

Analysis of payment models applied to federal funding from the perspective of the Brazilian Health System

Análise dos modelos de pagamento aplicados ao financiamento federal na perspectiva do Sistema Único de Saúde

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ABSTRACT

Objective: This study aims at identifying the payment methods existing in the Unified Health System referring to federal transfers to Primary Health Care (PHC) and Specialized Health Care.

Methods: A quantitative and analytical study was carried out, developed in three stages: survey of all types of transfers from the Union; classification of each transfer category according to the types of payment methods and measurement of the participation of each payment methods, according to the financing components analyzed, in relation to the net values transferred. **Results:** Federal transfers were classified into seven payment methods. For PHC, in 2020, approximately R\$ 21.7 billion was calculated, including resources destined for the pandemic, and R\$ 20.9 billion without considering resources to face the COVID-19 pandemic. More than 50% of the amounts used were classified as capitation, in both cases. For specialized health care, in 2019, around R\$ 48.5 billion were calculated, and in 2020 more than R\$ 49.2 billion. For the two years, more than 70% of the funds were allocated to fee for service. **Conclusions:** This study allowed for an expansion in knowledge about the allocation of resources referring to transfers from the Union to states, the Federal District and municipalities. As the payment methods are related to productivity, access and quality of the health service, knowing and identifying the most appropriate payment methods for each situation contributes to the achievement of the goals and to the mitigation of eventual losses of efficiency in the healthcare systems.

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Palavras-chave:

Sistema de pagamento prospectivo, organização do financiamento, financiamento da assistência à saúde, economia da saúde, Sistema Único de Saúde

RESUMO

Objetivo: Este estudo tem por objetivo identificar os modelos de pagamento existentes no Sistema Único de Saúde referentes aos repasses federais para a Atenção Primária à Saúde (APS) e a Atenção Especializada à Saúde. **Métodos:** Foi realizado um estudo quantitativo e analítico, desenvolvido em três etapas: levantamento de todos os tipos de repasse da União; classificação de cada categoria de repasse segundo os tipos de modelos de pagamentos; e mensuração da participação de cada modelo de pagamento, de acordo com os componentes de financiamento analisados, em relação aos valores líquidos repassados. **Resultados:** Os repasses federais foram classificados em sete modelos de pagamentos. Para a APS, em 2020, foram apurados R\$ 21,7 bilhões, aproximadamente, incluindo os recursos destinados para a pandemia, e R\$ 20,9 bilhões, sem considerar os recursos para enfrentamento da pandemia de COVID-19. Mais de 50% dos valores empregados foram classificados como capitação, em ambos os casos. Para a Atenção Especializada à Saúde, em 2019, foram computados em torno de R\$ 48,5 bilhões e, em 2020, acima de R\$ 49,2 bilhões. Para os dois anos, mais de 70% dos recursos foram destinados a pagamentos por procedimento. **Conclusões:** Este estudo permitiu a ampliação do conhecimento sobre a alocação dos recursos referentes aos repasses da União para estados, Distrito Federal e municípios. Como os modelos de pagamentos estão relacionados com a produtividade, acesso e qualidade do serviço de saúde, conhecer as formas de pagamento e identificar a mais adequada para cada situação contribui para o alcance das metas e para a mitigação de eventuais perdas de eficiência nos sistemas de saúde.

Introduction

From the health reforms promoted in the 1990s (Ugá, 2012), the idea that payment models can be powerful tools for efficiently allocating resources while prioritizing the quality of care was strengthened (Cyclus *et al.*, 2016). Based on this premise, the search for remuneration models that increase the quality and access of health services to the population has become a challenge for health systems worldwide (Prada, 2016).

Resource allocations in health systems can be considered before the volume and type of output (*ex-ante*), as in the global budget and *capitation per capita*; or after the volume and type of output (*ex-post*), such as fee-for-service, hospital *per diem* rate, and prospective per procedure (based on cases, *Diagnosis Related Groupings* - DRG) (Ugá, 2012; Cashin, 2015; ICOS, 2017). In addition to these payments, there are *payments for performance*, payments per production item (*line-item budget*), and the *bundled payment* (Cashin, 2015; Conrad, 2015).

Combining different payment models is a strategic choice for managing the Brazilian Unified Health System (SUS). Its effect affects the output of services provided to society, the quality of service, sector expenditures, and the universality and equity of access (Girardi *et al.*, 2007).

