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## **The COVID-19 pandemic and plans for economic reopening in Brazil: a documental analysis**

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### **ABSTRACT**

**BACKGROUND:** In March 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic. In Brazil, the high rate of dissemination made it necessary to adopt restrictive measures nationwide with the discussion regarding the

resumption of economic activities starting in April. In mid-December the country had 6,970,034 cases diagnosed and 182,799 deaths from COVID-19.

**OBJECTIVE:** To analyze the content and characteristics of official documents, which guided the period of transition and resumption of economic activities in Brazil based on health indicators. **METHODS:** This is a documental research, carried out between May and July 2020, using official websites and publications from the state governments of the 27 federative units in Brazil as sources. In the study, only documents that used epidemiological and health indicators were included as determining criteria for decision making in relation to the easing, permanence or regression of social isolation measures adopted during the COVID-19 pandemic.

**FINDINGS:** Plans, decrees and technical notes were identified for 18 Brazilian federal units. In most documents, the scientific team was made up exclusively of technicians (n = 10). The number of indicators found ranged from 2 to 11, being stratified into 5 categories: frequency and distribution of the disease; social and collective adherence; installed capacity or service profile; productive potential; and availability of supplies.

**MAIN CONCLUSIONS:** Knowing governmental strategies, adopted in the easing of restrictive measures, in the face of the coronavirus (SARS-CoV-2) pandemic based on indicators and with the possibility of comparison between different federative units, provides subsidies for understanding the outcome of the disease by place of occurrence, allowing the construction of a panorama pathology in the country. The appropriation of the findings of this study by Brazil and other countries also serves as an instrument for reflection and planning of policies adopted during the COVID-19 pandemic.

**Keywords:** COVID-19. Brazil. Health Status Indicators. Health Planing.

## INTRODUCTION

In January 2020, the World Health Organization (WHO) declared the spread of SARS-CoV-2 as a global public health problem and, two months later, announced the pandemic state.<sup>(1,2)</sup> These actions considered the new coronavirus's pathogenicity, virulence, and the unavailability of effective treatment.<sup>(3-5)</sup> In this context, governmental measures to mitigate transmission and lethality, which are fundamental to contain the epidemic, have a substantial global impact, but their scope is still uncertain.<sup>(6)</sup>

In Brazil, due to the high rate and speed of contamination, it was necessary to adopt restrictive measures to the public and private sectors throughout the country, with maintenance only of essential activities and adherence to public health recommendations and social distancing from WHO.<sup>(7)</sup> These measures showed that tackling the COVID-19 pandemic encompasses health aspects and social, political, and economic elements.<sup>(8)</sup> In this context, the articulated and coordinated action between Brazilian federative units (FU) - states and the Federal District, in compliance with the guidelines of competent bodies and foreign experiences, are of paramount importance, as slow or ineffective government responses burden public health and can cost thousands of human lives.

Therefore, in February, it became urgent to draw up contingency plans to assist the respective governments in tackling COVID-19 within the scope of the Unified Health System (SUS in Portuguese),<sup>(9)</sup> a publicly funded national security body. Thus, the Ministry of Health's actions, aimed at mitigating the pandemic, ranged from epidemiological surveillance to highly complex assistance, with activities ranging from the imminent arrival of SARS-CoV-2 in Brazil to the current scenario characterized by the easing of restrictive measures and social isolation.<sup>(10,11)</sup>

As of April, the discussion on the gradual resumption of economic activities was strengthened by elaborating the first state plans for easing restrictions in Brazil, with

implementation beginning in May, in at least one state, as reported by the Brazilian media and published in the official bulletins.<sup>(12)</sup>

However, the absence of a minimum national guideline for the economic reopening offered scope for the appearance of numerous discrepancies between the different recovery plans presented by each federative unit concerning the quantity and quality of the indicators used, the metrics adopted, and the transparency and reliability of the selected sources. The scenario above, associated with the scarcity of scientific literature on the analysis of policies for easing restrictions, motivated the search process and subsequent analysis of the totality of economic recovery plans, allowing the discussion about the level of objectivity and parameterization that subsidized the decisions of government agencies for the relaxation of social isolation measures in each state.

Therefore, this study's objective was to analyze the strategies of the Brazilian federative units' governments, based on the indicators adopted in the normative bases, which guided the resumption of activities during the COVID-19 pandemic. It is possible to offer a scientific basis to public managers about the complex decision-making process involving the relaxation of social isolation measures.

