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DEMAND FOR OPEN GOVERNMENT DATA: A STUDY USING DATA FROM THE BRAZILIAN MINISTRY OF HEALTH, BEFORE AND DURING THE COVID-19 PANDEMIC

Demanda por dados abertos governamentais: Um estudo com dados do ministério da saúde brasileiro, antes e ao longo da pandemia de Covid-19

Demanda de datos de gobierno abierto: Un estudio con datos del Ministerio de Salud de Brasil, antes y durante la pandemia de COVID-19

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ABSTRACT

Currently, governments develop several actions to promote greater openness of government data. However, for this initiative to achieve its objectives, an efficient relationship between supply and demand for data is necessary. Thus, the main objective of this work was to analyze requests for access to information from the Federal Government, focusing on the Ministry of Health, which assumed a leading role due to its performance during the COVID-19 pandemic. To meet the objectives, secondary data were used, available on the websites of government agencies. As main results, it is mentioned: identify applicants (proximity to the area); group requests into thematic areas; effective association between supply and demand for data; comparison of the demand for data, before and during the pandemic. In possession of these results, it is possible for managers of data opening processes to promote an opening that meets the desires of society.

Keywords: open data, demand, supply, Ministry of Health, COVID-19 pandemic.

RESUMO

Atualmente os governos desenvolvem diversas ações visando promover maior abertura dos dados governamentais, entretanto para que essa iniciativa alcance seus objetivos é necessária uma eficiente relação entre oferta e demanda por dados. Assim, este trabalho teve como principal objetivo analisar os pedidos de acesso à informação do governo federal, com foco no Ministério da Saúde, que assumiu papel de protagonismo por causa da sua atuação por ocasião da pandemia da Covid-19. Para o atendimento aos objetivos, foram utilizados dados secundários, disponíveis nos sites dos órgãos governamentais. Como principais resultados, citam-se: identificar os demandantes (proximidade com a área); agrupar os pedidos em áreas temáticas; efetivar associação entre oferta e demanda por dados; e comparar a demanda por dados antes e no decorrer da pandemia. De posse desses resultados, é possível aos gestores de processos de abertura de dados promoverem uma abertura que atenda aos anseios da sociedade.

Palavras-chave: dados abertos, demanda, oferta, Ministério da Saúde, pandemia de Covid-19.

RESUMEN

Actualmente, los gobiernos desarrollan varias acciones para promover una mayor apertura de los datos gubernamentales. Sin embargo, para que esta iniciativa logre sus objetivos, es necesaria una relación eficiente entre la oferta y la demanda de datos. Así, el objetivo principal de este trabajo fue analizar las solicitudes de acceso a la información del Gobierno Federal, centrándose en la Secretaría de Salud, que asumió un rol protagónico por su actuación durante la pandemia del COVID-19. Para cumplir con los objetivos, se utilizaron datos secundarios, disponibles en los sitios web de las agencias gubernamentales. Como principales resultados se menciona: identificar a los solicitantes (proximidad al área); agrupar las solicitudes en áreas temáticas; asociación efectiva entre oferta y demanda de datos; comparación de la demanda de datos, antes y durante la pandemia. En posesión de estos resultados, es posible que los gestores de los procesos de apertura de datos promuevan una apertura que responda a los deseos de la sociedad.

Palabras Claves: datos abiertos, demanda, oferta, Ministerio de Salud, pandemia de COVID-19.

INTRODUCTION

A global movement advocating government transparency gained traction in the late 2000s worldwide. The main objective was to bring governments closer to societies by promoting transparency and making government actions more effective and efficient (Piovesan, 2017).

In Brazil, this movement manifested through many actions. Among them stands out the country's participation as a founding member of the Open Government Partnership, committing to the Declaration of Principles (OGP, 2011) and implementing actions to increase transparency.

An essential outcome of these efforts by the Brazilian federal government was the enactment of Law 12527/11, also known as the Freedom of Information Law (FOI). This law guarantees citizens' constitutional right to access public information and applies to federal, state, and local governments. Implementing this law marked a significant step toward consolidating the democratic regime and enhancing public transparency policies (Neves, 2013).

