

EVALUACIJA PLANIRANJA I POTROŠNJE MEDICINSKIH RESURSA U PRIMARNOJ ZDRAVSTVENOJ ZAŠTITI SRBIJE

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SAŽETAK

Uvod/Cilj: Efikasno planiranje i potrošnja lekova, sanitetsko-medicinskog materijala i laboratorijskih reagensa u okviru primarne zdravstvene zaštite Republike Srbije direktno utiču na dostupnost terapije, kvalitet usluga i racionalnu upotrebu budžetskih sredstava. Iako postoji formalni okvir za centralizovanu nabavku, praksa pokazuje značajne razlike u kriterijumima, procedurama i institucionalnim pristupima. Cilj istraživanja bio je da se ispita kako ustanove planiraju potrebe, koje kriterijume koriste i kakvu ulogu ima Republički fond za zdravstveno osiguranje (RFZO) Republike Srbije u evaluaciji i realizaciji planova.

Metode: Sprovedeno je kvantitativno istraživanje među 136 ustanova primarne zdravstvene zaštite i 26 filijala RFZO, putem upitnika kreiranog na osnovu važećih propisa i stručnih metodoloških uputstava. Podaci su analizirani u Excel okruženju, korišćenjem binarne matrice i tematske klasifikacije odgovora.

Rezultati: Većina ustanova (84,6%) oslanja se na istorijsku potrošnju i smernice RFZO, dok samo 8,8% koristi ekonomske kriterijume. Višekriterijumski pristup primenjuje svega 5,1% ustanova. Interna evaluacija nije prisutna u 26,5% ustanova, informacioni sistemi se pretežno koriste u administrativne svrhe. Uočen je obrazac planiranja bez analitičke provere, uz često prebacivanja odgovornosti na RFZO, koji u svom odgovoru navodi da ne vrši evaluaciju niti koristi analitičke alate.

Zaključak: Sistem planiranja formalno zadovoljava regulatorne zahteve, ali bez analitičke osnove i funkcionalne evaluacije. Uspostavljanje standardizovanog modela zasnovanog na kliničkim, ekonomskim i epidemiološkim pokazateljima, uz aktivnu evaluativnu ulogu RFZO i dvosmernu institucionalnu povratnu spregu, predstavlja ključni korak ka racionalizaciji i pravičnijem upravljanju zdravstvenim resursima.

Ključne reči: primarna zdravstvena zaštita, planiranje potreba, centralizovana nabavka, medicinski resursi, Republički fond za zdravstveno osiguranje

Uvod

Iako se upravljanje medicinskim resursima u primarnoj zdravstvenoj zaštiti u Republici Srbiji formalno uspostavlja kroz centralizovani model planiranja i nabavke lekova, sanitetsko-medicinskog materijala i laboratorijskih reagensa (1,2,3), praksa pokazuje značajan raskorak između normativnog okvira i stvarnih postupaka u ustanovama. Dostupnost terapije, efikasnost potrošnje i tačnost planiranja često zavise od lokalnih interpretacija, ustaljenih administrativnih obrazaca i nedovoljno razvijenih analitičkih kapaciteta (4,5).

Polazeći od prethodnih uvida, istraživanje je usmereno na razumevanje kriterijuma koji se koriste u planiranju potreba u primarnoj zdravstvenoj zaštiti, na ispitivanje odnosa između analitičkih i administrativnih pristupa, uloge Republičkog fonda za zdravstveno osiguranje (RFZO) u evaluaciji i sprovođenju planova, kao i na identifikaciju institucionalnih obrazaca koji oblikuju ponašanje aktera u domovima zdravlja.

Istraživanje je prvobitno bilo usmereno na analizu metodoloških pristupa u planiranju potre-

EVALUATION OF PLANNING AND CONSUMPTION OF MEDICAL RESOURCES IN PRIMARY HEALTH CARE IN SERBIA

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ABSTRACT

Introduction/Aim: Efficient planning and consumption of medicines, medical and sanitary supplies, and laboratory reagents within the framework of Serbia's primary health care directly affect therapy availability, service quality, and the rational use of budgetary resources. Although a formal framework for centralized procurement exists, practice reveals significant discrepancies in criteria, procedures, and institutional approaches. The aim of this study was to examine how health care institutions plan their needs, what decision-making criteria they use, and the role of the Republic Health Insurance Fund (RHIF) in the evaluation and implementation of these plans.

Methods: A quantitative study was conducted among 136 primary health care institutions and 26 RHIF branches, using a questionnaire designed in accordance with valid regulations and professional methodological guidelines. Data were analyzed in the Excel environment, using a binary matrix and thematic classification of responses.

Results: Most institutions (84.6%) rely on historical consumption and RHIF guidelines, while only 8.8% use economic criteria. A multicriteria approach is used by just 5.1% of institutions. Internal evaluation is absent in 26.5% of cases, and information systems are mostly used for administrative purposes. A pattern of planning without analytical verification was observed, along with frequent shifting of responsibility to RHIF, which stated in its response that it did not perform evaluations nor apply analytical tools.

Conclusion: Although the planning system formally meets regulatory requirements, it lacks an analytical foundation and functional evaluation. Establishing a standardized model based on clinical, economic, and epidemiological indicators, along with an active evaluative role of RHIF and two-way institutional feedback, represents a key step toward more rational and equitable management of health care resources.

Keywords: primary health care, needs planning, centralized procurement, medical resources, Republic Health Insurance Fund

Introduction

Although the management of medical resources in primary health care in the Republic of Serbia has formally been established through the centralized model of planning and procurement of medicines, medical and sanitary supplies and laboratory reagents (1,2,3), practice reveals a significant gap between the normative framework and actual procedures in institutions. The availability of therapy, the efficiency of consumption and the accuracy of planning often depend on local

interpretations, established administrative patterns and insufficiently developed analytical capacities (4,5).