## **MATERIALS AND METHODS**

This documentary research was carried out between May and July 2020. An active search was conducted on electronic websites (official journals and government webpages) of Brazilian federative units (FU) to identify official publications related to the normative acts that guided resuming activities during the COVID-19 pandemic.

A structured and standardized script was used for data collection, created using Microsoft Office Excel® software version 16.0, and made available for cloud computing.

The collection was preceded by a training aiming at calibrating the development of the active search. After the data extraction, a double-check was applied by one of the authors who had his records checked by a second author.

A pilot study was carried out in which the researchers tested the script and the search strategy. Three teachers and six students from the Medicine and Nursing courses at the Federal University of Piauí (UFPI) conducted the data collection after theoretical-conceptual and methodological incorporation provided through weekly research meetings.

The sample included documents that met, simultaneously, all the following inclusion criteria: structured content based on epidemiological and health indicators as defined by WHO,<sup>(13)</sup> legal validity in the period in which the data collection occurred, official character attributed to the state level of government, presenting a definition of the theoretical-conceptual and methodological framework for the economic reopening during the pandemic, presenting a proposal of economic reopening agenda, and availability in the public domain. Documents were excluded based on the following exclusion criteria: unavailable full texts and unofficial sources.

The data analysis was performed in the following steps: 1) pre-reading, to assimilate the general configuration of the documents and verify compliance with the eligibility criteria; 2) selective reading, to identify the type of document, the document creation team and the adoption of epidemiological and health indicators; 3) categorization, in which the indicators were grouped and classified by qualitative similarity; and 4) descriptive and critical analysis of the data.

The general criteria investigated were type of document (reopening plan, technical norm or decree), document creation team (technicians, researchers, or teachers), and presence and quantity of indicators defined in the norms. The specific elements

corresponded to the source's details, type of indicator (quantitative or qualitative), calculation basis, and risk classification parameters.

## RESULTS

Regarding the records that regulate the process of economic reopening, among the 27 federative units, only 18 formalized reopening documents based on epidemiological and health indicators. The states of the Federal District, Goiás, Paraná, Roraima, and Tocantins, have not formalized official plans to resume economic activities. Although four other states (Bahia, Pernambuco, Amapá, and Maranhão) have government plans to make social isolation flexible, they were not included in this analysis due to municipal scope and absence of well-defined indicators.

The documents formulated in the state of Bahia were valid only at the municipal level. Given the large number of cities and the fragmentation and incoordination of actions observed, it appears that plans of municipal scope are inadequate to manage public health epidemics.<sup>(14)</sup> Amapá, Maranhão, and Pernambuco did not have their documents analyzed due to the absence of clear and formalized indicators to guide the decision-making process.

In the sample ( $n = 18$ ), reopening plans, decrees, and technical notes were identified (Table 1). The states of Amazonas, Ceará, Espírito Santo, Minas Gerais, Piauí, Rio de Janeiro, and Sergipe presented health metrics for economic reopening in official reopening documents. The states of Acre, Pará, Paraíba, Rondônia, Rio Grande do Sul, and São Paulo presented the indicators for monitoring the epidemic both in plans for reopening and in decrees and technical notes. The states of Alagoas, Mato Grosso, Mato Grosso do Sul, Rio Grande do Norte, and Santa Catarina formalized monitoring indicators only through decrees and technical notes. The other states (Amapá, Bahia, Distrito



Federal, Goiás, Maranhão, Pernambuco, Paraná, Roraima, and Tocantins) formulated documents that did not meet the study's inclusion criteria.

**Table 1.** Characterization of the documents used by the Brazilian states and the Federal District to guide the process of economic reopening. Teresina, Piauí, Brazil, 2020.