Neves (2013) also highlights that the Brazilian government's actions in promoting transparency were not limited to passive measures. They also embraced active transparency by launching an online portal that discloses government data in an open format. The adoption of open data initiatives brings several benefits, such as transparency, participation, innovation, and economic value generation, as suggested by various authors, including Attard et al. (2016), Craveiro et al. (2016), Zeleti et al. (2016), and Possamai and Gonzatti (2020). However, society only fully benefits when effectively using the data provided data.

Reports of initiatives where society reuses such data (Davies, 2014; Verhulst & Young, 2017) further reinforce this point. Foulonneau et al. (2014) and Zuiderwijk et al. (2018) argue that the full potential of society's participation and collaboration as consumers of government data can only be achieved when all stakeholders actively engage in the governance of open data portals. For this reason, a strong balance between the supply and demand for data is necessary; otherwise, open data initiatives may not gain sufficient traction or have a significant impact.

Despite the importance of this topic, there is limited academic literature on the demand for open government data, especially within the Brazilian context. Some notable works include Moreira (2015), who demonstrated the demand for open data through its reuse in societal initiatives, and Cruvinel (2016), who analyzed responses to an internet questionnaire to diagnose the demand for open data from the federal legislature. Additionally, Carossi et al. (2017) identified information to compose an open data plan for federal higher education institutions.

Craveiro and Albano (2017) explored the demand and supply of open data from the perspective of intermediaries, which encompass actors integrating the supply and demand of open data. Regarding the Brazilian context, *Open Knowledge Brasil* (OKBR, 2021) reported on data openness in six states during the Covid-19 pandemic. In the global context, several

authors and studies have stressed the importance of studying the demand for open data from governments, including the works of Gurin et al. (2017), Cotaffava (2018), and Van Loenen et al. (2021).

This research addresses the need for further studies and knowledge about government open data. It focuses on analyzing requests for access to information via the Citizen Information Service (e-SIC) by the Brazilian Ministry of Health. This agency played a leading role in opening data, particularly during the Covid-19 pandemic, making it a relevant case for analysis.

It is noteworthy that this research focuses on requests made via e-SIC and the requests demanded responses from the government in a format compatible with that of open data. In addition, it is important to clarify the relationship between the FOI, e-SIC, and open data in the case under analysis.

The movement for opening government data originated in the 2000s, led by countries like the US and the UK (Obama, 2009). The Brazilian federal government embraced the movement, leading to the enactment of the FOI, which aimed to encourage public data release, especially in an open format.

The e-SIC was created to comply with the Brazilian FOI, ensuring citizens' constitutional right to access public information. Additionally, the federal government established the national infrastructure for open data and formulated a national policy on the subject.

The contributions of this work re corroborated by documental analysis of the plan of data of the Ministry of Health and include:

- Conducting a temporal analysis of the demand for open data in Brazil, specifically focusing on health. It compares the period from July 2015 to 2017, previously investigated by Craveiro et al. (2020), with the period from 2020 to July 2021, which this work addresses;
- Identifying data claimants to understand better which actors hold knowledge about the right to freedom of information, providing insights into the effective impact of the FOI on the daily life of Brazilian society.

The article is organized into five sections, including this introduction. The next section offers a theoretical framework presenting strategies for opening government data, its meaning, requirements, challenges, and criticisms in modern public sector governance. The third section describes the methodology for data collection and analysis, followed by the results and analysis section and the final considerations.

THEORETICAL FRAMEWORK

In order to meet society's demands for greater transparency, several countries, including Brazil, the United States, and the United Kingdom, among others, underwent a process of promoting data openness (Morelli et al., 2017). According to Huijboom and Van den Broek (2011) and Van Loenen (2018), this movement towards open data also aimed to achieve

other objectives, such as promoting greater social participation and improving governmental efficiency and innovation.

The strategy of open data implementation in certain countries, such as the United States, United Kingdom, Spain, Denmark, and Australia, was supported by three lines of action, as described by the cited authors:

- Increase social accountability and encourage political participation;
- Promote service and product innovation;
- Strengthen law enforcement.

The first is associated with publishing government data to enable citizens to exercise their rights; the second promotes innovation opportunities generated by open government data; and the third engages citizens and strengthens law enforcement and security. The study by Huijboom and Van den Broek (2011) shows political and institutional contexts that decisively influence the strategy of opening data.

