Financing basic health care: analysis of the sisab registry in the northeast region

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Resumo
Introdução: Compreende-se que o novo financiamento da Atenção Básica através do Previne Brasil instituído em novembro de 2019, implicou na necessidade de cadastros individuais como premissa para repasse de recursos aos municípios. Objetivo: Este estudo pretende evidenciar a variação do número de cadastros individuais entre os estados do Nordeste no período entre o terceiro quadrimestre de 2019 (2019Q3) e o terceiro quadrimestre de 2020 (2020Q3). Materiais e métodos: Trata-se de um estudo transversal descritivo de natureza quantitativa pautado em dados secundários coletados do Sistema de Informação da Atenção Básica (SISAB) entre fevereiro e março de 2021. Resultados: A Bahia apresentou evolução no número de cadastros com percentual equivalente a 7,12% enquanto o Ceará não apresentou crescimento a partir do indicador sugerido neste estudo. Os outros estados que compõem a região Nordeste, não apresentaram variação crescente superior a 4%. Conclusão: Em um ano de implantação do Programa, observou-se que a evolução dos cadastros ainda é incipiente, sendo necessárias novas investigações junto aos municípios a fim de serem levantadas estratégias para incremento dos cadastros individuais e por conseguinte manutenção do custeio da Atenção Primária à Saúde. Destaca-se que a informatização das unidades de saúde representa uma das estratégias contribuintes à referida evolução.

Palavras-chave: financiamento da assistência à saúde; atenção primária de saúde; recursos financeiros em saúde.

Abstract
Introduction: It is understood that the new financing of Primary Care through Previne Brasil instituted in November 2019, implied the need for individual registrations as a premise for transfer of resources to municipalities. Objective: This study aims to highlight the variation in the number of individual registrations among the Northeastern states in the period between the third quarter of 2019 (2019Q3) and the third quarter of 2020 (2020Q3). Materials and methods: This is a descriptive cross-sectional study of a quantitative nature based on secondary data.
collected from the Primary Care Information System (SISAB) between February and March 2021. Results: Bahia showed evolution in the number of registrations with a percentage equivalent to 7.12% while Ceará showed no growth from the indicator suggested in this study. The other states that make up the Northeast region did not show an increasing variation of more than 4%. Conclusion: In one year of implementation of the Program, it was observed that the evolution of the registers is still incipient, and new investigations are needed with the municipalities in order to raise strategies for increasing the individual registers and therefore maintenance of the cost of Primary Health Care. It is noteworthy that the computerization of health units represents one of the strategies that contributes to this evolution

**Keywords:** health care financing; primary health care; health financial resources.

**Introduction**

It is understood that Primary Health Care (PHC) represents the first level of contact of users with the Health Care Network and therefore has fundamental responsibility in the longitudinal contact with families. Considering the relevance of this level, it is eminent to discuss the financing as an item that will subsidize the maintenance of actions through the activity of professionals and inputs associated with the practice. In this context, the Basic Operational Norm (NOB) instituted on November 6, 1996, promoted the decentralization of financing, redefining competencies for states, municipalities, and the Union, announcing the reinforcement of fund-to-fund resource transfer\(^1\).

Also through this Norm, there is the institution of the Basic Care Floor (Primary Care Floor - PAB) that defined the transfer of resources for service maintenance based on a per capita value. This Piso was composed of fixed and variable parts. In the first, the resources were transferred monthly and regularly according to the classification of the municipalities established by weight based on the per capita GDP of the municipality, percentage of the population with Bolsa Família or in extreme poverty, demographic density, and percentage of people with a Health Plan. Meanwhile, the second part is associated with the municipality's adherence to specific programs such as Basic Sanitary Surveillance Actions, Community Health Agent Programs (PACS), Family Health Program (nomenclature used until that moment) and Combating Nutritional Deficiencies\(^2\).