Currently, the *Programa Previne Brasil* [Prevent Brazil Program] is in effect within the scope of Primary Health Care (PHC) in the SUS. The program presents new PHC financing rules, being built on three payment methods from the Federal Government to Brazilian municipalities: (i) weighted capitation, (ii) payment for performance, and (iii) incentive for strategic actions (Harzheim *et al.*, 2020). Payment for performance is a component that seeks to qualify the information produced and the services provided by the PHC, calculating result indicators for teams every four months (Brazil, 2021c).

In addition, transfers were implemented to help municipalities transition from the old to the new PHC financing model, the compensatory transition factor, and the added per capita value for cities with reduced transfers under the new financing rules (Brazil, 2019).

Financing for Specialized and Hospital Health Care, also known as Medium and High Complexity (MAC), consists of production payment and incentives in the hospital and outpatient setting. This level of care is divided into two components: (i) the MAC Financial Limit (MAC financial ceiling) addressed to the Dental Specialties Center (CEO), the Mobile Emergency Care Service (SAMU), the Reference Center in Occupational Health Services, adherence to Contracting Teaching Hospitals, Small Hospitals, and Philanthropic Hospitals, among others; and (ii) the Strategic Actions and Compensation Fund Component (FAEC), presenting resources for financing procedures regulated by the National Center for High Complexity Regulation (CNRAC), such as transplants and related procedures, for strategic or emergency actions and by new procedures not in the SUS listing (Brazil, 2017).

The highly complex distribution of these mechanisms in the SUS potentially complicates assessing ways of remuneration, as health policies developed include measures and incentives that should allow for changes over time, according to epidemiological priorities and aligned with the monitoring of generated indicators and providers information (Kondo *et al.*, 2016).

This scenario makes the debate about the SUS efficiency increasingly current (Araujo *et al.*, 2018). It demands decisions from providers to ensure the fiscal sustainability of the health system without harming the principles of universality, equity, and integrality (Brazil, 1988; Matta & Pontes, 2007). Therefore, the objective of this article is to map the SUS remuneration models regarding transfers from the Federal Government to primary and specialized health care.

Methods

This study is a quantitative and analytical one aiming to present the distribution of SUS payment models, focusing transfers from the Federal Government to other federation states, for PHC benefit, in 2020, and of medium and high complexity (MAC), in 2019 and 2020. The methodological option of analyzing only the year 2020 for PHC is justified by the substantial change in the criteria for financing this level of care from that year, considering that the parameters of the historical series before this period would not allow the continuity of data comparison.

The methodology was developed in three steps. In the first stage, all types of transfers from the Federal Government were collected, according to the PHC and MAC financing components. Regarding the PHC, transfers were mapped as proposed by the Prevent Brazil Program, considering the specific information of each incentive contained in the MS/GM Consolidation Ordinance No. 6 (Brazil, 2017) and other PHC initiatives related to fighting COVID-19 (Brazil, 2020a; 2020b). For the MAC level, transfers made by the Federal Government via the National Health Fund (FNS) (Brazil, 2021b) and through the Financial Limit of Medium and High Complexity Control System (SISMAC) (Brazil, 2021d) were identified. Regarding SISMAC, resources referring to incentives and the output of

the MAC Financial Ceiling directed to states and municipalities were disaggregated.

For the second stage, the main characteristics, favorable and unfavorable points of the payment models considered in this study were initially presented (Box 1), according to the scientific literature (Ugá, 2012; Cashin, 2015; ICOS, 2017). Then, based on options described in Box 1 and Consolidation Ordinance No. 6 (Brazil, 2017), each transfer category raised in the first stage was classified according to types of payment models. It is important to emphasize that the survey of the incentives of the MAC Financial Limit Component considered information made available by the technical area of the Ministry of Health, which presented all the incentives registered to date, including those that may have an inactive status. In this way, all the listed incentives were classified according to the types of payment methods. However, for calculating transfers made in this category through SISMAC, those with effective transfers within the reporting period were considered.

For the third stage, the participation of each payment method mapped to PHC and MAC concerning net amounts transferred was measured. Besides these steps, the proportion of values approved for outpatient and hospital output were calculated, by type of financing, to obtain a proxy to be used on transfers in each MAC payment method, according to the kind of output (outpatient or hospital).