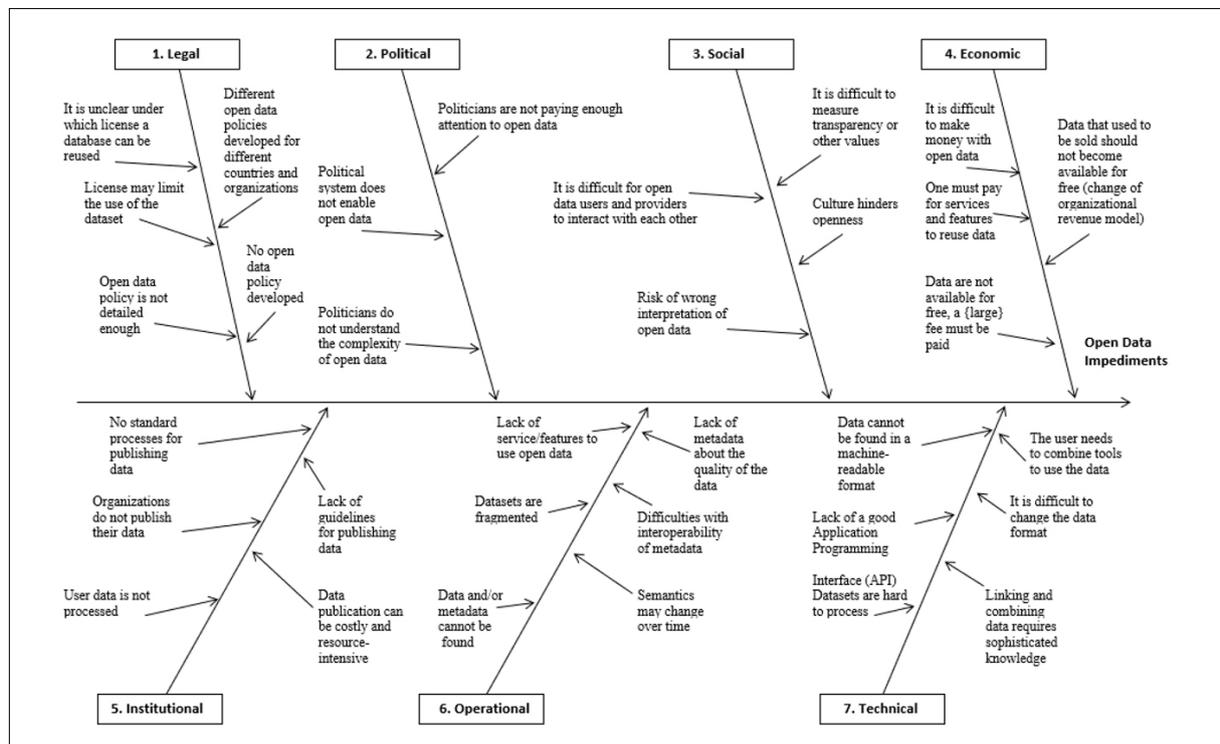
Brazil, however, differs from this reality due to its profound inequalities (Pereira et al., 2019). These inequalities encompass factors such as the low quality of education, high levels of corruption, low social participation, and an unstable political-institutional environment during the last decade (2010–2020). Consequently, the Brazilian context requires an open data policy that strengthens democracy and citizenship while also fostering the entrepreneurial vision of data reuse, thereby expanding the open data ecosystem and promoting the use of public information.

Brazil has taken various actions to support its data-opening process, including Decree 8777/2016, which established the open data policy for the federal executive branch. This regulation mandates the preparation and publication of open data plans within specified deadlines.

To determine the social relevance of a public data set, the Manual for Elaborating an Open Data Plan (MPOG, 2018) suggests that managers consider society's demands forwarded through access to information requests, interactions with the ombudsman system, identification of service usage in institutional portals, or even face-to-face events with the user community.

Several authors have identified barriers and difficulties that can hinder the success of a data-opening process. Figure 1 illustrates various axes encompassing legal, political, social, economic, institutional, operational, and technical barriers.

Figure 1. Barriers and challenges to an open data process



Source: Elaborated by the authors. Adapted from Davies and Bawa (2012), Janssen et al. (2012), and Zuiderwijk et al. (2014).

