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CURRENT ISSUES OF ASSESSING THE EFFECTIVENESS OF RADIOLOGICAL STUDIES CONDUCTED WITHIN THE GUARANTEED VOLUME OF FREE MEDICAL CARE AND IN THE SYSTEM OF MANDATORY SOCIAL HEALTH INSURANCE

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Conflict of interest:

The authors declare that they have no conflicts of interest

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Abstract

The purpose of the study is to analyze the effectiveness parameters of the radiological service on the example of Almaty in 2022.

Literature review of foreign and domestic literature concerning the issues of organization of radiology service for the period from 2005 to 2022 was carried out.

Conclusion. Thus, to increase the value of imaging, cost management is required, in addition to improving quality and outcomes. Radiologists should be involved in calculating the costs of radiology examinations, and a review of the parameters for assessing the effectiveness of the radiology service is necessary.

Тегін медициналық көмектің кепілдік берілген көлемі және міндетті әлеуметтік медициналық сақтандыру шеңберінде жүргізілетін радиологиялық зерттеулердің тиімділігін бағалаудың өзекті мәселелері

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Байгусова Д.З. – А.Н. Сызғанов атындағы ҰҒХО-ң сәулелі тәсілдермен зерттеу бөлімінің меңгерушісі, сәулелі зерттеу дәрігері, Алматы қ. ҚДБ-ң штаттан тыс бас радиологы, Алматы қ., Қазақстан, e-mail: dina_gallyamova@mail.ru

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радиология, компьютерлік томография, тегін медициналық көмектің кепілдік берілген көлемі, міндетті әлеуметтік медициналық сақтандыру

Аңдатпа

Зерттеудің мақсаты – Алматы қ. бойынша 2022 ж. ішіндегі радиологиялық қызметтің тиімділігі параметрлеріне талдау жүргізу.

2005-2022 жж. аралығындағы сәулелі диагностика қызметін ұйымдастыру мәселелеріне қатысты шетелдік және отандық әдебиеттерге әдеби шолу жүргізілді.

Қорытынды. Осылайша, визуализацияның құндылығын арттыру үшін сапа мен нәтижелерді жақсартумен қатар шығындарды басқару қажет етіледі. Радиологтар радиологиялық зерттеулердің шығындарын есептеу жұмысына қатысуы керек, сондай-ақ радиологиялық қызметтің тиімділігін бағалау параметрлерін қайта қарау қажет.

Актуальные вопросы оценки эффективности радиологических исследований проводимых в рамках государственного объема бесплатной медицинской помощи и обязательного социального медицинского страхования

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 радиология, компьютерная томография, государственный объем бесплатной медицинской помощи, обязательное социальное медицинское страхование

Аннотация

Цель исследования – провести анализ параметров эффективности радиологической службы на примере г. Алматы за 2022 г.

Был проведен литературный обзор зарубежной и отечественной литературы касательно вопросов организации службы лучевой диагностики за период с 2005 по 2022 г.

Заключение. Таким образом, для увеличения ценности визуализации, требуется управление затратами, в дополнении к улучшению качества и результатов. Радиологи должны принимать участие в расчете затрат на радиологические исследования, а также является необходимым пересмотр параметров оценки эффективности радиологической службы.

Relevance

For a long time, radiologists competing in fee-for-service settings have evaluated their performance using volume-based measures (e.g., the number of diagnostic procedures performed, overall and by modality) and revenue-based measures [10-12]. The notion of success among radiology department managers has been and continues to be defined as annual revenue growth, an increase in the annual number of imaging studies, and an increase in the ROI [13]. In the new era of health care reform, these parameters are no longer adequate to measure the success of radiology services.

To maximize the value of imaging, cost management is required, in addition to improving quality and outcomes.

In the subject of RK today, patients can receive medical services, (including all radiology examinations) under the guaranteed volume of Free Medical Care and Mandatory Social Health Insurance. State and private organizations can participate in fulfillment of the state order. Due to the lack of clear indications for studies, standards for conducting the studies themselves - it is very difficult to assess the validity of the conducted research, its quality from the law point of view.