Box 1. Payment models considered in the study

Payment methods	Characteristics	Strengths	Weaknesses
Global budget	Periodic transfers of an annual amount defined through a budget schedule. Resources transferred are not linked to the effective production of services and can be spent flexibly.	Allows the resource manager to forecast their revenues.	Does not create incentives for the employee's good performance. Insufficient provision of services may occur.
Capitation (<i>per capita</i>)	Transfers cover a services package, defined by the number of individuals covered and multiplied by a <i>per capita</i> amount, considering health risk and classification factors (gender and age).	Allows the resource manager to forecast their revenues. May favor competition among providers. Focus on primary care and cost control. Improves the mix of results and inputs and helps attract subscribers and reduce inputs.	May generate underproduction of services since resources do not depend on production (patients treated) but on the number of people involved. Providers may provide insufficient services, increase referrals to other providers, and have a healthier patient selection.
<i>Fee-for-service</i>	Transfer linked to services performed (treatment of each patient), i.e., by remuneration broken down with the sum of all services (intermediate and final) that make up the procedure performed.	Allows the resource manager a moderate management capacity. May help to increase the efficiency of the input mix.	May lead to an overuse of intermediary services, especially those of higher amounts, resulting in a loss of quality in medical care and an increase in the medical care cost.

Payment methods	Characteristics	Strengths	Weaknesses
Hospital <i>per diem</i> rate	Refers exclusively to hospital admissions. Its amount is equivalent to the number of <i>per diem</i> multiplied by a unit amount assigned to each <i>per diem</i> rate (medical cost), differentiated according to the hospital's complexity and clinical characteristics.	Improves efficiency and increases bed occupancy. Contributes to the definition of different <i>per diem</i> rates (decreasing) with the length of stay.	Hospitals are paid for the effective cost of each patient treated. It might lead to segregation of some patients, depending on the pathology. There may also be an extension of the patient's stay in the hospital.
Diagnosis Related Groups – DRG	Payment per treatment episode and hospital stay, and according to the nosological condition. Amounts are defined in advance but may vary depending on the diagnosis. It stipulates a series of pre-fixed admission prices by type of patient. However, such charges do not depend on the effective cost of each patient treated for their episode of hospitalization.	This payment method requires a system of patients classification into homogeneous cost groups to support economic and clinical management and also requires a system of definition of unit prices for discharges considering the hospital characteristics that might influence costs.	May reduce intermediate inputs and services used in each hospitalization, changing the production functions and reducing hospitalization costs. There may be an increase in readmissions, suggesting early discharges, either reducing the cost or generating new hospitalizations, and allocating patients into groups with diagnoses incompatible with the nosological picture. Change in providers' priorities, putting financial goals above the quality of care.
Payment for performance	Mixed payment method, based on the managerial model, combining actions that focus on the demand and supply of health services. It uses demand management mechanisms (e.g., gatekeeping doctors) and mechanisms for co-payment or co-participation in services costs. It also uses various methods of contracting health services by system managers, according to the modality of resource allocation according to the provider's performance (fulfillment of quantitative and qualitative goals). For the management of technological incorporation, goals it may include the technology type to be incorporated to obtain more value on the applied resources (value for money).	Reduction of overall costs, increase of providers efficiency, and effectiveness of health services.	Over time, results may stabilize or improve more slowly. It may not encourage the continuation of improvements once the established minimum goals are reached. Different ties/contracts with varying funding agencies can limit the financial incentive impact and make assessing the mixed payment method complicated. And the complexity of the performance evaluation process, incurring additional costs to the system.
Production item budget	Transfer of a fixed amount over some time to cover expenses for specific inputs (production items).	Allows the resource manager to forecast their revenues. Focus on cost management.	May involve reducing services, increasing referrals of patients to other providers, increasing inputs, using the resource before the budget deadline. It may not generate an incentive or mechanism to increase efficiency.
Bundle payment	Amount transferred to service providers, considering the care cycle and the difference among services based on the expected cost per clinical episode.	The patient's extended stay facilitates more coordinated and multidisciplinary clinical care. Shared risk between the paying source and service providers.	Implementation complexity. It may not be applicable for all clinical cases. It may require a lot of operational effort.

Source: Adapted from Ugá, 2012; Cashin, 2015; ICOS, 2017.

Regarding SUS outpatient and hospital output, the Outpatient Production (PA) and Reduced (RD) AIH data files were used to estimate the proportions of approved values. (Source: DATASUS, referring to the SUS Outpatient Information System – SIA/SUS – and the SUS Hospital Information System – SIH/SUS). The files were treated according to the year of competence of approved procedures, using the files available for the years 2019, 2020, and 2021 (only January data were available on the collection date) for analyzing just the production of years 2019 and 2020. Therefore, amounts approved for procedures by financing type were subsequently added up, according to the year of competence. Proportions were calculated based on the production type, with a particular interest in proportions found for Strategic Actions and Compensation Fund Component (FAEC) and MAC ceiling.