On the other hand, several authors have highlighted the benefits of open data initiatives. For example, Janssen et al. (2012) classify these potential benefits into three broad groups: political and social, economic and technical, and operational. Additionally, Bataglia and Farranha (2019) and Lima and Brandão (2020) argue that open data initiatives promote greater transparency, which can serve as a mechanism to combat corruption.

However, there is a consensus among all authors that the promised benefits will only be achieved by overcoming barriers and difficulties and if the available data are of interest to third parties. In other words, there must be a harmonious balance between data supply and demand.

METHODOLOGY

This research relies on data from the analysis of two different periods. The first period, from July 2015 to July 2017, is detailed in the article by Craveiro et al. (2020). We will not delve into its methodological description here; therefore, we suggest consulting the mentioned article for any doubts. The most recent period, from January 2017 to July 2021, is detailed in this work.

For both works, interviews were not conducted with the managers of the institutions cited. Instead, all data collection was based on an active search on the institutions' online portals. Secondary data were used, and the entire analysis was carried out based on the content of the information requests.

The data collection process began on the website of the Brazilian Comptroller General of the Union in the section “*serviços*” (services). Under the category “*busca de pedidos e respostas*” (search for requests and responses), the system was accessed through “*download de dados*” (data download), selecting the year 2020 in CSV format.

A first data collection was carried out to filter the requests obtained. The “.csv” files, which were initially in utf16 format, were converted to utf8. The Unix grep command was then used with a filtering option for binary files. A double filter was applied using the command “*arquivo*” | grep “*palavra-chave*” | grep “*Ministério da Saúde*” > *arquivoDeSaida*. This method allowed filtering the requests that contained the term “Ministério da Sa~ude” (Ministry of Health) in their body, resulting in 240 requests collected.

Since not all requests obtained were necessarily directed to the Ministry of Health, a more thorough filtering was conducted to identify requests relevant to the research objectives. Excluded from the dataset were requests not directed to the Ministry of Health, duplicates, and those unrelated to the ministry's scope of work. This further filtering resulted in 205 requests sent to the Ministry of Health.

Categories for the request base were created by individually analyzing them, considering the complexity and uniqueness of the information requests. However, there might be thematic intersections in the texts of the requests. It is essential to emphasize that the same request might be included in more than one category, potentially resulting in a total number of categories higher than the number of requests.

During the analysis, a cluster was noted, containing the word “*exames*” (exams), without any connection to the central cluster “*dados*” (data). It should be noted that the search was focused on the term “*dados*.” Consequently, the three requests for information in the “*exames*” cluster were removed from the database.

Subsequently, categories were created based on the themes addressed by the Electronic Government Controlled Vocabulary (EGCV) associated with the thematic content identified in each request. This approach allowed for maintaining the pattern established by the federal executive while creating meaningful health-themed categories for analysis, even if no representative terms were present in the EGCV. Due to the complexity and particularity of the content of requests, the same request might be classified into one or more categories. In this work, the analysis was guided by the occurrence count of each category.

The Ministry of Health portal (<https://www.gov.br/saude/pt-br>) was accessed to analyze the agency's documents, specifically the “*Acesso à Informação*” (access to information) section, along with the relevant legislation governing the organization. The Open Data Plan of the Ministry of Health, effective from 2020 to 2022, was analyzed to compare the planned actions outlined in the document with their actual implementation, providing an overview of the agency's open data policy within the context of the health scenario in the country.

Hence, to explain the results and respective analyses, a triangulation was performed between the following contexts: the first period of data collection (2015 to 2017), the second period of data collection (2020 to 2021), and the document analysis (open data plan).

RESULTS AND ANALYSIS

This section offers a brief context regarding the previous work (Craveiro et al. 2020) that originated the parameters for comparison with the results obtained in this research, followed by its results and the results analysis.

Demand for open data: Brazilian Ministry of Health (2015–2017)

Craveiro et al. (2020) obtained primary data by analyzing the requests for information received by the Comptroller General of the Union and the Ministry of Planning, Budget, and Management. The file contained over 800 requests, and those with personal or confidential information were excluded from the sample. The authors used identification selectors with terms such as “*dados abertos*” (open data), “*dados abertos governamentais*” (government open data), “*plano de dados abertos*” (open data plan), and “*base de dados*” (database) in the body of the request text for analysis.