Based on the previous insights, the research effort has focused on understanding the criteria used in planning the needs in primary health care, examining the relationship between analytical and administrative approaches, the role of the Republic Health Insurance Fund (Serbian: RFZO) in the evaluation and implementation of plans, as

ba: koji se kriterijumi koriste, u kojoj meri se primenjuju analitičke metode i da li postoje obrasci usklađeni sa dobrim upravljačkim praksama (6). Tokom analize odgovora, pokazalo se da proces planiranja prevazilazi tehničku i administrativnu dimenziju. Uočene su strukturalne i organizacione osobenosti koje otvaraju pitanja institucionalne logike, odgovornosti i prenošenja odluka (6,7).

U tom kontekstu, u rad je uključen teorijski okvir „modela kante za smeće“ (engl. Garbage Can model, Cohen i saradnici), koji opisuje donošenje odluka u uslovima nejasnih ciljeva i nedovoljno jasno određenih nadležnosti (8), kao i koncept birokratije na terenskom nivou (engl. Street-Level Bureaucracy, Lipsky), koji ukazuje na odlučujuću ulogu terenskih aktera u formiranju politike kroz praksu (9). Dodatno, ograničeni analitički kapaciteti mogu se dodatno objasniti kroz Dunning–Krugov efekat, gde akteri ne prepoznaju sopstvena metodološka ograničenja niti potrebu za njihovim prevazilaženjem (5).

Cilj ovog rada je da, kroz analizu odgovora ustanova primarne zdravstvene zaštite i RFZO, ispita kako se planiraju potrebe za medicinskim resursima, koji se kriterijumi koriste i u kojoj meri se proces temelji na stručnim procenama, a ne samo na administrativnim procedurama. Pored toga, rad istražuje ulogu institucionalnih obrazaca u formiranju odluka i identifikuje mogućnosti za unapređenje sistema (7,9). Rad, samim tim, prevazilazi analizu formalnih procedura i nastoji da mapira granice institucionalne odgovornosti, ali i da identifikuje mogućnosti za njihovo osnaživanje kroz evaluativne funkcije i sistemsku refleksiju.

Metode

Istraživanje je sprovedeno kao kvantitativna studija preseka sa ciljem da se analiziraju kriterijumi i obrasci planiranja potreba za lekovima, sanitetsko-medicinskim materijalom i laboratorijskim reagensima u primarnoj zdravstvenoj zaštiti.

Tokom marta 2025. godine, upitnici su elektronski distribuirani u 158 zdravstvenih ustanova i 26 filijala RFZO.

Za potrebe istraživanja izrađena su dva posebna upitnika – jedan za ustanove primarne zdravstvene zaštite i drugi za RFZO – na osnovu važećih propisa, stručnih smernica i zvaničnih obrazaca (1-3,10-12). Upitnik za ustanove obuhvatao je pitanja o kriterijumima za procenu potreba, primeni ABC i VED analiza, postojanju internih komisija, korišćenju informacionih sistema i saradnji sa RFZO. Upitnik za RFZO je bio fokusiran na procedure konsolidacije planova, analitičke alate i mehanizme evaluacije.

Analiza podataka je sprovedena u Excel okruženju (Microsoft® Excel® za Microsoft 365 MSO). Otvoreni odgovori klasifikovani su u binarnu matricu (prisustvo/odsustvo određenog kriterijuma), a zatim grupisani u šest tematskih kategorija. Na osnovu identifikovanih obrazaca formirana je tipologija institucionalnih pristupa planiranju. Pored kvantitativne analize, sprovedena je i kvalitativna interpretacija formulacija u odgovorima, sa ciljem prepoznavanja obrazaca odlučivanja i institucionalne logike (6,7).

Kategorizacija je izvršena uz doslednu primenu unapred definisanih kriterijuma, čime je obezbeđena interna konzistentnost analize. Iako instrumenti poseduju sadržajnu validnost, ograničenje predstavlja oslanjanje na samoprijavljene podatke bez mogućnosti nezavisne verifikacije (5). Kombinovanjem kvantitativne klasifikacije i kvalitativne interpretacije, metodološki okvir omogućio je identifikaciju ne samo formalnih obrazaca, već i dubljih institucionalnih logika koje oblikuju proces planiranja (6,7).

Rezultati

Od 158 zdravstvenih ustanova kojima je upitnik poslat, validno popunjene odgovore dostavilo je 136, što čini stopu odziva od 86%. RFZO je

Tabela 1. Prikaz odgovora ustanova na pitanje o postojanju formalnog plana nabavke

Plan nabavke	Broj ustanova	% od ukupno (n=136)
Posедује formalni plan	132	97
Nemaju formalni plan	2	1,5
Nisu odgovorili	2	1,5
Ukupno	136	100,0

well as identifying institutional patterns that shape the behavior of actors in health centers.

Initially, the research has been focused on the analysis of methodological approaches to planning the needs: what criteria are used, to what extent analytical methods are applied and whether there are patterns aligned with good management practices (6). During the analysis of responses, it has been shown that the planning process extends beyond the technical and administrative dimensions. Structural and organizational peculiarities have been observed and they raise questions about the institutional logic, responsibility and transfer of decisions (6,7).

In this regard, the study includes the theoretical framework of the “Garbage Can Model” (Cohen et al.), which describes the decision-making process in the conditions of unclear goals and insufficiently clearly defined responsibilities (8), as well as the concept of Street-Level Bureaucracy (Lipsky), which points to the decisive role of street-level bureaucrats in developing policies through practice (9). In addition to this, limited analytical capacities can be further explained through the Dunning-Kruger effect, where individuals do not recognize their own methodological limitations or the need to overcome them (5).

The aim of this study is to examine, based on the analysis of responses of primary health care institutions and RHIF, how needs for medical-sanitary supplies are planned, what criteria are used and to what extent the process is based on expert assessments and not only on administrative procedures. In addition, the study examines the role of institutional patterns in making decisions and identifies the opportunities for improving the system (7,9). Therefore, the study extends beyond the analysis of formal procedures and tries to map the boundaries of institutional responsibility, but also to identify opportunities for their empowerment through evaluative functions and systemic reflection.

Methods

The study was conducted as a quantitative cross-sectional study with the aim of analyzing the criteria and patterns of planning the needs for medicines, medical-sanitary supplies and laboratory reagents in primary health care. During March 2025, questionnaires were distributed electronically to 158 health institutions and 26 branch offices of the Republic Health Insurance Fund.

