anahp

OBSERVATORIO 2022

Annual Publication – Edition 14

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Anahp facts and figures

REPRESENTATIVENESS

R$ 47.55 billion
Gross revenue of 130 member hospitals in December 2021

135 Members
in April 2022

19.87% of the total
clinical expenditures in private healthcare in 2021

29,649 Beds
in December 2021:
11.52% of the total private (for profit and not-for-profit) beds available in Brazil.

7,827 ICU beds
in December 2021

8.53 million
visits to the Emergency

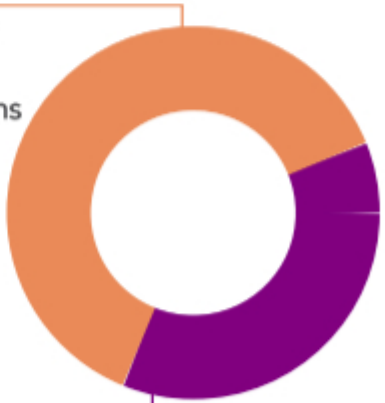
Anahp hospitals held **24.04%** of the national accreditations and **86.02%** of the international accreditations in Brazil in 2021:

2021			
Accreditation	Anahp*	Brazil	% Anahp
ONA III	58	190	30.53
Qmentum International	42	43	97.67
JCI	36	46	78.26
ONA II	17	93	18.28
ONA I	13	83	15.66
DIAS/NIAHO	2	4	50.00
TOTAL	168	459	36.60
International	80	93	86.02

*Anahp hospitals may hold more than one accreditation.

ANAHP MEMBERS ARE HIGH COMPLEXITY HOSPITALS:

62.31%
Large-sized and special organizations



37.69%
Small and medium-sized organizations

IN 2021 THERE WERE:

109,025,666 TOTAL TESTS PERFORMED

1,704,607 HOSPITAL ADMISSIONS

2,092,181 SURGERIES

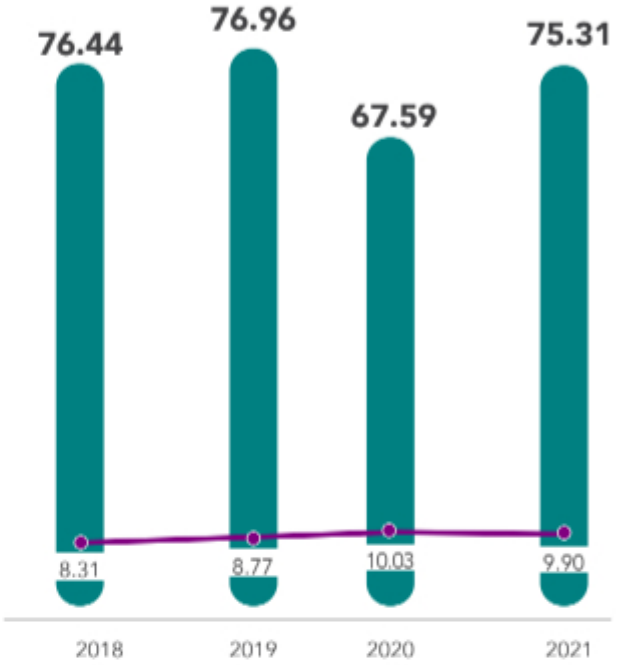
53.26% OF THEM PERFORMED TRANSPLANTS

ABOUT **215,000 JOBS** IN MEMBER HOSPITALS

15.45% OF TOTAL FORMAL HOSPITAL CARE WORKFORCE IN HOSPITAL SERVICE

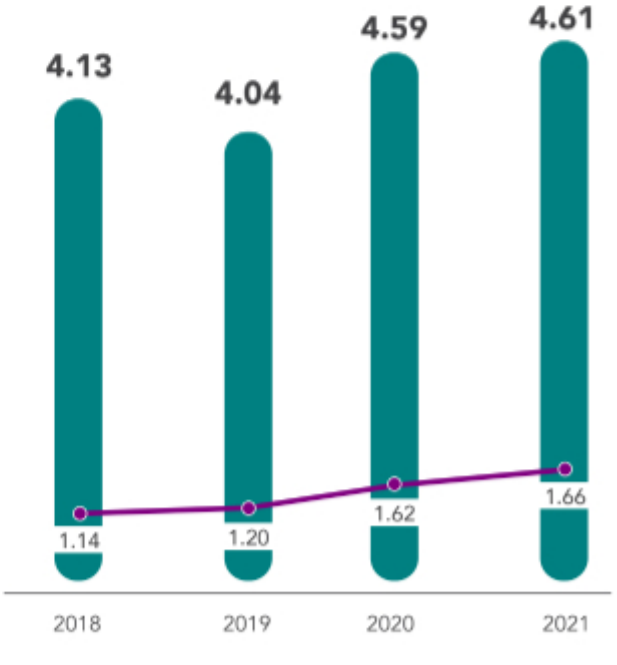
2019	197,446
2020	191,003
2021	215,267

RATE OF GENERAL OPERATIONAL OCCUPANCY (%)



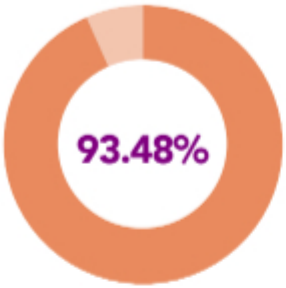
Source: SINHA/Anahp.

MEAN LENGTH OF STAY (DAYS)

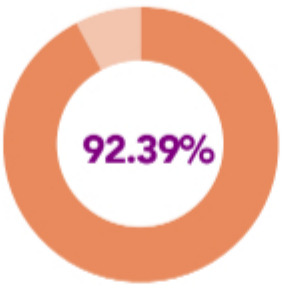


Source: SINHA/Anahp.

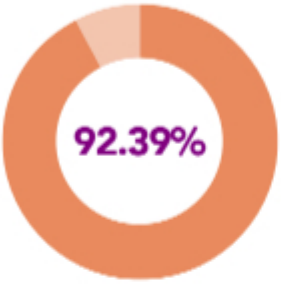
COMPLIANCE



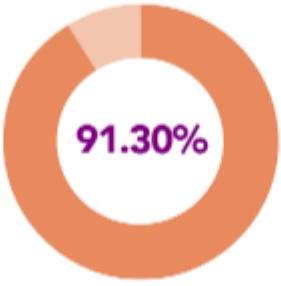
have a code of conduct



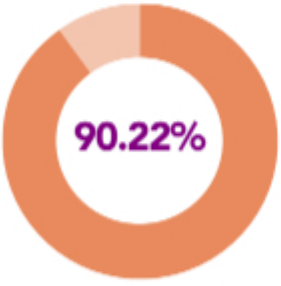
have a report channel dedicated to ethical issues



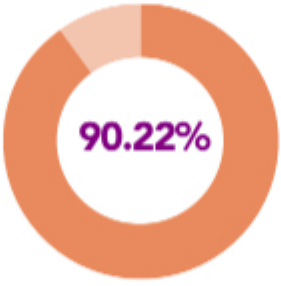
have policies and rules that include administrative consequences and/or disciplinary measures in case of violation of laws or rules of conduct



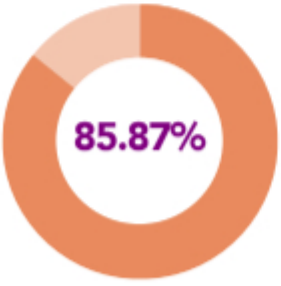
have an ethics and compliance committee



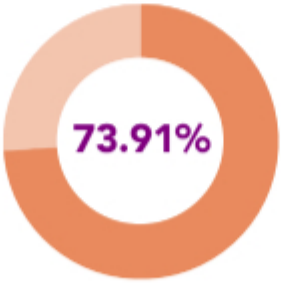
know their main critical ethical and compliance topics



train and communicate with staff about ethical and compliance topics



of the hospitals have independent internal audit that reviews and recommends improvement actions for internal controls



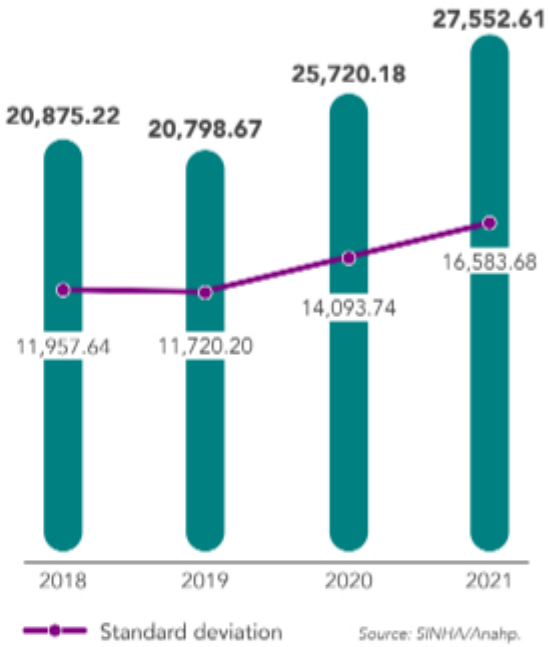
have a compliance officer or department/ area

Source: SINHA/Anahp.

NET REVENUES AND TOTAL EXPENSES BY HOSPITAL DISCHARGE (R$)

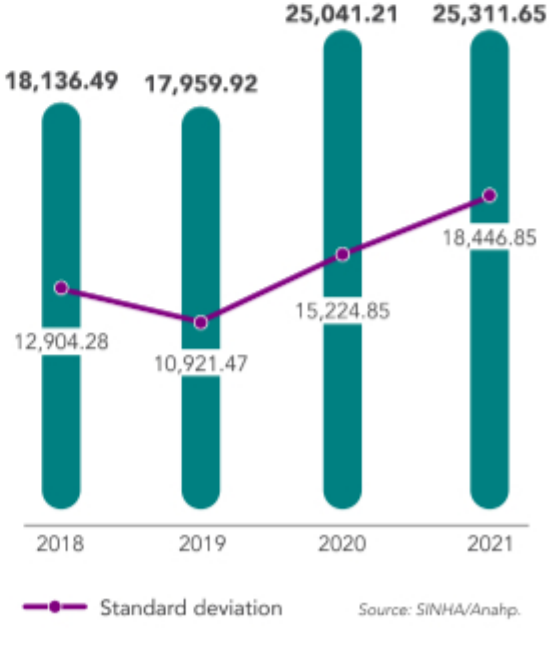
Average Anahp hospitals

Net revenue by hospital discharge



Source: SINHA/Anahp.

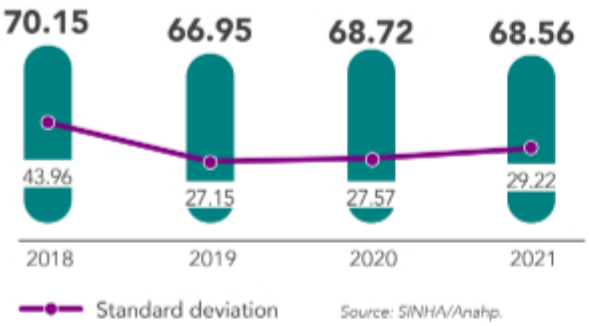
Total expense by hospital discharge



Source: SINHA/Anahp.

Days of sales outstanding (days)

Average Anahp hospitals



Source: SINHA/Anahp.

Denial rate (% Net revenue)

Average Anahp hospitals

Source: SINHA/Anahp.

DISTRIBUTION OF TOTAL EXPENSES BY TYPE OF EXPENSES (%) Average Anahp hospitals

Type of expenses	2018	2019	2020	2021	Standard deviation 2021
Cost with personnel	37.32	37.03	35.33	35.11	12.86
Technical and operational contracts	13.72	14.33	14.80	14.54	8.89
Medication	10.79	10.63	11.48	12.88	4.66
Other expenses	8.18	9.09	9.77	8.31	8.67
Materials	6.37	5.74	5.80	6.44	2.15
Medical implants and devices	7.18	6.56	5.91	6.18	3.88
Support and logistic contracts	4.27	4.03	3.73	3.42	2.89
Other supplies	2.77	3.13	3.40	3.34	2.47
Depreciation	2.87	2.82	3.21	3.15	1.49
Financial expenses	2.06	2.15	2.10	2.80	2.99
Maintenance and services	1.91	2.02	2.05	1.83	0.99
Utilities	2.24	2.23	2.16	1.70	0.93
Medicinal gases	0.32	0.23	0.26	0.30	0.19

Source: SINHA/Anahp.

DISTRIBUTION OF GENERAL REVENUES BY NATURE (%)

Average Anahp hospitals

Type of Revenue	2018	2019	2020	2021	Standard deviation 2021
Medication	24.66	25.75	25.84	25.02	10.83
Daily rates and taxes	21.65	22.90	22.90	22.57	9.18
Other operating revenues	19.01	19.02	20.39	21.69	13.60
Materials	20.36	18.32	16.37	15.84	8.62
Medical implants and devices	8.30	8.27	7.07	6.62	4.46
Other revenues from services	3.39	3.45	5.25	6.11	9.28
Medicinal gases	2.30	1.83	1.72	1.75	1.19
Donations	0.34	0.46	0.46	0.39	0.72

Source: SINHA/Anahp.

Masthead

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www.anahp.com.br

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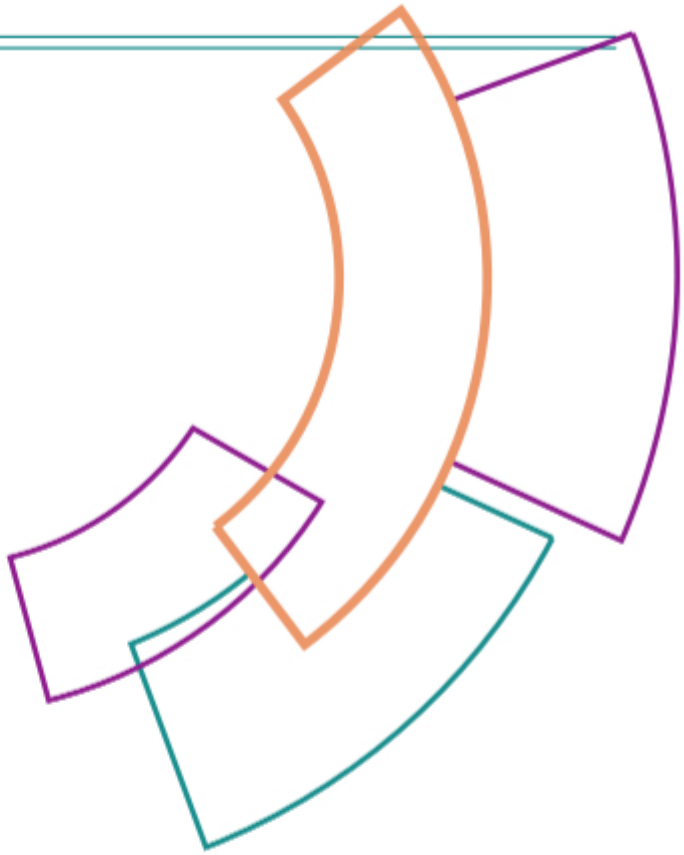
Letter to the reader



After two years of dedicated efforts to fight Covid-19 pandemic, in 2022 we can finally talk about resuming our activities. Despite the remnants of the crisis, but thanks to the efficacy of vaccines and the efficiency of the immunization campaigns, we can now look again to our numbers and focus on key and urgent themes for the development of the area. We have to use the data at hand to analyze what has happened and to plan the future. And we should design the immediate future, in which healthcare will be as advanced as in the rest of the world, moving towards greater evolution. How can we do that? Actions should be based on reliable data. Only by doing it we will be able to deep dive into our system and proactively invest in quality, measurement of clinical outcomes and more sustainable business models.

> “Let us use the data we have at hand to analyze what has happened and also to plan the future.

Observatorio Anahp is a publication that celebrates and facilitates this task by bringing together more than 300 pages resulting from a collective analysis made by Anahp and its members throughout the year. It is a guiding star for organizations to maintain their ongoing initiatives and to get restructured towards our mission: promote health and save lives.

It is important to highlight that data collection and analysis is going beyond Anahp member hospitals. The opening of Anahp Hospital Indicators System to the market, which happened more than two years ago, has expanded the representativeness of the platform and has given us deeper and broader understanding of the area, as it should be. We strongly believe that there is only one health care and all actions proposed by organizations, both public and private, have direct effect on access to healthcare by our population.

Following its natural trend of bringing input to healthcare discussions, Observatorio Anahp 2022 has also included articles, as done in previous editions. In the following pages, you will have a chance to read about the legacy of the pandemic to our healthcare system and get to know the results of the unheard-of survey on corporate governance held by Anahp in partnership with Weplace. You will also learn about inflation trends in the area and its effects on the private sector, in an article by Andre Medici, health economist and coeditor of Observatorio Anahp 2022, in partnership with Adriano Londres and Luiz Feitoza, from Arquitetos da Saude, and Claudio Contador, from Silcon. You will also know more about what to expect in the next Conahp, which has been scheduled to offer an onsite program, plus the online debates. You cannot miss it!

> We believe that there is only one health care and all actions proposed by organizations, both public and private, have direct effect on access to healthcare by our population.

It also brings improved data based on market and hospital demands, as the purpose of the association goes: always focus on continuing improvement of its initiatives. Even in a difficult year to everyone, SINHA database proved to be consistent - 110 hospitals shared information during the year - and sessions were held to train those who still did not submit data to the system.

Having the true motive of contributing with the market and continuously improving quality of services provided we present, with no restrictions, the performance of Anahp member hospitals and a part of the remaining Brazilian hospitals which agreed to share their data, which confirms our commitment with transparency. Observatorio is a tool that reflects the increasing concerns of the Association about key topics in the industry, hoping that stakeholders can together find solutions to provide sustainability of the system.

I would like to personally acknowledge the great work that our editors Ary Ribeiro and Andre Medici have been performing with Observatorio Anahp, supported by Anahp team, who does all it takes to prepare a top-quality material to our industry. I would also like to thank the members of the Editorial Board who play an extremely vital role in directing the analyses and sharing the perceptions for continuous improvement of our publication. Thanks for this talented team.

Enjoy the reading!

Eduardo Amaro
Chairman of the Board of Directors

Note on methodology

To form the data presented by Observatorio Anahp two primary information sources have been used, as described below.

1. SINHA – Integrated System of Hospital Indicators

Data inputted monthly

SINHA was created in 2003 to provide periodic and organized information to the member hospitals about financial, operational, human resources and clinical performance data of Anahp member hospitals, supporting managers in strategic planning and decision-making. Eventually, the system has gained more importance in the industry, becoming one of the main market references in hospital indicators after the annual publication of Observatorio Anahp, which started in 2008.

In 2016, SINHA went through an important process of redesigning the indicators, promoted by Anahp Working Groups. The standardization was necessary to monitor the indicators required from our members in the market.

Since then, Anahp indicators have standardized technical forms, available for consultation in the system, that are sent to hospital members to guide their data input into the platform. Inputted data are validated by technical directors and/or responsible people of each area in the hospitals. In 2021, there were a total of 348 variables and 273 indicators (the same as in previous year).

In December 2021, Anahp had 130 member

hospitals. Out of the total, 110 member hospitals contributed for SINHA - a total of 84.62%. Hospitals submit their data voluntarily and they can choose which indicators will be shared, resulting in oscillations in number of participating organizations in each indicator. In addition, new members start to gradually submit data to the database.

Each hospital has access to individual reports, which provides them with benchmark opportunities against the group of Anahp hospitals. Data may be submitted by hospital size, state/ region and number of beds, among other categories, which provides a more refined analysis of the hospital industry trends as each indicator can be compared against the average of the group of hospitals with similar characteristics.

Epidemiology profile of the organization, also shared using SINHA platform, provides identification of trends in conditions presented by member hospitals, including regional characteristics. In 2021, a total of 60% of Anahp member hospitals submitted these data, that is, 78 out of 130 member hospitals submitted their data in December 2021 for the epidemiological profile.

Information requested to member hospitals includes hospital discharges and the variables for each hospital encounter:

Number of patient record			
Number of encounter			
Date of birth	**Gender**		
Zip Code	**District**	**City**	**State**
Code of payer			
Treatment site - inpatient unit			
Date of admission	**Hospital discharge date**		
Main diagnosis according to International Code of Diseases (ICD-10) *(only one diagnosis per hospital discharge; use five-character ICD standard)* In 2020, the following codes for Covid-19 were included in SINHA platform: U07.1 – Covid-19, virus identified; U07.2 – Covid-19, virus not identified; B34.2 – coronavirus infection, unspecific			
Secondary diagnosis 1 ICD-10 *(only one diagnosis per hospital discharge; use five-character ICD standard)*			
Secondary diagnosis 2 ICD-10 *(only one diagnosis per hospital discharge; use five-character ICD standard)*			
Performed Procedure 1 *(code according to Universal Healthcare System - SUS with Brazilian Medical Association) AMB or Unified SUS Terminology (TUSS)*	**Date of surgical procedure 1** *(if surgical procedure)*		
Performed Procedure 2 **(code according to SUS, AMB or TUSS)**	**Date of surgical procedure 2** *(if applicable)*		
Type of discharge (discharge home, death or external transfer)			
Date of first admission into the Intensive Care Unit (ICU) *(if there is ICU stay)*	**Date of the last ICU discharge** *(internal transfer, discharge or death)*	**Number of ICU encounters**	
Use of mechanical ventilation *(yes or no)*	**Days of mechanical ventilation use**		
Newborn weight *(if maternity, in Kg)*			
Description of origin of patient *(Emergency Department, home, medical office, others)*			
Amount billed			

The collection system allows the detailed analysis of the production, including results of performance and consumption of provided services.

2. Annual Registration of Hospitals

Information concerning structure, production of selected areas, clinical information, characteristics of quality and safety programs in the hospitals, management of clinical staff, teaching and research and philanthropy activities. This survey is made annually with all member hospitals.

In 2021, Anahp member hospitals' compliance with the submission of this information reached 70.77% of hospitals, that is, 92 out of 130 member hospitals in December 2021.