As the years progressed, two changes in the budget were made: one in 2001 through NOB 01/2001 and another on December 28, 2017 through Ordinance No. 3,992. NOB 01/2001 instituted the full management of Primary Care/Extended PHC by increasing PHC responsibilities in the country and instituting the Extended PAB (which was eventually incorporated into the fixed PAB) for municipalities that adhered to it. Later in 2017, the aforementioned ordinance changed the scenario by establishing only two blocks: costing and investment. Through the costing block, according to the fifth article, the financial resources would be transferred for the maintenance of public health actions and services. Meanwhile, in the investment block, the financial resources would be destined to the acquisition of equipment, works for new facilities and reforms\(^3,4\).

Recently, a new model for financing PHC was established, promulgated through Ordinance No. 2,979 of November 12, 2019, which establishes the "Previne Brazil" program. Through this, it seeks to register citizens' registrations and analyze the attached population associated with the primary care team (eAP) or Family Health Team (eSF). Meanwhile, it is observed that this costing pattern, inspired by
international models, foresees the reduction of social inequities through equity in the distribution of resources\(^5\). However, it is essential to emphasize that international experiences are multiform and that the standardization of results should not be biased in view of different territorial realities.

England is among the countries whose health systems work under performance capitation for remuneration. This model differs from the Brazilian one in that instead of using performance capitation for remuneration of services, it is used as a calculation of intergovernmental transfers (not only from the federal sphere to municipalities) that have the purpose of subsidizing the financing of local health systems (a situation with even worse effects)\(^6\).

Authors have exposed that the capitation as an instrument of payment for the provision of health services can present advantages such as the adscription of clientele, accountability for a certain population and the strengthening of the link with health teams/services. Furthermore, the information produced by the registry of people can be of great value for the recognition of the epidemiological profile and the planning of the offer of health actions. As possible negative effects, it is described the selection of patients (risk selection) through the creation of barriers to registration of hyper users of the health system or those who undergo high cost treatments\(^7\).

This program reformulated the criteria for the transfer of financial resources and guided the calculation by relating the following factors: Weighted Capitation; Payment for Performance (P4P); Incentive for Strategic Actions; and Provision of health professionals. The criteria considered for the calculation of the Weighted Capitation are: I - numbers of people registered under the responsibility of the Family Health teams and Primary Care teams; II - economic vulnerability; III - age profile; IIII - rural or urban area according to the classification of the Brazilian Institute of Geography and Statistics (IBGE). The registration is done through the Simplified Data Collection system (CDS), the Citizen's Electronic Health Record (PEC), or proprietary systems, and is attached by the Health Information System for Primary Care (SISAB). This technological advance intends to strengthen the attributes of PHC in order to adequately identify patients and aims at longitudinal and coordinated care\(^8\).

Payment by performance is made by analyzing the results of the indicators of each accredited health team in the National Register of Health Establishments (CNES) system. In addition, the calculation considered for the financial resources in the incentive for strategic actions considers the specificities and priorities in health, the structural aspects of the teams, and the production in strategic health actions\(^8\).

When analyzing Previne Brazil, authors suggest that there is a valorization of an "operational SUS", marked by breakable institutional arrangements contradicting the premise of its universality. A situation that manifests the restriction of health care to the individuals that the municipalities were able to register, allowing distance from the universal principle in which resource transfers should be associated with the municipal population as a whole. A fact that stands out is the emergence of the program in the midst of the health crisis generated by the New Coronavirus (COVID-19). A situation that emerges the important participation of the SUS as a powerful state policy to confront\(^9\). During 2020, the financial confrontation was low, corresponding to only R$39.4 billion, being 31.5% of the total budget of the Ministry of Health for 2020\(^10\).
Based on the above, considering that part of the PHC transfer is conditional on the number of registrations made in the e-SUS Basic Care Strategy (e-SUS AB) and that the Ordinance completed one year in December 2020, we intend to show the variation in the number of individual registrations among the Northeastern states in the period between the third quarter of 2019 (2019Q3) and the third quarter of 2020 (2020Q3) through the Basic Care Information System (SISAB). We considered registration data pertaining to the Northeast region of Brazil in view of the fact that it receives most of the federal incentive for the registration of users since the transfer was paired to the number of family health teams registered in the national database. In this sense, we intend to contribute to the discussion about the relevance of actions to be taken by political agents aiming at increasing the registration as a condition for maintaining part of the fund-to-fund transfers to the municipalities. Thus, it is suggested greater availability of financial resources to ensure the maintenance of services provided to the population attached to the territories in the eSF.