Two special questionnaires were prepared for the purpose of this study – one for primary health care institutions and the other for the RHIF – based on valid regulations, professional guidelines and official forms (1-3, 10-12). The questionnaire for institutions included questions about the criteria for the assessment of needs, the implementation of ABC and VED analyses, the existence of internal committees, the use of information systems and cooperation with the RHIF. The questionnaire for the RHIF focused on the procedure of plans consolidation, analytical tools and evaluation mechanisms.

Data analysis was conducted in Excel (Microsoft® Excel® for Microsoft 365 MSO). Open-ended answers were classified into a binary matrix (presence/absence of a certain criterion) and then grouped into six thematic categories. Based on the identified patterns, the typology of institutional approaches to planning was developed. In addition to the quantitative analysis, the qualitative interpretation of answer formulation was conducted, with the aim of recognizing decision-making patterns and institutional logic (6,7).

The categorization was conducted with the consistent application of pre-defined criteria, which ensured the internal consistency of analysis. Although the instruments have content validity, the reliance on self-reported data without the possibility of independent verification presents the limitation (5). By combining the quantitative

Table 1. Responses of institutions regarding the existence of a formal procurement plan

Procurement plan status	Number of institutions	% of total (n = 136)
Has a formal procurement plan	132	97
Does not have a formal plan	2	1.5
No response	2	1.5
Total	136	100.0

Tabela 2. Učestalost upotrebe ABC/VED analiza (n = 136)

Analiza	Broj ustanova	% od ukupno (n = 136)
Ne koriste ni ABC ni VED analizu	115	84,6
Koriste samo ABC analizu	15	11
Koriste samo VED analizu	5	3,7
Koriste i ABC i VED analizu	1	0,7
Ukupno	136	100,0

ABC (Always Better Control) analiza klasifikuje stavke prema finansijskom značaju (grupa A – mali broj artikala sa velikim troškovima; B – umereno; C – brojni sa niskim troškom), VED (Vital, Essential, Desirable) analiza koristi kliničku važnost kao osnovu za rangiranje: vitalni, esencijalni i poželjni artikli

dao objedinjeni odgovor u ime svih svojih filijala. Uzorak ne obuhvata ustanove sa teritorije Kosova i Metohije. Svi pristigli odgovori uključeni su u analizu i sistematizovani kroz unapred definisan metodološki okvir. Ustanove su u velikoj većini navele da formalno izrađuju planove potreba u skladu sa važećim propisima, ali su se sadržinski i metodološki pristupi značajno razlikovali (tabela 1).

Korišćenje ABC i VED analiza prijavilo je samo 15,4% ustanova, pri čemu su pojedine koristile samo ABC (11%), neke samo VED (3,7%), dok je istovremenu primenu obe metode navelo svega 0,7% ustanova. Preostalih 84,6% ustanova ne koristi nijednu od ovih analitičkih metoda (tabela 2). Većina ustanova (91,2%) koristi neki oblik informacionog sistema, ali se u otvorenim odgovorima navodi da se isti pretežno koristi u administrativne i tehničke svrhe, bez analitičke funkcionalnosti ili podrške upravljačkom procesu.

Interna evaluacija potreba je zastupljena u 72,1% ustanova, ali se u brojnim slučajevima izostavljaju konkretni metodološki opisi. Preostalih 26,5% ustanova izričito navodi da ne sprovodi nikakvu procenu potreba, već planove zasniva isključivo na prethodnoj potrošnji.

Na osnovu binarne klasifikacije i tematske kategorizacije, identifikovano je šest glavnih grupa kriterijuma za planiranje: normativni okvir (RFZO i propisi), istorijska potrošnja, interna stručna procena, ekonomski kriterijumi, javne zdravstvene politike i nejasni ili nepotpuni odgovori (tabela 3). Najčešće su korišćeni kriterijumi iz prve dve kategorije (normativni i istorijski), dok su ekonomski aspekti u znatnoj meri marginalizovani. Samo jedna ustanova je eksplicitno navela orijentaciju ka javnozdravstvenim ciljevima.

Na osnovu zastupljenosti i kombinacija kriterijuma, formirana je tipologija ustanova. Najveću grupu čine ustanove sa fragmentisanim (42%) i administrativno orijentisanim pristupom (40%). Sveobuhvatan i višekriterijumski model koristi svega 5% ustanova, dok se strogo ekonomski pristup primenjuje u 4% slučajeva. Empirijski ili iskustveni pristup prisutan je u 7% ustanova, dok nejasni ili nekategorizovani odgovori čine preostala 2% uzorka (grafikon 1).

U otvorenim odgovorima prepoznata su tri dominantna kognitivna obrasca: „status quo“ (mekaničko prepisivanje prethodnih planova) 23/136 (16,9%), „prebacivanje odgovornosti“ (navodi poput „RFZO zna šta treba“) 5/136 (3,7%) i „tehnička procedura bez evaluacije“. Upotrebljen je izraz „mi to samo administriramo“ u 12/136 (8,8%) ustanova.

U svom objedinjeno dostavljenom odgovoru, RFZO je naveo da njegove filijale ne raspolažu dokumentima koji sadrže tražene informacije o planiranju i nabavci lekova, sanitetskog i laboratorijskog materijala. Istaknuto je da potrebe zdravstvenih ustanova definišu same ustanove, u skladu sa kriterijumima iz Pravilnika o ugovaranju zdravstvene zaštite za 2025. godinu (12), dok RFZO samo sprovodi centralizovane javne nabavke na osnovu zakonom definisanih planova. Filijale ne analiziraju potrošnju medicinskih resursa, ne koriste ABC/VED analize, ne rešavaju viškove ili nestašice i nemaju dokumentaciju u vezi sa tim. Takođe filijale ne organizuju saradnju, edukaciju niti usmeravanje domova zdravlja u vezi sa racionalnom upotrebom resursa, jer prema tumačenju RFZO nisu nadležne za utvrđivanje racionalnosti potrošnje. Ipak, u završnom delu odgovora potvrđuje se da filijale spro-

Table 2. Frequency of ABC/VED analysis usage (n = 136)

Type of analysis used	Broj ustanova	% od ukupno (n = 136)
Ne koriste ni ABC ni VED analizu	115	84.6
Koriste samo ABC analizu	15	11
Koriste samo VED analizu	5	3.7
Koriste i ABC i VED analizu	1	0.7
Ukupno	136	100.0

ABC (Always Better Control) analysis classifies items based on financial significance (Group A – a small number of high-cost items; B – moderate; C – numerous low-cost items), while VED (Vital, Essential, Desirable) analysis ranks them by clinical import

classification and qualitative interpretation, the methodological framework made it possible to identify not only formal patterns, but also deeper institutional logic that shapes the planning process (6,7).