№	Full service code	Service name	Cost
1 452	C03.013.006	Computed tomography of abdominal with contrast	29 705,58

Let's consider the radiology service on the example of contrast-enhanced CT scan. As indicated in the table above, the cost reimbursed by the Social Health Insurance Fund to the medical organization where the abdominal CT scan with contrast enhancement was performed is about 29,706 tg. The name of the service itself, as well as other normative documents concerning radiological diagnostics do not specify how and in what quantity the contrasting substance should be administered. Thus, the amount of contrast media to be injected may vary, and the injection of contrast media may also be different

(both manual and bolus), which certainly cannot but affect the cost of the examination and its quality. What is profitable for certain medical organizations fulfilling the state order, because no one evaluates the validity and quality of the study. For example, a patient with a body weight of 80 kg, according to world guidelines to obtain high-quality contrast and proper imaging requires the introduction of - at least 100 ml (contrast medium to body weight ratio, depending on contrast medium density: 320 mg/ml - 1.4 ml/kg; 370 mg/ml - 1.2 ml/kg). Consider the material costs of a medical organization for a CT scan.

Table 1.
 Tariffs for medical services within the guaranteed volume of free medical care and (or) in the system of mandatory social health insurance

Title	Unit of measure	Consumption rates	Amount
Thermal film №100 35*43 sm	pcs	1,0	1 200,0
Iodixanol 100 ml №1	ml	100,0	15 000,0
Disc DVD	pcs	1,0	65
Sodium chloride 0,9% 500ml	ml	60,0	20,9
Patient hose 250 sm	pcs	1,0	3 140,0
Pump hose	pcs	0,25	3 925,0
Intravenous cannula 24G	pcs	2,0	115,6
Summary			23 466,6

Table 2.
 The material costs of a medical organization for a CT scan

The table does not take into account staff salaries, utility costs, and equipment depreciation. It follows from the above that it is impossible to cover costs and make a profit performing trials according to international standards, and therefore medical organizations have to save money somewhere. It turns out that on the quality of research.

With this in mind, radiologists should take the lead in working with administrators and other staff to calculate costs for specific procedures that will accurately reflect the use of resources.

In addition, there are many risks associated with undergoing advanced medical imaging, such as CT and MRI scans. These include specific risks associated with the procedure itself, including radiation exposure and possible reactions to the contrast agent. Patients accept these risks on the advice of their doctor, whom they trust to

weigh these risks against the expected health benefits. Few patients, however, may be aware of the possibility that they are agreeing to an unnecessary examination when the important motive for scheduling the examination is economic gain for the physician rather than resolution of diagnostic uncertainty.

Studies conducted in the late 1980s and 1990s in the United States demonstrated a significant increase in the provision of CT and MRI scans in freestanding imaging centers, due to the fact that physicians who are not radiologists benefited financially from referrals. Numerous studies confirm this problem, which is a conflict of interest [3]. There have been no such studies in Kazakhstan to date, but if we look at the number of CT and MRI scans performed in public and private organizations in Almaty for 2022, we can see the following.

Table 3.
Data from the Republican Center for e-Health in Almaty performed by private organizations

	Total studies		Contrast enhancement	
	CT	MRI	CT	MRI
Total studies	109534	21367	23940	3585

Table 4.
Data from the Republican Center for e-Health in Almaty performed in state organizations

	Total studies		Contrast enhancement	
	CT	MRI	CT	MRI
Total studies	32713	12410	14260	2707

Of the 142247 CT examinations and 33777 MRI examinations performed under the Mandatory Social Health Insurance, 77% and 63%, respectively, were performed in private organizations.

Conclusion

It follows that in order to manage costs, to improve quality and outcomes, the health care system will need to revise the parameters for assessing the effectiveness of the radiology service, based on the following indicators:

- Evaluate the quality of the examinations performed;
- Evaluate the appropriateness of prescribed and conducted examinations;

- reduce the number of unnecessary examinations performed;
- demonstrate the impact of imaging services on patient outcomes;
- provide patients with timely access to imaging services;
- integrate health information technology;
- monitor and improve patient satisfaction;
- Minimize patient radiation exposure;
- Implement reminder systems for imaging services (e.g., mammography);
- Analyze information from new imaging studies with information already known from previous studies.

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Ағымдағы жылдың 5-ші маусымында «AsfenForum: жаңа ұрпақ – 2023» 1-Халықаралық форум аясында медициналық бағыттар бойынша «Хирургия» секциясы сәтті өтті. А.Н. Сызғанов атындағы Ұлттық ғылыми хирургия орталығының беделді ғалымдары және жас мамандары, сондай-ақ Астана, Шымкент, Ақтөбе қалаларының медициналық ұйымдарының жас дәрігер мамандары 2 дәріс, 9 баяндама жасады. Секция соңында 3 жүлделі орындарға лайықты баяндамашылар тізімі ұсынылды.