Participating hospitals: relevant modifications in recent years

Since 2016, the information from the 23 hospitals that formed the control group was no longer presented separately, as Anahp already had a broad sample of hospitals since 2014 and because we wanted to provide representative information, as comprehensive as possible, including the reality of all Anahp member hospitals. For data validation purposes and consistency analysis, in some situations we use comparisons based on the same hospitals that completed the data in a given period of time.

It is important to bear in mind that the analysis of indicators is made by *Nucleo de Estudos e Analises* (NEA – Center of Studies and Analyses), maintaining the confidentiality of hospital information. This edition of Observatorio Anahp gathers data from 110 hospitals that have submitted their information through SINHA (clinical, people management, economic-financial and sustainability data), even though not all of them have provided information concerning all available variables.

Despite hospitals' variability, it was possible to reach consistency by analyzing the tendency of indicators in the group of members. Data availability has also provided to hospitals more detailed monitoring of the indicators, a process that tends to improve with the use of the new SINHA platform.

In the end of 2019, Anahp provided access to SINHA platform to public and not-for-profit organizations to promote exchange of information and disseminate management best practices throughout the healthcare system. Thus, the platform started to receive, separately, about 40 clinical and managerial indicators from this group of hospitals since 2020. In 2021, 20 more clinical indicators were included, in addition to 21 economic-financial indicators and 11 people management ones. This initiative gathers 36 hospitals and the results are presented in a separate chapter of this edition of Observatorio Anahp.

ANALYSES AND INDICATORS ARE PRESENTED AS FOLLOWS:

✓ Clinical and Epidemiological Profile.

✓ Clinical Performance:

- Structure and annual production;
- Operational management;
- Clinical Care Quality and Safety;
- Institutional Protocols;
- Covid-19.

✓ Institutional Performance:

- Economic-Financial Management;
- People Management;
- Environmental Sustainability;
- Information Technology.

✓ Non-member hospitals.

2022:
O ANO DE OUVIR A SAÚDE

anahp

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PARCERIA
JOTA

O QUE PENSAM OS BRASILEIROS SOBRE A SAÚDE NO PAÍS?

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Executive Summary

What does Observatorio 2022 tell us?

WATCH THE VIDEO
with the analysis by
Ary Ribeiro, CEO of Sabará Hospital Infantil and coeditor of Observatorio ANAHP

COVID-19

March and April

Highest levels of hospital admission, positive diagnosis and lethality of the disease between the months of March and April 2021 (peak of the second pandemic wave):

26.75%
was the percentage of patients seen in the urgency and emergency departments with suspicion of Covid-19.

42.98%
was the percentage of patients seen in the urgency and emergency departments who had confirmed positive diagnosis of Covid-19.

5.57%
was the percentage of patients seen in the urgency and emergency departments with confirmed diagnosis of Covid-19 that were converted into hospital admission.

19.57%
was the lethality rate of Covid-19 at Anahp hospitals.

After the peak of the second pandemic wave, there was continuous improvement of indicators thanks to the progression of the immunization.

In subsequent months, the indicators **dropped gradually**, and resumed their increase in December of the same year, because of the new wave of Covid-19 caused by **omicron** variant.

EPIDEMIOLOGICAL PROFILE

Increase in number of hospitalizations (**12.79%** increase between 2020 and 2021)

CONCERN

New hospital admissions are taking place after one year with reduced hospital discharges (20.09% decrease between 2019 and 2020), resulting from the change in admission profile during the pandemic, as many chronic patients failed to come to healthcare services to monitor their health conditions (such as cancer, circulatory diseases, diabetes, etc.).

We have also observed that the negative outcome (death) from Covid-19 was worse among elderly over the age of 60 years; this rate showed significant drop as of May, when vaccination of this age range was very advanced.

PERFORMANCE OF MEMBER HOSPITALS

Operational indicators of Anahp hospitals started to resume the pre-pandemic behavior, but there are still some impacts:

We have observed occupancy rates resuming the percentage noticed before the pandemic in 2020 **(75.31%)**.

The mean length of stay is still high **(4.61 days)**, directly associated with the severity of these patients.

The mortality rate also showed higher percentages than before the **pandemic**.

The monthly rates of absenteeism and staff leave at Anahp member hospitals were lower than the numbers in 2020, but still much higher than those observed before the pandemic. This result is possibly due to the number of healthcare professionals who were infected by Covid-19.

The average days of sales outstanding for payments owed by healthcare providers to hospitals and the denial rates (healthcare providers' refusal to pay) maintained their high levels: **68.56 days for payment and 3.76% was the amount of denied accounts over net income of hospitals.**

EBITDA margin, which had already reached over 14%, went from 8.04% (the worst result for the past 5 years) in 2020 to **11.72%** in 2021.

ECONOMIC SITUATION

In 2021, the macroeconomic situation still portrayed the negative impacts of Covid-19 pandemic. Despite the improvement in the economic indicators, shown by increase in Gross Domestic Product (GDP) and reduction of unemployment rates, the inflation has prevented these positive results from being translated into increased income to the population.

GDP INCREASES, BUT INFLATION HINDERS POPULATION INCOME

- Healthcare expenses involved resources equivalent to

9.47% of Brazilian GDP

or R$822.16 billion (current values).

- Out of the total, R$387.47 billion were public resources (47.13% of the total) and R$434.69 billion were private resources (52.87% out of the total).

Increase in number of health plan beneficiaries, reaching

49 MILLION

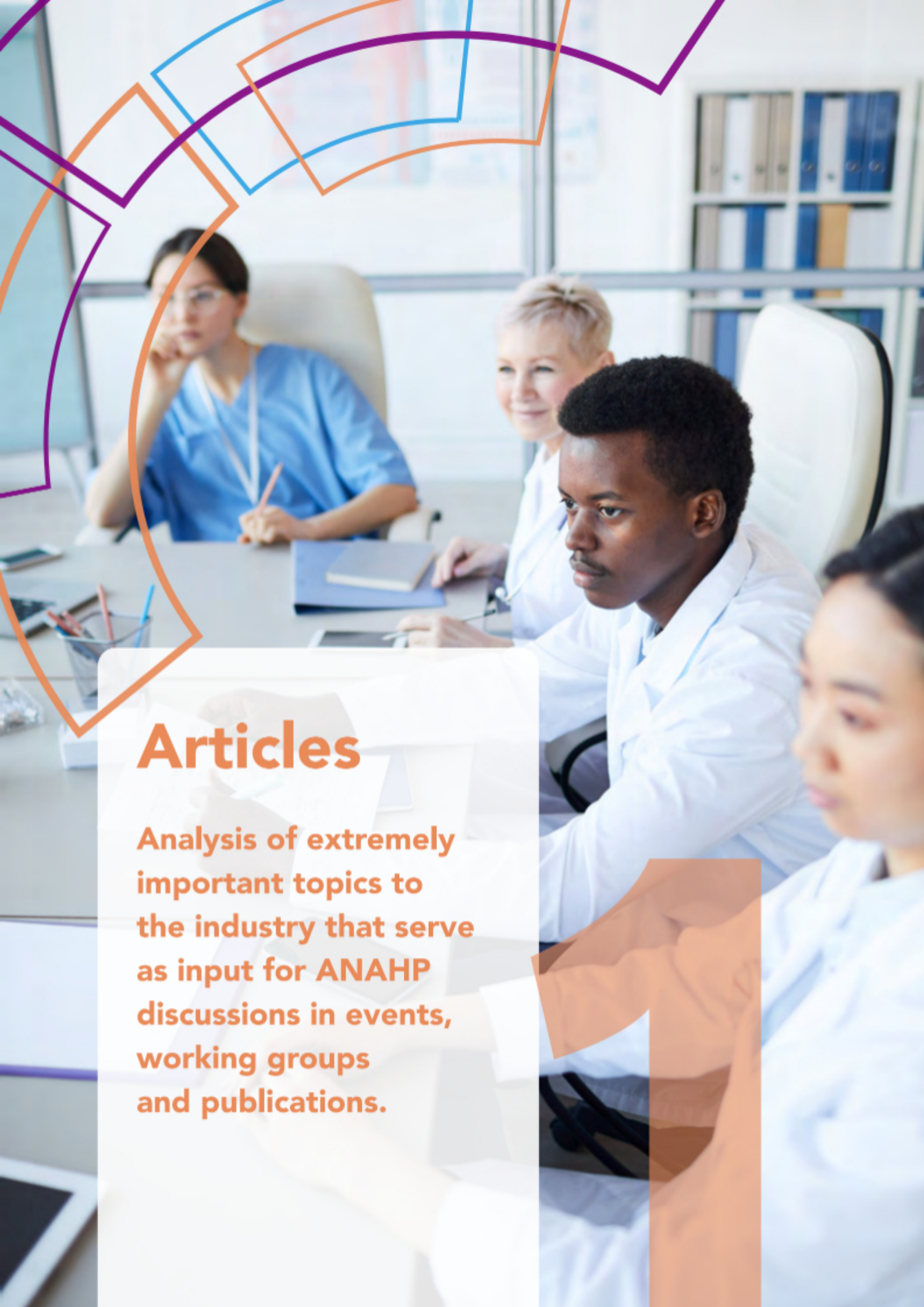
A total of

176,950

new formal jobs were generated in healthcare, out of which

55,000

were jobs in hospital facilities.



Articles

Analysis of extremely important topics to the industry that serve as input for ANAHP discussions in events, working groups and publications.

ARTICLES

Conahp 2022

Health in 2022: the change that Brazil needs

For the past two years, all discussions involving the topic of healthcare were strongly impacted by SARS-CoV-2 pandemic. In little time, Covid-19, the disease caused by the new coronavirus, left a trace of sick people and deaths. In 2020, people were afraid of the unknown, everyone feared losing their lives, healthcare professionals were physically and emotionally exhausted, and the population all over the world was in panic. We simply became numbers, got disconnected from each other, and started to live the cold but necessary virtual reality. Economies were in collapse, tens of thousands of unemployed people, families in ruin. But we survived the unknown and had new hope from the promises of tests and experiments. Each scientific breakthrough was a new chance of hope, the possibility of starting over.

Science, against all odds, exceeded our expectations. Scientists from all over the world collaborated towards a common purpose: develop the Covid-19 vaccine in record time. In mid-2020, the first vaccines were ready. In 2022, about 60% of the world population is fully vaccinated. In Brazil, this percentage is higher than 70% of the population.

We still live with the pandemic and experience its impacts on the healthcare systems. Right now, scientists are studying long Covid, post-Covid syndromes and all the sequels that this virus has caused in those affected by it. We also have to deal with the different strains and mutations. This is the next normal.

Healthcare systems, however, are starting to get back on their feet. We have observed peaks of contamination and worsening of the disease, but in general we have learned to deal with the virus and its variations and, in some countries, Covid-19 already has the endemic status. Considering the complexity of the situation, there is an undisputable fact: health has become number one priority for all citizens. The pandemic has unveiled healthcare systems around the world, exposing frailties and response skills during extreme situations. Citizens have never been as dependent on health services as during the pandemic.

This reflection had a positive important side to it for the future of Brazil.

In 2022, year of Presidential elections, health care will undoubtedly be one of the main topics during electoral campaigns. Thinking about it and reinforcing the role of Anahp, an entity that safeguards access to health and quality of care in Brazil, the priority topics during our National Conference of Private Hospitals (Conahp) will be the learnings from the pandemic and the required changes to promote a more integrated sustainable healthcare system, equally accessible to the whole population.

We want to get to know and discuss the health proposals of each Presidential candidate, talk about the structuring issues for our system and, above all, address topics that reflect the current difficulties in the country, including real life cases, initiatives and feasible solutions to improve quality and efficiency of healthcare access.

Based on the center topic of Health in 2022: the change that Brazil needs, we will address during the event efficiencies and responses provided by the healthcare system, involving the challenges posed by funding, necessary changes to managerial models towards enhanced efficiency, and more effective public-private integration, plus some gaps and excesses in legislative and regulatory issues in Brazil, among other topics.

In addition, as certainly desirable, we will also focus on clinical care approaching the role of information for efficiency gains in healthcare, technology and communication as fundamental resources for healthcare in the future, value-based health and its role in restructuring a sustainable system, focused on patients. Moreover, there will be time to discuss the new role of hospitals in the healthcare system, patient empowering and how to involve them in discussions about the use of health data, in addition to training of professionals for the new models of care and the use of technologies.

Lastly but not least important, access to care and its continuity will also be discussed during the event. Topics such as integrated care in a fragmented health system and in a country with uneven income distribution, the role of primary care and coordinated care, and the impact of Covid-19 pandemic on chronic conditions will be addressed in detail, to help us rethink the Brazilian healthcare system.

In 2022, Conahp reinvents itself once again...

For the past two years, the congresses were held online due to the pandemic. This model has significantly expanded the reach of the events and has brought health-related topics closed to the stakeholders, impacting a much greater number of healthcare professionals, which had never been reached by onsite events. Anahp experience with the two digital editions of the congress was extremely positive.

Now this year, thanks to much learning, Conahp will innovate again. Between November 7 and 11, 2022, we will promote a hybrid congress. There will be three days of digital content and two onsite days at Transamerica Expo Center, in Sao Paulo, following all required sanitary protocols in force at the time.

Anahp, aware of its important role in sharing best practices and health discussions throughout Brazil for the two past years, has decided to maintain the digital content of the event provided for free for those who are willing to learn from such rich pool of information. The two onsite days will be exclusively opened for those that decide to join us, with no online streaming.

In addition to promoting top quality discussions, the onsite congress will give us opportunity to resume an essential part of our activities: networking with all participants and stakeholders of our area. Conahp structure also brings great news in 2022. We will have thematic avenues to discuss specific topics, will expand the exhibit area and bring broader and more comprehensive topics on innovation. Among so many initiatives, we will be rethinking our relationship strategies with participants, improving the experience of congress attendees.

After two years limited to the digital environment due to the pandemic, in 2022, after so much learning, Conahp innovates once again and promotes a hybrid congress, resuming the in-person event and maintaining the digital content.

CONAHP
Congresso Nacional de Hospitais Privados
2022

SAÚDE 2022: A MUDANÇA QUE O BRASIL PRECISA

O maior congresso de saúde do Brasil está de volta ao presencial

RESERVE SUA AGENDA:
07 a 11 de novembro

- Formato híbrido
- 2 dias de congresso presencial no Transamerica Expo Center
- 3 dias de programação digital na nossa plataforma exclusiva

Acesse **conahp.org.br** e fique por dentro das novidades

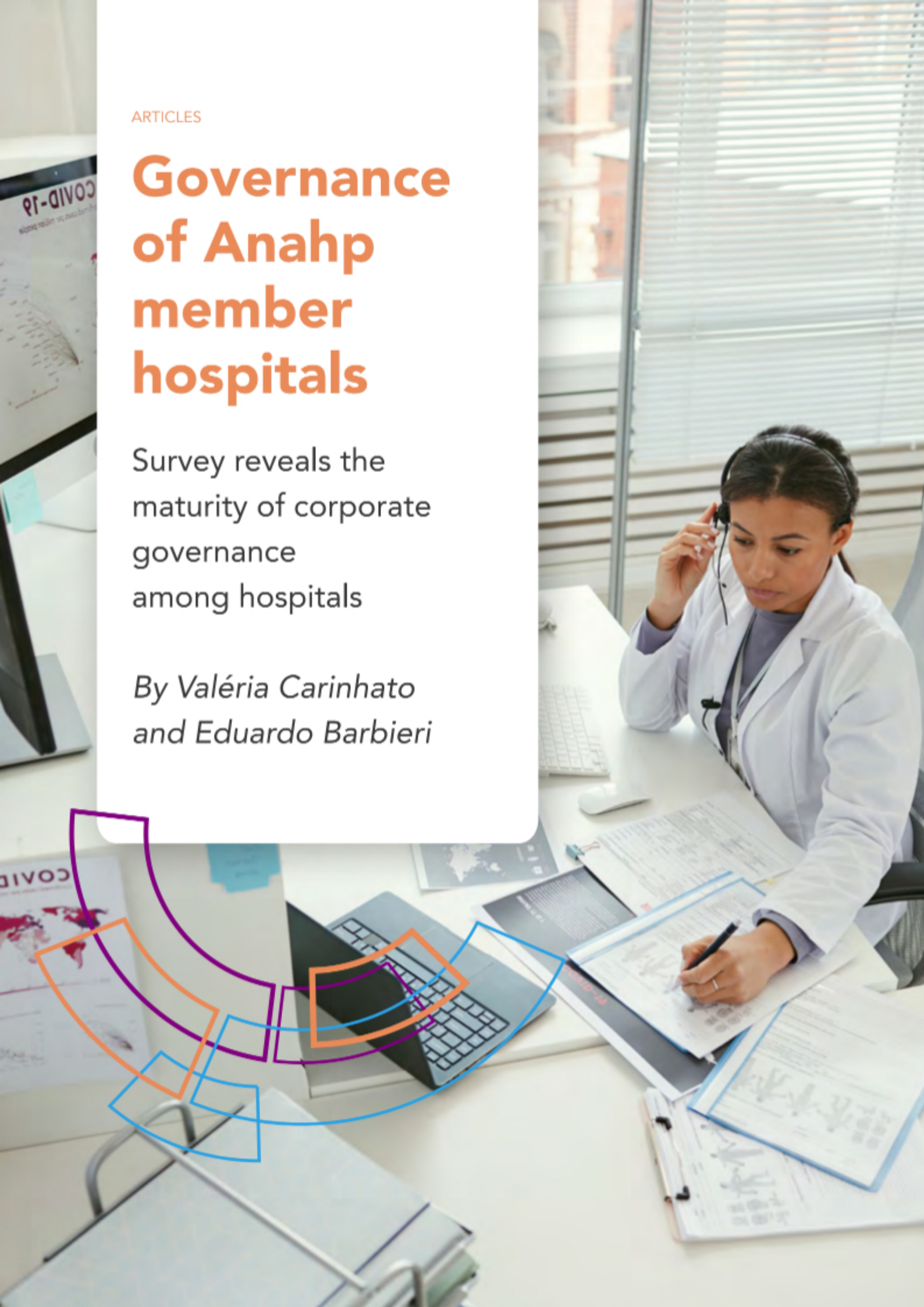
anahp

ARTICLES

Governance of Anahp member hospitals

Survey reveals the maturity of corporate governance among hospitals

By Valéria Carinhato and Eduardo Barbieri



Performed in partnership with Weplace, the survey included 61 members, indicating that organizations have a solid foundation of corporate governance and that there are opportunities for developing this significant agenda.

The hospital industry in Brazil has been through significant transformations in the past years. As Brazil is the 8th largest country in the world, with 2.18 physicians per 1,000 inhabitants and 49 million beneficiaries of healthcare plans, issues such as risk mitigation, fight against frauds, data security, transparency and process humanization have gained more relevance during Covid-19 pandemic, which emphasized the need for new models of leadership in the organizations and more action from corporate governance structures.

Even though corporate governance is recognized as a fundamental topic for sustainable development and survival of organizations, it is addressed quite differently by institutions and industries, even when we consider the legal framework. There are, for example, rules such as the Security Exchange Commission regulations in Brazil (CVM) or the Brazilian Stock Market (B3) and the best practices developed by respected organizations, such as IBCG - Brazilian Institute of Corporate Governance.

The Brazilian private hospital market combines organizations that originated from religious organizations, not-for-profit associations and foundations, not-for-profit private organizations and, for less than a decade, the market has opened to foreign investors in hospital care, which has certainly motivated the development of governance models for each specific type of entity.

Moreover, by nature, healthcare is a multifaceted area, with many stakeholders. These characteristics result in an environment with plenty of conflicts of interest, for whom governance best practices are extremely necessary.

The objectives of good governance, regardless of the specific structure, are the same: to ensure the rights and equal treatment of all shareholders, access to information with transparency, and accountability of the top management and the Board of Directors before the stakeholders.

Anahp, in 2022, understanding the relevance of the topic and intending to support the maintenance and sustainability of all member organizations, worked in partnership with Weplace to carry out a corporate governance survey among member organizations to collect data and have initial insights about the topic.

The survey intended to gather a set of information from members to better understand their governance structures, towards supporting improvements to sustain and maintain their institutional missions.

Rationale for the survey

Corporate governance is a broad topic that incorporates different visions on how to add value and be approached by the organizations. Moreover, the theme evolves quickly and constantly, aggregating new nuances and expanding its reach and impact.

Nevertheless, there is a common core to all approaches: best governance means adding value. Organizations that preserve and optimize value in the long-term are long-lasting and contribute to all stakeholders. This element is manifested by decision-making, as these models include discussions and decisions about strategic topics that add value to the organization.

Thus, the survey has emphasized three aspects of corporate governance that lead to better decision-making: structure, people and dynamics.

The objectives of good governance, regardless of the specificities of the structure, are the same: ensuring rights and equal treatment of shareholders, access to information and transparency, as well as accountability of the top management and the Board of Directors before the stakeholders.

> Organizations that preserve and optimize value in the long-term are long-lasting and contribute to all stakeholders.

The structure comprises the infrastructure of entities, meetings, documents and processes that form the basis of the corporate governance exercise in an organized fashion, creating space to generate ideas, maintaining the debate and the decisions at the appropriate level. The information analyzed in this category included:

- Presence of a Board of Directors;
- Presence of a Fiscal Board;
- Committees of the Board of Directors;
- Audit Committee;
- Independent Board members;
- Number of Board members;
- Number of meetings held;
- Separation of instances;
- Analysis of conflict of interest;
- Implementation of policies bases on the Brazilian General Data Protection Regulation (LGPD, in Brazil).

The category of people explores elements that contribute to independence, complementary profiles and specific competences that give rise to new ideas, enriching the debate and adding value to decision-making. Moreover, it includes the renewal of complementary profiles, as corporate governance should evolve together with the market and the organization. The topics assessed under this item were:

- Existence and conduction of a selection process for Board members;
- Diversity of members;
- Compensation of Board members;
- Assessment of Board members.

Finally, the dynamic category emphasizes elements about the perception of level, focus and duration of meetings, which are indicators that the model of governance appropriately relies on the structure and the people. The information analyzed towards that included:

- Discussions kept at the appropriate level;
- Preparation for meetings;
- Duration of meetings;
- Meetings' dynamics.