Type of document (with indicators)	States	N	%
<b>Reopening plans</b>	AM, <sup>(15)</sup> CE, <sup>(16)</sup> ES, <sup>(17)</sup> MG, <sup>(18)</sup> PI, <sup>(19)</sup> RJ, <sup>(20,21)</sup> SE <sup>(22)</sup>	7	25,93%
<b>Reopening plans, decrees, and/or technical notes</b>	AC, <sup>(23,24)</sup> PA, <sup>(25)</sup> PB, <sup>(26-28)</sup> RO, <sup>(29,30)</sup> RS, <sup>(31,32)</sup> SP <sup>(33,34)</sup>	6	22,22%
<b>Decrees only and/or technical notes and/or other types of document</b>	AL, <sup>(35)</sup> MT, <sup>(36,37)</sup> MS, <sup>(38,39)</sup> RN, <sup>(40)</sup> SC <sup>(41)</sup>	5	18,52%
<b>Documents without indicators</b>	AP, BA, DF, GO, MA, PE, PR, RR, TO	9	33,33%
Total	..	27	100,00%

Regarding the document creation teams, of the 18 states whose normatives were analyzed, eight (Alagoas, Amapá, Ceará, Mato Grosso, Rio Grande do Norte, Rondônia, Santa Catarina, and Sergipe) did not explain who they were and their respective competencies (Table 2). The documents from Piauí, Espírito Santo, and Pará clarified the multiple configuration of the document creation teams, being formed by technicians and researchers/teachers in the first two (Piauí and Espírito Santo), and by technicians,

researchers/teachers, and community members in the last state (Pará). Finally, seven states (Acre, Mato Grosso do Sul, Minas Gerais, Paraíba, Rio de Janeiro, Rio Grande do Sul, São Paulo) presented documents created by a technical team formed by employees of state health departments.

**Table 2.** Profile of the scientific teams of the normative base of economic reopening used by the Brazilian states. Teresina, Piauí, Brazil, 2020.

Document creation teams' professional activities (with indicators)	N	%
<b>Technicians</b>	7 (AC, MS, MG, PB, RJ, RS, SP)	38,89%
<b>Technicians and researchers/teachers</b>	2 (PI, ES)	11,11%
<b>Technicians, researchers/teachers, and community members</b>	1 (PA)	05,56%
<b>Not informed</b>	8 (AL, AM, CE, MT, RN, RO, SC, SE)	44,44%
<b>Total</b>	<b>18</b>	<b>100,00%</b>

The indicators presented in the study's documentary data base were stratified into simple and composite, the latter being defined as the aggregation of two or more simple indicators.<sup>(42)</sup> Among the normative bases studied, eight adopted composite indicators: Espírito Santo, Pará, Piauí, Rio Grande do Sul and São Paulo, which used two indicators; Alagoas and Acre, with three; and Santa Catarina, with four. The most recurrent compound criteria were related to the disease's spread and the ability to meet the state health system.

Most indicators, however, were used isolately, not linked to the structuring of compound criteria. Furthermore, most documents (83.33%) adopted up to seven simple

indicators for decision making. According to the number of simple indicators in Table 3, the federative units were grouped by class.