Results

Out of the 158 health institutions, to which the questionnaire was sent, 136 submitted valid answers, which makes a response rate of 86%. The RHIF gave a unified response on behalf of all its branches. The sample did not include institutions from the territory of Kosovo and Metohija. All received responses were included in the analysis and systematized through a predefined methodological framework. The vast majority of institutions stated that they formally prepared plans of needs in accordance with the valid regulations, however, approaches related to contents and methodology differed significantly (Table 1).

Only 15.4% of institutions reported that they had used ABC and VED analyses, where some used only ABC (11%), some only VED (3.7%), only 0.7% of institutions reported that they had applied both methods simultaneously. The remaining 84.6% of institutions did not use any of these analytical methods (Table 2). The majority of institutions (91.2%) used information systems. However, in open-ended answers, it was stated that it was mainly used for administrative and technical purposes, without analytical functionality or support for the management process.

The internal evaluation of needs was present in 72.1% of institutions, but in many cases, concrete methodological descriptions were omitted. The

remaining 26.5% of institutions explicitly stated that they did not assess needs, but that they based their plans solely on previous consumption.

Based on the binary classification and thematic categorization, six main groups of planning criteria were identified: normative framework (RHIF and regulations), historical consumption, internal expert assessment, economic criteria, public health policies and unclear or incomplete answers (Table 3). The criteria from the first two categories (normative and historical) were most often used, while economic aspects were largely marginalized. Only one institution explicitly stated their orientation towards public health goals.

Based on the representation and combination of criteria, the typology of institutions was created. The largest group included institutions with fragmented (42%) and administratively oriented approach (40%). Only 5% of institutions used a comprehensive model that included several criteria, while 4% used the economic approach strictly. The empirical or experiential approach was present in 7% of institutions, while unclear or uncategorized answers made up the remaining 2% of the sample (Figure 1).

In open-ended answers, three dominant cognitive patterns were recognized: “status quo” (mechanical rewriting of previous plans) 23/136 (16,9%), “transferring responsibility” (statements like “RHIF knows what it needs”) 5/136 (3,7%) and “technical procedure without evaluation”. The phrase “we just administer it” was used in 12/136 (8,8%) institutions.

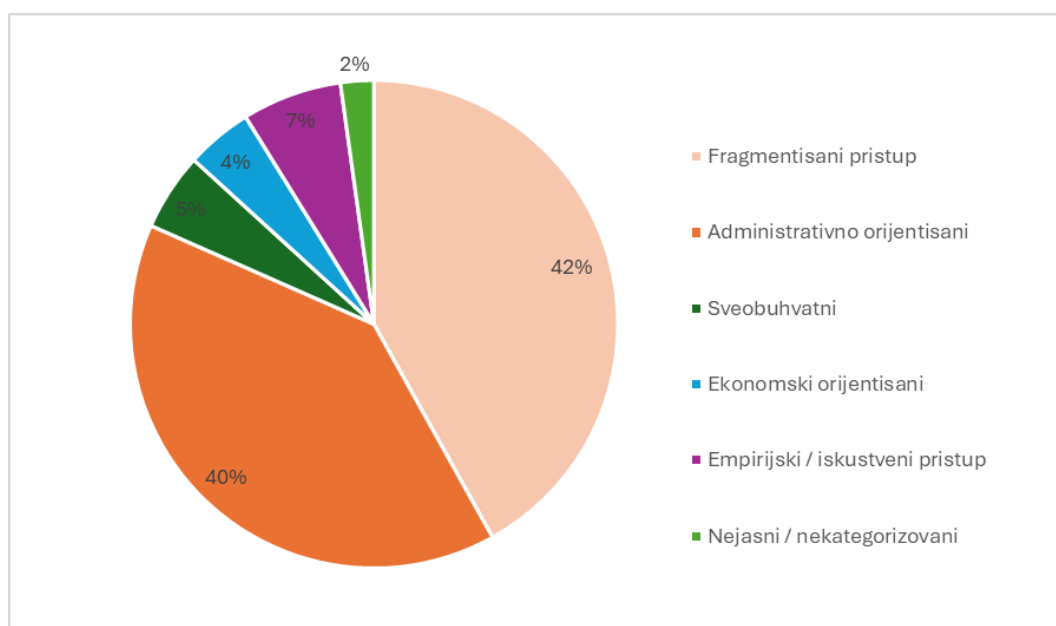
In the unified response that the RHIF submitted, it was stated that its branches did not have documents containing the requested

Tabela 3. Kategorije kriterijuma za planiranje potreba: tematska klasifikacija odgovora