The survey involved quantitative data collection from 61 organizations and the topics were analyzed based on the Code of Corporate Governance Best Practices by IBGC.

Main findings

STRUCTURE

Concerning the structure, most organizations are aligned in terms of best practices.

A total of 47 out of 61 respondents reported they had a Board of Directors, and 7 of them have Consultive Boards, which shows the evolution of governance.

Most of the organizations that have Boards count on 5 to 11 Board members. Moreover, the number of board meetings ranged between 3 and 12 every year. Both the indicators are aligned with the best practices.

Despite these numbers, only 34 out of 61 organizations have a Fiscal Board, which is a relevant entity to bring shareholders closer to governance, inspecting the actions of the managers. This entity is widely used in the governance of publicly traded companies that invest in pension funds.

It is also worth mentioning that few organizations (only 22 out of 61 respondents) present committees, which are relevant entities to support the boards. Its opened composition, normally formed by members external to the organization, brings together broad and/or specialized competences and they have flexibility in terms of number of meetings, conduction of analyses and preparation of packages of information at appropriate levels, supporting the Board decision-making process.

Committees may also contribute to the process of renewing Board members, serving as a space to train professionals and people interested in the processes of governance, learning from its operation and getting familiarized with them. As few committees are used, organizations may require more board meetings and/or longer meetings of the Board of Directors, which was identified in the category of dynamics. Still, when analyzing the types of existing committees, it is noticed that most committees follow the same formats recommended by governance best practices, such as Audit, Risks and/or Finance, People and Management, ESG.

Another key point of the survey concerns other appointed committees. Many of them refer to topics that normally belong to the management realm, such as Construction, Marketing, Administration, Communication and/or Institutional Relations and Customer Experience. These committees are indicative of the relevance of these topics to the organizations, which possibly involve strategic importance and/or large financial amounts. It is also important to highlight that there are areas of Compliance and Internal Audit, in addition to External Audit and LGPD policies and procedures in most organizations. This is good news, as in this period in which the market is opening for investment opportunities, these areas are relevant for fundraising, negotiations and diligences.

Committees may contribute to the process of renewing Board members, serving as a space to train professionals and people interested in the processes of governance, learning from its operation and getting familiarized with them.

PEOPLE

The category People brings a different situation, with improvement opportunities for governance models of the participating organizations. The relevance of this perspective lies in the fact people ultimately make the decisions and a diversity of profiles, complementary and broad competences among board and committee members would potentially lead to additional angles for analysis, optimizing value and minimizing risks. To that end, boards are expected to have diversity and variation.

As to professional board members, they represent 25% of all board members, indicating that there is the search for external opinions. However, among the existing boards, only 44% have professional board members, that is, the search for external opinions is still limited to less than half of the organization, suggesting there is room for improvement.

Another important point concerns board members' compensation. In 60% of the organizations, board members are not compensated. Such data do not necessarily reflect the scarcity of professional board members, as there is an increasing supply of people prepared by courses to provide pro bono services, in exchange for gaining experience and/or expanding the scope of action.

The fact that there are few professional board members may be due to the selection process, which is mainly carried out by appointment (55%) or elections (43%), whose format does not provide the involvement of independent and external board members. In addition, there is no detailed and/or deep analysis of competences, complementarity and diversity of the considered profiles.

This impact can be identified from the indicator of diversity – it shows that there is concentration of elderly (+60) people in 70.5% of the boards. On the one side, it is something expected, considering the long-term professional experience required for a board member; on the other side, there has been a constant quest for age diversity in boards, so as to get closer to the cultural profile of younger generations.

Moreover, considering the evaluation, 70% of the organizations did not have a defined evaluation process; even self-evaluation, which may be considered as the initial step for evaluation implementation, was present in only 9% of the organizations. These data confirm the absence of a structured selective process, indicating that the oxygenation of boards, for most organization, is still limited, representing an opportunity for development.

DYNAMICS

The analysis of this factor indicates that most Boards of Directors already have good operation, with positive perceptions on the general dynamics, level of topics discussed and preparation for them, also including number and duration of meetings. Conversely, some data indicate that by analyzing the dynamics we can infer the presence of inefficiencies or points to be enhanced, considering the application of a more effective governance models.

The general perception about the dynamics of the meetings was positive in 52 out of 61 respondents. In addition, there was clear separation between strategic and non-strategic decisions (92% of the organizations), formalization of processes and decision-making policies (75%), and previous preparation, with agenda, analyses and presentations submitted in advance (67%).

Moreover, most of the organizations have their strategic decisions taken by the Board (40%) or the top management together with the Board (29%), amounting to 69% of the organizations making their decisions at the expected level. The number of meetings, in turn, was appropriate for 79% of the organizations. When we check these data with the fact that 51 out of 61 organizations hold 3 to 12 meetings per year, we can conclude that there is compliance with the best practices. These data are followed by the perception that 87% of the organizations take appropriate time for the meetings.

However, upon studying the other side of these figures, it is possible to identify potential points for deepening the analysis. Whereas strategic decisions are made by the Executive team in 27% of the organizations, 69% of them have a Board of Directors or a Consultive Board, which indicates that these entities are underutilized.

Likewise, 18% of the hospitals understand that it would be necessary to have additional board meetings, but 8 out of 11 organizations already hold 12 meetings per year, some of them reaching as many as 24 meetings per year. The need for meetings during the year may be associated with recurrence of agendas, that is, repeated agendas in the meetings, which indicate delay or difficulty to make decisions when there are too many topics. The difficulty to make decisions may be associated with the composition and profile of board members, which is resulting from the absence of a selection process and/or assessment. It is also important to note that 1 out of 11 organizations have an active committee. The presence of committees may support the preparation for decision making with no need to have more meetings.

Similarly, even though 87% of the organizations think the duration of meetings is appropriate, 15 of them have more than 12 members in their boards. This fact may serve for further analysis, because it possibly indicates less participation of some board members, leading to underutilization of their experience.

> Most Boards of Directors present good dynamics and operation, with positive perceptions on the general dynamics, level of discussed topics and preparation for them.

SUMMARY OF FINDINGS

In general, the organizations have good basis for corporate governance, especially considering the structure, with points for improvement in use of committees and the creation of a Fiscal Board.

However, if on the one hand the structure seems to be appropriate, on the other, the category people still has much room for improvement, including increase in independent board members and greater diversity. It can be reached through structured selective processes, supported by external agents, the definition of structured processes to evaluate the board and its members, and the compensation provided to board members.

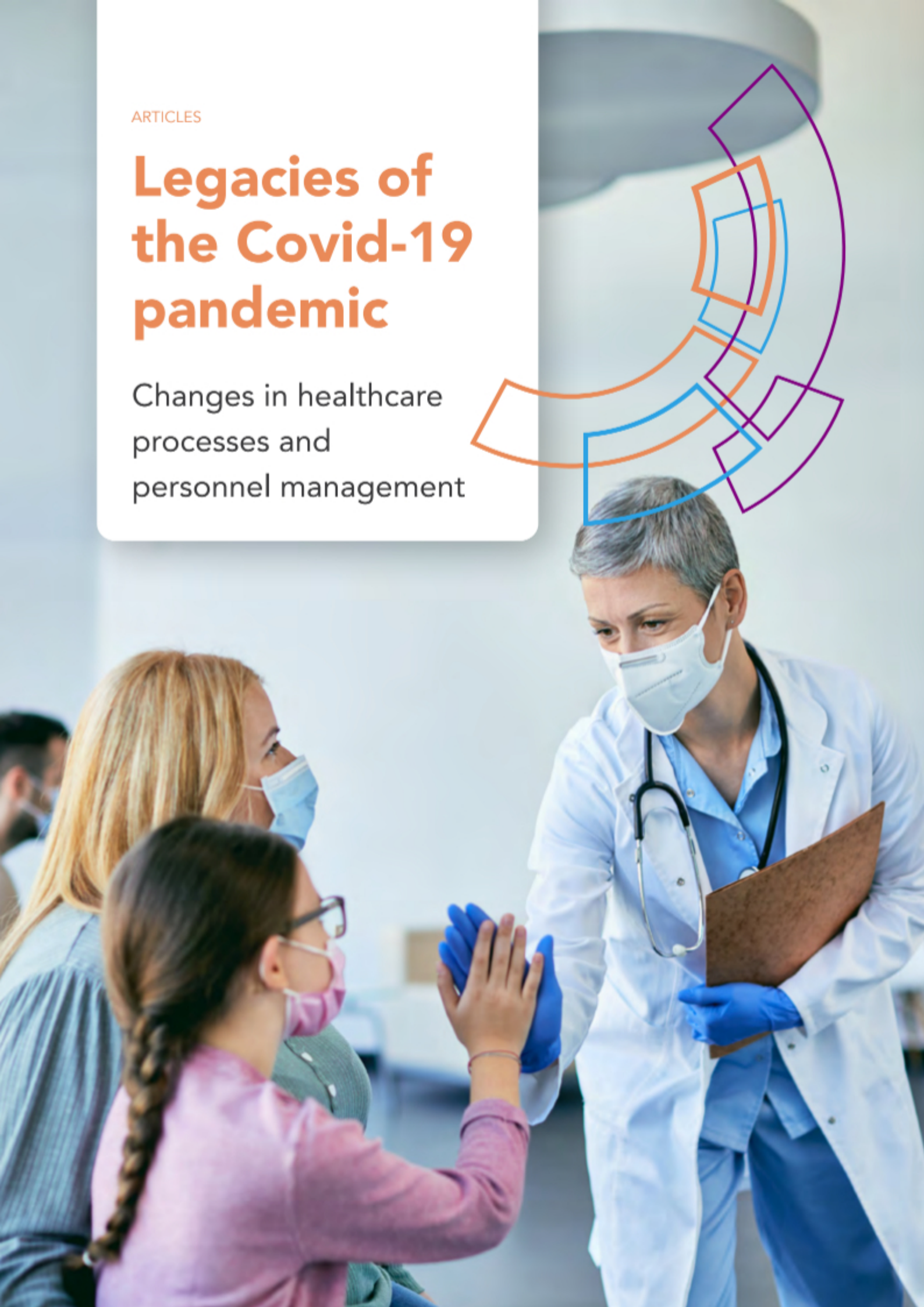
Concerning the dynamics, it is possible to correlate the good structural basis of the organizations, including preparation and level of the topics discussed by the board, which is also reflected into appropriate number and duration of meetings. At the same time, there is indication that the investments in committees and people (reinforcing the points described above) may contribute to improve decision making, especially in quantity and duration of meetings.

Finally, it is important to mention that aspects directly related to governance, such as transparency, equity, confidence, ESG, quality and efficiency were addressed by key executive healthcare leaders during Anahp leaders' meeting, which supports the considerable importance that corporate governance has in the hospital area.

ARTICLES

Legacies of the Covid-19 pandemic

Changes in healthcare processes and personnel management



The Covid-19 pandemic brought with it direct impacts on health institutions, which had to adapt to new flows, processes and changes that are here to stay. In this sense, to understand the main changes in healthcare operations, this article addresses cases of three hospitals associated with Anahp: Hospital Santa Izabel | Santa Casa da Bahia, Hospital and Maternity São Luiz – Anália Franco Unit (Rede D'Or São Luiz) and Hospital Israelita Albert Einstein.

The topics addressed by the institutions were:

- Inflow of patients (emergency department and hospitalization);
- Post-discharge follow-up of patients as outpatients;
- Initiatives focused on continuity of care and primary care;
- Use of telemedicine;
- Taking care of the healthcare team.

The Covid-19 pandemic imposed changes on the operation of healthcare, which, after two years, are clearly here to stay. Flows and protocols were changed to improve the safety of hospital patients and professionals – from the reception team to the multi-professional healthcare team.

Hospital Santa Izabel | Santa Casa da Bahia

Admission to the emergency department previously followed a unidirectional flow; but with Covid-19, it was necessary to establish separate flows for patients with flu syndrome or respiratory symptoms and clinical patients in general. Flows were segregated according to the need for patient care transition, with delimitation of areas, accesses, and teams. Flows were developed for patient care in the emergency department, inpatient units, outpatient clinics, the otorhinolaryngology and videoendoscopy service, among others, with specification of the steps from the first contact, for example, with the security guard or head porter, to direct assistance by the multidisciplinary team. Despite the variation in demand arising from the waves of new strains of the Covid-19 pandemic, the separation of care flows remained unchanged, given the fine line between the signs and symptoms resulting from Covid-19 and other pathologies, which is why it was necessary to adopt laboratory tests for Covid-19 as differential diagnosis. In this regard, certain practices arising from the strategies to face Covid-19 have become permanent: the effective use of personal protective equipment (PPE), such as wearing masks during the risk classification of patients with respiratory syndrome; the adoption of preventive measures so as not to spread intra-hospital respiratory infections through the segregation of the flow of respiratory symptomatic patients; testing, including surgical patients; the use of critical alerts for non-Covid service areas that present contact and/or a greater number of suspects, with the adoption of precautions and the reduction of the number of professionals; online triage through the call center and surgical scheduling to schedule exams, consultations and surgeries; and the creation of digital and telephone direct information channels.

Concerning patient's post-discharge, with the pandemic, Hospital Santa Izabel | Santa Casa da Bahia created the Post-Covid Care Program in its rehabilitation unit, to fully evaluate and rehabilitate the patients affected by the virus, even those who did not need hospitalization during the period of infection. In this program the patient is evaluated by a multidisciplinary team, made up of pulmonologist, cardiologist, endocrinologist, neurologist, pain specialist, physiotherapist, psychologist, dietitian, and speech therapist, who jointly develop a therapeutic plan for rehabilitation.

In terms of the use of telemedicine, Hospital Santa Izabel | Santa Casa da Bahia has been continually investing in technological advances, and, due to the pandemic, has accelerated the use of a new teleconsultation service to provide quality and safe remote service. To this end, new digital technologies have been adopted to facilitate communication, and the same methodology has been studied for emergency care. Finally, in terms of personnel management, the actions implemented to take greater care of the teams that have provided care during the Covid-19 period were: emotional support to employees who tested positive for Covid-19, with assistance during the isolation period through telemonitoring; a "Be Inspired" moment (cards sent by WhatsApp); an emergency telephone service for psychological help; group and/or individual psychological help in the units, especially for the teams dedicated to the care of Covid-19 patients; and the migration of activities to home office, including virtual meetings.

Hospital and Maternity São Luiz – Anália Franco Unit (Rede D´Or São Luiz)

Before the Covid-19 pandemic, the flow of the emergency department and the inpatient unit was through a single entrance. The reception of the emergency department was responsible for starting the registration and referring patients for hospitalization. After the arrival of Covid-19 in Brazil, numerous adaptations were made to processes, people, and structures, to protect patients and professionals. Among the main ones we can mention the segregation of the flow of patients who were and were not suspected of having Covid-19 in the emergency departments, inpatient units, and operating rooms. In addition, the process of training the teams and the support of all kinds to professionals were changed.

Some of these changes remain. Separate flow in the emergency department and the segregation of inpatient wards for patients with and without flu syndrome have been maintained. Other changes, such as mandatory testing for Covid-19 in all patients and companions, even those who do not have symptoms, have been discontinued. The clinical triage of patients, accompanying people, visitors and professionals has been adopted as a permanent practice.

As to the patient's post-discharge, in 2017 Hospital São Luiz – Anália Franco Unit set up a well-structured medical center to continue patient care. Within the context of the Covid-19 pandemic, the medical center was prepared to accompany patients who had been discharged. These initiatives will remain active and will be adjusted according to the requirements of the population served and also of possible post-Covid-19 changes.

Actions aimed at primary care have developed in the same way, strengthening the mechanics of primary prophylaxis (prevention) and promotion of health, both for patients and professionals, through family health programs, protocols for diagnosis, and prevention of diseases according to prevalence and morbidity.

The use of telemedicine is another legacy that must be maintained in the post-pandemic period. Its use brings unquestionable benefits (and not exclusively related to the pandemic), which society should not give up. However, regulation and enforcement are important to avoid inappropriate or unsafe practices.

In terms of the initiatives related to changes in the care operation during and after the pandemic, from the hospital's point of view, care for flu syndromes should be treated as perennial, and, differently from how they were previously treated, right from the prevention of infection, through research, treatment and rehabilitation.

Finally, investments to increase the number of professionals, their education and training, the acquisition and distribution of inputs so that everyone can work safely, the adaptation of working hours to optimize resources, payment in advance of the 13th salary, creation of staff relaxing lounges, and the availability of psychological support have been some of the initiatives adopted by the organization in managing its personnel.

The use of telemedicine is another legacy that must be maintained in the post-pandemic period as it brings unquestionable benefits that society should not give up.

Hospital Israelita Albert Einstein

The organization has an area, the Operational Command Center (CCO), responsible for managing all aspects that impact patient flow. Before the pandemic, the self-service kiosks for Emergency Care Units (UPAs) and diagnostic medicine already questioned the presence of respiratory symptoms, and patients were instructed to wear a surgical mask and practice respiratory etiquette (which is really nothing more than protecting people around them from coughing and sneezing using tissues available at the reception area). Specific precautions were taken with these patients, but there was no division of areas for suspected cases of infectious diseases.

With the arrival of the pandemic, in partnership with the Hospital Infection Control Department (SCIH), several changes were defined and implemented by the CCO. The reception areas of all units started to measure patients' temperature; if it is higher than or equal to 37.8°, the patient is directed to a different flow, and the entry of an accompanying person or visitor is not allowed. Patients also started to be asked about signs and symptoms related to Covid-19 to screen entrances, and the exchange of cloth masks for surgical masks, provided by the teams at the reception, is required. All the hospital's self-service kiosks ask the same questions about signs and symptoms and also whether the patient has traveled in the last 14 days. The hospital understands that the questioning about places visited in self-service kiosks will be a permanent change, given that other infectious diseases frequently appear in other countries and in different regions of Brazil. An epidemiological bulletin to warn about infectious diseases present in and outside Brazil is issued weekly to all care teams, and it provides information for diagnosis and precautions for prompt referral of the patient.

The main change was the creation of completely different flows for patients with suspected or confirmed Covid-19: the exclusive flow and the normal flow (the latter, for patients without suspicion or diagnosis of Covid-19). The changes introduced completely different circulation in the Emergency Care Units (UPAs), corridors and elevators and even exclusive operating rooms with negative pressure, as well as endoscopy rooms, laboratories, other exams. There were also cohort units, all of which were duly marked and staffed by trained and qualified professionals. The use of N95 mask was recommended throughout the exclusive flow due

to the risk of procedures that generate aerosols, owing to positive pressure in the airways. In these units, portable negative pressure equipment was used in all rooms and environments where surgical or diagnostic procedures were performed. Another change was the hygiene flow of these areas and the equipment contained therein, performed more frequently and with ultraviolet light radiation (UV) technology at the end of the process for the elimination of pathogenic microorganisms. UV devices that do not cause harm to the user were installed in the elevators for greater safety of patients and employees.

Visitors' flow and the stay of accompanying people were also restricted in the most critical periods of the pandemic and were not recommended in exclusive flow areas. During this period, virtual visits were encouraged, reserving in-person visits for specific moments of hospitalization, for example, prior to surgical procedures or in cases of unfavorable evolution. Having an accompanying person was evaluated on a case-by-case basis, allowed for children, the elderly, or patients with additional risks. Companions in the rooms had their temperatures measured daily and were asked about signs and symptoms of Covid-19.

Right from the beginning of the pandemic, all surgical patients began to undergo the PCR test before the procedure, and in positive cases only urgent surgeries were authorized; the other surgeries followed the recommendation to be rescheduled, according to the American Society of Anesthesiology. This waiting interval, which varied from 4 to 12 weeks after detection, depending on the severity of the case, allowed for the clinical recovery of the patient and the prevention of unexpected complications and was important at the most critical moment of the pandemic, when vaccines were not widely available. In the case of clinical admissions, only during the peak of the omicron wave, the rapid molecular tests were collected from all patients to be admitted; during the other periods, the collection was made only in the presence of respiratory symptoms, in cancer patients or in conditions considered complications of Covid-19, such as thrombotic events.

The service areas divided into normal and exclusive flow have been maintained until the present (April 2022) in all clinical care locations, but in the hospital corridors and elevators there is no longer a separation of flows. In reception areas, the same system has been maintained. As for the surgical flow, surgeries are currently allowed 14 days after the detection of Covid-19.

An important legacy of the pandemic is the ABNT standard NBR 7256, from 2021 – Air treatment in health care facilities, designed for safety of patients and employees in the health area.

According to the standard, structures such as endoscopy rooms and dental offices must have negative pressure, which protects patients treated after aerosols have been generated as, in these situations, the employee is wearing PPE but the patient is not; the aerosol can stay for hours in a given environment, depending on the structure and air system of the healthcare facility. This law

The main change in face-to-face care was the creation of completely different flows for patients with suspected or confirmed Covid-19: the exclusive flow and the normal flow.

In the pandemic, telemedicine has enabled the care of different groups of patients, especially the elderly and those with chronic conditions, who were afraid to leave their homes.

was already being discussed, and, last year, the pandemic led the technical areas to define this requirement more clearly, which brings enhanced safety to patients and employees in the healthcare area, considering that other pandemics may arise. Even before the publication of the NBR, the perception of Hospital Israelita Albert Einstein was that this recommendation should be permanent. The institution also advocates the maintenance of changes in the housekeeping process of the healthcare areas, including more frequent cleaning, and the use of UV to ensure the disinfection of the environment.

As to post-discharge patient, the hospital now has a post-Covid (or Long Covid) care program aimed at rehabilitation, to accelerate the recovery of patients and reintegrate them more quickly into their daily activities. Einstein had already been investing in primary care, as well as measures for the continuity of care. With the pandemic, this need was reinforced, and today the vision of integrated care strongly permeates the hospital's planning and performance. In addition, the use of telemedicine has enabled the care of different groups of patients, especially the elderly and those chronic conditions, who were afraid to leave their homes. Thus, it has become a powerful tool for resuming operations during the first wave of Covid-19, when physicians and patients were still afraid to come to hospitals. A permanent legacy.