The analysis continued with selecting and filtering requests for access to information by dynamically reading and seeking terms that indicated the message was a request for data in an open format. For instance, expressions like “*dados abertos*” and “*base de dados*” were considered, as well as others that denoted the content of the request. During this phase, repeated requests sent to the same or different agencies, withdrawals, study methodologies, requests referring to previous protocols, and doubts unrelated to database access or not aligned with the mission of the requested body were excluded. After this analysis, 715 requests remained, distributed among 113 agencies.

To index the demands contained in the requests, the terms from the EGCV (Ministry of Planning, Development, and Management, 2016) relating to government matters were used. This termbase serves as a management tool for citizens to communicate with the government, enabling the classification of any content.

In addition to understanding the demand side, this work also sought to analyze the Ministry of Health’s open data plan to assess its compliance with Decree 8777 of May 11, 2016, which establishes the open data policy of the Brazilian federal executive branch. The document search was conducted on Google using the keyword “*Ministério da Saúde + Plano de Dados Abertos*” and through an active search on the agency’s website to evaluate the accessibility of the document.

The previous work’s analysis (2015–2017) was based on various factors, including the total requests per category, the breakdown of the most prominent subcategories, the distribution of requests by the number of organs, the most demanded bodies, the analysis of their open

data plans and structures, the participation of civil society in developing the plan, and the availability and accessibility of information on their portals.

The high incidence of agencies with fewer than five requests for databases can be explained by the significant number of regionalized institutions or specific work themes in the database provided by the Ministry of Planning, Budget, and Management for the study. The ranking of the most demanded bodies included larger organizations such as regulatory agencies, ministries, and advanced research institutions.

Notably, the Ministry of Health stood out as the most demanded, accounting for 33.8% of the total number of requests, with the demand for health data being primarily concentrated in this ministry (the category “health” secured the second position in the ranking). The Ministry of Planning, Budget, and Management was the second most demanded agency, accounting for 14.2% of requests, mainly encompassing the category “administration,” which covers significant themes on the agency’s agenda (Craveiro et al., 2020).

According to Craveiro et al. (2020), the other two most demanded agencies were the Ministry of Cities (13.5% of requests) and the National Institute of Educational Studies and Research Anísio Teixeira (12.7% of requests).

Demand for open data: Brazilian Ministry of Health (2020-2021)

Before delving into the discussion on the content of the requests, it is essential to provide an overview of the background information relevant to the results. First, examining the information about the citizens requesting the data is crucial. Out of the 205 requests analyzed, only 61 identified their occupation. Within this group, 98.3% of applicants identified themselves as specialists, including researchers, undergraduate, master’s and doctoral students, teachers, and journalists.

This finding suggests that civil society still lacks effective awareness and understanding of the right to freedom of information. Considering the COVID-19 pandemic period, one would expect a higher adherence rate from the general population. This notable absence of civil society points to the need to explore the factors influencing this behavior. Mapping these factors will enable the development of public policies that encourage a stronger culture of information access, promoting sustained adherence to the rights granted by the Freedom of Information Law (FOI).

Another crucial factor is the number of requests sent to the Ministry of Health that received effective responses and the reasons behind the unanswered ones. Answered requests accounted for more than 80% of the total. The main reasons for unanswered requests were as follows (in order): information classified as confidential according to the FOI; missing information; time constraints for producing the answer; information containing personal data; requests that were incomprehensible and/or too generic. Of the unanswered requests, 13.2% were due to a partial lack of information. This is concerning as it indicates that certain information is not accessible either through active or passive transparency.

The proportion of requests categorized as disproportionate, generic, or incomprehensible is worth noting, as well as the number of requests not answered due to partially or totally confidential information, which may or may not involve personal data. These two categories combined account for 31% of unfulfilled requests. It might be beneficial to provide applicants with a guide or reference to the FOI to aid those who are not fully aware of its provisions.

The content of the information sent to the Ministry of Health via e-SIC was analyzed, resulting in a list of categories, as shown in Table 1. It is important to note that the same request could fall under multiple categories.