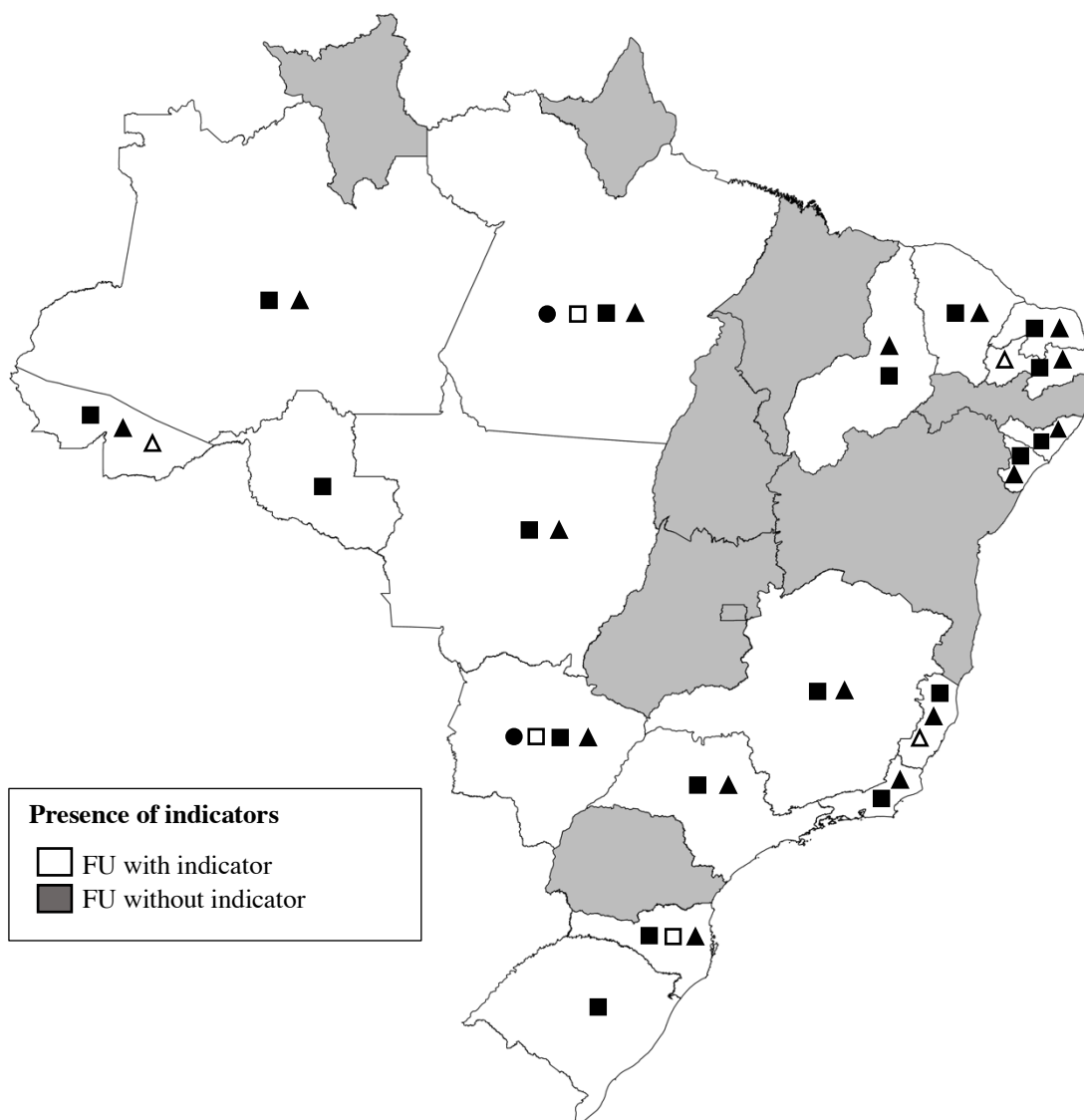
In this study, the indicators were further distributed into five major categories, according to the following characteristics: disease's frequency and distribution; social and collective adherence; capacity installed/assistance profile; productive potential; and availability of inputs. The groups were presented and described in Figure 1, designated

Number of simple indicators in the documents	N	%
02  ----- 04	4 (RN, RO, AM, MT)	22,22%
04  ----- 06	5 (MG, SE, CE, ES, SP)	27,78%
06  ----- 08	6 (AL, PB, PI, RJ, AC, PA)	33,33%
08  ----- 10	1 (SC)	5,56%
10  ----- 12	2 (MS, RS)	11,11%
Total	18	100,0%

with geometric symbols. The figure reveals the territorial distribution of these parameters based on the presence of health indicators in the normative basis and on the categories surveyed. A detailed description of each federation unit's indicators is presented in Supplementary Table 1.

**Table 3.** Frequency of indicators presented in the normative basis for economic reopening of Brazilian states. Teresina, Piauí, Brazil, 2020.

**Figure 1.** Distribution of categories of health indicators for flexibility/ permanence of restrictive measures for COVID-19 in the Brazilian federative units. Teresina, Piauí, Brazil, 2020.



**Legend**

Symbol	Group of indicators	Indicator's description
▲	Disease's frequency and distribution	Number of cases/prevalence and incidence rates; active cases; relationship between active and recovered cases; number of deaths/lethality; number of notifications; affected groups/risk groups (elderly, indigenous population and health professionals); rate of disease's spread/ contamination/ dispersion; death projection; population immunity

△	Social and collective adherence	Social isolation rate
■	Capacity installed/ Assistance profile	Number of hospitalizations/bed occupations (clinical and ICU); available beds (clinical and adult ICU, public and private); testing availability; ability to monitor/track confirmed case contacts; ICU rate with available respirators, need for back-up beds
□	Productive potential	Health professionals sick leave; rate of health professionals not on sick leave
●	Availability of supplies	PPE availability; PPE consumption rate

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## DISCUSSION

In the context of the SARS-CoV-2 pandemic, policies of social isolation and restriction of activities were established in a disorderly manner, with no guidelines on the level of rigidity of the measures according to the epidemiological situation and, mainly, without any regulations on future returns activities and relaxation of isolation measures.