Kategorija kriterijuma	Objašnjenje kategorije	Odgovori	Uključeni odgovori
RFZO i normativni okvir	•Uključuju propise i interne akte RFZO-a •Odražavaju fiskalni i budžetski okvir •Pozivaju se na nadležnost i iskustvo RFZO-a •Uključuju zvanične propise i podzakonske akte •Navode institucionalnu komunikaciju kao osnov za planiranje	31	RFZO pravilnik
		32	RFZO sredstva
		45	Konačni obračun RFZO za prethodnu godinu
		2	RFZO zna kolike su potrebe jer to radi godinama
		1	RFZO odobrava manje količine od iskazanih potreba
		2	Na osnovu čestih prepiski sa RFZO
		1	Budžet Republike Srbije
		2	Uredba o planu ZZ iz obaveznog zdravstvenog osiguranja R. Srbije
		1	Zakon o računovodstvu R. Srbije
Potrošnja i evidencija	•Faktička potrošnja •Planski dokumenti ustanove •Podaci o zaliham •Medicinska dokumentacija pacijenata	38	Trenutna potrošnja
		9	Plan rada
		22	Lager lista zaliha
		16	Istorije bolesti, kartoni pacijenata
Interna stručna procena	•Subjektivne procene, klinički i organizacioni faktori •Donose ih interni stručnjaci ustanove, često intuitivno, ali na osnovu iskustva i poznavanja lokalnog konteksta	1	Iskustvena praksa
		12	Nesmetano i ažurno pružanje obavezne zdravstvene zaštite
		36	Potrebe službe
		4	Epidemiološka situacija
		8	Hitnost / životno ugrožavajuća situacija
		9	Dostupnost
		3	Kvalitet
Ekonomski kriterijumi	•Procena troškova, koristi, alternativnih rešenja i rizika	10	Cena
		2	Isplativost investicije
		2	Troškovi životnog ciklusa
		2	Da li nabavka stvara dodatne troškove
		2	Da li postoje druga rešenja
		6	Rizici i troškovi u slučaju nesprovođenja javne nabavke
		2	Racionalizacija
Javne zdravstvene politike	•Pozivanje na nacionalne strategije, akcione planove ili politike u specifičnim okolnostima (epidemije, vanredne situacije itd.)	1	Zdravstvena politika Ministarstva zdravlja za vanredne situacije
Nejasni ili nedovoljno definisani odgovori	•Odgovori bez jasne logike ili metodološke osnove •Odražavaju izostanak interne prakse ili izbegavanje odgovora •Potpuni izostanak odgovora	1	Nemamo sopstveno planiranje i nabavke, kao i kontrolu potrošnje i racionalizacije Nisu odgovorili

Table 3. Categories of criteria for needs planning: thematic classification of responses

Category of criteria	Explanation of the category	Responses	Included responses
RHIF and regulatory framework	• Include RHIF regulations and internal documents • Reflect fiscal and budgetary constraints • Refer to the authority and experience of RHIF • Refer to official laws and by-laws - Cite institutional communication as a basis for planning	31	RHIF rulebook
		32	RHIF funding
		45	Final RHIF financial report from the previous year
		2	RHIF knows the needs because it has done this for years
		1	RHIF approves lower quantities than requested
		2	Based on frequent correspondence with RHIF
		1	Budget of the Republic of Serbia
		2	Regulations on the Health Care Plan from compulsory health insurance of Serbia
		1	Law on Accounting of the Republic of Serbia
Consumption and records	• Actual consumption • Internal planning documents • Inventory data • Patients' medical documentation	38	Current consumption
		9	Annual work plan
		22	Inventory stock list
		16	Medical histories, patient records
Internal expert assessment	• Subjective assessments based on clinical and organizational factors • Made by internal experts, often intuitive but grounded in local knowledge and experience	1	Experience-based practice
		12	Uninterrupted and timely provision of compulsory health care
		36	Departmental needs
		4	Epidemiological situation
		8	Urgency / life-threatening situation
		9	Availability
		3	Quality
Economic criteria	• Assessment of costs, benefits, alternatives, and risks	10	Price
		2	Investment cost-effectiveness
		2	Life cycle costs
		2	Whether procurement creates additional costs
		2	Whether alternative solutions exist
		6	Risks and costs in case of failure to conduct procurement
		2	Rationalization
Public health policies	• Refers to national strategies, action plans, or policies in special circumstances (e.g., epidemics, disasters)	1	Ministry of Health policy for emergency situations
Unclear or insufficiently defined responses	• Responses lacking clear logical or methodological basis • Reflect absence of internal procedures or avoidance of the question • Complete lack of response	1	No internal planning, procurement, or consumption control in place
		2	No response



Grafikon 1. Distribucija tipova pristupa planiranju u ustanovama primarne zdravstvene zaštite (n = 136)

vode kontrolu sprovođenja zaključenih ugovora u skladu sa Pravilnikom (11). Ovakva deklarirana uloga RFZO ukazuje na distancu između formalne nadležnosti i operativne odgovornosti, što će biti dalje razmotreno u okviru diskusije.

Diskusija

Rezultati istraživanja ukazuju na izražen raskorak između formalnog normativnog okvira i stvarne prakse planiranja potreba u ustanovama primarne zdravstvene zaštite u Srbiji. Iako većina ustanova izrađuje godišnje planove u skladu sa propisima, analitička i evaluativna dimenzija tog procesa u velikoj meri izostaje. Ustanove se dominantno oslanjaju na istorijsku potrošnju i administrativne smernice RFZO, što ukazuje na nisku upravljačku autonomiju i ograničen kapacitet za racionalno predviđanje potreba.

Upotreba ABC i VED analiza, koje su osnovni alati u racionalnom upravljanju zalihama i ekonomskom odlučivanju u zdravstvu, prisutna je u zanemarljivom procentu ustanova. S obzirom na to da se centralizovana nabavka oslanja na podatke koje generišu same ustanove, nedostatak metodološke osnove za planiranje dovodi u pitanje efikasnost celokupnog sistema. Interna evaluacija potreba takođe nije standardizovana – u četvrtini ustanova ona potpuno izostaje, dok se u većini slučajeva ne zasniva na jasnim kriterijumima ili strukturiranoj stručnoj proceni.

Rezultati tipologije dodatno osvetljavaju stanje: više od 80% ustanova pripada fragmenti-

sanom ili administrativno orijentisanom modelu planiranja. To ukazuje da se odluke donose ili parcijalno, na osnovu pojedinačnih kriterijuma, ili mehanički, bez refleksije o opravdanosti zahteva. Ove prakse nisu specifične samo za sektor zdravstva – slični obrasci su u teoriji upravljanja prepoznati kroz Garbage Can model odlučivanja (8) koji opisuje organizacije u kojima su ciljevi, rešenja i akteri slabo povezani, a odluke nastaju sticajem okolnosti, a ne kao rezultat strukturisanog procesa.