Table 1. Categories according to the content of the data requests

CATEGORIES	CONTENT
Medicines	Availability of various medications, information on chloroquine, ivermectin, etc
Accountability	Expenses, resource applications, authorities' agenda, authorities' salaries, transfers of funds, financing of various campaigns by digital influencers
Water and soil	Information on soil and water quality, basic sanitation, and related transmissible diseases
Not specified	Any and all requests in which there was no specification of the database or the subject requested by the citizen
Pandemic	Data related to COVID-19: hospitalizations, deaths from the disease, telephone contacts with the population to address the issue, contacts received from the population to resolve doubts about the disease, obtaining quick tests for diagnosing the disease, as well as requests seeking information about the severe acute respiratory syndrome
Chemical contaminants	Data on poisoning by pesticide contaminants
Environmental health	Data on cases of diseases and conditions caused by the environment
Nutrition	Requests regarding food, access to adequate food, malnutrition, and related issues
Hospital procedures	Medical procedures, bureaucratic procedures in the health area, and exams
Telemedicine	Data referring to online medical consultations carried out in the country
Mortality	Adult mortality, health professionals coping with COVID-19, infant mortality
Hospital resources	Requests of accounting information regarding hospital equipment and personal protective equipment, among others
Morbidity	Inquiries about the rate of carriers of a disease relative to the total population in a given location at a given time and about diseases in specific locations generally

(continua)

(conclusão)

Tabela 1. Categorias conforme conteúdo dos pedidos de informação

CATEGORIES	CONTENT
Epidemiological data	Requests regarding outbreaks of diseases such as yellow fever, dengue, chikungunya, zika virus, occurrences of microcephaly, Creutzfeldt-Jakob disease, research in the area of epidemiology, epidemiological data from the Information System for Notifiable Diseases, epidemiological bulletins, among others
Human resources	Data on the composition of teams in health establishments, the staff of the Ministry of Health, and the staff's CV
Health data	Requests referring to information from health databases belonging (or not) to the Ministry of Health, research data in the health area, such as the hospital census, etc
Transplant list	Information on the status of the transplant list in Brazil
Indigenous health	Information on indigenous health during the coronavirus pandemic, diseases that affect indigenous populations, mental health, equipment for serving the population, and professionals working with this public, among others
Mental health	Data on self-inflicted violence, cases of burnout syndrome, etc
Vaccination	Data on testing and application of vaccines throughout the national territory, including vaccines against the coronavirus, yellow fever, spending on vaccination campaigns, etc
National Healthcare System (SUS)	Requests that require databases of competence of the Unified Health System, data regarding the system
Accidents	Requests about accidents of different causes and natures
Work health	Information relating to accidents at work, mental health, etc
Research	Data regarding scientific research funding
Violence	Data on sexual, domestic and/or other violence

Source: Elaborated by the authors, based on the responses to data requests.

The most frequently observed categories were (in order): accountability, pandemic, and illness. Considering the Ministry of Health's scope of work, it is understandable that these three themes garnered significant attention in this study.

The analysis of the accountability category, the one with the highest number of requests, demonstrates the great interest of applicants in the distribution of public funds to fight the pandemic and the Ministry of Health's actions to address the crisis. This category gained prominence at the beginning of the pandemic in March 2020 and continued to be of significant relevance in requests for information from the Ministry of Health throughout the study.

The “pandemic” category emerged as a highlight in just over a year, revealing a shift in the theme of demands received by the Ministry of Health due to this specific crisis. However, the “accountability” category remained relevant and was closely associated with the “pandemic” category.

Excluding the outlier of the “pandemic” category, the “diseases” category had significant participation. Notable diseases that were frequently requested include tuberculosis, dengue, and meningitis.

A correlation between the pandemic and accountability categories was observed during the reading and classification of the requests, indicating their intrinsic connection. This highlights the citizens’ concerns about the Ministry of Health’s expenditures to address the health crisis.

In conjunction with the results analyzed by Craveiro et al. (2020), this data reveals a consistent trend, as the “accountability” category was also the most recurrent in their previous work. This suggests a thematic shift in interest toward government spending issues.

The high demand for the “accountability” category may be related to the characteristics of the citizens requesting the data, with over 98% categorized as “experts.” This aligns with findings from other authors like Attard et al. (2016), Possamai and Gonzatti (2020), and Zuidervijk et al. (2018), who emphasize the importance of making open data available to increase transparency and promote greater engagement from society with government data.