For obtaining data on PHC, it was considered the information from the financing section of the e-Gestor platform and the monthly spreadsheets, consolidated for the year 2020 (Brazil, 2021a), were retrieved. Regarding MAC, data from the FNS were used for transfers to the FAEC component, and from MAC Finance, the transfer information recorded in SISMAC was used for 2019 to 2020. All data were processed, and results have been obtained through R software (version 3.6.3) and Microsoft Excel (2008).

Results

The qualitative classification of payment components mapped to PHC, and specialized care allowed consolidating various instruments that inform payment models in the SUS (Box 2). This product listed the components established by federal regulations, involving four items in the PHC, called “weighted capital”, “pay for performance”, “incentives for strategic actions,” and “COVID-19”. In specialized care, three components were compiled: “Strategic Actions and Compensation Fund Component (FAEC)”, “Incentives – MAC Financial Limit Component (MAC)”, and “Component linked to productivity”. In PHC, 25 payment categories were summarized. Of this total, 68% (n = 17) are categories classified in the global budget payment method and 16% (n = 4) in the capitation modality (Figure 1). In specialized care, 50 categories were classified, with 50% (n = 25) included as overall budget and 18% (n = 9) as *per diem* rate (Figure 2).

Analyzing payment transfers in the PHC for the year 2020, including extra credits to face the pandemic (COVID-19), a total of approximately 21.7 billion was calculated. It was possible to observe that the payment mechanism by capitation accounted for 53.6%, equivalent to R\$ 11.6 billion. The global budgeting component, which generally comprises incentives for defined theme strategic actions, represented 36.9%, totaling around R\$ 8 billion. The transfer by performance contributed 8.2% of the total, while the payment linked directly to procedures represents only 1.3% (Table 1).

Observing the financing schemes behavior for PHC without the inclusion of extra credits to face the pandemic (COVID-19), the global amount remained similar, with a calculation of R\$ 20.9 billion applied. Of this total, 55.5% were employed via capitation, in addition to 34.6% through global budgeting, and 8.5% were transferred by performance (Table 2).

For the specialized care level, consolidating transfers through FAEC and MAC Financial Ceiling, in 2019, around R\$ 48.5 billion were computed. Fee-for-service was 72.7% of the total amount, comprising approximately R\$ 35.2 billion (Table 3). There is a set of 10 fee-for-service in this group, including the excess output of the financial ceiling, intensive care, oncology, nephrology, and transplants, which concentrated more than 68% of the total amount calculated. The overall budget participated in the composition with 18.1%. Over 60% of this percentage was attributed to incentives from philanthropic hospitals, emergency care units, SAMU, and psychosocial care centers, together. The hospital *per diem* rate accounted for 6.3%, mainly represented by intensive care units, with 3.45%, more than 50% of the transfer for this payment type.

In 2020, there was an increase in identified transfers, totaling R\$49.2 billion. Distribution remained similar, with 71.1% of transfers through the fee-for-service modality. Subsequently, 19.2% were carried out by global budgeting, 6.8% related to the cost of *per diem* expenses, and 1.4% to payments via bundle (Table 4). The same group of components for the previous year concentrated transfers of fee-for-service. For global budgeting, the same incentives described in the prior year accounted for 57% of the total for this category in 2020. The *per diem* payment had a similar characteristic to the previous year. The main component of the bundle category was cancer care.

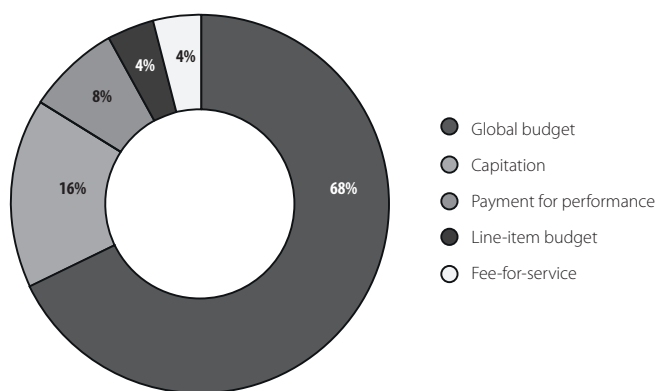
The participation of each financing type in the total value of production approved in specialized care, by outpatient and hospital level, was also evaluated (Table 5). From the survey of production proportions carried out through the SIA/SUS and SIH/SUS, it was found that, in 2019, specialized outpatient care was responsible for 75.42% of the care provided in the FAEC modality, while procedures recorded during hospital admissions in this modality accounted for 24.58% of the approved frequency. This proportion was 53.72% for the outpatient level and 46.28% for the hospital level for the MAC component. In 2020, the proportion found in FAEC procedures increased to 81.12% at the outpatient level, reducing the hospital level to 18.88%. This distribution for MAC was inverted to 47.15% and 52.85%, respectively, for the outpatient and hospital levels (Table 5). The values calculated in 2019 allowed the identification of R\$ 21.4 billion in approved specialized outpatient production and R\$ 15.9 billion for hospital