Regarding the initiatives related to the clinical operation during the pandemic, changes were implemented in the work regimes, with the option of hybrid models, such as working from home and holding online meetings, which shortened distances and streamlined processes and decision-making. These changes must also be maintained. Another aspect to be highlighted was the daily management of inventories, medicines and materials, which brought the supply area closer to the care area, with the use of artificial intelligence and machine learning tools so that there was no shortage of critical items. In general, decision-making during the pandemic, in terms of resources for the operation, took on a new format, becoming more agile and empowering managers so that there was ready availability of resources, but with the appropriate control.

Finally, in terms of people management, since the beginning of the pandemic, the hospital has prioritized the physical, psychological, emotional health and well-being of its employees, and its monitoring has gained special attention. All the necessary support was guaranteed, and, from the beginning, there was a concern with the availability of sufficient high-quality PPE and the provision of continuous training of professionals on its use, especially those working in areas of exclusive flow.

Employees with suspected or confirmed Covid-19 underwent an in-person or telemedicine consultation, depending on the severity of the symptoms, and were promptly supported by our occupational medicine team, which monitored their evolution throughout the disease. The most serious cases, requiring hospitalization, were treated in the ICU of Morumbi Unit. During the pandemic, actions were also taken, such as the improvement of meals for employees in the cafeterias and the provision

of snacks in the cohort areas. Professionals with greater health risk, due to age, chronic diseases, pregnancy or immunosuppression were allocated to work from home. Vaccination for Covid-19 was carried out as soon as the doses were available, with priorities set according to the area of activity of each employee. Special care was taken in relation to social aspects such as providing masks and alcohol-based solution available for use at home for those who were unable to purchase them, providing hotels to accommodate employees who were afraid of infecting elderly relatives at their homes, keeping the daycare center in operation (with the authorization of the Education Department) and providing a school so that employees could leave their children over the age of three years at school during the working hours, as regular schools were not operating.

The dialogue with employees and leaders was intense throughout the period, with various educational initiatives, written communication, newsletters and internet communication with leaders, to provide the best and most up-to-date information, fight fake news, and ensure open communication.

Safety visits were intensified in the areas most affected by the pandemic, carried out by the Risk Management, Hospital Infection Control Department, Occupational Safety, Population Health, and Leadership teams to clarify doubts, establish flows and map occupational and psychological risks.

Special attention was given to mental health issues. A program called OUVID was implemented to create spaces for coexistence and active listening by psychologists, so that professionals could report, discuss and work on their fears and insecurities caused by the pandemic. The occupational medicine psychiatry team proactively worked with managers and employees to identify and treat mental health risk situations at an early stage.

Monitoring of absenteeism and absences became a daily task (practice maintained until today), to have early identification of hot areas for contamination, as well as guaranteeing the necessary staffing for the operation.

During these 2 years of the pandemic, the hospital has undergone important changes in the team, with more than 2,000 new hires, changes in the selection process (which has become online, to gain agility) and a review of the training schedule. Employees in less-demanded areas were trained and qualified to work with critically ill patients and patients with Covid-19, another change that is here to stay. It has resulted in greater sharing of resources between areas and the qualification of employees to work in critical care areas.

> Decision making on operational resources during the pandemic gained a new format, becoming more agile and empowering managers.

ARTICLES

Tendency of health inflation and its effects on private healthcare

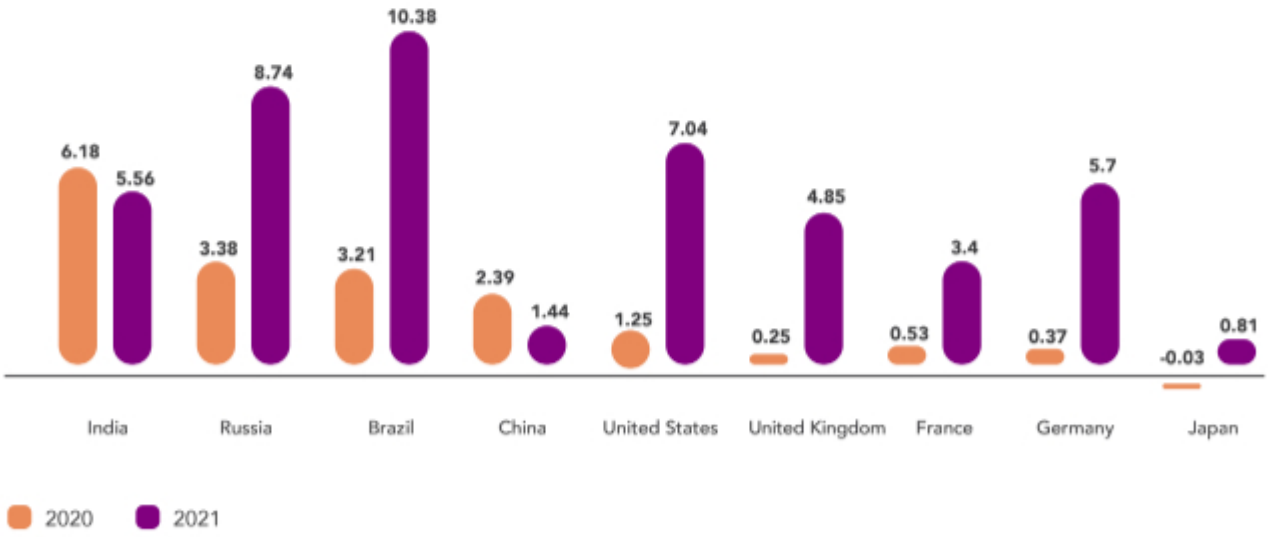
By André C. Medici, Luiz Feitoza, Adriano Londres and Claudio Contador

Introduction

Since the 2008 financial crisis, when world inflation rose to nearly 9%, economies have become accustomed to living with relatively low global inflation rates. In 2016, the overall rate of inflation, as measured by the consumer price index, was 2.7%, and, although it had risen in recent years, it reached only 3.5% in 2019[1]. Covid-19 pandemic in 2020, despite devastating the global economy throughout the world, did not immediately impact the growth of inflation, which in 2020 continued at levels similar to those of 2019 (3.2%). It was largely due to the fact that the contraction of the global demand brought about by the pandemic had strong influence on the containment of consumer prices, even though some prices of strategic supplies had increased dramatically, as a result of the rupture of production chains and global trade, which happened in the health sector and many other strategic sectors.

Unfortunately, inflationary pressures began to increase from 2021 onwards, in this case due to the effects of the large public indebtedness that rich nations and emerging countries had to take on to help domestic consumption and production. There are trillions of dollars in new debts that have accumulated and must be paid with taxes (or rollover) in a situation of economic growth and tax collection which still has many restrictions. As a result, inflationary pressures have increased and global inflation in 2021 reached 4.4%, without clear definition of the direction of monetary policies. Expectations for the future are not favorable, especially considering the new risk factor generated by the Russia-Ukraine conflict. **Graph 1** shows the differences between consumer price indices in selected countries between 2020 and 2021:

GRAPH 1 | Inflation rates in selected countries (%) | 2020 and 2021



Source: IMF database (Consulted on 22/Mar/2022).

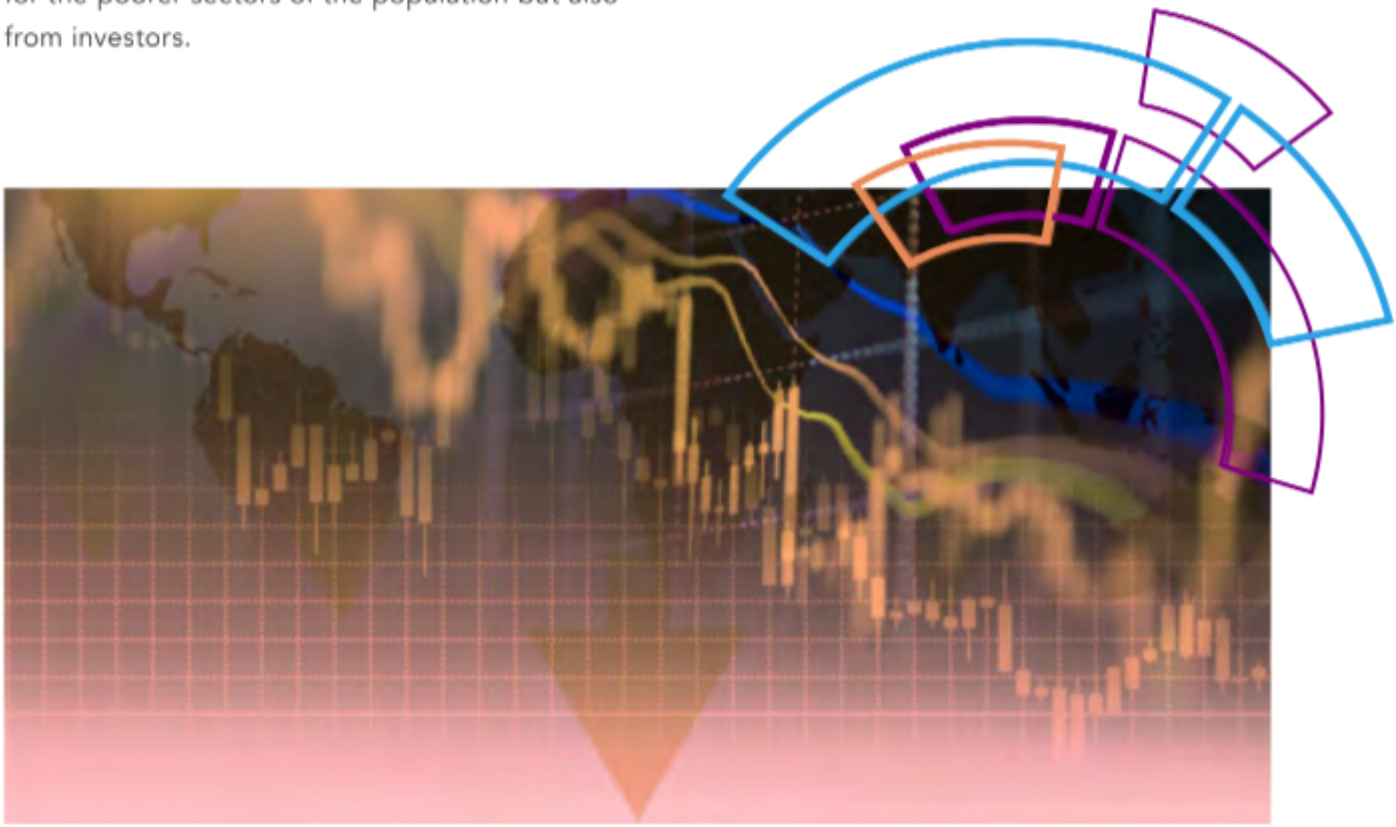
[1] O'NEILL, A. Global inflation rate from 2016 to 2026. Statista, 1 Feb 2022.
Available at: <https://www.statista.com/statistics/256598/global-inflation-rate-compared-to-previous-year/>; accessed on 20/Mar/2022.

It is clear that between 2020 and 2021, in the world's largest economies, with the exception of China and India, inflation rates, as measured by consumer price indices, had high increases because of public indebtedness, which was necessary to avoid deeper crises of demand and investment.

Increases in public indebtedness generally bring in tow increases in interest rates, impacting credit mechanisms and capital and exchange markets. As inflationary pressures strengthened in 2021, the prospect of continued economic recovery in 2022 generated initial expectations of lower inflation.

However, recent military tensions in Eastern Europe caused by the Russian invasion of Ukraine have dampened the mood for faster growth at a global level in the next two years. International bodies such as the International Monetary Fund (IMF) and the World Bank revisited the estimates to a more modest global GDP growth in 2022 and 2023 and the continuity (or even worsening) of the disruption of global trade chains. It is, thus, expected that a context of more persistent stagflation in the next two years will also generate negative tensions on consumption, wealth, and the return on investments, causing changes in the feelings and positioning of society – not only for the poorer sectors of the population but also from investors.

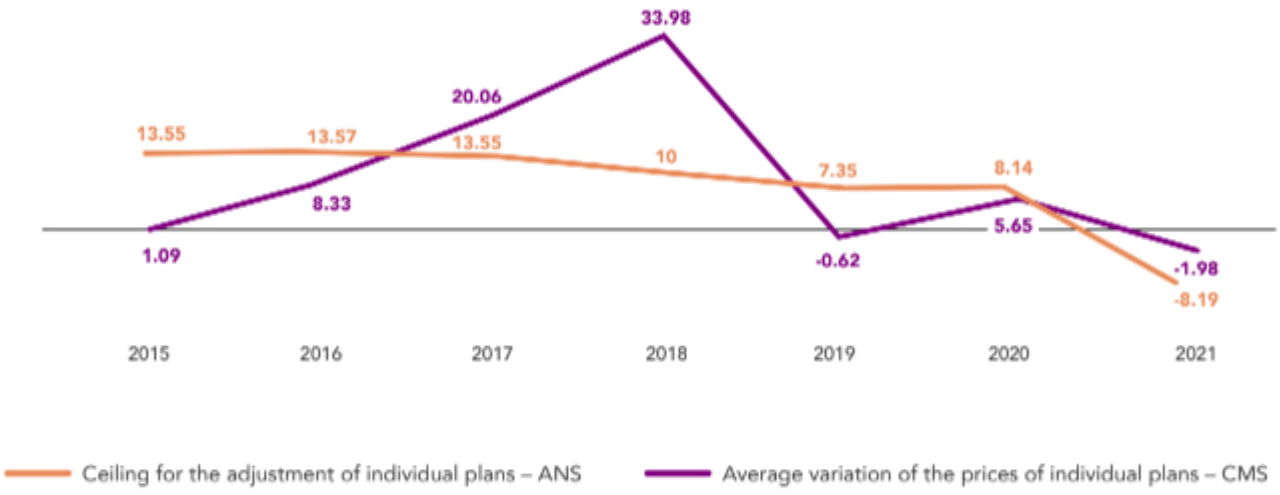
Inflationary pressures began to increase from 2021 onwards due to the effects of the large public indebtedness that rich nations and emerging countries had to take on to help domestic consumption and production in their economies.



Recent trends in inflation in healthcare

It is a fact that the health sector, for various reasons, such as population ageing, more extensive healthcare coverage, the use of medical technology, and pharmaceutical innovations, historically brings higher inflation than the average for the economy in other sectors. It has been the case ever since data on sectoral price changes have been measured and compared. Even so, 2020 seems to have been an atypical year. With the retraction of the number of health services such as consultations, exams and elective surgeries brought about by the pandemic, prices in the sector did not grow as expected in many countries, especially in the health insurance markets. It is worth noting the case of the United States and Brazil, where in 2021 there was a trend towards an absolute reduction in the value of premiums of individual healthcare plans as a result of negative inflation in the health sector in 2020, as shown in **Graph 2**.

GRAPH 2 Variation in the prices of premiums of individual healthcare plans in Brazil and the USA (%) | 2015-2021



Source: National Private Health Agency (ANS) and Centers for Medicare & Medicaid Services (CMS)

In Brazil and the United States, in 2021 there was a trend towards an absolute reduction in the value of premiums of individual healthcare plans because of negative inflation in the health sector in 2020.

But the growth in medical inflation in 2021, as the sector learned to manage the pandemic, probably had a strong impact on health insurance spending in the same year, which certainly occurred in several other countries around the world, affecting the variation of premium adjustments in 2022. So, what is happening in Brazil?

The price adjustments of private healthcare in 2022

In private healthcare, the beginning of 2022 was marked by news that continues to have an impact on the sector. A projection made by the investment bank BTG Pactual estimated that the adjustment ceiling for individual healthcare plans would be around 15% this year. If that happens, this would be the highest increase in the 22 years since the National Private Health Agency (ANS) created the aforementioned index. It would also represent a change from the reduction in the 2021 ANS index, which, as shown in Graph 2, was negative for the first time in history (-8.2%).

The Adjustment Ceiling for Individual Healthcare Plans (ITRPIS) of ANS is defined by several factors, the main ones being the Variation of Medical-Hospital Costs (VCMH) for healthcare spending – and the adjusted Broad Consumer Price Index (IPCA) for administrative expenses. As a reducing factor of the combined variation of these indices, ANS uses a sector efficiency index that is deducted from the variation of these two indices. It is usually released by the agency in July each year.

BTG Pactual's anticipated estimate, in fact, can be considered a good expectation for the index in 2022, although there may be important adjustments until its final consolidation and disclosure.

The variation in the number of people served, for example, significantly impacts the numbers calculated by the ANS, considering the current moment of growth of new beneficiaries. Another important point is the existence of other factors, in addition to the variation in costs and IPCA, in the current methodology applied by ANS since 2018, such as the efficiency gain factor and even the adjustment for changes in age group.

This price adjustment index impacts 8.9 million people, or just over 18% of healthcare plan beneficiaries. For the other 40 million people covered by business healthcare plans or affinity plans (according to December 2021 data at ANS situation room), open negotiations between the healthcare operators and the companies are welcome.

And what is this open negotiation based on? In addition to the loss ratio of each contract, the VCMH of each healthcare operator, based on its portfolio, is also considered in the adjustment, without disclosing the rationale or formula for this calculation. This is why, since 2019, companies such as Arquitetos da Saude have been making calculations based on the total number of beneficiaries in Brazil, which would represent the VCMH of Brazil for all (100%) beneficiaries of healthcare plan, building a historical series of this index since 2014.

In addition to the loss ratio of each contract, the VCMH of each healthcare operator is also considered in the adjustment, based on its portfolio, without disclosing the rationale or formula for this calculation.

What can be seen is that this broad VCMH that Arquitetos da Saude has developed presents a strong correlation with the index released by ANS when observing the historical series of the calculation compared to the historical series of the Adjustment Ceiling for Individual Healthcare Plans released by the agency. It is noteworthy that the change in methodology made by the agency from 2018 onwards slightly altered the value of the index, but even so the correlation with the VCMH of Arquitetos da Saude remains strong, which means that an upward trend already observed preliminarily in the VCMH of Brazil for the 2021 reference should really mean that the adjustment ceiling of individual healthcare plans will also be high.

There are still some uncertainties about the national VCMH index (reference year 2021). First, it is necessary to state that, considering the date this article was written, only the data for the first three quarters of 2021 had been released. Thus, for the purposes of a fair analysis, the first three quarters of 2021 must be compared to the same period of 2020. When doing this, one must consider the analysis of the per capita figure, which is the correct method for VCMH. Secondly, it is important to know that ANS publishes financial data by quarter and life data by month, retroactively rectifying the series of this last indicator so that quarterly averages are used, and there may be important variations in the calculation of VCMH before the last quarter of 2021 data are released.

Arquitetos da Saude made their estimate by the average exposure time (turnover or average number of contributions per beneficiary-year) in a period of considerable increase in the number of beneficiaries (about 1.5 million new members in 2021 alone), a preliminary annual variation of the VCMH in Brazil, accumulated until the third quarter, would be 22.2%. Is this figure high? Yes, without doubt. But it is necessary to consider that 2020 was an atypical year due to the pandemic, with great reduction in elective procedures and those of medium and high complexity, resulting in the aforementioned decrease in 2021.

If the atypical year of 2020 was disregarded and we used 2019 as a reference, the VCMH of Arquitetos da Saude in 2019 accumulated until the third quarter, compared to 2021, would be around 8.35% - a reasonable figure and very similar to the ceiling published by ANS in 2019 (7.35%) and 2020 (8.14%).

What might still change?

This is the big question. Its answer can be broken down into three factors:

(i) The growth in the number of beneficiaries: 2021 was a year of growth in the number of beneficiaries, the same phenomenon observed in 2020. More people mean more diluted costs (lump sums and payment in installments), and in three months (data from the fourth quarter of 2021 not yet disclosed), this variable can change a lot, to the point of modifying the total index. It is worth remembering that 2020 ended with 47.5 million beneficiaries and 2021 with 48.9 million.

(ii) The need to complete data for the last quarter: in addition to the three "blank" months regarding medical expenses to complete 2021, there are corrections in the number of beneficiaries that are usually made retroactively. Brazil ended the third quarter of 2021 with 48,546,563 healthcare plan beneficiaries – 1.5 million more than in the same period in 2020. But, as noted, the number may move up or down, impacting the calculation of the VCMH.

(iii) The average exposure time of the beneficiaries in the year: the contribution time of each beneficiary during the year is another factor to consider. In a scenario of 48 million people who ended September 2021 with a healthcare plan and 48.9 million in December 2021, the period of contributions of income and expenses of each beneficiary was different and less than 12 months. Paying in a lump sum or installments generates different weights, which also counts in the result.

One cannot lose sight that the impact of the official ANS index is only connected to individual healthcare plans, as already mentioned. For the rest, the open negotiation rule follows, even though the expectation of the initial request is high as the logic of the VCMH of each healthcare operator is the same as that of the VCMH of Brazil. It should be noted that the healthcare operator's VCMH is worth as much as the different reality of each negotiated collective agreement.

The greater the number of people of a particular healthcare plan company, the truer this statement is.

There is, for now, one certainty: in any scenario, the adjustment index from mid-July onwards will be high in collective agreements. The additional ingredients to the equation are: Presidential election year, the forecast of low economic growth, the possible approval of important government bills that affect healthcare plans, and debates on the interpretation of the list of ANS procedures waiting to be judged by the Federal Supreme Court.

Thus, for individual beneficiaries and companies that contract healthcare plans, it is recommended that they tighten their belts and prepare for turbulence – but they should not forget that knowing the VCMH of each healthcare operator is not more important than the index that affects the population of each company in the case of corporate agreements.

There is, for now, one certainty: in any scenario, the adjustment index from mid-July onwards will be high in corporate agreements.

Long-term perspectives

In the case of individual healthcare plans, there is still the perspective that ANS wants to revise its Adjustment Ceiling for Individual Healthcare Plans calculation formula, and, in this case, one of the components to consider is the deduction of the adjustment efficiency index. In the current calculation formula, the efficiency indicator is not something that is necessarily related to increase in the quality of health care for the beneficiaries through the average premium paid for the healthcare plan. On the contrary, it rather reflects a possible accounting surplus that healthcare operators receive for the average growth of their revenues compared to their costs between the current year and the previous year. In this sense, this average variation is divided by the number of beneficiaries and discounted from the estimated adjustment, so that the "more efficient" companies, despite increasing the value of the average adjustments for all healthcare operators, would continue to have advantages over those which are "less efficient."