Dodatan sloj kompleksnosti unosi i koncept Street-Level Bureaucracy (9), koji upućuje na ulogu aktera „na terenu“ u oblikovanju praktične politike. U kontekstu ovog istraživanja, to su načelnici službi, farmaceuti i administrativno osoblje u domovima zdravlja koji, u odsustvu jasnih smernica i analitičke podrške, planiraju prema inerciji, institucionalnim navikama ili ličnoj proceni. Takva praksa otvara prostor za neujednačenost, neefikasnost i odsustvo odgovornosti. Kognitivni obrasci u odgovorima („mi to samo administriramo“, „RFZO zna šta treba“) potvrđuju institucionalnu kulturu pasivnog planiranja i prebacivanja odgovornosti.

Odgovor RFZO dodatno osvetljava institucionalna ograničenja u funkcionisanju sistema planiranja. Fond izričito navodi da filijale ne učestvuju u definisanju potreba ustanova, ne analiziraju potrošnju, ne koriste ABC/VED analize i ne rešavaju viškove niti nestašice resursa. Takođe navode da filijale nisu nadležne za utvrđivanje racionalnosti upotrebe medicinskih resursa, niti organizuju edukacije ili pružaju smernice u tom domenu. Ovakva

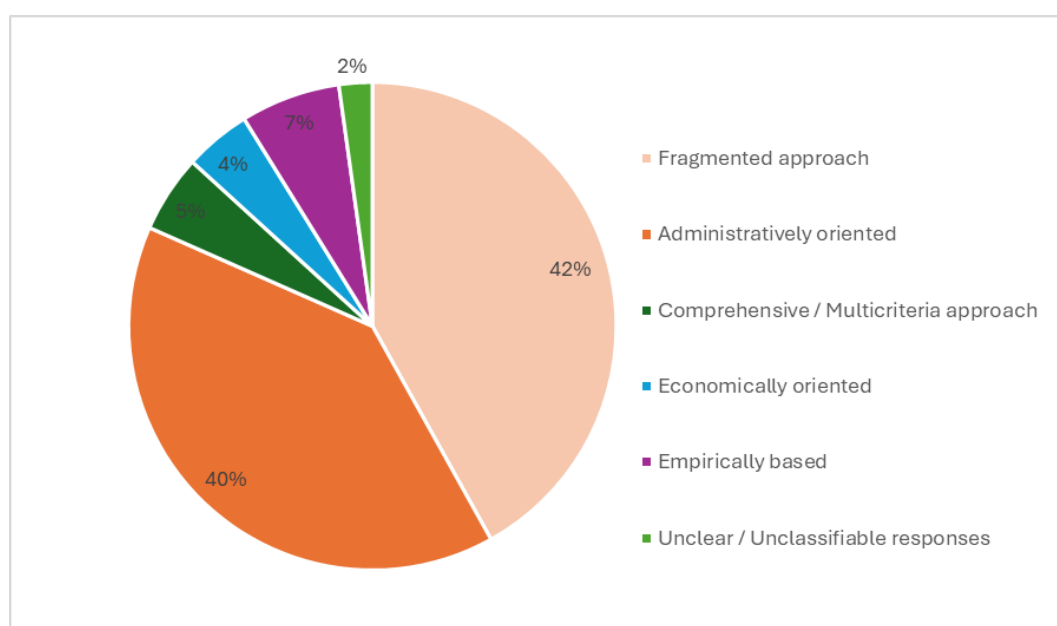


Figure 1. Distribution of planning approach types among primary health care institutions (n = 136)

information on planning and procurement of medicines, sanitary and laboratory materials. It was pointed out that the needs of healthcare institutions were defined by the institutions themselves, in accordance with the criteria from the Rulebook on Healthcare Contracting for 2025 (12), while the RHIF only implemented centralized public procurement based on plans defined by law. The branches did not analyze the consumption of medical resources, did not use ABC/VED analyses, did not resolve surpluses or shortages and did not have documentation related to this. Also, the branches did not organize cooperation, education or guidance of health centers in relation to the rational use of resources, because according to the interpretation of the RHIF, they were not authorized to determine the rationality of consumption. However, in the final part of answer, it was confirmed that branches conducted the control of the implementation of concluded contracts in accordance with the Rulebook (11). This declared role of the RHIF indicates the distance between formal competence and operational responsibility, which will be discussed further within the discussion part.

Discussion

The results of the research indicate a noticeable discrepancy between the formal normative framework and the actual practice of planning needs in primary health care institutions in Serbia. Although most institutions prepare annual plans

in accordance with regulations, the analytical and evaluative dimension of that process is mainly absent. Institutions predominantly rely on historical consumption and administrative guidelines of the RHIF, which indicates low managerial autonomy and limited capacity for the rational forecasting of needs.

The use of ABC and VED analyses, which are basic tools in the rational management of stocks and economic decision-making in health care, is present in a negligible percentage of institutions. Given that the centralized procurement relies on data, which are generated by institutions, the lack of methodological basis for planning calls into question the effectiveness of the entire system. The internal evaluation of needs is also not standardized – in a quarter of institutions it is completely absent, while in most cases it is not based on clear criteria or a structured professional assessment.

The results of the typology further explain the situation: more than 80% of institutions belong to a fragmented or administratively oriented planning model. This indicates that decisions are made either partially, based on individual criteria, or mechanically, without reflecting on the justification of demand. This practice is not specific only to the health sector – similar models are recognized in management theory through Garbage Can decision-making model (8), which describes organizations in which goals, solutions and actors are loosely connected, and decisions

pozicija faktički svodi ulogu RFZO na tehničku konsolidaciju i budžetsko usklađivanje planova, bez evaluativne, korektivne ili savetodavne funkcije.

Međutim, ovakav stav nije u saglasnosti sa ovlašćenjima koja su definisana važećim Pravilnikom o kontroli sprovođenja zaključenih ugovora (11), u kojem se izričito navodi da filijale RFZO imaju nadležnost za sprovođenje finansijske, pravne i medicinske kontrole izvršenja ugovora, uključujući uvid u racionalnost pruženih usluga i korišćenja sredstava. Ignorisanje ove normativne odredbe ukazuje na institucionalnu pasivnost i povlačenje iz funkcionalne uloge kontrole, što dodatno podriva mogućnost uspostavljanja systemske povratne sprege i jačanja odgovornosti u procesu planiranja. Rezultat je sistem u kojem je formalna usklađenost postignuta, ali bez funkcionalne racionalnosti i bez aktivnog institucionalnog upravljanja. Upravljanje medicinskim resursima, kao deo složenog adaptivnog sistema, zahteva pristup koji prepoznaje nelinearne odnose i međuzavisnosti unutar organizacije (13).