Documents about the demand for open data: Brazilian Ministry of Health (2020-2021)

The results are divided into two topics: analysis of the documents from the Brazilian Ministry of Health regarding its open data policy; and analysis of the agency’s open data plan.

Document analysis – Ministry of Health

During the document search process, the following documents were found to complement the Ministry of Health’s Open Data Plan:

- Administrative Resolution 70 of December 23, 2020, establishes the Digital Governance Committee within the scope of the National Supplementary Health Agency.
- Ordinance 5968 of December 15, 2020, provides for the publication of the open data plan within the scope of the National Health Foundation.
- Notice of public consultation by the Brazilian Company of Blood Products and Biotechnology to formulate its open data plan.
- Ordinance 1419 of June 8, 2017, approves the internal regulations and the table demonstrating positions in commission and the functions of trust of the units that are part of the regulatory structure of the Ministry of Health, including the Open Data Management Coordination.

- Ordinance 8927 of May 11, 2017, establishes the open data plan of the National Supplementary Health Agency.

Regarding the research conducted to understand the means of support, monitoring, and control of the execution of the Ministry of Health's open data plan, the document indicates the involvement of various entities. The website of the Strategic Health Management Room, the Ministry of Health page, the site Dados.gov.br, and OpenDataSus serve as intermediaries in the governance and revisions of the open data plan. Furthermore, the Open Data Plan outlines the development and approval of rules that standardize opening data in the Ministry of Health.

However, despite some actions outlined in the open data plan's sustainability, communication, and participation axis, no specific documents related to these aspects were found. Additionally, the open data section of the Strategic Health Management Room, which includes information about the national infrastructure of open data and multi-year plan goals, indicated documents and/or links that were not available on the Ministry of Health's official website.

Several factors hindered a comprehensive analysis, including a lack of standardization in nomenclatures, lack of centralization of information on various websites and portals, difficulties finding documents through the agency's official portal, and poor distribution and naming of sections within the site. For instance, the "open data" section in the page header referred to the entire federal executive's portal, while the exclusive section was found in the menu "options" next to the Ministry logo of health. These limitations restricted the extent of the analysis of the Ministry of Health's documentation in terms of access to information.

Ministry of Health's Open Data Plan

The Open Data Plan 2020–2022 of the Ministry of Health, as of the time of this research, was not available on its main website but could be located by searching the keyword "*Plano de Dados Abertos Ministério da Saúde*" (Ministry of Health open data plan) on Google.

The action plan and responsibility matrix of the open data plan foresaw a survey of the main questions asked in the Citizen Information Service in December 2016, but it was unclear whether this survey had been conducted. The data.gov.br portal contained 136 databases of the ministry in August 2018, but the lack of a database catalog made it impossible to ascertain if these bases were in agreement with the agency's information. The high number of requests suggests that the ministry could improve active transparency by opening more databases and creating research tools based on its data.

Considering the challenges posed by the COVID-19 pandemic, it was expected that the Ministry of Health would play a greater role in disclosing data and information on the strategies used to control Covid-19 nationwide. However, the difficulties encountered during this research indicate that such actions were not effectively implemented.

The document outlining the objectives of the open data plan sets the general goal as promoting “openness of data in the Ministry of Health, aiming at the best use of its potential value, by increasing the dissemination of data and information to society, thus encouraging the creation of solutions and knowledge in the area of health” (Ministério da Saúde, 2020). The specific objectives include:

- Making data available in open formats and territorialized when possible;
- Improving data quality
- Establishing a reference model for open health data policy
- Enhance processes and the culture of transparency and access to public health information
- Foster social accountability and active transparency.

This work encountered a limitation regarding the execution of the specific goals included in the open data plan, as the relevant documents and materials were not found. Therefore, the study focused on analyzing the field of active transparency, comparing the current situation of the Ministry of Health with other federal executive branch agencies.

According to the Panel on Access to Information of the Comptroller General of the Union (2021), the Ministry of Health is the fourth most demanded agency out of 305 in the ranking, considering the period from 2017 until the time of this work (end of the first half of 2022). The agency takes an average of 21.55 days to respond to requests received, ranking 264th in the average response time. These statistics raise concerns, especially as the Ministry of Health has the most omissions regarding responses and resources for access to information requests, exceeding the legal deadline for response. It is important to note that this information represents the current ranking situation, as filtering by a specific period on the website of the Panel Law on Access to Information of the Comptroller General’s Office is not possible.

