

**Conclusions.** Thus, in conditions when reforms are being carried out to change financing methods in the Syrdarya region and, in connection with this, the survey and analysis of their results leads to the following conclusions: the heads of medical institutions and doctors who took part in

the survey by developing a questionnaire know about the ongoing financing reforms in healthcare system. Only 5% of respondents answered correctly to the question what do you understand by the concept of financing for a treated case. However, the majority or 94 (81%) of respondents are ready to change the method of financing from switching to compulsory health insurance.

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