The lack of a coordinated strategic definition at the national level is severe because easing measures is even more complicated than implementing.<sup>(43)</sup> Public managers are faced with the challenge of establishing plans to reopen the economic sectors, ensure the maintenance of contingency behaviors for virus transmission, and articulate the agreed adhesion among the population, executives, and politicians.

### **Political incoordination in the formulation of economic recovery plans**

The strategy adopted in policies to fight infection by SARS-CoV-2 between state and federal governments in Brazil has been conflicting, making it difficult for a significant portion of society to adhere to WHO recommendations (hygiene and respiratory etiquette, social distancing, social isolation, and quarantine), in addition to special restrictive measures.<sup>(44,45)</sup> The Brazilian Supreme Court's intervention was essential in ratifying the autonomy of states and municipalities in decision-making and overcoming it with some controversial measures adopted by the federal government.<sup>(46-48)</sup>

Thus, in the absence of a national policy capable of coordinating states and municipalities' actions, as of April, most federative units used their endorsed autonomy to develop structured plans for resuming economic activities.<sup>(14)</sup> Nevertheless, it occurred in a decentralized and disintegrated manner, culminating in the official publication of plans, decrees, ordinances, and technical norms containing extremely varied characteristics.

### **Importance of the officialization of normative bases for the economic recovery**

As identified in this study, of the 27 Brazilian federative units, only 18 presented plans to resume economic activities based on epidemiological and health indicators. This fact leads to questioning the types of criteria used by the nine federative units, which did not structure formal reopening strategies or did so, but at the municipal level, or without the adoption of objective indicators.

The formalization of guidelines, in the context of the COVID-19 pandemic, is a vital instrument to support the work of public managers, as well as an aid to the administration of the expectations of the population,<sup>(14)</sup> which in turn must appropriate the criteria used by governments to guide decisions on economic and social sectors, as they directly impact the individuals' quality of life.

Besides, the presence of official plan adopted with transparency, widely disseminated to society, and endowed with clear, well-defined and easily understood criteria is essential to reduce the influence of groups and sectors that may interfere with government decisions.<sup>(14)</sup> Therefore, the adoption of objective indicators is fundamental for the success of government strategies and, mainly, for them to be executed fairly and democratically, based on scientific literature and aiming, above all, for the benefit of the population.

### **Analysis of the characteristics present in the plans for easing social isolation measures**

In the 18 states that structure economic recovery strategies, epidemiological and health indicators were used as determining parameters of flexibility, permanence, or return to the previous phase of reopening the economy. Most of the indicators adopted were related to the frequency and distribution of the disease and the installed capacity or assistance profile of the health system, which shows partial compliance with WHO's criteria to guide public policies for the relaxation of measures.<sup>(49)</sup>

Although it meets some of the criteria required by WHO 49, most Brazilian states did not present concrete policies to screen, monitor, and, mainly, optimized the testing of suspected cases. Only Pará, Mato Grosso do Sul, and Santa Catarina presented indicators related to the mentioned categories, but still, in a fragile way, as only Pará described the metric used to calculate the indicator. This is a critical finding as, without prioritization by the public tracking system, the reopening plans operate in a scenario that may not match the state's epidemiological reality.

Another common problem was reduced transparency concerning the document development teams. Only ten plans contained a description of the authors' professional activities with a remarkable predominance of technicians. The participation of researchers and teachers in the preparation of the documents was minimal or not reported, except for the states

of Espírito Santo<sup>(16)</sup> and Piauí<sup>(19)</sup>. A mentions of community involvement was found only in Pará. Therefore, the precariousness of the articulations policies carried out for the structuring of plans can generate significant difficulty in raising awareness and engaging the population, which indicates the existence of distancing from the scientific community in the process of developing public policies.