**Material and Method**

**Sample and type of study**

This is a cross-sectional descriptive study of a quantitative nature based on secondary data collected from the Primary Care Information System (SISAB) between February and March 2021. In this database, the number of patients registered in the e-SUS AB systems since the launch of Previne Brazil in the third quarter of 2019 until the third quarter of 2020, for the states located in the Northeast region, was surveyed. Since this is the use of secondary data, submission to the Research Ethics Committee is not required.

**Research design**

During the search through SISAB, the registration panel was analyzed and a filter was applied in order to present the data only for certified teams and population with weighting criteria. This situation was based on the guidelines suggested by Previne Brasil through the weighted capture as a registration parameter. From this, the data associated with the four-month interval were organized in Microsoft Office Excel software. However, to compose the indicator to be established, the total of individual registrations for the entire year of 2019 and 2020 was also used. Therefore, through this action it was possible to verify the increasing variation or evolution of the registrations for that period, since part of the federal funds to be transferred to the municipalities is conditioned to this quantity. In order to simplify the system involving these information systems, Flowchart 1 was created.

**Inclusion and Exclusion Criteria**

Considering that the Northeast region has the largest number of Family Health Care teams due to the vulnerability of the populations residing in the territory, we chose to analyze it initially, excluding the other regions in this study, a priori. The greater number of teams suggests the need for regularity in the transfer of federal resources.
Fluxograma 1. Strategy for collecting data on individual registrations in e-SUS AB.

Consult the SUS Computer Department (DATASUS) ➔
Health Information (TABNET) ➔
Primary Care Information System (SISAB) ➔
e-SUS Primary Care Strategy (e-SUS AB) ➔

<table>
<thead>
<tr>
<th>Filters</th>
<th>Homologated Teams</th>
<th>Population with weighting criteria</th>
</tr>
</thead>
</table>

Source: SISAB/DATASUS.

**Procedures**

In order to describe the evolution of individual registrations in the exposed time interval, the following calculation parameter was adopted for temporal analyses segmented into third quarter 2019 (2019 Q3) and third quarter 2020 (2020 Q3):

\[
\text{Number of enrollments in the evaluated four-month period } \times 100 \quad \text{Total number of enrollments for the year under review}
\]

The value obtained was multiplied by 100 in order to establish the final percentage for evaluating the growth in the number of registrations. The evaluation is based on subtracting the two percentages obtained in 2019 Q3 and 2020 Q3.

The representation of the registrations in the universe registered for the Northeast region of the country was also analyzed. In this sense, the calculation reference was as follows:

\[
\text{Number of enrollments in the evaluated four-month period } \times 100 \quad \text{Number of registrations for the Northeast region in the same four-month period}
\]

Finally, in order to complete the information, the estimated population coverage for primary care for the period evaluated in 2019 and 2020 was retrieved from the Primary Care Management and Information System (e-Gestor). It is important to note that this estimate adopts a parameter of 3,450 individuals covered per team. Subsequently, a comparison was made between this quantity and the total number of registrations made. Ministry of Health (BR). Department of Basic Care.

**Results**

Table 1 shows in numbers the evolution of individual registrations in SISAB for the years 2019 and 2020, represented by four-month period, according to the information system. By analyzing the table in question as well as one year of analysis (2019Q3 and 2020Q3), we see that the state that showed the highest growth in the number of registered users was Bahia through a percentage equivalent to 7.12%. In a complementary way, the state of Sergipe followed this increase with a percentage equivalent to 3.69%. Meanwhile, the state of Ceará did not show any growth in the number of registered users even after twelve months of the
publication of the new Ordinance for financing Basic Care conditioned to the weighted capitation.

Table 1. Evolution of individual enrollments in e-SUS AB, 2019-2020.