Dodatni metodološki paradoks uočen je u ulozi Instituta za javno zdravlje Srbije „Dr Milan Jovanović Batut“, koji formalno odobrava iskazane potrebe zdravstvenih ustanova kroz metodološko uputstvo koje prati proces planiranja (10). Iako to uputstvo ima status zvaničnog dokumenta i koristi se kao osnov za verifikaciju planiranih količina, ono ne sadrži definisane kriterijume, indikatore, algoritme niti metod za procenu opravdanosti iskazanih potreba. Time se proces planiranja legitimizuje bez stvarne analitičke osnove, što dodatno osnažuje administrativni karakter odlučivanja i ostavlja ustanove bez jasnih smernica koje bi mogle doprineti objektivnijem, ujednačenijem i racionalnijem planiranju.

Informacioni sistemi, iako tehnički prisutni u većini ustanova, koriste se gotovo isključivo za evidenciju i izveštavanje, a ne kao alat za upravljanje i analizu. Ne postoje digitalne platforme koje bi omogućile automatsku procenu potrošnje u odnosu na indikacije, poređenje među ustanovama ili simulaciju potreba na osnovu učestalosti dijagnoza. Na primer, u Nacionalnoj zdravstvenoj službi Ujedinjenog Kraljevstva (engl. National Health Service – NHS), e prescribing (EP) sistemi u kliničkom okruženju interoperabilni su sa odlukama zasnovanim na kliničkim indikatorima i sistemima za podršku donošenju kliničkih odluka (engl. *Clinical Decision Support Systems* – CDSS),

a njihova primena je pokazala značajno smanjenje klinički relevantnih grešaka (14,15). U britanskom NHS takva funkcionalnost se smatra standardom, dok se u domaćem sistemu informacioni sistemi i dalje svode na administrativnu podršku.

Iako analiza ukazuje na systemske obrasce, ona se oslanja na samoprijavljene podatke bez direktne verifikacije prakse, što predstavlja metodološko ograničenje koje treba uzeti u obzir pri interpretaciji nalaza.

S obzirom na sve navedeno, postaje jasno da racionalizacija potrošnje medicinskih resursa ne može biti postignuta samo formalnim propisima i obrascima, već zahteva funkcionalnu integraciju analitičkih alata, edukaciju aktera i izgradnju institucionalne odgovornosti. Potrebno je razviti standardizovani model planiranja koji uključuje kombinaciju kliničkih, ekonomskih i epidemioloških kriterijuma, kao i mehanizme za nezavisnu evaluaciju i kontinuirano praćenje odstupanja između planiranog i stvarnog. Inspiraciju za razvoj takvog modela mogu pružiti postojeći koncepti upravljanja kapacitetima i potražnjom u zdravstvenim sistemima, poput modela koji su razvili Myrberg i saradnici (16). U tom smislu, relevantni su i modeli višekriterijumskog odlučivanja u uslovima neizvesnosti, koji su razvijeni za procenu medicinskih dobavljača (17), a koji se mogu prilagoditi i planiranju potreba u javnom zdravstvu.

Primena ABC i VED analiza, kao u nedavnim studijama u bolničkim sistemima u Turskoj, pokazala je mogućnosti za efikasnije upravljanje zalihama i kontrolu troškova na osnovu kombinovanih kliničko-ekonomskih kriterijuma (18). Takva transformacija bi omogućila da centralizovana nabavka preraste iz administrativnog mehanizma u strateški alat za unapređenje pravičnosti, efikasnosti i dostupnosti zdravstvene zaštite. Odsustvo integrisanih ekonomskih kriterijuma u odlučivanju dodatno pogoršava problem neefikasnosti, što je i širi uzrok troškovne krize u zdravstvenim sistemima, kako navode Kaplan i Porter (19).

Zaključak

Istraživanje je pokazalo da sistem planiranja potreba za lekovima, sanitetsko-medicinskim materijalom i laboratorijskim reagensima u ustanovama primarne zdravstvene zaštite Srbije funkcioniše u okvirima formalne usklađenosti sa propisima, ali bez razvijenih analitičkih i evaluativnih mehanizama. Dominacija istorijske potrošnje i administra-

arise as a result of circumstances rather than as a result of a well-structured process.

The additional layer of complexity is introduced by the concept of Street-Level Bureaucracy (9), which points to the role of street-level bureaucrats in creating practical policies. In the context of this research, they are heads of services, pharmacists and administrative staff in health centers, who in the absence of clear guidelines and analytical support make plans according to usual, institutional habits or personal assessment. Such practice opens up space for inconsistency, inefficiency and lack of responsibility. The cognitive patterns in the answers (“we just administer it”, “RHIF knows what it needs”) confirm the institutional culture of passive planning and transferring responsibility.

The response of the RHIF additionally elucidates institutional limitations related to the functioning of the planning system. The Fund clearly states that branches do not participate in defining the institutions’ needs, do not analyze the consumption, do not use ABC/VED analysis and do not solve surpluses or shortages of resources. They also state that branches are not authorized to determine the rationality of use of medical resources, that they do not organize trainings or provide guidelines in that domain. This position actually reduces the role of the RHIF to technical consolidation and budgetary harmonization of plans, without an evaluative, corrective or advisory function.

However, this attitude is not consistent with the authorizations defined by the current Rulebook on the control of implementation of concluded contracts (11), where it is clearly stated that the RHIF branches are authorized to conduct financial, legal and medical control of contract performance, including an insight into the rationality of provided services and use of funds. Ignoring this normative provision indicates institutional passivity and withdrawal from the functional role of control, which further undermines the possibility of establishing systemic feedback and strengthening responsibility in the planning process. The result is a system in which formal consistency is achieved, but without functional rationality and without active institutional management. Management of medical resources, as part of a complex adaptive system, requires an approach that recognized non-linear relationships and interdependencies within the organization (13).