The ANS has already signaled that it is open to discussing the index, but it is not known in what direction it wants to change this formula. One possibility would be to replace this "accounting" type of efficiency by a "real" efficiency index, so that the healthcare operators that added more value to the beneficiaries (in terms of physical indicators such as discharges, degree of satisfaction, unnecessary hospital admissions avoided, and deaths avoided) could receive some premium in the differentiation of their adjustment.

Another consideration is the fact that adjustments to healthcare plans are applied over subsequent years and end up transferring the effects of past inflation into the future. In this case, a more detailed study of the historical variations of the components of health costs and their future perspectives, through a methodology of leading indicators, could arrive at a fair formula to mitigate an inertial transfer of past inflation, when some components of cost reflect a downward trend, or even anticipate losses from healthcare operators, if the cost components could vary above what was reflected in the past.

Undoubtedly, this would bring greater realism to the process of pricing health insurance premiums.

However, for this to become a reality, it would be necessary for ANS, as a regulatory body, to demand a greater set of accounting information from the healthcare operators, requiring that they set up more detailed cost information systems that would compose a basis for public data, which would be interoperable in private health systems.

ABOUT THE AUTHORS:

André Medici is an economist of the Universal Health Monitor.

Luiz Feitoza and *Adriano Londres* are from Arquitetos da Saude.

Market and clinical profile

This section presents the market analysis of the private healthcare industry and the clinical and epidemiological profile of Anahp member hospitals.

WATCH THE VIDEO with the analysis by economist, health consultant and coeditor of Observatorio Anahp Andre Medici.

Executive Summary

ECONOMIC SCENARIO AND THE HEALTHCARE MARKET

CHALLENGES OF THE NEW CORONAVIRUS PANDEMIC

In 2021, the pandemic still impacted the indicators of economic and social activity, despite the improvement in results, when compared to 2020.

GENERATION OF FORMAL JOBS BETWEEN 2020 AND 2021 – GROUPS CNAE 2.0 (IBGE)

Human health has taken the fifth position among the main job creators:

1° Trade, repair services of automotive cars and motorcycles
643,754

2° Manufacturing industry
438,957

3° Administrative activities and complementary services
321,064

4° Civil construction
244,755

5° Human health and social services
176,950

Source: Novo Caged | Ministry of Labor.

INCREASE IN NUMBER OF BENEFICIARIES OF HEALTHCARE PLANS

2018	**47.14** million
2019	**47.07** million
2020	**47.49** million
2021	**49.00** million

BRAZILIAN ECONOMY INCREASED IN 2021 (GDP INCREASE OF 4.62%)

INFLATION STATUS (IPCA INCREASE OF 10.06%) AFFECTED THE POPULATION INCOME

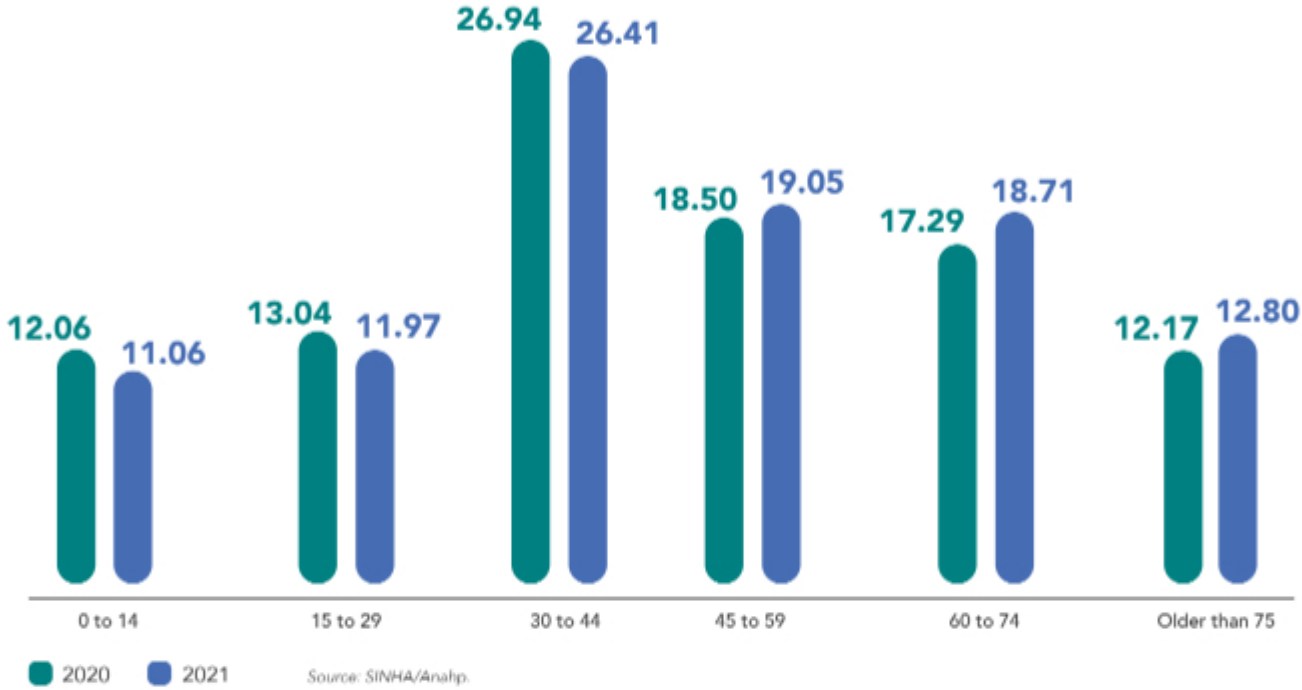
UNCERTAINTIES STILL RELATED TO THE PANDEMIC

CLINICAL AND EPIDEMIOLOGICAL PROFILE

Defining the characteristics of patient population is essential to improve hospital care.

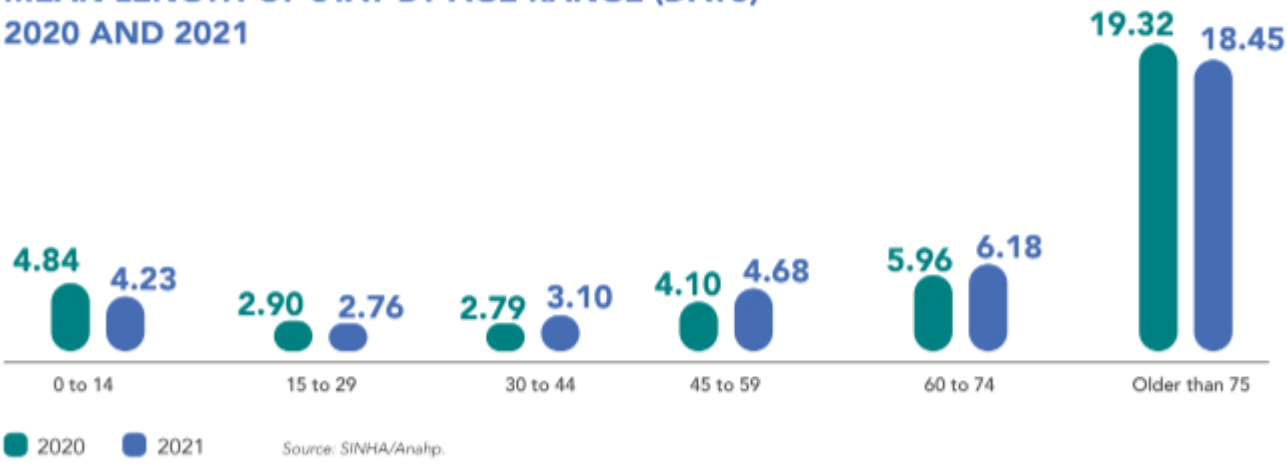
1,704,607 HOSPITAL ADMISSIONS IN 2021

HOSPITAL DISCHARGES BY AGE RANGE (%) – 2020 AND 2021



Source: SINHA/Anahp.

MEAN LENGTH OF STAY BY AGE RANGE (DAYS) 2020 AND 2021



Source: SINHA/Anahp.

TENDENCY OF CHANGE OF CLINICAL PROFILE

Annual distribution of hospital discharges by main diagnosis grouped by ICD-10 chapter:

ICD Chapter	2020	2021
Genitourinary	9.46	**10.70**
Neoplasm	9.48	**9.86**
Digestive	8.37	**9.17**
Circulatory	7.65	**8.22**
Infectious diseases	6.28	**7.68**
Pregnancy	8.40	**7.41**

Source: SINHA/Anahp.

MARKET AND CLINICAL PROFILE

Economic scenario and the healthcare market

GDP increased, but inflation hindered population income

Number of beneficiaries increased in 2021, reaching 49 million

Economic situation

In 2021, the macroeconomic situation still portrayed the negative impacts of Covid-19 pandemic. Despite the improvement in the economic indicators, shown by increase in Gross Domestic Product (GDP) and reduction of unemployment rates, the inflation has prevented these positive results from being translated into increased income to the population.

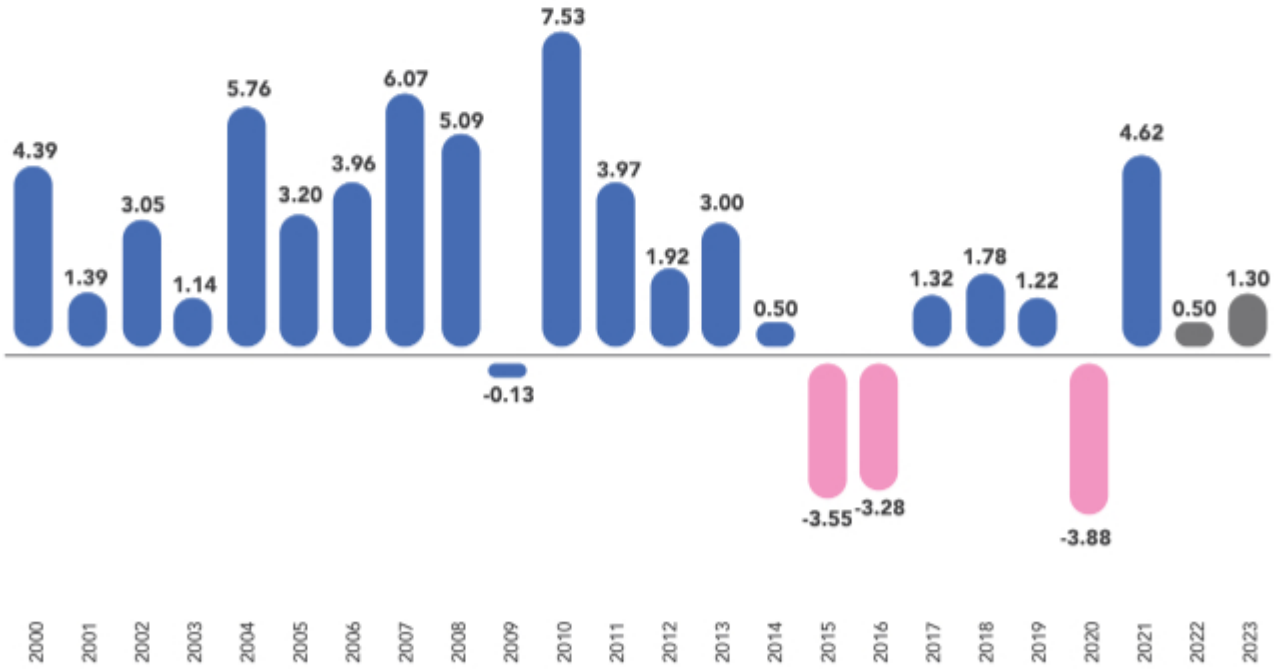
According to data from the Quarterly National Account System (SCNT - *Sistema de Contas Nacionais Trimestrais*), from IBGE - Brazilian Institute of Geography and Statistics, in 2021 the GDP experienced increase of 4.62% compared to 2020 **(Graph 1)**. This result served to offset the previous year losses when the Brazilian economy shrank 3.88% due to Covid-19 pandemic.

For upcoming years, the Brazilian Central Bank (Bacen)[1] expects market growth of 0.50% in 2022 and 1.30% in 2023.

It is worth mentioning that GDP growth forecasts may be negatively impacted by world market uncertainties caused by the global effects of the Russian-Ukraine conflict, economic sanctions imposed on Russia, and the redefinitions of raw materials and essential products in the global economy.

IMF forecasts indicate growth rates in Brazil still below that of other groups, both in 2022 and 2023.

GRAPH 1 | Annual variation of GDP (%) | 2000-2023



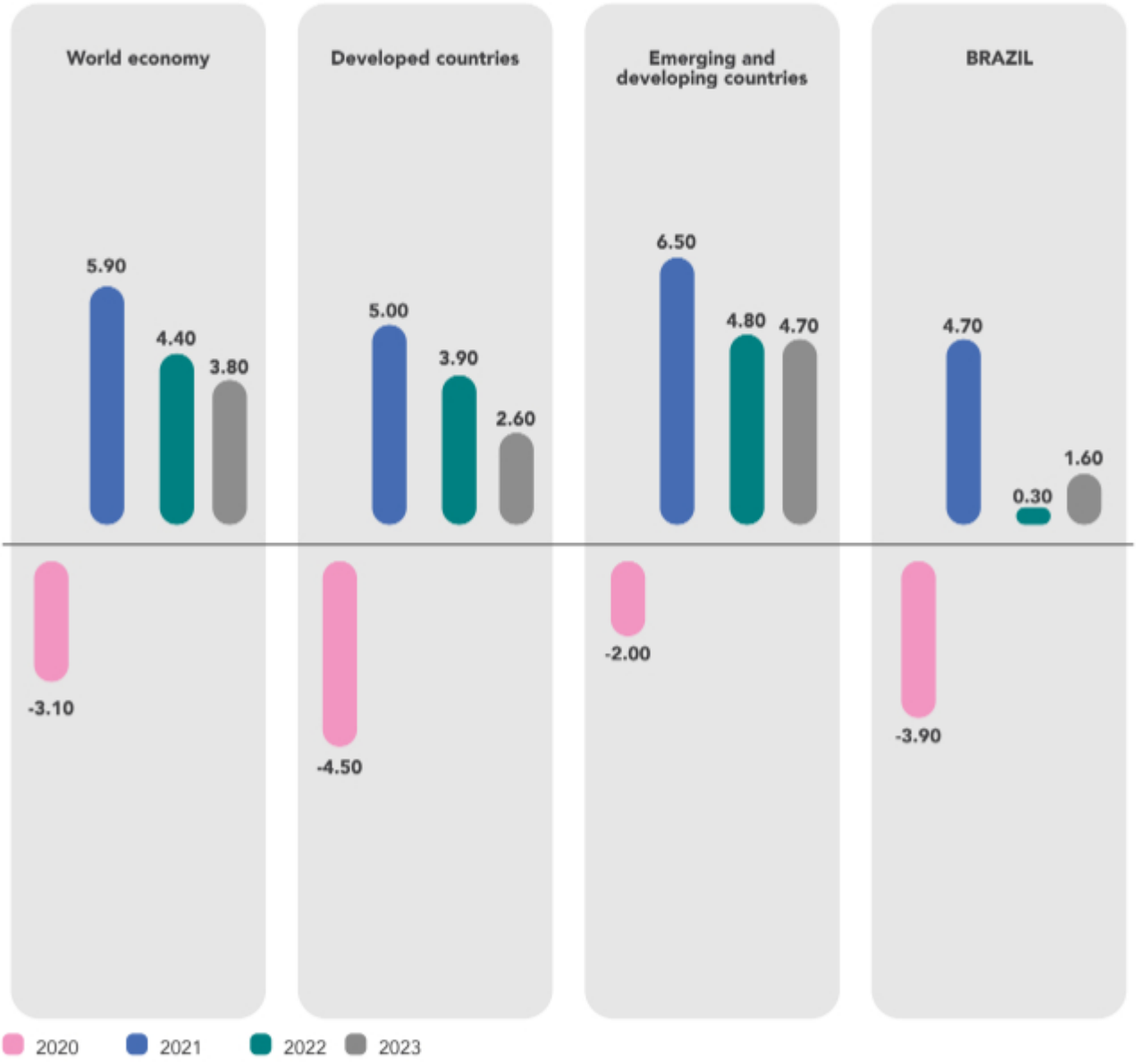
Source: SCNT – IBGE (accessed on 4/Mar/2022) and Focus – Bacen (accessed on 23/Mar/2022).

[1] Information referring to years 2022 and 2023 were obtained based on estimates of Report Mercado Focus on 18/Mar/2022 by Bacen.

Thus, the estimates of the International Monetary Fund (IMF)[2] show that the estimated increase of Brazilian GDP in 2021 (4.70%) was smaller than that of the emerging and developing countries (6.50%), including Brazil and countries such as China, Russia, Mexico and South Africa **(Graph 2)**. The result was also smaller than that of the world economy (5.90%) and close to the rate expected to developed countries (5%), but when compared to 2020, these results were much higher.

IMF forecasts indicate growth rates in Brazil still below that of other groups, both in 2022 (0.30%) and in 2023 (1.60%).

GRAPH 2 | GDP growth rate compared to previous year
Brazil and group of countries | 2020-2023



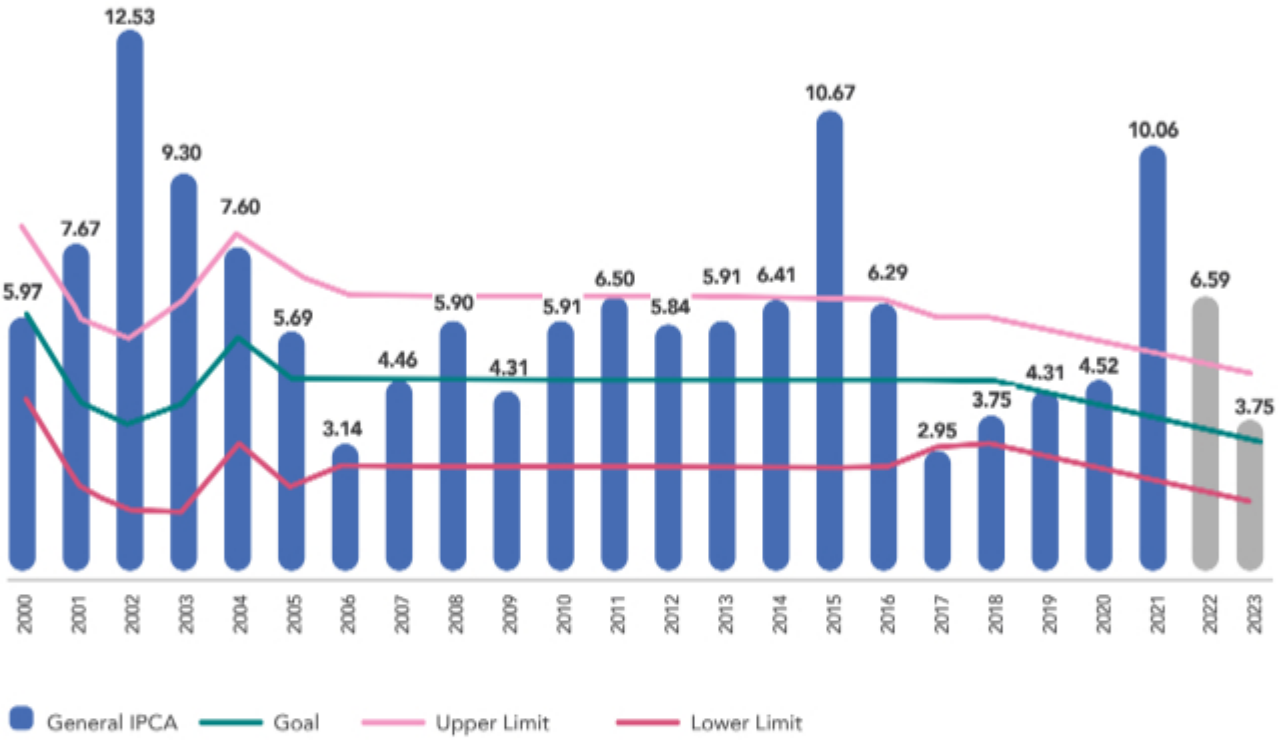
Source: World Economic Outlook (updated in 2022) and IMF (accessed on 4/Mar/2022).

[2] International Monetary Fund (IMF). World Economic Outlook, updated in January/ 2022.
Available from: <https://www.imf.org/en/Publications/WEO/Issues/2022/01/25/world-economic-outlook-update-january-2022>; accessed on 04/Mar/2022.

IPCA - National Consumer Price Index - the official inflation indicator in the country - reached 10.06% in 2021, the highest yearly inflation rate since 2015. **(Graph 3)** The result was above the 3.75% goal set by the National Monetary Council of the Brazilian Central Bank, exceeding the cap of 5.25% (tolerance range of 1.5 percentage point above or below the goal), defined by the Council.

According to Brazilian Central Bank estimates[3], in 2022 and 2023, prices are expected to stop increasing, reaching levels between 6.59% and 3.75%, still above the defined goal.