Box 2. Primary Health Care and Medium and High Complexity components and incentives, classified according to the payment models considered in the study

Primary Health Care		
Component	Categories	Categories
Weighted capitation	Weighted capitation	Capitation
	Compensating Transition Factor	Capitation
	<i>Per capita</i> amount	Capitation
Payment for performance	Payment for performance	Payment for performance
	Payment for performance Final Synthetic Indicator (ISF)	Payment for performance
Incentives for strategic actions	Community Health Agents (CHA)	Global budget
	Dental Specialties Center (CEO)	Global budget
	Funding for the federative entity responsible for managing actions of comprehensive health care for adolescents in liberty deprivation.	Global budget
	Prison Primary Care Team (eABP)	Global budget
	Street Office Team (eCR)	Global budget
	Oral Health Team (eSB)	Global budget
	Ribeirinha Family Health Team (eSFR)	Global budget
	Incentive to municipalities with medical and multi-professional residency	Global budget
	Regional Dental Prosthesis Laboratory (LRPD)	Fee-for-service
	Microscopist	Production item budget
	Health Academy Program (investment and funding)	Global budget
	School Health Program (PSE)	Global budget
	Health on Time Program	Global budget
	PHC computerization support programs	Global budget
	Basic Fluviat Health Unit (UBSF)	Global budget
	Mobile Dental Unit (UOM)	Global budget
COVID-19	Additional federal financial incentive <i>per capita</i>	Capitation
	Reference Community Centers to fight COVID-19	Global budget
	Health Care Centers to fight COVID-19	Global budget
	Emergency Health Care	Global budget
Medium and High Complexity		
Components	Categories	Payment method
Strategic Actions and Compensation Fund Component (FAEC)	Strategic or emergency actions, temporary nature, and implemented with a predefined deadline	Fee-for-service
	New procedures, not related to those in the current price table or that do not have parameters to allow the definition of a funding limit, for six months, to allow the formation of the historical series required for its aggregation to the Financial Limit of Care Component of Medium and High Outpatient and Inpatient Complexity (MAC)	Fee-for-service
	Procedures regulated by the National Center for High Complexity Regulation (CNRAC)	Fee-for-service
	Transplants and linked procedures	Fee-for-service

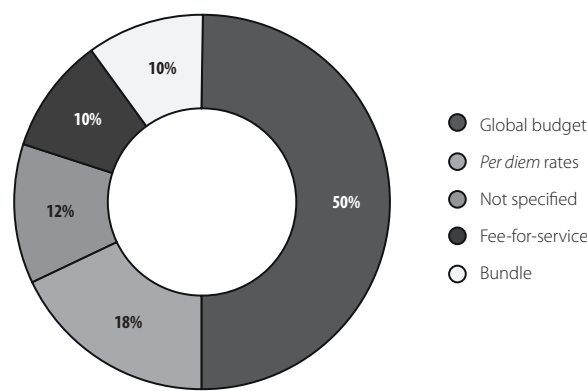
Medium and High Complexity		
Components	Categories	Payment method
Incentives - MAC Financial Limit Component (MAC)	Expansion of service offer	Not specified
	Cardiovascular	Bundle
	Long-term care – UCP	Per diem rates
	First-aid room	Per diem rates
	CAPS I, II, III, i and ad incentive	Global budget
	Pregnant Woman's Home Incentive	Global budget
	Birth Center Incentive	Global budget
	CEREST Incentive	Global budget
	EMAD I, EMAD II and EMAP Incentive	Global budget
	100% SUS Hospitals Incentive	Global budget
	Teaching Hospitals Incentive	Global budget
	Philanthropic Hospitals Incentive	Global budget
	Federal University Hospital Incentive	Global budget
	HPP Incentive	Global budget
	IAEPI Incentive	Global budget
	INTEGRASUS Incentive	Global budget
	Mental Health Beds Incentive – SHR	Per diem rates
	Specialized Hospital Gateway Incentive	Global budget
	General Hospital Gateway Incentive	Global budget
	Medical Residency Incentive	Global budget
	Therapeutic Residency Incentive - SRT	Global budget
	Stabilization Room Incentive	Global budget
	SAMU Incentive	Global budget
	SAMU Incentive - Qualification	Global budget
	ORAL HEALTH Incentive - LRPD	Not specified
	Health for People with Disabilities Incentive	Global budget
	Mental Health Incentive	Global budget
	Reception Unit Incentive	Global budget
	UPA Incentive	Global budget
	UPA Incentive - Qualification	Global budget
	Kangaroo bed	Per diem rates
	Pregnant woman's bed	Per diem rates
	Medicines	Global budget
	Not specified	Not specified
	New prenatal tests	Not specified
	Oncology	Bundle
	Thematic networks	Bundle
	Hearing health	Bundle
	Newborn Screening Service	Not specified
	Procedure price table	Not specified
Trauma-orthopedics	Bundle	
U stroke	Per diem rates	
ICU	Per diem rates	
OCU	Per diem rates	
ICU	Per diem rates	
Components linked to production	Procedures	Fee-for-service

