

**Farmácia Solidária Experience: access to medication, citizenship, environmental protection and economy****Experiência Farmácia Solidária: acesso a medicamentos, cidadania, proteção ambiental e economicidade****Experiencia Farmácia Solidária: acceso a medicamentos, ciudadanía, protección ambiental y economicidad****Received: 05/11/2019****Approved: 25/06/2020****Published: 18/04/2021****Rodrigo Rodrigues Silva<sup>1</sup>****Ana Carolina Parolini Borges Durante<sup>2</sup>****Gabriela Terra Silva<sup>3</sup>****Luci Mara da Silva<sup>4</sup>****Cecílio de Souza Araújo Filho<sup>5</sup>****Claudio Galeno Caldeira<sup>6</sup>**

This is an experience report that aims to describe the *Farmácia Solidária* initiative, aimed at capturing and redistributing donated medications, and their impacts. The initiative was initiated on August 30, 2017 and data is presented until August 2018. The following items are highlighted: *Access to medication, Economics, Environmental protection and less waste of medicines* and *State model of innovation*. Of the drugs collected, 170,788 units (155,222 non-prescription drugs; 15,566 prescription drugs) were passed on to the population, in a total of 3,995 services; prevented 15,721,222 medication units from becoming environmental waste and promoted savings in the order of R\$ 311,549.01 for the Public Administration and R\$ 389,436.00 for the population. There was a significant expansion in the supply of medicines not standardized by the Unified Health System, indirect (public administration) and direct (population) economics, positive environmental impact with a decrease in expired medicines in domestic households and subject to improper disposal in the environment, and, direct flow to Long Term Care Institutions for the Elderly. The accreditation of municipalities interested in this initiative is being implemented, with the perspective of creating an intermunicipal mining network.

**Descriptors:** Access to essential medicines and health technologies; Environment; Community participation; Economics.

Este é um relato de experiência que tem como objetivo descrever a iniciativa *Farmácia Solidária*, voltada à captação e redistribuição de medicamentos doados, e seus impactos. A iniciativa foi inaugurada no dia 30 de agosto de 2017 e aqui se apresenta dados até agosto de 2018. Os seguintes itens são destacados: *Acesso a medicamentos, Economicidade, Proteção ambiental e menor desperdício de medicamentos e, Modelo estadual de inovação*. Dos medicamentos captados, 170.788 unidades (155.222 medicamentos não controlados; 15.566 medicamentos sujeitos a controle especial) foram repassadas à população, em um total de 3.995 atendimentos; impediu que 15.721.222 unidades de medicamentos se tornassem lixo ambiental e promoveu economias da ordem de R\$ 311.549,01 para a Administração Pública e de R\$ 389.436,00 para a população. Constatou-se significativa expansão na oferta de medicamentos não padronizados pelo Sistema Único de Saúde, economicidade indireta (administração pública) e direta (população), impacto ambiental positivo com diminuição de medicamentos vencidos nos domicílios e passíveis de descarte indevido no meio ambiente e, ainda, fluxo direto para as Instituições de Longa Permanência para Idosos. A acreditação de municípios interessados nessa iniciativa encontra-se em via de implantação, com a perspectiva da criação de uma rede intermunicipal mineira.

**Descritores:** Acesso a medicamentos essenciais e tecnologias em saúde; Meio ambiente; Participação da comunidade; Economia.

Este es un informe de experiencia que pretende describir la iniciativa *Farmacia Solidaria*, centrada en la recogida y redistribución de medicamentos donados y sus impactos. La iniciativa se inauguró el 30 de agosto de 2017 y aquí se presentan los datos hasta agosto de 2018. Se destacan los siguientes puntos: *Acceso a los medicamentos, Economicidad, Protección ambiental y menor desperdicio de medicamentos y Modelo estatal de innovación*. De los medicamentos recogidos, 170.788 unidades (155.222 medicamentos no controlados; 15.566 medicamentos sometidos a control especial) pasaron a la población, en un total de 3.995 atenciones; se evitó que 15.721.222 unidades de medicamentos se convirtieran en residuos ambientales y hubo un ahorro del orden de R\$ 311.549,01 para la Administración Pública y R\$ 389.436,00 para la población. Hubo una expansión significativa en el suministro de medicamentos no estándar por parte del Sistema Único de Salud, economicidad indirecta (administración pública) y directa (población), impacto ambiental positivo con la reducción de medicamentos caducados en los hogares y susceptibles de ser desechados de forma inadecuada en el medio ambiente y, también, flujo directo a las Instituciones de Larga Estancia para Ancianos. La acreditación de los municipios interesados en esta iniciativa está en marcha, con la perspectiva de crear una red intermunicipal en Minas Gerais.