The number of simple indicators adopted in each state was significantly variable (2 to 11) but should not be used to analyze state plans' effectiveness in isolation. It was possible to identify detailed and structured plans with very different amounts of indicators, such as São Paulo and Rio Grande do Sul with, respectively, 5 and 11 indicators. In addition to government measures that are not formalized in documents but that interfere in the decision-making process, some components of the plans reflect more effective policies in tackling the pandemic, such as: inclusion of parameters to monitor the policies for testing, defining and reassessing the cutoff points for the indicators, caution in defining the set of criteria necessary for the transition from flexibilization phases, in addition to the construction of a regionalized policy, which allows the management of resources and the adjustment of the rigor of the measures according to the epidemiological situation, in a micro and macro context.

Finally, even if it is thorough, the analysis carried out in this study does not reach the internal management processes, the various measures to face the pandemic, and the co-responsibility of other government spheres on the results. Therefore, the current analysis should not be used as a measure of governmental administrations' performance but as a guideline about the objectivity, clarity, and transparency of the recovery plans presented by each Brazilian federated unit analyzed.



## CONCLUSIONS

Given the data mentioned above and taking into account the objective of the study, it is possible to conclude that the normative basis of the Brazilian states showed variation in terms of configuration and characteristics as a result of the absence of an effective national policy in coordinating actions between the different Brazilian states. Because of the adoption of divergent policies between the different government levels, the plans formulated by the states, which disaggregated the process of relaxing restrictions, prevailed.

The absence of a unified database, which brings together the strategies adopted in each state and allows comparisons to be made, makes public management difficult. A significant number of states have presented reopening plans with clear, documented, and communicated indicators to the population, especially concerning the spread of the virus and the health system's capacity. However, other vital parameters, mainly about testing and regionalization of measures, were little used. Given the deep need to plan the economic recovery, most of the plans remained below the adequate level, exposing the population and the public administrators to disorderly decisions that are being made without the necessary transparency to meet democratic principles.

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**Supplementary Table 1.** Epidemiological indicators used to monitor the COVID-19 epidemic presented by plans to resume activities, by state and region of Brazil. Teresina, Piauí, Brazil, 2020.

FU	Cases	ICU beds	Deaths	Clinical Beds	Hospitalizations	Virus reproduction	Social isolation
<b>AC</b>	Average for the last 7 days / Average for the previous 7 days	Average of the last 7 days (%)	Average for the last 7 days / Average for the previous 7 days	Average of the last 7 days (%)	Average for the last 7 days / Average for the previous 7 days	-	Average of the last 7 days (%)
<b>AM</b>	*1	*1	-	-	-	*1	-
<b>PA</b>	*1	No. of ICU beds (with respirators) occupied / No. of ICU beds (with respirators) available x 100%	-	No. of occupied clinical beds / No. of available clinical beds x 100%	*1	*1	-
<b>RO</b>	*1	*1	-	-	-	-	-
<b>AL</b>	Number of active cases / recovered cases	No. of Covid ICU beds + intermediate beds (with respirators) occupied / No. of Covid ICU beds + intermediate beds (with respirators) available x 100%	Total confirmed deaths + deaths under investigation by COVID-19 (coronavirus) per week	Number of clinical beds (with respirators) occupied + ward beds / No. of clinical beds (with respirators) + intermediate beds available x 100%	-	-	-



	No. of Covid ICU beds / 100 thousand inhab.							
<b>CE</b>	-	*1	*1	-	*1	-	-	
	N° new cases / N° accumulated cases x 100%	Number of beds occupied / Total number of beds available x 100%	No. of deaths / Total number of cases x 100%					Number of people in social isolation / Total number of people x 100%
<b>PB</b>				-	-	*1		
	No. of new cases in the last 7 days / No. of new cases in the previous 7 days	No. of free Covid-19 ICU beds / Total number of Covid clinical beds x 100%	No. of deaths in the last 7 days / No. of deaths in the previous 7 days	No. of free Covid-19 clinical beds / Total number of Covid clinical beds x 100%	No. of admissions in the last 7 days / No. of admissions in the previous 7 days	Covid cases- 19 x 4 + hospitalizatio ns x 4 + deaths x 2/10		
<b>PI</b>								
<b>RN</b>	-	-	-	*1	-	*1	-	
<b>SE</b>	*1	*1	*1	-	-	-	-	