Source: Prepared by authors.



Source: Prepared by authors.

Figure 1. Percentage of PHC categories by payment method.



Source: Prepared by authors.

Figure 2. Percentage of MAC categories by payment method.

Table 1. Federal transfer by payment method to Primary Health Care including extra credits to fight the pandemic (COVID-19) – 2020

Payment method	Amount paid	Participation
Capitation	R\$ 11,622,484,688.90	53.6%
Global budget	R\$ 7,997,905,599.53	36.9%
Pay for performance	R\$ 1,780,040,576.70	8.2%
Fee-for-service	R\$ 274,704,100.17	1.3%
Production item budget	R\$ 8,369,200.00	0.0%
Total	R\$ 21,683,504,165.30	100.0%

Source: Prepared by authors.

Table 2. Federal transfer by payment method to Primary Health Care without including extra credits to fight the pandemic (COVID-19) – 2020

Payment method	Amount paid	Participation
Capitation	R\$ 11,609,524,248.90	55.5%
Global budget	R\$ 7,228,220,599.53	34.6%
Payment for performance	R\$ 1,780,040,576.70	8.5%
Fee-for-service	R\$ 274,704,100.17	1.3%
Production item budget	R\$ 8,369,200.00	0.0%
Total	R\$ 20,900,858,725.30	100.0%

Source: Prepared by authors.

Table 3. Federal transfer by payment method to Medium and High Complexity – 2019

Payment method	Amount paid	Participation
Fee-for-service	R\$ 35,244,633,672.35	72.7%
Global budget	R\$ 8,789,589,780.45	18.1%
Per diem rates	R\$ 3,064,448,849.96	6.3%
Not specified	R\$ 703,510,663.38	1.5%
Bundle	R\$ 695,952,893.08	1.4%
Total	R\$ 48,498,135,859.22	100.0%

Source: Prepared by authors.

care. In 2020, these values fluctuated to R\$18 and R\$16.4 billion, respectively (Table 6).

From the percentage distribution of specialized care between the outpatient and hospital levels (Table 5) obtained from the SIA/SUS and SIH/SUS systems, the production proportion of 56.8% and 43.2% for these two levels, respectively, was applied to estimate a breakdown of financial transfers from the FAEC and MAC Financial Ceiling components. In this study, R\$ 27.5 billion was calculated for the outpatient level and R\$ 21 billion for the hospital level in 2019. For 2020, these amounts were estimated at R\$ 25.5 billion and R\$ 23.7 billion for each care level, respectively. Breaking down payments per procedure as the primary model observed, R\$ 20 billion is attributable to outpatient care, while R\$ 15.2 billion is potentially related to transfers to hospital care, recorded in 2019.

In 2020, there was an approximation in the proportion between SIA/SUS and SIH/SUS, with shares of 51.8% and 48.2%, respectively, about the total of R\$ 49.2 billion calculated from specialized care records. This proportion comprises R\$ 18.2 and R\$ 16.9 billion when considering only transfers of fee-for-service.

Discussion

The qualitative mapping of payment models for federal transfers for health resources allowed us to present a broad overview of the SUS financing schemes. The survey carried out for primary care and specialized care offers a detailed understanding of possible outcomes according to the category in which each transfer is performed. As expected, the most frequent rankings are related to global budgeting and fee-for-service models.