**Descritores:** Acceso a medicamentos esenciales y tecnologías sanitarias; Ambiente; Participación de la comunidad; Economía.

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## INTRODUCTION

**A**nalyzes of medication consumption show that an important part of Brazilians' income goes to the purchase of medications, which is not a recent issue. Data from the Dados da Pesquisa de Orçamentos Familiares (POF) carried out in 2002-2003 and 2008-2009, and that after deducting health expenditure from household income, there was an increase of 2.6% and 2.3%, respectively, of the number of households below the poverty line established by the World Bank, and spendings on medication contribute to 60.9% and 65.7% of this increase<sup>1</sup>.

Studies point out an association between access to medication and sociodemographic factors<sup>2,3</sup> and general health conditions<sup>4,5</sup>. Socio-economic differences related to access are also observed heterogeneously at regional levels, especially in large Brazilian regions. Higher prevalences of access to medications are observed in the Southern region, and the lowest, in the Northern and Northeastern regions<sup>2-6</sup>.

In 2016, despite the decrease in the Health budget due to austerity measures, federal resources for medications increased 19.6% in real terms, reaching the mark of 15.8% of the Ministry of Health's resources<sup>7</sup>.

Between 2008 to 2015, the Orçamento Federal do Acesso a Medicamentos no Brasil (OTMED) increased by 64.9% in real terms, an increase much higher than that observed in the Health budget, from 36.7% in the same period<sup>7</sup>. Thus, the percentage participation of OTMED in the budget of the Ministry of Health, which went from 11.6% to 14.6% in the same period, approached the average calculated for middle-high income countries, which is in the order of 15 %<sup>7</sup>.

The medication sector has another challenge that, although more veiled, offers environmental and health risks to populations of great proportions: the incorrect domestic disposal of medications. According to the Instituto Nacional de Informações Tóxico-Farmacológicas (SINITOX)<sup>8</sup>, the domestic disposal of medications in the sewage network (toilets and sink drains), leads to a part of this medication, after passing through the sewage treatment station, contaminating water tables, rivers and oceans.

Medications thrown into the residential garbage have the same fate, which can contaminate the soil and rivers after going to common landfills. Then, because this is a cyclical process, people consume the water from these rivers or food that have come in contact with it, endangering their health. Another danger caused by the disposal of medications in household waste is the risk of them being reused by waste pickers, adults or children, which can cause poisoning<sup>8</sup>. Thus, the present study aims to describe the *Farmácia Solidária* initiative, which looks to capture and redistribute donated medications, and its impacts.

## METHODS

The study is characterized as an experience report, an initiative of the Municipality of Uberaba, represented by the Municipal Health Secretariat and the Department of Pharmaceutical Assistance, called *Farmácia Solidária*, a public pharmacy dedicated to the collection and redistribution of donated medicines.

The municipality of Uberaba, headquarters of the present initiative, is located 481km west of the state capital, with an estimated population of 333,783 inhabitants<sup>9</sup> and divided into three health districts (HD). It is a pole city in the expanded health region Triângulo Sul in High Complexity, headquarters of the Regional Health Superintendence (RHS), also a reference for the micro-region of Uberaba in Medium Complexity.

Established on August 30, 2017, the *Farmácia Solidária* (DS II), in addition to having a basic pharmacy, has a second aspect, the pharmacy of donated medicines. These drugs are offered by the community, institutions and health professionals, philanthropic institutions, among others. Thus, the Municipal List of Essential Medicines (REMUME) of the municipality, composed of 136 items, started to be offered at this Pharmacy, added to all donations received.

The present experience report presents data, specifically, related to the donated drugs, those that are not standardized/provided by the Unified Health System (SUS). Basic pharmacy drugs (standardized drugs) were not included.

To obtain the data, after the conclusion of the 1<sup>st</sup> year of activity, an analysis of the assistance and financial data for the period from 01/01/2017 to 08/30/2018 was conducted. The dispensed drug units were counted, separated by active ingredient and pharmaceutical presentations; the monetization of medicines offered to the population was conducted based on the list of the Medicines Market Regulation Chamber (CMED), of the National Health Surveillance Agency (ANVISA), which establishes limits on financial values for the public purchase of medicines.