An additional methodological paradox was observed in the role of the Institute of Public Health of Serbia “Dr Milan Jovanovic Batut”, which formally approves the expressed needs of health institutions through methodological instructions that accompany the planning process (10). Although these instructions have the status of an official document and are used as a basis for the verification of planned quantities, they do not contain defined criteria, indicators, algorithms, or a method for assessing the justification of stated needs. Thus, the planning process is legitimized without a real analytical basis, which additionally strengthens the administrative nature of decision-making and leaves institutions without clear guidelines that could contribute to more objective, uniform, and rational planning.

Information systems, although technically present in most institutions, are used almost solely for the records and reporting, not as a tool for management and analysis. There are no digital platforms that would allow the automatic assessment of consumption in relation to indications, comparison between institutions and simulation of needs based on the frequency of diagnoses. For example, in the National Health Service of the United Kingdom (NHS), e-prescribing (EP) systems in the clinical environment are interoperable with decisions based on clinical indicators and clinical decision support systems (CDSS), while their implementation has shown a significant reduction in clinically relevant errors (14,15). In the British NHS, such functionality is considered standard, while in the domestic system, information systems are still reduced to administrative support.

Although the analysis points to systemic forms, it relies on self-reported data without direct verification in practice, which represents a methodological limitation that should be considered when findings are interpreted.

Considering all the above mentioned, it becomes clear that the rationalization of the consumption of medical resources cannot be achieved only by formal regulations and patterns, but requires the functional integration of analytical tools, education of actors and development of institutional responsibility. It is necessary to develop a standardized model of planning that included the combination of clinical, economic and epidemiological criteria, as well as

tivnog pristupa, uz zanemarljivu primenu alata kao što su ABC i VED analize, ukazuje na institucionalnu inerciju i nedovoljno razvijene kapacitete za upravljanje resursima. RFZO, kao osnovna institucija u procesu centralizovane nabavke, nema jasno definisanu evaluativnu funkciju, dok metodološko uputstvo Instituta za javno zdravlje Srbije ne sadrži operativne kriterijume koji bi usmeravali ustanove ka racionalnom planiranju. Informacioni sistemi, iako tehnički prisutni, ne koriste se za analizu i podršku odlučivanju, što dodatno ograničava upravljačku efikasnost sistema. Za unapređenje procesa neophodno je uvesti standardizovan model planiranja zasnovan na kliničkim, ekonomskim i epidemiološkim kriterijumima, uz nezavisne evaluativne mehanizme i institucionalnu povratnu spregu. U odsustvu takvih reformi, centralizovana nabavka ostaje tehnička procedura lišena strateške funkcije, umesto da postane instrument pravičnog, efikasnog i transparentnog upravljanja zdravstvenim resursima.

Zahvalnica

Zahvaljujem se svim ustanovama primarne zdravstvene zaštite i filijalama Republičkog fonda za zdravstveno osiguranje koje su učestvovalе u istraživanju i dostavile odgovore na upitnike. Priкупljanje podataka obavljeno je u skladu sa Zakonom o slobodnom pristupu informacijama od javnog značaja, sa punim poštovanjem institucionalnog integriteta i profesionalne etike.

Posebno naglašavam da korišćenje navedenog zakonskog mehanizma nije imalo za cilj zloupotrebu prava na pristup informacijama, kako su to pojedine ustanove protumačile, već isključivo ostvarenje uvida u način funkcionisanja sistema planiranja medicinskih resursa. Istraživanje je sprovedeno u dobroj nameri, sa ciljem da se doprinese razumevanju strukturnih izazova i identifikaciji mogućnosti za njegovo unapređenje.

Cilj rada nije bio da se kritikuju pojedinačne prakse, već da se kroz analizu dominantnih obrazaca ukaže na sistemske slabosti i prostor za razvoj efikasnijeg i pravičnijeg modela upravljanja zdravstvenim resursima.

Konflikt interesa

Autor je izjavio da nema konflikta interesa.

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the mechanisms for independent evaluation and continuous monitoring of discrepancies between the planned and the actual. The inspiration for the development of such a model can be provided by the existing concepts of management of capacities and demand in health care systems, such as the model developed by Myrberg et al. (16). In this regard, the models of multi-criteria decision-making in conditions of uncertainty, which were developed for the evaluation of medical suppliers (17), and which can be adapted to the planning of needs in public health, are also relevant.

The implementation of ABC and VED analyses, as in recent studies in hospital systems in Turkey, has shown opportunities for the more efficient management of stocks and control of costs based on combined clinical-economic criteria (18). Such a transformation would enable centralized procurement to develop from an administrative mechanism into a strategic tool for improving the equity, efficiency and availability of health care. The absence of integrated economic criteria in decision-making further aggravates the problem of inefficiency, which is a wider cause of cost crisis in health care systems, as stated by Kaplan and Porter (19).

Conclusion

The study showed that the system of planning the needs for medicines, medical-sanitary materials, and laboratory reagents in primary health care institutions in Serbia functions within the framework of formal compliance with regulations, but without developed analytical and evaluative mechanisms. The dominance of historical consumption and administrative approach, with the negligible application of tools such as ABC and VED analyses, indicates the institutional inertia and insufficiently developed capacities for the management of resources. The RHIF, as the basic institution in the process of centralized procurement, does not have a clearly defined evaluative function, while the methodological instructions of the Institute of Public Health of Serbia do not contain operational criteria that would guide institutions towards rational planning. Information systems, although technically present, are not used for the analysis and decision support, which further limits the management efficiency of the system. To improve the process, a standardized planning model should necessarily be introduced

based on clinical, economic and epidemiological criteria, with independent evaluation mechanisms and institutional feedback. In the absence of such reforms, centralized procurement remains a technical procedure devoid of strategic function, instead of becoming an instrument of fair, efficient and transparent management of health resources.

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I would like to emphasize that the use of the above mentioned legal mechanism was not aimed at abusing the right to access information, as some institutions interpreted it, but solely at gaining insight into the functioning of the planning system of medical resources. The study was conducted in good faith, with the aim of contributing to the understanding of structural challenges and identifying opportunities for its improvement.

The aim of the study was not to criticize individual practices, but rather to point to systemic weaknesses through the analysis of dominant patterns, as well as to the possibilities for the development of a more efficient and fair management model related to health resources.

Competing interests

The author declared no competing interests.

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