<table>
<thead>
<tr>
<th>Federation units and region</th>
<th>2019Q1</th>
<th>2019Q2</th>
<th>2019Q3</th>
<th>2020Q1</th>
<th>2020Q2</th>
<th>2020Q3</th>
<th>Total</th>
<th>Indicated</th>
<th>%</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahia</td>
<td>3227485</td>
<td>3363866</td>
<td>3489512</td>
<td>3598980</td>
<td>3850956</td>
<td>3999318</td>
<td>7088492</td>
<td>49.22</td>
<td>56.41</td>
<td>7.12</td>
<td></td>
</tr>
<tr>
<td>Alagoas</td>
<td>888686</td>
<td>907210</td>
<td>928162</td>
<td>930104</td>
<td>951602</td>
<td>968297</td>
<td>8096799</td>
<td>11.46</td>
<td>11.95</td>
<td>0.49</td>
<td></td>
</tr>
<tr>
<td>Ceará</td>
<td>1944361</td>
<td>1944362</td>
<td>1944363</td>
<td>1944364</td>
<td>1944365</td>
<td>1944366</td>
<td>11666181</td>
<td>16.66</td>
<td>16.66</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Maranhão</td>
<td>1605600</td>
<td>1680312</td>
<td>1752374</td>
<td>1859125</td>
<td>1955799</td>
<td>2013663</td>
<td>10866873</td>
<td>16.12</td>
<td>18.53</td>
<td>2.41</td>
<td></td>
</tr>
<tr>
<td>Paraíba</td>
<td>1272394</td>
<td>1307057</td>
<td>1344792</td>
<td>1366108</td>
<td>1398317</td>
<td>1418222</td>
<td>8106890</td>
<td>16.58</td>
<td>17.49</td>
<td>0.91</td>
<td></td>
</tr>
<tr>
<td>Pernambuco</td>
<td>2061105</td>
<td>2145307</td>
<td>2229896</td>
<td>2296717</td>
<td>2391058</td>
<td>2437237</td>
<td>13561320</td>
<td>16.44</td>
<td>17.97</td>
<td>1.53</td>
<td></td>
</tr>
<tr>
<td>Piauí</td>
<td>1007978</td>
<td>1042194</td>
<td>1082361</td>
<td>1110446</td>
<td>1143848</td>
<td>1158588</td>
<td>6545415</td>
<td>16.53</td>
<td>17.70</td>
<td>1.17</td>
<td></td>
</tr>
<tr>
<td>Rio Grande do Norte</td>
<td>891218</td>
<td>931073</td>
<td>967494</td>
<td>997916</td>
<td>1048608</td>
<td>1077653</td>
<td>5913962</td>
<td>16.35</td>
<td>18.22</td>
<td>1.87</td>
<td></td>
</tr>
<tr>
<td>Sergipe</td>
<td>422306</td>
<td>451395</td>
<td>480650</td>
<td>523248</td>
<td>565611</td>
<td>592891</td>
<td>3036101</td>
<td>15.83</td>
<td>19.52</td>
<td>3.69</td>
<td></td>
</tr>
<tr>
<td>Nordeste</td>
<td>13673251</td>
<td>14232416</td>
<td>14789708</td>
<td>15301319</td>
<td>16048807</td>
<td>16479535</td>
<td>90525033</td>
<td>16.33</td>
<td>18.20</td>
<td>1.87</td>
<td></td>
</tr>
</tbody>
</table>

Source: SISAB/DATASUS

Having observed the period in question, in Chart 1, it can be seen that Bahia was also the state that represented the highest percentage of enrollments compared to the total quantity of the Northeast region of Brazil, with percentages of 23.59% in 2019Q3 and 24.26% in 2020Q3. Alagoas, Paraíba, and Pernambuco were the federation units that did not show growth in the number of registered users between the four quarters analyzed when compared to the volume of registrations performed for the region in the same period.
Graph 1. Comparison regarding each state's representation for total enrollments in the Northeast between 2019Q3 and 2020Q3.

Source: SISAB/DATASUS

When we consider the panorama associated with the estimated population covered by the Family Health Strategy and the enrollments made in the e-SUS AB for the investigated period contained in Table 2, we see that all states had fewer enrollments than the estimated coverage. This fact reinforces the need for efforts to increase the number of registrations and with it the fund-to-fund transfer in detriment of Prevent Brazil.