## RESULTS

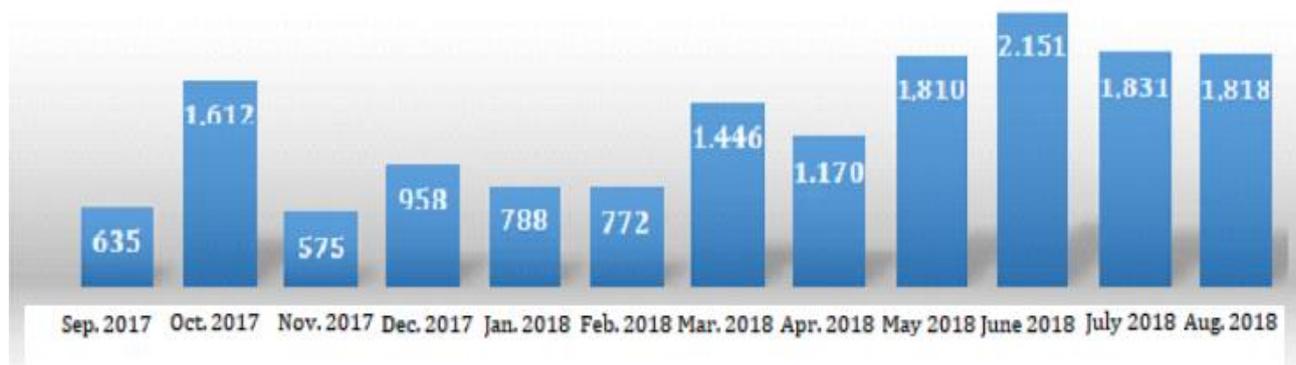
Considering the scope of this experience, the following items will be presented: *Access to medication, Economics, Environmental protection and less waste of medicines and State model of innovation.*

### *Access to medication*

In its 1<sup>st</sup> year of operation, *Farmácia Solidária* was responsible for 18,879 visits, of which 3,995 of them involved medications from donations, of which 170,788 units of medicines were offered, mostly, not included in any List of Essential Medicines of SUS. The units dispensed in these calls are shown in Figures 1 and 2.



**Figure 1.** Medications (dispensed units) not subject to special control passed on to the population by the *Farmácia Solidária*. Uberaba, 2018.



**Figure 2.** Medications (dispensed units) subject to special control passed on to the population by the *Farmácia Solidária*. Uberaba, MG, 2018.

### **Economics**

In order to measure the economic impact of *Farmácia Solidária* in relation to the population and the public administration of Uberaba, all drugs offered were listed and had their values (in R\$) raised, with emphasis on:

- the public administration, specifically, the Municipal Health Department of Uberaba, achieved an indirect savings of R\$ 311,549.01, of which R\$ 277,992.61 in drugs not subject to special control, and R\$ 33,556.40 with drugs subject to special control (Ordinance 344/98). This indirect savings can be explained by the fact that drugs not standardized by SUS are often demanded through judicialization, which contributes to high and unpredictable costs for public health management;
- the population of the municipality benefited from a direct savings in the purchase of medicines in the order of R\$ 389,436.00.

### **Environmental protection and less waste of medicines**

All medications passed on to the population by the *Farmácia Solidária* reached SUS users and became drug therapies, or the correct disposal of waste followed.

Considering all the drugs captured, passed on or not to the population, it can be said that in its 1<sup>st</sup> year of activities, this initiative prevented 15,721,222 units (of medications), mostly pills, and to a lesser extent solutions and suspensions, to improperly reach the environment.

### **Incentive to citizenship and social participation**

In order to foster solidarity and impact even more on health care in the municipality, the public administration created a subproject in which, periodically, diverse and well selected drugs were directed to nine Long Term Care Institutions for the Elderly (LTCF) in the city. Thus, the *Farmácia Solidária* initiative surpassed financial and assistance achievements, having generated super-structural impacts of complex measurement.

### **State model of innovation**

After a few months of activity at *Farmácia Solidária*, invitations to consult and support the multiplication of this initiative began to emerge. Due to the visibility achieved during its first months, in June 2018, representatives of the Pharmaceutical Assistance Department, of the State Health Secretariat (SES) of Minas Gerais, visited the initiative in search of more information and the best way to multiply the proposal by the State.

## **DISCUSSION**

Considering that the municipality's REMUME has 136 types of medication and the *Farmácia Solidária* offered another 650 new types of medication, it can be said that this initiative generated an indirect expansion of 4.8 times in the municipal public supply of medication. In addition, due to the high percentage of drugs not standardized by SUS, and offered free of charge, there was a direct impact on the population's spending on drugs. These non-standardized drugs can only be obtained through direct purchases from drugstores, or through judicialization processes to the detriment of one or more spheres of public management.

Based on inference, each of the 3,995 services generated direct savings of R\$ 97.48 for each user. Considering the impact of health spending by Brazilians, the action of this initiative on the income of the population of the municipality is presented in a clear and consistent manner, reducing the impact of one of the biggest 'villains' of the family budget: "the purchase of medications".