Table 4. Federal transfer by payment method to Medium and High Complexity – 2020

Payment method	Amount paid	Participation
Fee-for-service	R\$ 35,011,606,143.71	71.1%
Global budget	R\$ 9,462,165,736.81	19.2%
Per diem rates	R\$ 3,325,957,593.20	6.8%
Not specified	R\$ 719,758,974.55	1.5%
Bundle	R\$ 694,478,828.56	1.4%
Total	R\$ 49,213,967,276.83	100.0%

Source: Prepared by authors.

Table 5. Percentage of amounts approved by funding type according to SIA/SUS and SIH/SUS data

Funding	2019 (SIA)	2019 (SIH)	2020 (SIA)	2020 (SIH)
Primary Care (PAB)	-	-	-	-
Pharmaceutical Assistance (AF)	100.00%	-	100.00%	-
Strategic Shares and Compensation Fund (FAEC)	75.42%	24.58%	81.12%	18.88%
MAC – Incentive	100.00%	-	100.00%	-
Medium and High Complexity (MAC)	53.72%	46.28%	47.15%	52.85%
Health Surveillance	100.00%	-	100.00%	-

Source: Prepared by authors.

Table 6. Approved amounts by funding type according to SIA/SUS and SIH/SUS data

Funding	2019 (SIA)	2019 (SIH)	2020 (SIA)	2020 (SIH)
Primary Care (PAB)	R\$ 0.00	R\$ 0.00	R\$ 0.00	R\$ 0.00
Pharmaceutical Assistance (AF)	R\$ 483,702,814.44	R\$ 0.00	R\$ 345,366,504.88	R\$ 0.00
Strategic Shares and Compensation Fund (FAEC)	R\$ 3,942,459,774.25	R\$ 1,284,804,855.10	R\$ 3,820,339,250.92	R\$ 889,182,328.03
MAC – Incentive	R\$ 833,652.84	R\$ 0.00	R\$ 470,316.48	R\$ 0.00
Medium and High Complexity (MAC)	R\$ 16,952,046,892.98	R\$ 14,606,785,328.86	R\$ 13,797,078,126.70	R\$ 15,463,193,827.16
Health Surveillance	R\$ 24,225,013.59	R\$ 0.00	R\$ 17,921,582.95	R\$ 0.00
Total	R\$ 21,403,268,148.10	R\$ 15,891,590,183.96	R\$ 17,981,175,781.93	R\$ 16,352,376,155.19

Source: Prepared by authors.

Reflection on these choices is necessary, as there is an increasingly global movement towards incorporating payment methods that generate outcome indicators to ensure services effectiveness. Likewise, an ideal type of payment is not defined either, which can be mixed or complementary, in such a way that it is possible to have increased quality outcomes in health care given the needs in force in the reporting period (Brazil, 2019). Therefore, combining global budgeting and fee-for-service with other models can increase access and quality of access to the health system.

Detailing by health care level, particularly in primary care, outcomes showed a mixed payment logic, combining capitation with global budgeting for thematic and strategic actions, in addition to the performance component. Considering that this arrangement was launched in 2020, it is likely that the amounts presented will vary in the coming years. This movement may occur due to the change in the capitation criterion, already present in previous years, but which considered only the transfer of *per capita* value and the coverage of teams in the family health strategy. As of 2020, the criterion started to adopt the number of people registered in the territory, with an effectiveness indicator more consistent with the expected health overcome.

The second factor that tends to generate changes in the transfer distribution according to models presented is the introduction of the performance logic in a more objective way, which for the year analyzed considers: proportions of pregnant women with at least six prenatal consultations, pregnant women undergoing tests for syphilis and HIV, pregnant women receiving dental care, coverage of cytopathological examination, inactivated and pentavalent poliomyelitis vaccines, percentage of hypertensive people with blood pressure measured every semester and rate of people with diabetes with a request for glycated hemoglobin. The transition in the financing logic and the need to adapt services and professionals involved may have contributed to the still discrete participation of the performance component to the total composition (Brazil, 2019).

Selecting a more synthetic set of indicators certainly increases the capacity to monitor incentive overcomes generated in the PHC. Previously, the National Program for Improving Access and Quality of Primary Care (PMAQ), consisting of more than 40 indicators, figured as a performance component in the PHC. Studies report that it can be more challenging to ensure the set of actions that are encouraged in these cases (Kovacs *et al.*, 2020).