GRAPH 3 | Annual variation of IPCA (%) I 2000-2023



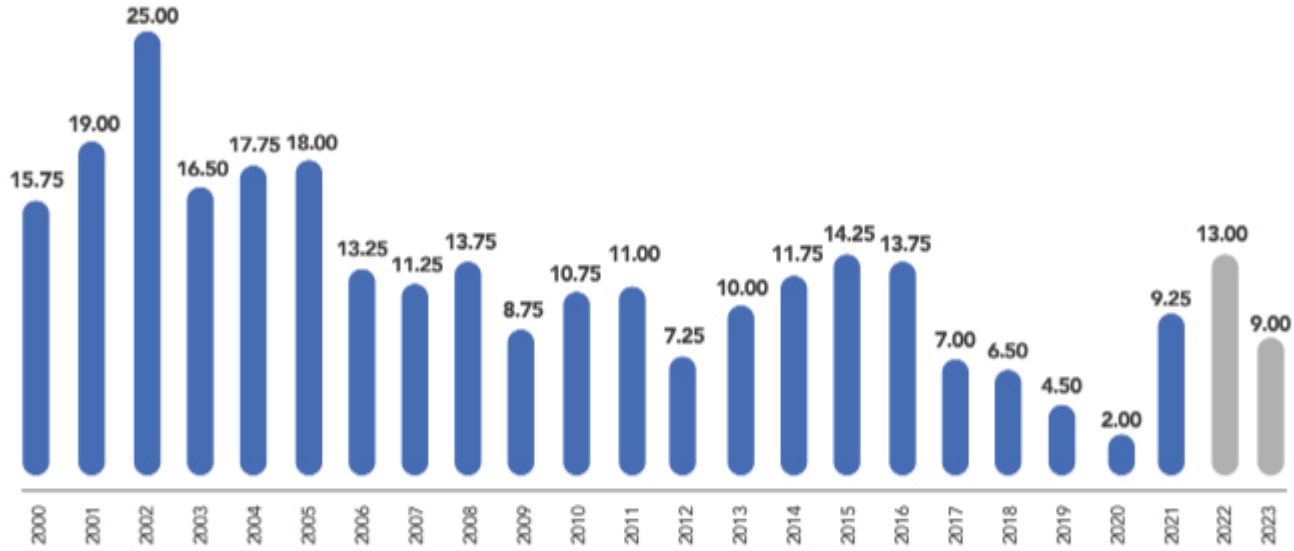
Source: IPCA – IBGE (accessed on 4/Mar/2022) and Focus – Bacen (accessed on 21/Mar/2022).

In view of the increased inflation, the Monetary Policy Committee (Comite de Politica Monetaria - Copom) made a series of adjustments to the basic interest rate (Selic), going from 2% in the first meeting of the year, in January, to 9.25% in the last one, held in December 2021 **(Graph 4)**.

According to market expectations of the Brazilian Central Bank[4], Selic should increase to 13.00% at the end of 2022 and then to 9.00% in 2023.

[3] Information referring to years 2022 and 2023 were obtained based on estimates of Report Mercado Focus on 18/Mar/2022 by Bacen.
[4] Information referring to years 2022 and 2023 were obtained based on estimates of Report Mercado Focus on 18/Mar/2022 by Bacen.

GRAPH 4 | Interest rate - Selic Goal (% per year) I 2000-2023



Source: Bacen (accessed on 4/Mar/2022) and Focus – Bacen (accessed on 21/Mar/2022).

In 2021, the unemployment rate, according to PNAD - National Survey of Household Sample[5], reached 11.10% in the last quarter, mean rate of 13.20% in the year (the mean is calculated based on the quarterly results presented by IBGE) **(Graph 5)**.

However, the subtle recovery of employment opportunities was not observed in improvement of population income. The average income from the main job was R$2,449 in the quarter that ended in December 2021. One year before (the last quarter of 2020), the average income of employed people aged 14 or older was R$2,679.

[5] Continuous PNAD considers unemployment rate in formal and informal job market.

GRAPH 5 | Quarterly unemployment rate with annual average (%) - 2012-2021

Source: Continuous PNAD - IBGE (accessed on 4/Mar/2022).

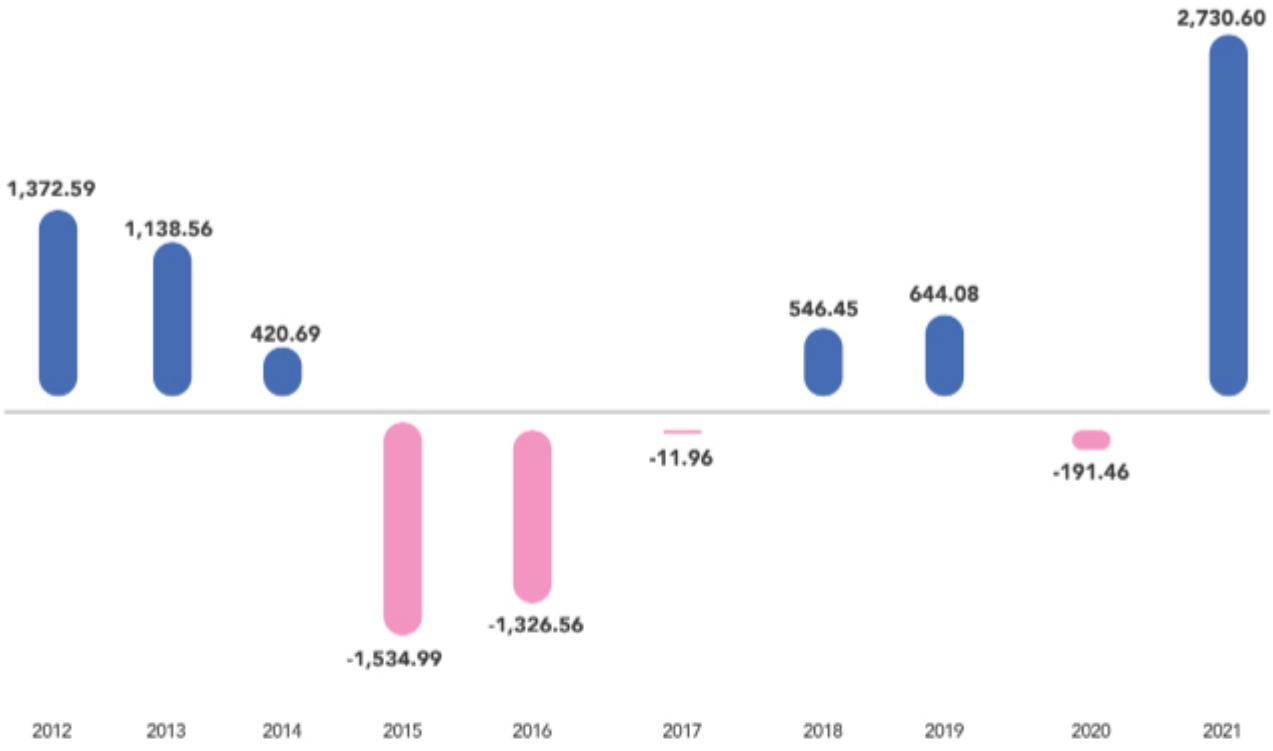
Data from the General Registry of Employed and Unemployed People (Caged and Novo Caged)[6], by Ministry of Labor, have also shown better results in generating job opportunities. In 2021, there were 2.73 million new jobs, considering the adjusted series that incorporates information reported after the due date **(Graph 6)**. In the year, the balance from 2020 was adjusted, showing deficit of 191,460 jobs.

Data communicated by Novo Caged indicate that, similarly to the results published by Continuous PNAD, the recovery in number of employed people is not being followed by increase in income of the population. The mean initial salary at hiring in December 2021 was R$1,793.47. One year before (December 2020), the mean salary at hiring was R$1,909.19 **(Graph 7)**.

In 2021, the unemployment rate reached 11.10% in the quarter ending in December, with an annual average of 13.20%.

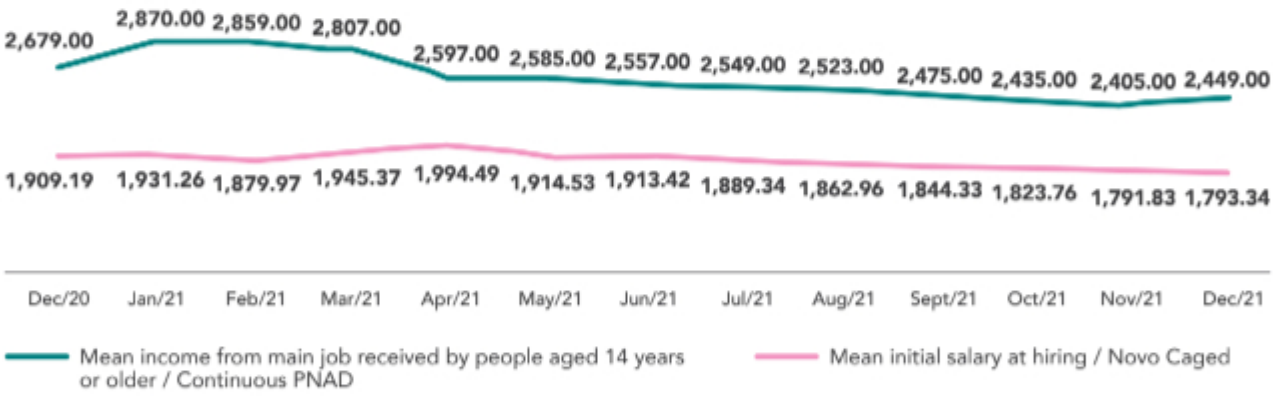
[6] Both consider hiring and firing in formal job market. Caged presented information up to 2019; as of 2020, information is provided by Novo Caged.

GRAPH 6 | Balance of hiring and firing from formal jobs (in thousands) 2012-2021



Source: Caged and Novo Caged – Ministry of Labor (accessed on 4/Mar/2022).

GRAPH 7 | Mean income reported by Continuous PNAD and Novo Caged (R$) / 2020 and 2021



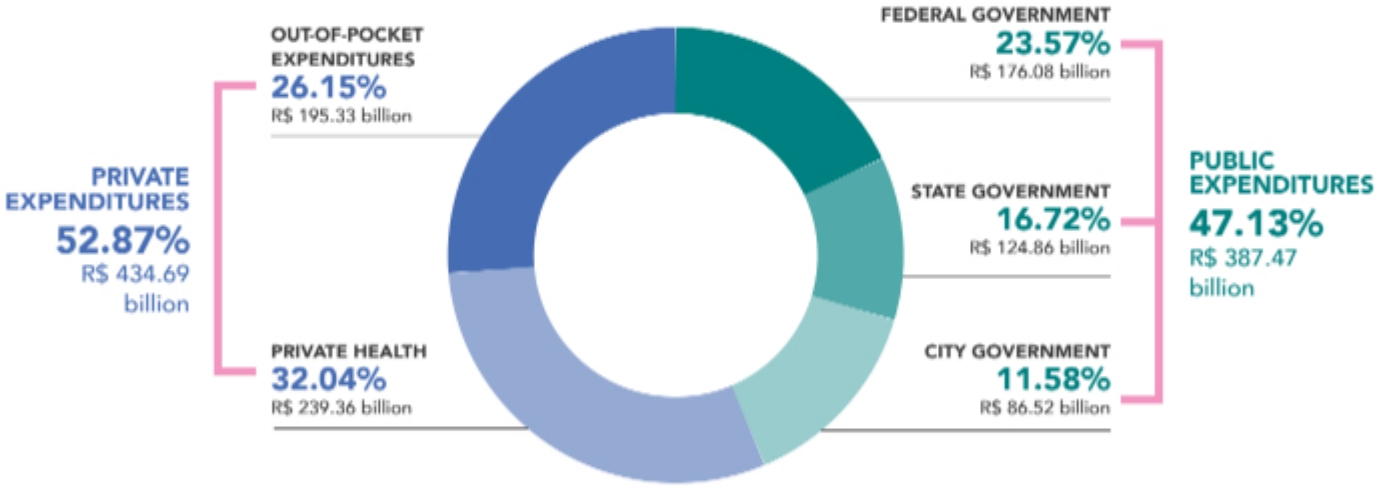
Source: Continuous PNAD - Caged and Novo Caged – Ministry of Labor (accessed on 4/Mar/2022).

Thus, we may conclude that Covid-19 pandemic still showed its negative impacts over the Brazilian economy in 2021. Despite the end of some restrictions that had been imposed in 2020 to control disease dissemination, the population was impacted by higher prices and decreased income. In healthcare, there was increase in job opportunities and expansion of clinical networks to serve the increased demand for healthcare services due to the pandemic, as we can notice below.

Health sector

Estimates defined by Anahp based on data from the Organization of Economic Cooperation and Development (OECD), National Treasury Agency and Private Healthcare Agency (ANS) indicate that healthcare expenses generated transactions equivalent to 9.47% of Brazilian GDP in 2021, amounting to R$822.16 billion (in updated values). Out of the total, R$387.47 billion were public resources (47.13% of the total) and R$434.69 billion were private resources (52.87% out of the total) **(Graph 8)**.

GRAPH 8 | Health expenditures in Brazil (R$ 822.16 billion - 9.47% GDP) I 2021



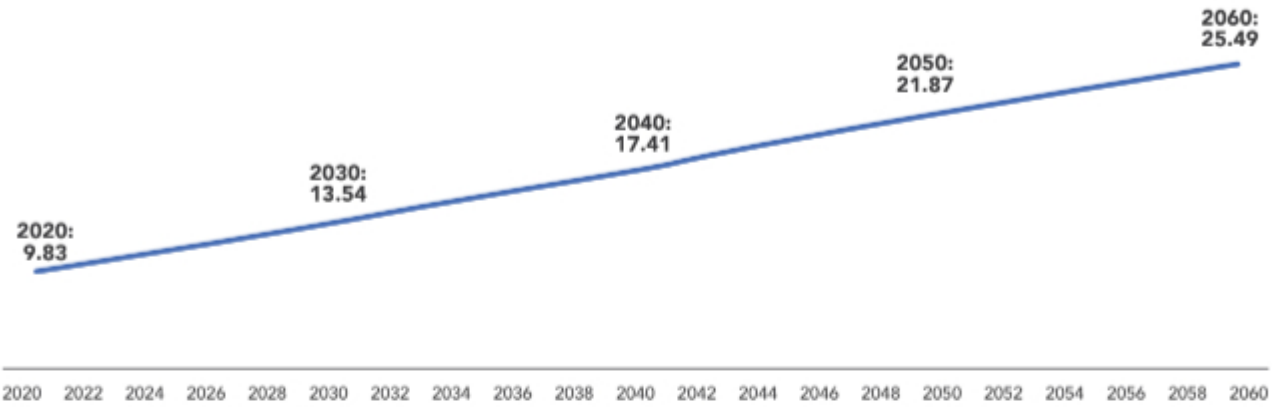
Source: Anahp estimate based on data from OECD, STN and ANS (accessed on 4/Mar/2022), updated by IPCA for 2021.

In the public sector, in 2021, the federal government spent R$176.08 billion, state governments R$124.86 billion and municipal governments R$86.52 billion. In the private sector, it is estimated that R$239.36 billion had been spent by families and companies to pay for medical-hospital coverage in 2021 (private health care) and out-of-pocket expenditures amounted to R$195.33 billion **(Graph 8)**.

The increase in health expenditures is also influenced by the population aging process. In 2020, the elderly age range in Brazil amounted to 9.83% of the population, and population forecasts by IBGE estimate a share of 13.54% in 2030, 17.41% in 2040, 21.87% in 2050 and 25.49% in 2060 **(Graph 9)**.

Estimates indicate that health expenditures represented 9.47% of Brazilian GDP in 2021.

GRAPH 9 | People aged over 65 years or more (% in the population) Brazil – 2020 - 2060



Source: IBGE (accessed on 4/Mar/22).

In addition, Covid-19 pandemic posed pressure on the Brazilian healthcare system, requiring more investments in hospital admissions, medications and vaccines.

In 2021 alone, the new confirmed cases of the disease reached 14.50 million people and the number of deaths was close to 425,000 **(Table 1)**. The months with the highest incidence of new cases were March to July. April was the month with the highest number of deaths, exceeding 80,000 people. Immunization started in January 2021 in Brazil and it prevented the numbers from being even higher, causing the decrease in number of cases and deaths in the second half of the year.

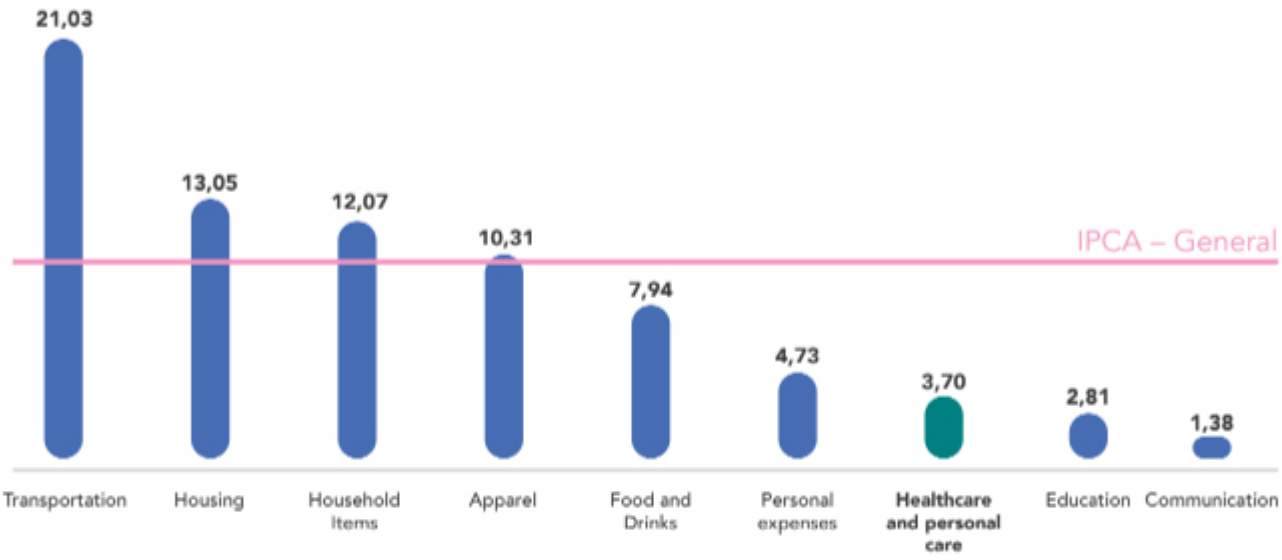
TABLE 1 | Number of new cases and deaths caused by Covid-19 in Brazil | 2021

MONTH	New cases	New deaths
January	1,527,489	29,576
February	1,349,570	30,531
March	2,205,301	66,959
April	1,911,712	82,392
May	1,882,784	58,714
June	2,012,408	55,244
July	1,351,850	38,188
August	863,050	24,088
September	522,288	16,268
October	382,263	11,050
November	285,518	6,903
December	191,696	4,349
Total	**14,485,929**	**424,262**

Source: Our World in Data (accessed on 4/Mar/2022).

Concerning sector inflation, between the groups that form IPCA, price levels of healthcare and personal care showed 3.70% increase in the year **(Graph 10)**, being part of the group with the smallest price variation, below the overall rate observed for 2021 (10.06%).

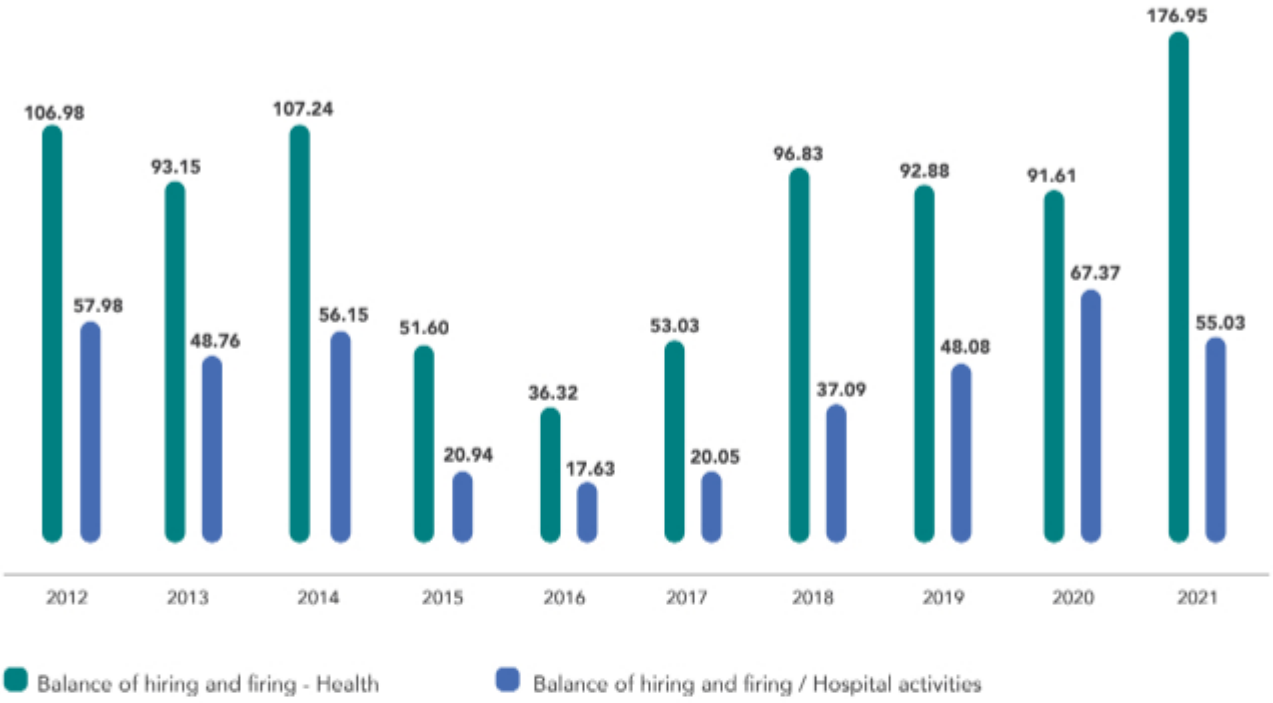
GRAPH 10 | IPCA year-to-date variation (%) Groups 2021



Source: IPCA - IBGE (accessed on 4/Mar/22).