Table 2. Overview regarding the estimated population covered by the Family Health Strategy and registrations made in e-SUS AB, 2019-2020.
Discussion

In view of the outcomes presented about the evolution in individual registration through SISAB, disparities in state records were evidenced. It is noted that in the same year of publication of Previne Brazil, the Ministry of Health supports its federated entities with the institution of Ordinance No. 3,263 of December 11, 2019, which establishes a financial incentive of federal funding for the implementation and strengthening of registration actions of SUS users, in the context of APS⁹. Furthermore, this ministerial ordinance determines a fund-to-fund transfer, in a single installment to the municipalities and the Federal District in accordance with the total number of Family Health Care teams accredited in the CNES, with the population registered in SISAB between January and September of 2019 as an indicator⁹. That said, it is verified that the total incentive from the union to the municipalities refers to R$ 402,000,203 million reais. In contrast, the regional subsidies were distributed as follows: The Northeast region received R$145,263,746, Southeast: R$134,916,460, North: R$33,836,248, South R$57,771,599 and Center - West R$25,890,533¹¹.

Consecutively, the Northeast region is justified in having received the largest financial amount because it is the region in Brazil that has the largest number of family health and primary care teams registered in e-SUS⁶,¹¹. It is important to note that this number of teams is supported by the socioeconomic vulnerability historically associated with the implementation of the former Family Health Program¹².

Thus, the results identified in this article show that the state of Bahia showed an upward trend in individual registration in SISAB compared to other states in the Northeast region. Nevertheless, Bahia is configured as the state that received the largest part of the public subsidy in its region, corresponding to approximately R$33,720,187.29¹³. It should also be added that this state has the highest demographic index of the Northeast region with an estimated population of 14,930,634 inhabitants in 2019¹⁴. In addition, Bahia has the largest number of registered family health teams, with 3,777 teams¹⁵. Thus, it is believed that the aforementioned factors have directly contributed to Bahia's
outstanding speed of individual registrations in e-SUS. From another perspective, it is verified that Ceará did not advance in the number of individual registrations between 2019Q3 and 2020Q3 after twelve months of Previne Brazil after the application of the indicator suggested in this article regarding the evolution. However, during the individual analysis of the registrations between the four quarters, there is an evolution corresponding to three users. This fact deserves attention, considering that the state received the second largest financial volume from the Union for incentives for the registrations with an amount equivalent to R$22,917,585.59, and has about 2,567 Family Health Teams registered in the territory\textsuperscript{15}. Moreover, it is relevant to question the actions established by the municipalities that make up the state regarding the planning of strategies aimed at the spheres of management and assistance suggested by the increase in the quantity. However, the states of Alagoas, Paraíba, and Pernambuco, respectively, received subsidies equivalent to R$ 7,883,220.91, R$ 13,025,616.43, and R$ 20,980,259.50. However, it was found that these states showed no growth in individual enrollments between the analyzed 2019Q3 and 2020Q3 quarters.

The data in Table 2 exposed a discrepancy between the monthly coverage estimated for the Family Health Strategy and the absolute quantity of registrations made during the four-month period. However, this financial diagnosis was in agreement with a study published in 2020\textsuperscript{5}, in which 26 of the 27 states of the federation had a quantitative enrollment lower than the estimated coverage when analyzing the data contained in SISAB.

**Conclusion**

In summary, through the interpretation of the data obtained by SISAB and application of suggested indicators, it can be inferred that most federative units that make up the Northeast region of Brazil did not show increasing variation in the percentage of individual registrations between 2019Q3 and 2020Q3 based on the indicator used. In view of this, it is plausible to understand that each federation unit may present revenue losses and great efforts should be made in order to obtain the potential gain in financial resources for the year 2021. Examples of these efforts can be seen in the computerization of health units and the training of professionals in the use of hard technologies to facilitate these registrations. Thus, it is important to follow up on this in the next four quarters in order to discuss municipal strategies that may have had a relevant impact on the increase of individual registrations.

**References**


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