A national study<sup>2</sup> shows that the highest number of morbidities and worst health status provide the lowest number of drugs obtained free of charge, when compared to individuals with different profiles. In this sense, due to the diversity of products offered and the low degree of bureaucracy, this initiative has managed to change this logic.

Despite implementing the National Solid Waste Policy (*Política Nacional de Resíduos Sólidos* - PNRS)<sup>10</sup>, Brazil faces the challenge of reversing the tons of medications that expire in the country's homes in recovery initiatives, or at least, correct disposal, without environmental damage.

*Farmácia Solidária* has prevented the high and growing number of medications from expiring in their homes without a useful destination. All medications received in the form of donations were used for appropriate therapeutic treatment or, at the very least, were included in a correct waste disposal cycle.

The construction of health cannot be faced with one-sidedness, projecting on all governmental expectations all the expectations of reorienting care models and overcoming challenges. For this reason, important proposals encourage the formation of citizens increasingly involved in social projects and aware of the processes that collaborate with individual and collective health.

One of these proposals, recognized worldwide, is the 'Ottawa Charter' (Canada, 1986)<sup>11</sup>, which spurred the Health Promotion movement, which can be defined as:

*“Process of training the community to act to improve its quality of life and health, including a greater participation in the control of this process”*. It also emphasizes that: *“To achieve a complete state of physical, mental and social well-being, individuals and groups must know how to identify aspirations, satisfy needs and favorably modify the environment”*<sup>11</sup>.

A multifocal analysis of the *Farmácia Solidária* initiative, as well as of the users' perception of this initiative, shows the gradual expansion of social awareness and community participation. In several points of the municipality's Health Care Network and, especially in the *Farmácia* itself, there are manifestations of solidarity, in which families and neighborhoods mobilize in the collection of medicines in the vicinity of their homes; or even people who individually have an impact on large groups.

Donations from health institutions, doctors' offices and philanthropic organizations are also noteworthy and reinforce the growing engagement of society in this initiative.

One of the points of great relevance, and discussed in the discussion with representatives of SES, was the possibility of spreading this initiative to many municipalities in Minas Gerais, to later establish inter-municipal partnerships involving the exchange of donated medicines, with emphasis on those not standardized by SUS, or in shortages in certain municipalities due to circumstantial issues. These partnerships can promote assistance, financial, environmental and social benefits across the state, in addition to optimizing the use of medicines due to the epidemiological peculiarities of each municipality.

In May 2019, at the 36<sup>th</sup> Minas Gerais Congress of Municipalities<sup>12</sup>, organized by the Associação Mineira de Municípios (AMM), *Farmácia Solidária* won the Prize for Good Practices in Municipal Management, Health Management Axis (2019), being recognized as a model for the other municipalities in Minas Gerais regarding the expansion of access to medicines, economy for the population and public administration, environmental protection and promotion of citizenship.

## CONCLUSION

Access to medications in the context of health promotion, protection and recovery is of great relevance and is commonly flanked by diverse challenges. Fruit of a lot of joint work, and the support of administrative, pharmaceutical, financial and assistance areas, *Farmácia Solidária* brings in its essence the simplicity and robustness of a multipurpose initiative.

It is relevant to mention that the *Farmácia Solidária* faces daily challenges, among them: the insufficiency of the current human resources framework, which becomes apparent in the face of the demand for assistance; the increasing volume of donations requires an infrastructure readjustment of the space, to allow the ideal packaging of medicines; there is no

guarantee that the donations received will be passed on to the population in their entirety, which has gradually increased the volume of drugs sent for disposal by the pharmacy.

With regard to methodological issues, the present study has a limitation related to the lack of data on repressed demand, that is, the demands not met by *Farmácia Solidária*, which are not included in any database (physical or digital) and, therefore, do not accounted for and analyzed.

Despite the difficulties pointed out, the aim is to encourage the multiplication and creation of a large network of member municipalities, and will continue to believe that public health policies can harmoniously combine improvements in care, low cost, direct and indirect savings, contributions to the environment. and life in society. After consulting, the municipality of Conceição das Alagoas (MG) was the first to adopt this initiative, and others, such as Araxá (MG), Guaxupé (MG), Jacutinga (MG) and Barra do Garças (MT) expressed interest and received guidelines initial steps for deployment.

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#### CONTRIBUTIONS

**Ana Carolina Parolini Borges Durante, Claudio Galeno Caldeira, Gabriela Terra Silva** and **Luci Mara da Silva** contributed to the conception, collection and analysis of the data. **Cecílio de Souza Araújo Filho** participated in the design. **Rodrigo Rodrigues Silva** worked in the design, collection and analysis of data, writing and reviewing.

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