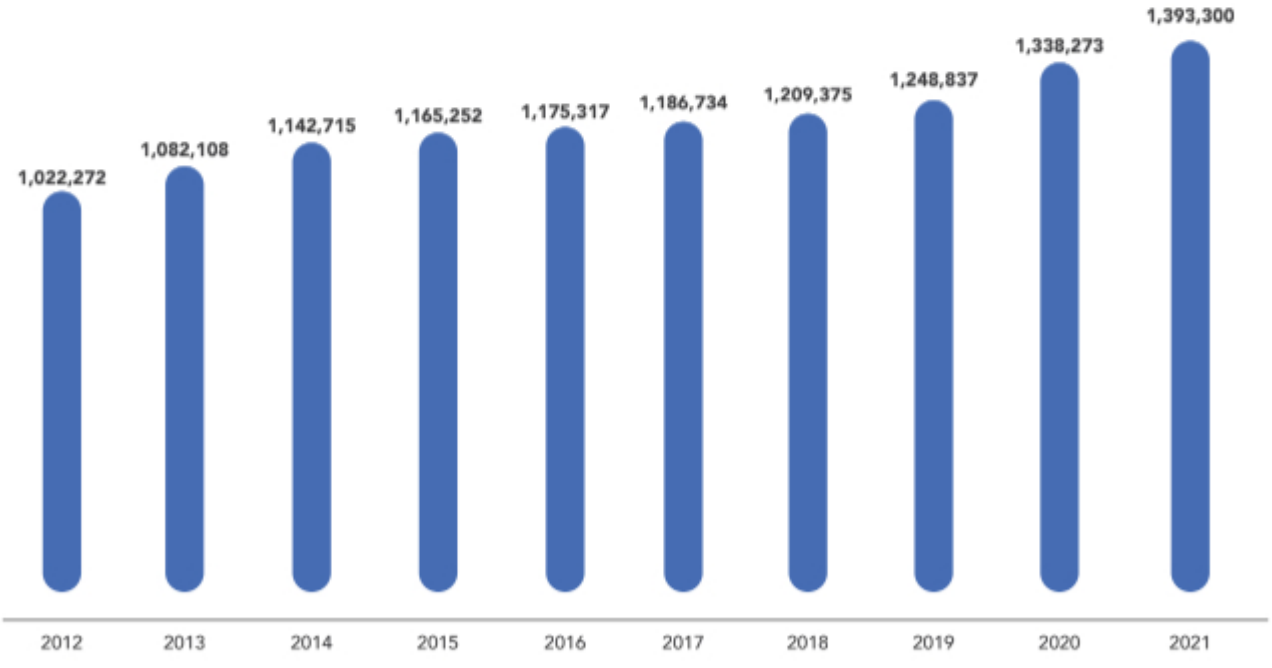
Concerning sector inflation, the price levels of healthcare and personal care showed 3.70% increase in the year.

GRAPH 11 | Balance of hiring and firing from formal jobs in health care and in hospital activities (in thousands) 2012-2021



Source: Caged and Novo Caged – Ministry of Labor (accessed on 4/Mar/2022).

GRAPH 12 | Number of formal employees in Hospital Activities / 2012-2021



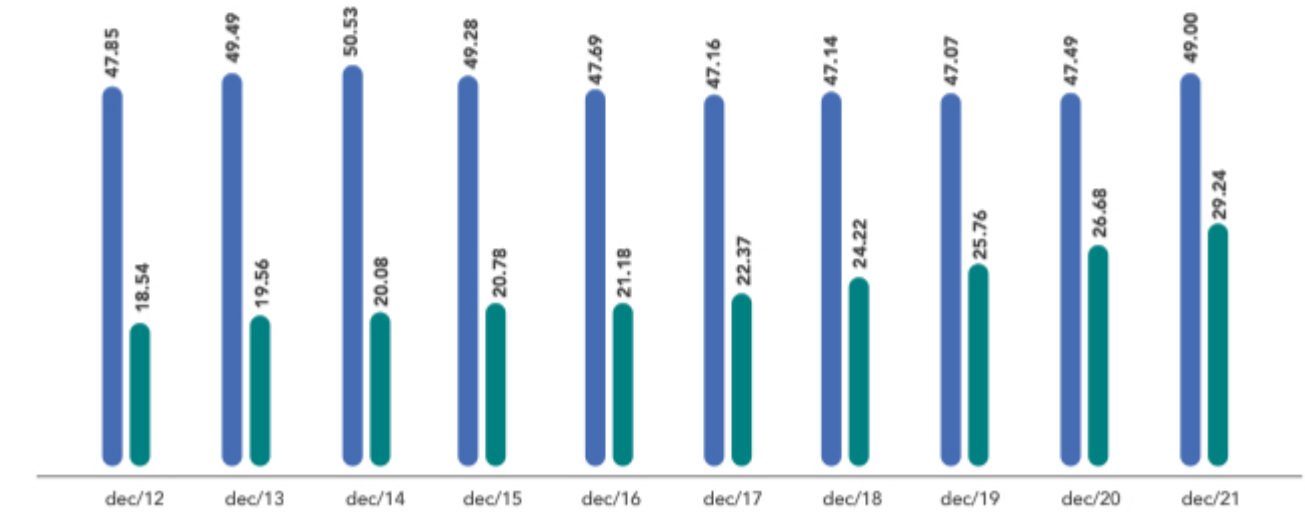
Source: Caged and Novo Caged – Ministry of Labor (accessed on 4/Mar/2022).

GRAPH 14 | Number of beds (regular inpatient and complementary ICU and step down) – General and Specialized Hospitals - 2012-2021

Source: CNES - Ministry of Health (accessed on 4/Mar/2022).

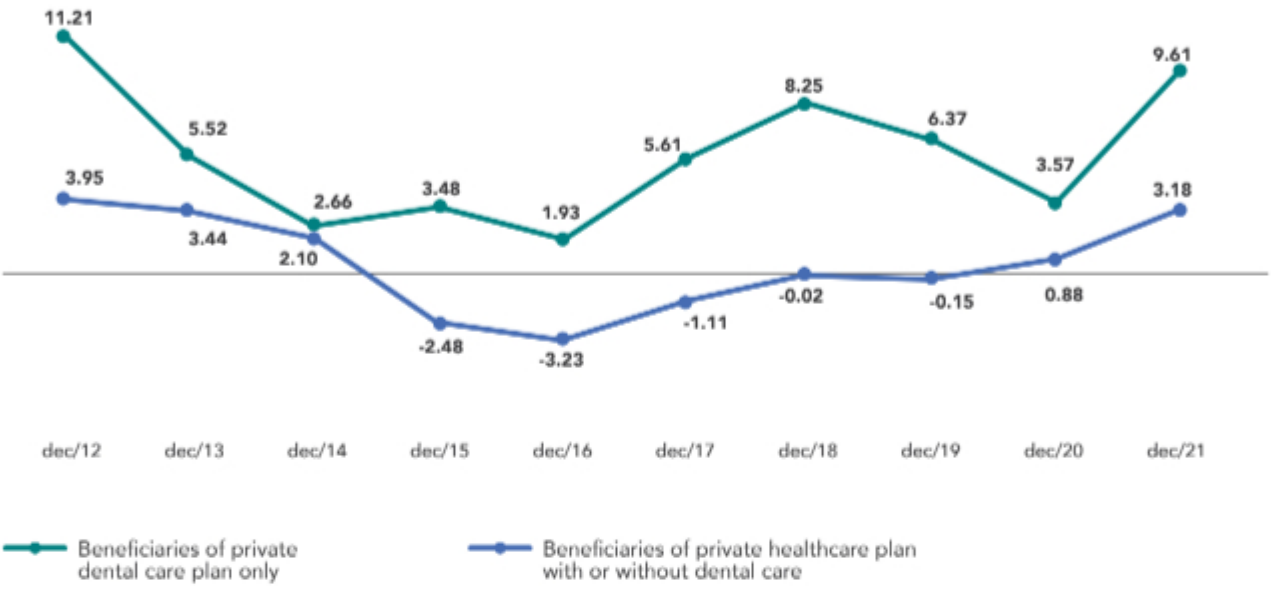
The number of beneficiaries of private healthcare plans (with or without dental coverage) resumed its growth in 2021, reaching 49 million of beneficiaries, in absolute numbers **(Graph 15)**. The result indicates 1.51 million more beneficiaries compared to 2020. In terms of percentage variation, the growth in the period was 3.18%, one of the highest variations observed since 2013 **(Graph 16)**.

GRAPH 15 | Private healthcare plan beneficiaries by coverage (in million) I 2012-2021



Source: ANS (accessed on 4/Mar/2022).

GRAPH 16 Increase rate of number of beneficiaries of private healthcare plan by coverage compared to previous years (%) / 2012-2021



Source: ANS (accessed on 4/Mar/2022).

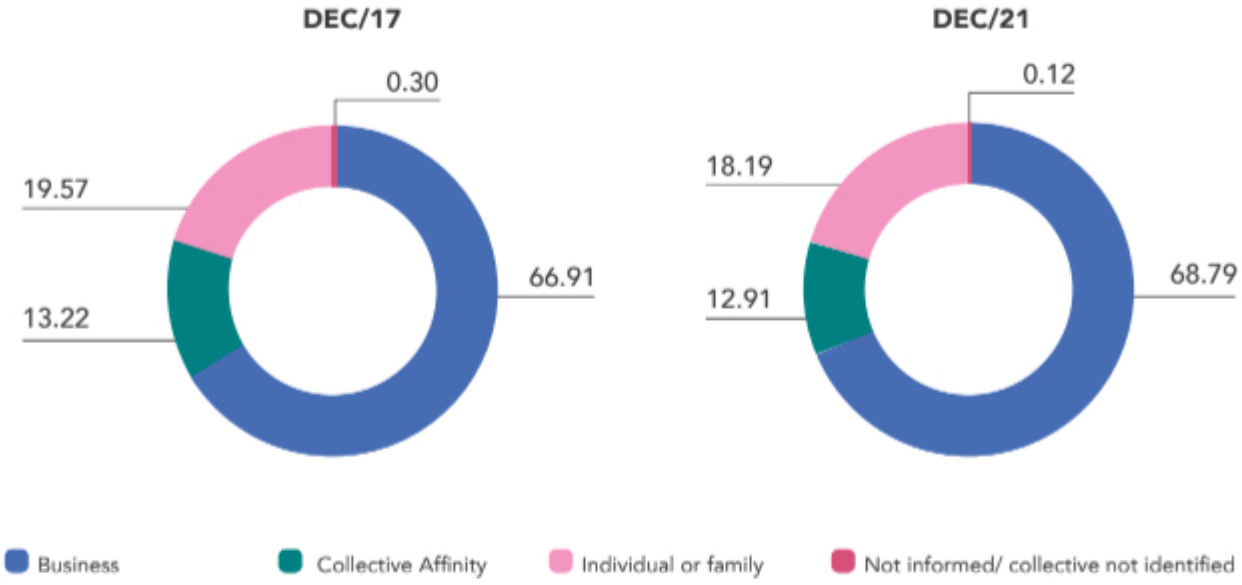
In the analysis by type of contract, the corporate collective plans increased their share from 66.91% in the end of 2017 to 68.79% in the end of 2021, being the main contracted category. This result reflects the 6.83% increase in number of beneficiaries in this category in the past five years, which went up from 31.55 million in December 2017 to 33.70 million in December 2021.

Affinity plans went down from 13.22% in December 2017 to 12.91% in December 2021. Individual plans had the greatest reduction in number of beneficiaries, comparing 2017 to 2021, going from 19.57% down to 18.19%, which corresponds to 3.43% reduction in number of beneficiaries **(Graph 17)**.

Concerning individual products, ANS authorizes the maximum price adjustments to the individual or family plans in May every year. In 2021, for the first time, the price adjustment was the reduction of 8.19% due to the decrease in clinical expenses in 2020 caused by the Covid-19 pandemics **(Graph 18)**. The calculation methodology considers a combination of clinical expenditures of healthcare providers and IPCA (discounting the item Healthcare Plan).

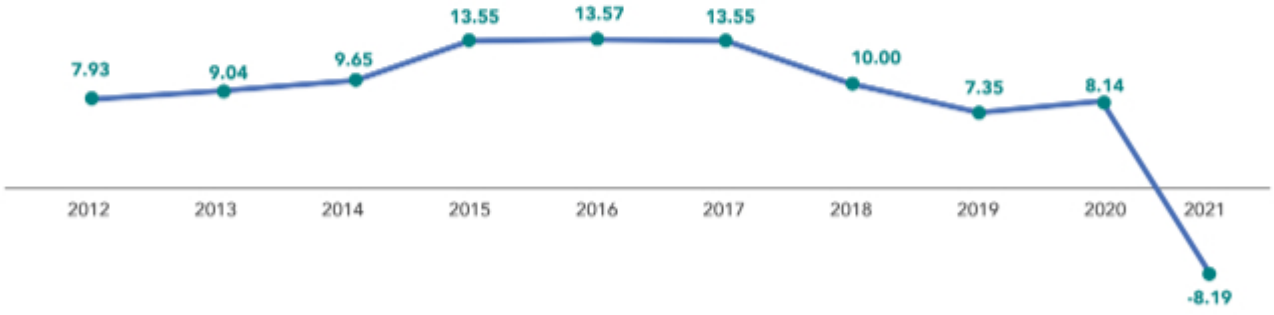
There was increase of 6.83% in the number of beneficiaries of business collective plans in the past five years.

GRAPH 17 | Distribution of beneficiaries according to type of contract (%) / 2017 and 2021



Source: ANS (accessed on 4/Mar/2022). Excludes exclusive dental care companies.

GRAPH 18 | Maximum price adjustments authorized by ANS for individual plans (%) / 2012-2021



Source: ANS (accessed on 4/Mar/2022).

Concerning the share of beneficiaries by age range, the main differences between 2012 and 2021 involve the increase of beneficiaries aged 30 to 44 years and reduction of younger beneficiaries, aged 15 to 29 years **(Graph 19)**.

Regional characteristics of the market for medical-hospital plans

Southeast region, gathering 29.66 million beneficiaries, amounted to 60.53% of the medical-hospital market in the country, followed by the South region, with 7.12 million beneficiaries, or 14.53% share. The Northeast region ranked third with 6.88 million beneficiaries (14.05%). Compared to 2020, all regions presented growth, more marked in the Northeast (4.38%) and in the North (3.58%) **(Table 3)**.

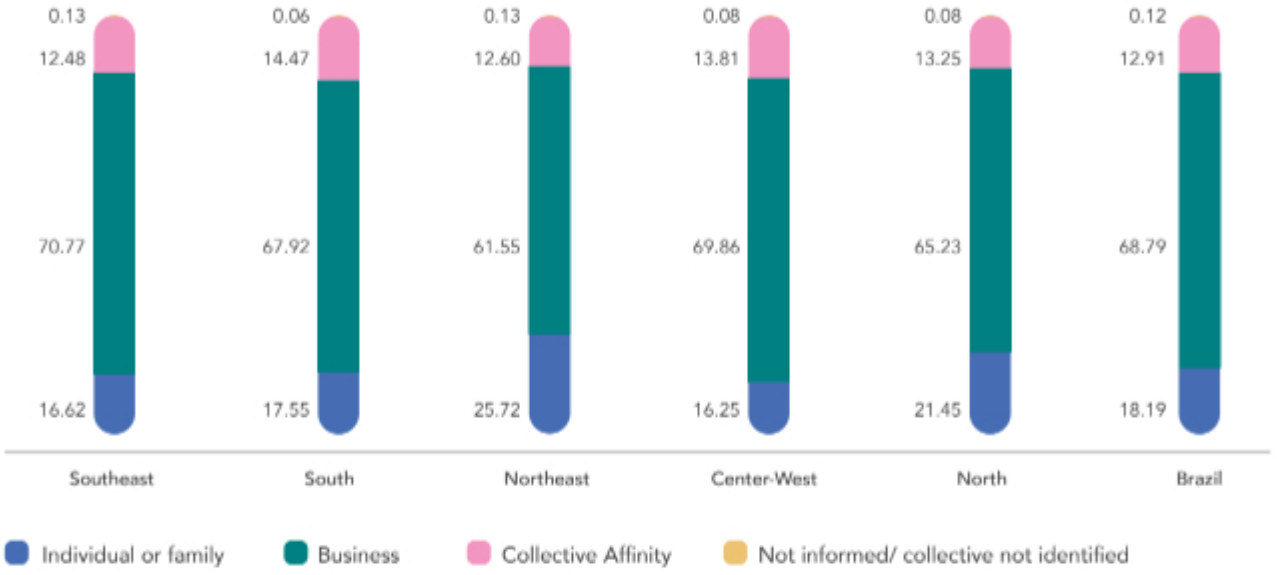
TABLE 3 | Beneficiaries of medical care private plans, with or without dental care, per region (million beneficiaries) | 2020 and 2021

Region	Dec 20	Dec 21	Variation 2020-2021
Southeast	28.84	29.66	2.84%
South	6.88	7.12	3.48%
Northeast	6.60	6.88	4.38%
Center-West	3.36	3.46	2.94%
North	1.77	1.83	3.58%
Not identified	0.04	0.04	-6.90%
Brazil	**47.49**	**49.00**	**3.18%**

Source: ANS (accessed on 4/Mar/2022). Excludes exclusive dental care companies.

The Northeast region had the largest share of individual or family plans (25.72% out of the total). In turn, the Southeast region is the one that showed more beneficiaries in business collective plans (70.77%), whereas the South region had the greatest share of affinity plan (14.47%) **(Graph 24)**.

GRAPH 24 Distribution of beneficiaries according to contract type, per region (%) December 2021



Source: ANS (accessed on 4/Mar/2022). Excludes exclusive dental care companies.

As to age range, the Southeast Region represented the highest proportion of elderly (people aged 60 years or more) in the total population of beneficiaries - 15.36% in December 2021. On the other extreme, in the North region, there was a total of 9.27% of elderly, the lowest proportion of this age range observed among all regions **(Graph 25)**.

GRAPH 25 Distribution of beneficiaries according to age range by region – (%) December 2021

Source: ANS (accessed on 4/Mar/2022). Excludes exclusive dental care companies.

The Southeast presented the highest rate of coverage of private healthcare plan.

The coverage rate (percentage of the population covered by private healthcare plans) was higher in the Southeast Region (35.40%) and lower in the North Region (10.90%) **(Table 4)**. Compared to the previous year, the Southeast, Center-West and North regions were the ones that presented the highest increases in coverage rates.

TABLE 4 | Coverage rates of beneficiaries from medical hospital plans per region / 2020 and 2021

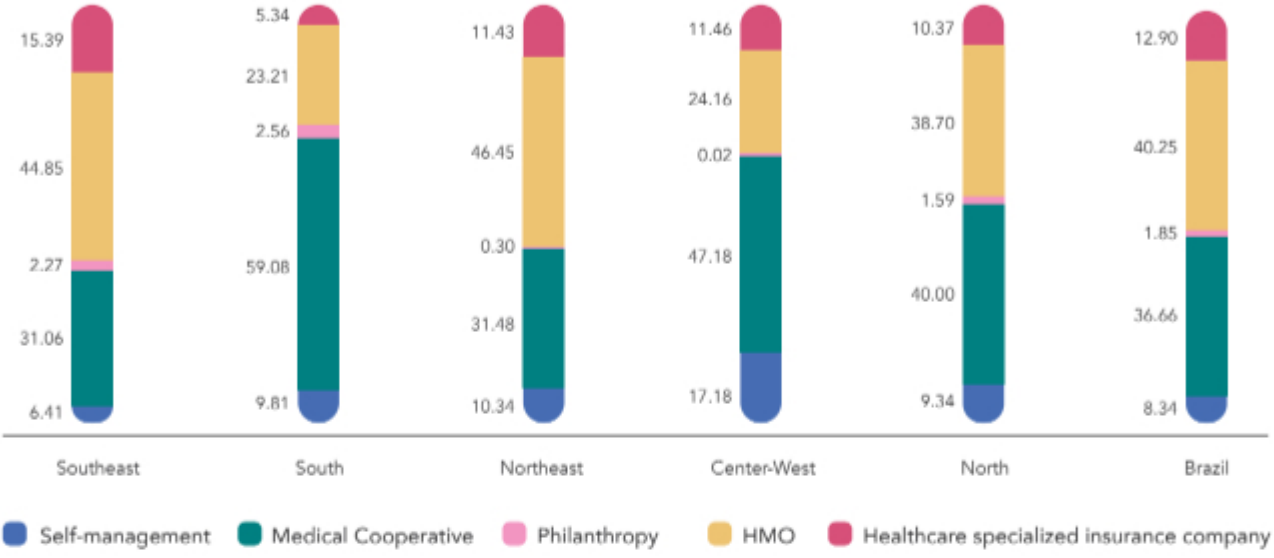
Region	Dec 20	Dec 21
Southeast	35.10	35.40
South	24.60	24.60
Northeast	12.20	12.20
Center-West	21.90	22.60
North	10.40	10.90
Brazil	**24.20**	**24.40**

Source: ANS (accessed on 4/Mar/2022). Excludes exclusive dental care companies.

When we consider the different health care plan modalities in Brazil, the predominance was of HMO and medical cooperative groups. Regionally, the predominant modality in the South, Center-West and North was of the medical cooperative plans. In Southeast and Northeast regions, conversely, HMOs lead the ranking.

The presence of self-managed plans was more relevant in the Center-West region showing 17.18% share of all medical-hospital plan beneficiaries in December 2021. The greatest proportion of beneficiaries in healthcare insurance companies came from the Southeast Region, reaching 15.39% of the total **(Graph 26)**.

GRAPH 26 | Distribution of beneficiaries according to modality by region (%) | December 2021



Source: ANS (accessed on 4/Mar/2022). Excludes exclusive dental care companies.

The figures shared by ANS in 2021, including increase in number of beneficiaries of medical-hospital care plans and expansion of the number of hospitals and beds, still reflected the impacts of Covid-19 pandemic and the response of the population and hospital organizations to the advance of the disease.

Increase in beneficiaries of healthcare plans and expansion of number of hospitals and beds still reflected the impacts of the pandemic in 2021.

When analyzing discharge due to infectious diseases, Covid-19 pandemic was still affecting the population

Similar to previous years, Anahp has asked member hospitals to prepare an annual report listing all admissions to describe the characteristics of the served population. To be relevant, correct identification of the patient diagnosis in the medical record is of utmost importance.

Hospital discharges are analyzed according to the main diagnosis, based on the respective chapter of the International Code of Diseases - 10th edition (ICD-10), by World Health Organization (WHO). In 2021, 10.70% of the hospital discharges of the sample were classified under the chapter "Genitourinary System Diseases" (referring to genital and urinary organs) of ICD-10. Another significant chapter for hospital discharges was "Neoplasm (tumors)", which represented 9.86% of the total number, followed by "Digestive System Diseases", reaching 9.17%. The chapter "Some infectious and parasitic diseases" (which include hospital discharges from Covid-19-related diseases, code B34.2, coronavirus infections - unspecific) represented 7.68% of hospital discharges in 2021, a percentage above the one observed in 2020 (6.28% out of the total discharges). For Covid-19, there are still discharges classified under codes U07.1 - Covid-19, identified virus, and U07.2 - Covid-19, non-identified virus, which are part of the chapter "Codes for special purposes" of ICD-10, classified under "no information" (3.41% of hospital discharges in 2021) in this publication.