The evaluation of primary care without including extra credits to face the pandemic (COVID-19) showed that the reduced participation of transfers through global budgeting might be attributed to transfers for actions to fight the pandemic. Given the emergency need to transfer resources, together with the short time available between planning and

carrying out measures, this model can be considered appropriate to meet the immediate action context. The difficulty in establishing a more assertive volume of demand for services due to the absence of a reliable history series also weakens the proposition of a more elaborate association among transfer options.

The analysis of the production proportion presented concerning procedures in specialized care made it possible to assess the participation of records linked to the FAEC. This assessment showed that the registration of appointments in this modality is predominant at the outpatient level. Regarding the composition of the production informed within the MAC Financial Ceiling, it is possible to see a more outstanding balance between the outpatient and hospital levels.

Possibly, the allocation of highly complex procedures through the FAEC for outpatient care has been caused by strategic health actions. The post-fixed character of this category favors the agreement of pre-established goals. It is noteworthy that there has been gradual incorporation of medium and high complexity funding from the FAEC to the MAC Ceiling in recent years (Brazil, 2017). This type of transfer is usually for less frequent events in the population (Andrade *et al.*, 2018).

Regarding the production values collected from the outpatient and hospital information systems, organized by financing type, it was possible to verify the proximity of these data with those found from the *System of Health Accounts* (SHA) methodology, recommended by the Organization for Economic Cooperation and Development (OECD). In the "SUS Accounts from the international accounting perspective" (2018), the current values found for the year 2014 showed a federal expenditure of R\$ 16.8 billion on hospitalizations and R\$ 15.1 billion on specialized outpatient care (Brazil, 2018).

In the analysis carried out for specialized care, the predominance of the fee-for-service modality can be seen with a potential loss of quality and health outcomes. Production volume-based payment systems penalize providers that operate with higher quality, as keeping people healthy, loss of service quality, and avoiding unnecessary services do not enter into the production volume logic (NRHI Healthcare Payment Reform Summit, 2008; Mendes, 2011). There is a trend of change in payment schemes in several countries, with an increased focus on value-based health, combining patient experience, clinically relevant outcomes, and sustainable costs across the care cycle (Timpka *et al.*, 2018). Recommendations point out to a system of payment per care episode for the most severe acute events and the global budgeting adjusted for risks or capitation for specific health conditions for chronic diseases. This design strengthens the PHC (NRHI Healthcare Payment Reform Summit, 2008; Mendes, 2011).

Thus, productivity, access, and quality of health care are directly related to payment models. Therefore, to a certain extent, the health system will have its result conditioned by the payment methods adopted (Girardi *et al.*, 2007). The efficient use of payment mechanisms makes it possible to reach the goals defined by the health system, which must be reviewed and if required, a new configuration of payment methods carried out through changes in providers' goals and adaptation (Cashin, 2015).

Among the limitations found, it was noticed that the records of information systems, especially outpatients, suffered considerable fluctuations in the reporting period. The collected data may not capture a portion of actual production. In addition, the presentation of output by health care sites is underestimated, which may lead to changes in the estimated scenario. Classifications of funding components according to payment models have a certain degree of choice by researchers due to the complex array of regulations.

Conclusion

The contribution of our findings of the payment models adopted in the Federal Government transfers to the States, the Federal District, and Municipalities brings a panoramic perspective on how resource applications for public health actions and services occur, in addition to macroeconomic aspects. The approach aimed at analyzing the resource distributions brings a relevant reflection on the improvement in the use of resources in the context of needing increased funding and suitable to increase the capacity of the health system to generate better outcomes with the available resources.

The choice of payment schemes directly influences the quality, access, and productivity of health care networks.

Overall, payment models mapped in the SUS are concentrated in values and more traditional instruments of resource allocation: the global budget, payment by procedure, and capitation. However, as pointed out in this study, there is an effort to combine these payment models with others that reward quality and performance and share the risk in health provision (payment for performance and bundle), approaching the reality of other universal health care systems.

It is noteworthy that this study was unprecedented in the comprehensive classification of transfers from the Federal Government to other federative entities for financing the SUS, according to payment models, and measuring the participation of each one regarding federal resources allocated to health care. As a perspective, the mapping of resources applied by other federative entities, the impact assessment of these mechanisms in health care, and the analysis of actions beyond those addressed can elucidate the need for adjustments from a management perspective. This advance will undoubtedly contribute to discussions on efficiency in

public health, presenting the structure of health financing and its financial proportions. It serves as a criterion to be considered to define policies and actions involving the financing system.

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