	Phase I: Incidence						
<b>ES</b>	of COVID-19 per 1,000,000.	*1	-	-	-	-	*1
	Number of COVID-19 cases per health territory divided by the total population in health territory per year multiplied by 1,000,000 inhabitants (every 7 days)	No. of inpatients who demanded an Adult ICU divided by the number of available beds on public services (divided by the weighting factor of the respective macro-region)					
<b>MG</b>			-	-	-	Average Rt calculated for the last 7 days	-
	Number of COVID-19 cases (penultimate if finished) - Number of COVID-19 cases (previous to the antepenultimate if finalized) / No. of COVID-19 cases (if	Average% of occupancy of adult Covid ICU beds in the last 7 days	No. of deaths COVID-19 (penultimate if finished) - No. of deaths COVID-19 (previous to last until last) / No. of deaths COVID-19	No. of adult beds occupied / No. of adult beds available x 100%			
<b>RJ</b>		Average% of occupancy of ICU COVID-19 private network in the last 7 days			*1	-	-
	COVID-19 cases (if	Average% of occupancy of					

	previous to the antepenultimate if finalized)	life support beds in the last 7 days.	(if before before last if completed)				
		Number of ICU beds COVID-19/100 thousand inhab. the last 7 days.					
		No. of adult ICU beds occupied / No. of adult ICU beds available x 100 3					
		*					
	N ° of new cases in the last 7 days / N ° of new cases in the previous 7 days	Number of ICU beds per COVID / 1000k inhabitants	No. of deaths by COVID in the last 7 days / No. of deaths by COVID in the previous 7 days	Average bed occupancy rate by COVID (%)	No. of new admissions in the last 7 days / No. of new admissions in the previous 7 days	-	-
<b>SP</b>							
		Relationship between the number of beds for COVID				Relationship	
<b>MT</b>	*1	19 patients in the public system (federal, state or municipal), and their	-	-	-	between the accumulated number of infected	-

		effective occupation by patients affected by the disease				persons in the territory of a given municipality on the day of the release of the bulletin and the accumulated number of 7 days before		
<b>MS</b>	*1	*1	*1	-	-	-	-	-
		Free ICU beds / ICU beds occupied by COVID patients				No. of confirmed hospitalizations for COVID-19 in the last 7 days / (1 + No. of confirmed hospitalizations for COVID-19 in the previous 7 days)		
<b>RS</b>	Active in the last week / (1+ Recovered in the 50 days prior to the beginning of the week)	No. of free ICU beds in the last day to attend COVID / No. of free ICU beds 7 days ago to attend COVID	Projection of No. of Deaths for the period of 1 week for every 100,000 inhabitants	No. of COVID-19 Patients (Confirmed) in clinical beds on the last day / (1 + No. of COVID-19 Patients (Confirmed) in clinical beds 7 days ago)	No. of COVID-19 Patients (Confirmed) in clinical beds 7 days ago)			
		No. of COVID-19 Patients						

<p>SC</p> <p>Active cases on this date / active in the last 7 days x Rt calculated for the region</p>	<p>(Confirmed) in ICU beds in the last day / (1 + No. of COVID-19 Patients (Confirmed) in ICU beds 7 days ago)</p> <p>No. of patients admitted by SRAG * to the ICU on the last day / (1 + No. of patients admitted by SRAG 7 days ago) * 3</p> <p>Occupied public ICU beds / Active beds</p>	<p>-</p> <p>Public clinical beds reserved for occupied COVID-19 / by the number of clinical beds reserved for active COVID-19</p>	<p>No. of confirmed hospitalizations for COVID-19 registered in the last 7 days per 100,000 inhabitants</p> <p>Number of coronavirus cases x constant value of each municipality in Santa Catarina that shows how much that municipality</p> <p><b>Activity:</b> Case increase ratio (cases active today / cases active last Tuesday)</p> <p><b>Dispersal:</b> average (active cases</p>
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has a flow of X intensity of  
people flows)  
between it  
and the others

**Notes:**

Note 1: Cells filled with a dash (-) indicate that the corresponding state by the line did not show the indicator related by the column in the recovery plan.

Note 2: Tables filled with asterisk1 (\* 1) presented the corresponding indicator by the column, but the calculation of the indicator was not informed in the recovery plan.

Note \*3: The states of RS and RJ presented, respectively, 4 and 5 indicators related to ICU.

Note 4: Indicators used by only 2 or less states (lethality, testing capacity, beds with respirators and health professionals) are discussed only in the text and are not presented in this table.

Note 5:  $R_t$  represents a statistical measure that simulates how quickly the virus is being transmitted.

**Brazilian regions:**