CONCLUSION

This study provides an overview of the requests for information made to the Ministry of Health. Surprisingly, 98.3% of the requests were made by specialists. Out of all the requests, 80.5% received a response, with the main reasons for non-compliance being confidential and missing information.

Thematic analysis and grouping of requests allowed us to identify the areas with higher demand. Similar to previous research, the citizens focused on “accountability.” Additionally, categories like “pandemic,” “diseases,” “mortality,” “human resources” (also linked to accountability), and “health data” stood out.

The volume of requests related to the pandemic was significant, surpassing other categories developed over four years. This highlights the shift in topics of interest to civil society during a health crisis and political instabilities at the Ministry of Health. The correlation between

“pandemic” and “accountability” reflects citizens’ concerns about the correct execution of the budget and emergency funds allocated to combat the pandemic.

The quantitative and qualitative analysis not only aids in understanding the demand but also helps prioritize actions and identify bottlenecks. It supports the development of a new open data plan, promoting the inclusion of new databases on the federal open data portal (dados.gov.br), and enhancing the digital cataloging of data and information on the Ministry of Health website.

This research contributes by providing evidence of the importance of strengthening the link between supply and demand, which is as crucial as identifying bottlenecks. This connection increases people’s adherence to open data initiatives and enhances the impact of open data portals, while the dissociation between supply and demand leads to low adherence and reduces the portals’ impact. Also, the findings highlight that identifying the citizens who request information helps develop such links and is crucial for defining strategies for opening data, as Huijboom and Van den Broek (2011) pointed out. For the authors, strategies for opening data should prioritize three axes: increasing social control and fostering political participation, promoting service and product innovation, and strengthening law enforcement.

It is also possible to address the number of requests the Ministry of Health received, which showed a proportionately high value in both studies. The significant number of requests indicates that the ministry could improve its active transparency by opening more databases and creating more research tools.

Considering the first axis mentioned and the pandemic, a more significant adherence rate was expected from the population or the existence of a policy to raise awareness about open data and freedom of information. However, the findings demonstrated low civil society participation (except for specialists), revealing a need to map the factors influencing such behavior and develop policies to foster adherence to exploring open data across diverse layers of civil society.

Special attention should also be given to the implementation and execution of the open data plan. A demand-oriented database supply policy increases the possibility for government transparency processes to achieve greater social and economic impact.

Another crucial element to consider is that there are no guarantees that open data policies will continuously progress. Since the 2020 survey, some ministries have been identified as being in higher demand, but due to changes in government, they have failed to prepare new open data plans in the last two years. This indicates a worrying setback in the progress of open data policies since the publication of Decree n° 8.777/2016.

Considering the barriers to open data, the federal executive branch has successfully created political and legal bases and addressed important technical and operational questions to promote the opening of databases in Brazil. However, significant political barriers remain. The lack of support, as denoted by the discontinuity of data opening policies by some bodies analyzed in the previous work, was also identified through the difficulties encountered in researching infralegal documents of the Ministry of Health.

Thus, the opening of databases is fundamental for strengthening the systems of access to information and accountability and creating means that allow for a more robust participation of society in the state, thereby strengthening democracy itself.

For future studies, points that can be explored involve analyzing the period by comparing it with other agencies subjected to requests and evaluating the pandemic's impact on database requests in other thematic scopes. Additionally, conducting an in-depth analysis of infralegal regulations related to the Ministry of Health, examining the agency's obligations and how open data apply to them, would be beneficial. Another element to be explored in future studies is the evaluation of the ministry's open data policy and the impressions of civil society, analyzing the policy implementation. Regarding the Ministry of Health's 2020-2022 Open Data Plan, it would be worthwhile to evaluate all the planned goals and follow up on their execution (or non-execution), comparing the activities planned and those carried out.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest

AUTHORS' CONTRIBUTION

Gisele da Silva Craveiro: Conceptualization; data curation; formal analysis; fundraising; research; methodology; project administration; resources; programs; supervision; validation; visualization; writing (first draft); writing (revision and edition).

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