It is important to highlight that after one year of reduced hospital discharges (including drop of 20.09% between 2019 and 2020), resulting from the change in admission profile due to the pandemic, when many chronic patients failed to come to the healthcare centers for follow-up, 2021 showed increase in number of admissions (12.79% increase between 2020 and 2021).

Epidemiological Profile 2021

The patient record is essential for clinical management monitoring, as it provides information about the diagnosis and the progression of the patient status, serving as a tool to provide evidence of safe care.

In most hospitals, Medical Archive and Statistics (SAME) is responsible for managing the clinical information by storing, tracking down and auditing the patient records, supported by the Committees of Patient Record Review and Deaths. To present, all hospitals keep track of their diagnoses and performed procedures after hospital discharge.

To ensure the quality of information, the Medical Archive team codifies the diagnoses and procedures, according to the rules advocated by the ICD-10. The active participation of Medical Archive in codifying the patient records conveys greater quality to the documented diagnoses.

In 2021, 95.65% of the respondents in the sample already had implemented the electronic medical record. Implementation of electronic prescription, in turn, had already reached 94.57% of the organization. It is worth mentioning that 70% of the member hospitals in December 2021 completed the form using SINHA platform (Anahp Hospital Indicator System).

Table 1 shows the main data about the progress notes in the medical records, showing the improvement opportunities for clinical management in the hospitals

In 2021, 95.65% of the respondents in the sample already had implemented the electronic medical record.

TABLE 1 | Indicators of quality in medical records of Anahp hospitals (% members) / 2021

Indicators	2021
Implemented electronic medical record	95.65
Implemented electronic medical prescription	94.57
Business intelligence (BI)	81.52
Picture Archiving and Communication System (PACS) in the record	81.52
Bar code or RFID	80.43

Source: SINHA/Anahp.

Hospital discharges were analyzed using the main diagnosis according to ICD-10 chapter.

Disease classification, excluding cases without information, involves: some affections originating from the perinatal period; some infectious and parasitic diseases; factors that influenced health status and contact with healthcare services; skin and subcutaneous tissue diseases; circulatory system diseases; digestive tract diseases; genitourinary system diseases; respiratory system diseases; eye and adnexa diseases; ear and mastoid diseases; nervous system diseases; nutritional and metabolic endocrine diseases; blood and hematopoietic diseases and some immune disorders; musculoskeletal and connective tissue diseases; pregnancy, delivery and puerperium; injuries, poisoning and some external cause consequences; congenital malformation, chromosome deformities and anomalies; neoplasm (tumors); symptoms, signs and abnormal findings of clinical examinations and laboratory tests; mental and behavioral disorders **(Table 2 and Graph 1)**.

The improvement of clinical and epidemiological profile depends directly on data quality inputted by the multiprofessional team during care provision. Some general classification, such as factors and symptoms, may show a less specific epidemiological profile, with little guidance. The smaller the number of unspecific ICDs, the better the quality of the managerial data.

Out of the total sample of analyzed hospital, 10.70% of the discharges were in the chapter genitourinary system diseases, followed by neoplasm, which amounted to 9.86% of the total discharges.

Discharges related to infectious disease associated with Covid-19 were still increasingly noticeable, amounting to 7.68% in 2021, above the number observed in 2020 (6.28% of the total discharges). During the year, there were fewer hospital discharges related to pregnancy; perinatal period affections; blood diseases, and undefined factors, such as people coming to healthcare centers for tests and investigations, such as follow-up tests after neoplasms, removal and adjustments to orthoses and implants, care and post-natal monitoring.

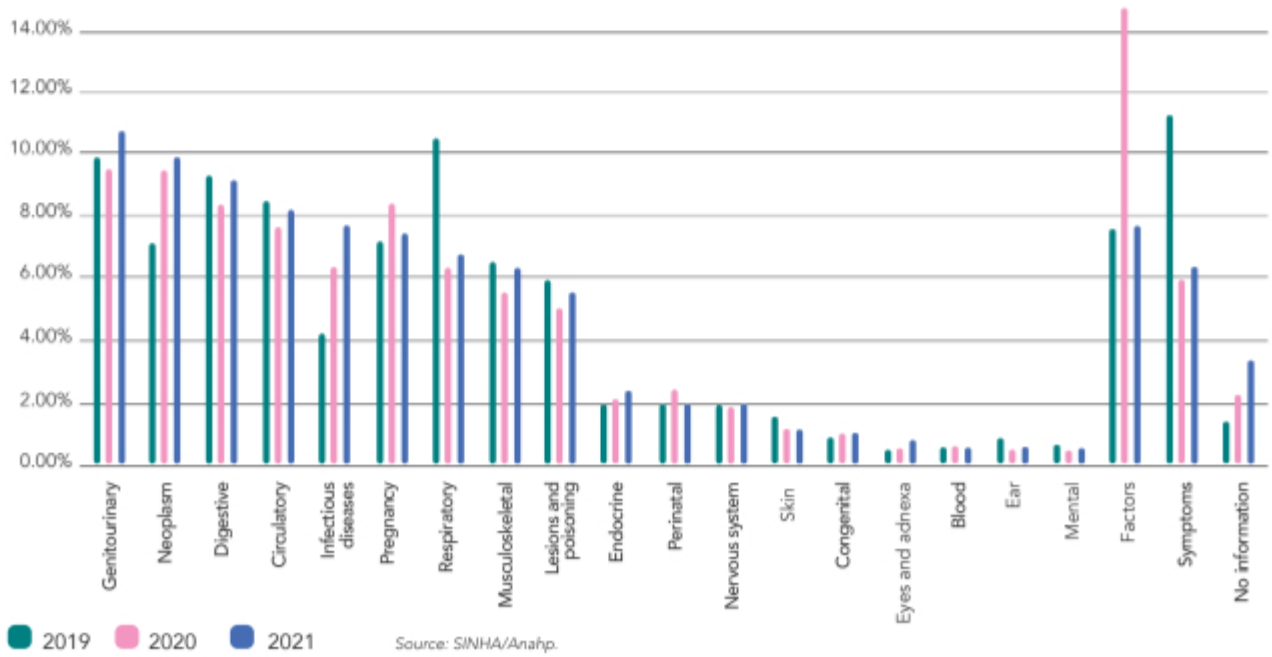
Between 2020 and 2021, the total number of hospital discharges presented increase of 12.79%, after reduction of 20.09% between 2019 and 2020, as shown in **Table 2**:

TABLE 2 | Hospital discharges according to ICD-10 chapter (%) | 2019-2021

ICD-10 Chapter	2019		2020		2021	
	Total	%	Total	%	Total	%
Genitourinary	186,922	9.88	142,974	9.46	182,393	10.70
Neoplasm	133,785	7.07	143,276	9.48	168,074	9.86
Digestive	176,124	9.31	126,500	8.37	156,312	9.17
Circulatory	160,855	8.50	115,618	7.65	140,119	8.22
Infectious diseases	78,834	4.17	94,913	6.28	130,914	7.68
Pregnancy	134,926	7.13	126,953	8.40	126,311	7.41
Respiratory	197,671	10.45	95,517	6.32	115,231	6.76
Musculoskeletal	123,935	6.55	84,031	5.56	107,049	6.28
Lesions and poisoning	110,788	5.86	76,474	5.06	93,072	5.46
Endocrine	36,357	1.92	31,436	2.08	41,592	2.44
Perinatal	35,827	1.89	35,970	2.38	34,263	2.01
Nervous system	36,778	1.94	29,018	1.92	33,922	1.99
Skin	30,181	1.60	16,927	1.12	19,944	1.17
Congenital	16,956	0.90	14,509	0.96	17,898	1.05
Eyes and adnexa	8,965	0.47	8,010	0.53	12,955	0.76
Blood	10,817	0.57	9,068	0.60	9,716	0.57
Ear	16,644	0.88	7,406	0.49	9,546	0.56
Mental	12,476	0.66	7,254	0.48	9,205	0.54
Factors	143,518	7.59	221,262	14.64	129,891	7.62
Symptoms	212,598	11.24	90,076	5.96	108,072	6.34
No information	26,453	1.40	34,157	2.26	58,127	3.41
Total	1,891,413	100.00	1,511,350	100.00	1,704,607	100.00

Source: SINHA/Anahp.

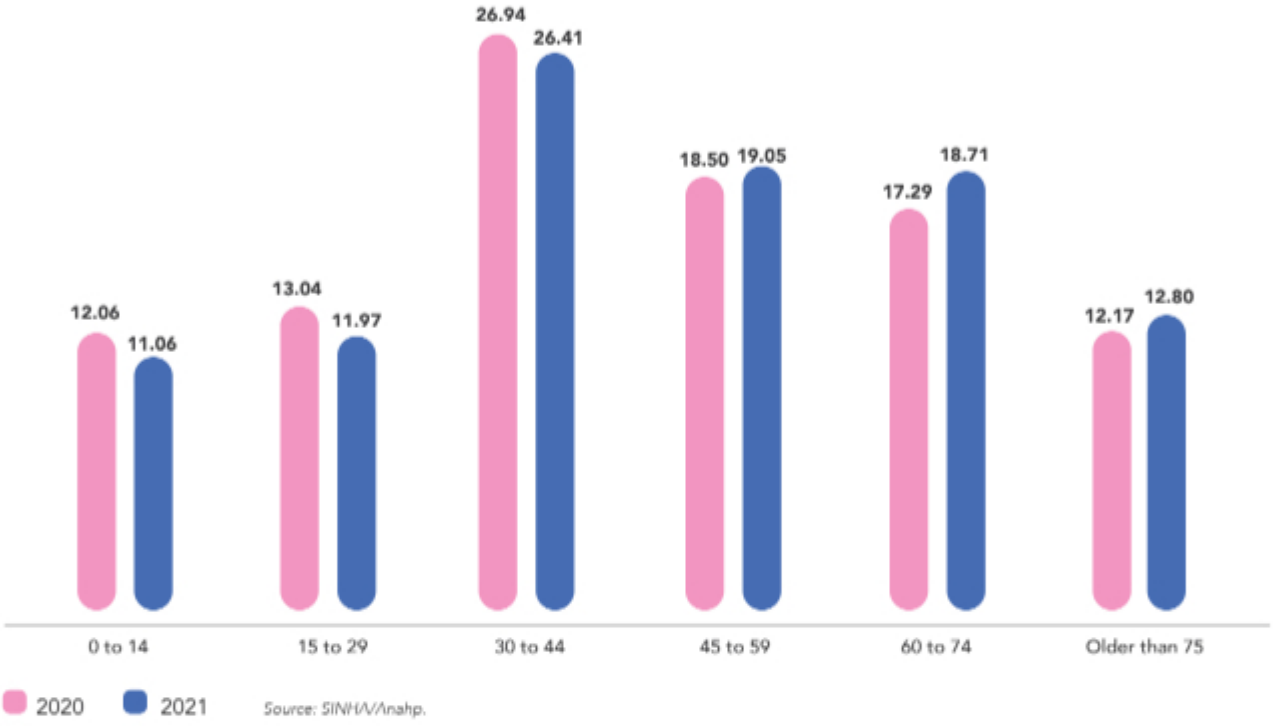
GRAPH 1 | Hospital discharges according to ICD-10 chapter (%) | 2019-2021



Source: SINHA/Anahp.

Graph 2 brings the percentage of hospital discharges by age range. The share of hospital discharges of patients aged between 0 and 44 years reduced in 2021 compared to 2020, whereas the participation of patients over 45 years in hospital discharges increased in all age ranges, using the same comparison.

GRAPH 2 | Hospital discharges by age range (%) – 2020 and 2021

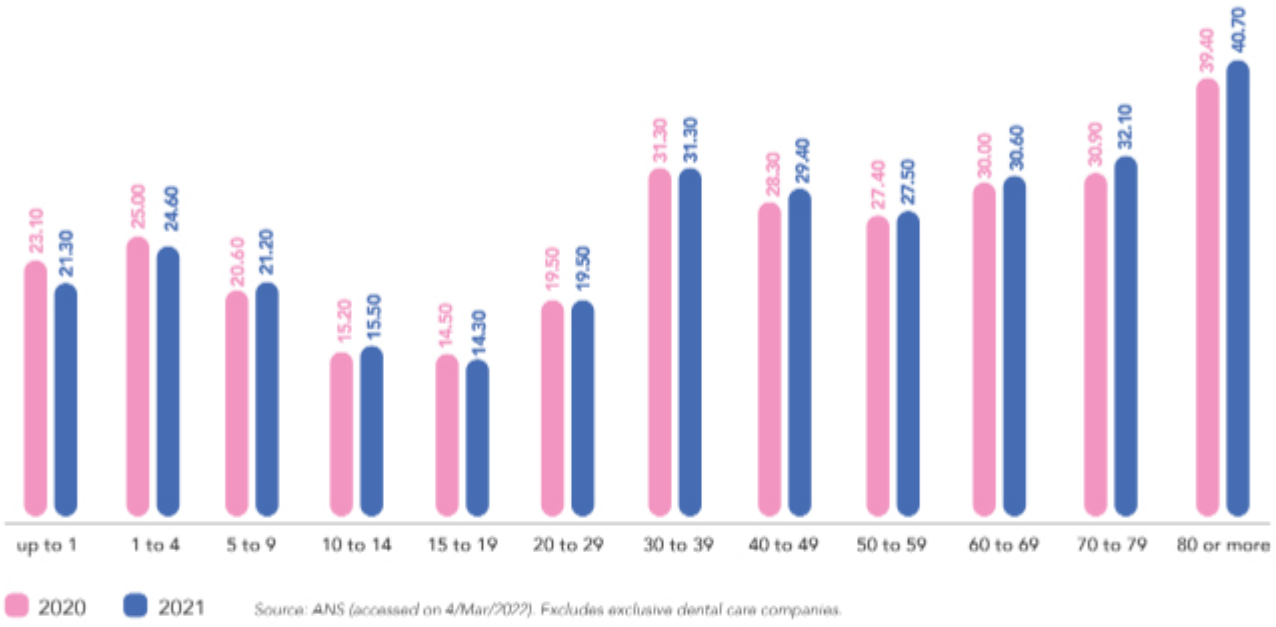


Source: SINHV/Anahp.

The share of hospital discharges of patients aged between 0 and 44 years reduced in 2021.

In 2021, the share of hospital discharges of patients over 75 years was 12.80% of the sample. It is exactly in the older age range that the healthcare plan beneficiary coverage rate (percentage of the population covered by private health) is higher, reaching 32.10% among beneficiaries aged 70 to 79 years and 40.70% among those aged 80 years or more **(Graph 3)**.

GRAPH 3 | Rate of coverage of medical-hospital plan beneficiaries by age range (%) | 2020 and 2021

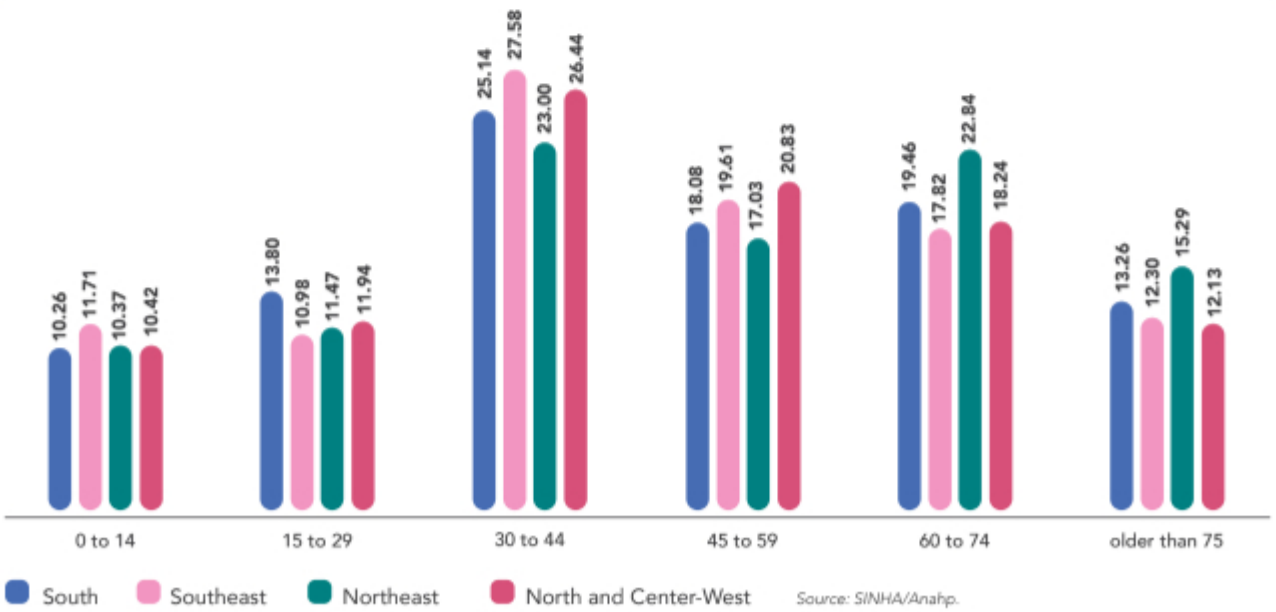


Source: ANS (accessed on 4/Mar/2022). Excludes exclusive dental care companies.

Upon analyzing the discharges by age range and region, it was possible to note that the Northeast Region had more patients aged over 60 years, whereas the Southeast Region had the highest number of patients in the younger age range (aged 0 to 14 years).

North and Center West Regions, in turn, were responsible for the highest percentage of patients aged 30 to 59 years: 47.27% **(Graph 4)**.

GRAPH 4 | Hospital discharges by age range and region (%) – 2021



Source: SINHA/Anahp.

When we correlate main diagnosis to age range, it is possible to analyze the incidence of genitourinary system diseases among patients aged 30 to 44 years, whereas neoplasms were more frequent among patients aged 60 to 74 years. Similarly, infectious diseases affected primarily the age ranges over 30 years **(Table 4)**.

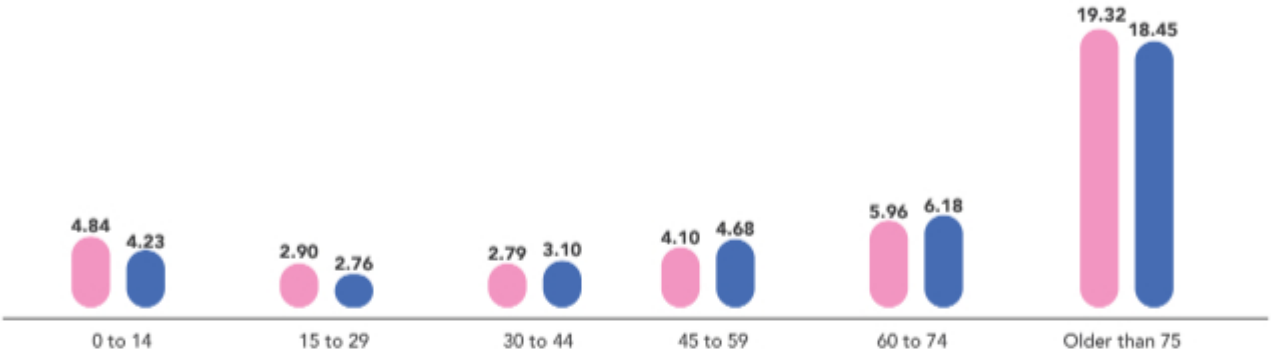
TABLE 4 | Hospital discharges according to main diagnosis grouped by ICD-10 chapter and age range (%) / 2021

ICD-10 Chapter	2021						
	0 to 14	15 to 29	30 to 44	45 to 59	60 to 74	older than 75	Grand Total
Genitourinary	0.71	1.37	3.45	2.32	1.71	1.14	10.70
Neoplasm	0.38	0.49	1.87	2.54	3.09	1.50	9.86
Digestive	0.75	1.13	2.43	2.04	1.81	1.01	9.17
Circulatory	0.11	0.28	1.09	1.79	2.70	2.25	8.22
Infectious diseases	0.40	0.60	1.65	1.86	1.80	1.38	7.68
Pregnancy	0.01	2.32	5.03	0.04	0.00	0.00	7.41
Respiratory	1.40	1.21	1.42	0.87	0.84	1.02	6.76
Musculoskeletal	0.20	0.52	1.62	1.87	1.50	0.58	6.28
Lesions and poisoning	0.47	0.87	1.36	1.06	0.89	0.81	5.46
Endocrine	0.11	0.39	0.98	0.49	0.27	0.21	2.44
Perinatal	1.95	0.01	0.04	0.01	0.00	0.00	2.01
Nervous system	0.34	0.24	0.42	0.40	0.35	0.25	1.99
Skin	0.18	0.20	0.27	0.22	0.18	0.14	1.17
Congenital	0.76	0.10	0.10	0.06	0.03	0.01	1.05
Eyes and adnexa	0.02	0.03	0.07	0.17	0.35	0.12	0.76
Blood	0.12	0.07	0.10	0.08	0.10	0.12	0.57
Ear	0.09	0.06	0.09	0.10	0.14	0.08	0.56
Mental	0.03	0.11	0.13	0.08	0.07	0.12	0.54
Factors	2.23	0.88	1.96	1.12	0.93	0.51	7.62
Symptoms	0.73	0.73	1.38	1.10	1.25	1.15	6.34
No information	0.08	0.37	0.93	0.86	0.69	0.38	3.41
Total	11.06	11.97	26.41	19.05	18.71	12.79	100.00

Source: SINHA/Anahp.

In 2021, the average length of stay in the age range 30 to 74 years was higher than in 2020. The longer time was shown also for patients older than 75 years, which was nearly the double than for the immediately younger age range up to 74 years **(Graph 5)**.

GRAPH 5 | Mean length of stay by age range (days) | 2020 and 2021



Source: SINHA/Anahp.

The discharges that had longer length of stay were related to infectious diseases, chapter that included Covid-19 related disease: the mean length of stay was 10.98 days **(Table 5)**.

TABLE 5 | Mean length of stay per ICD-10 chapter / 2020 and 2021

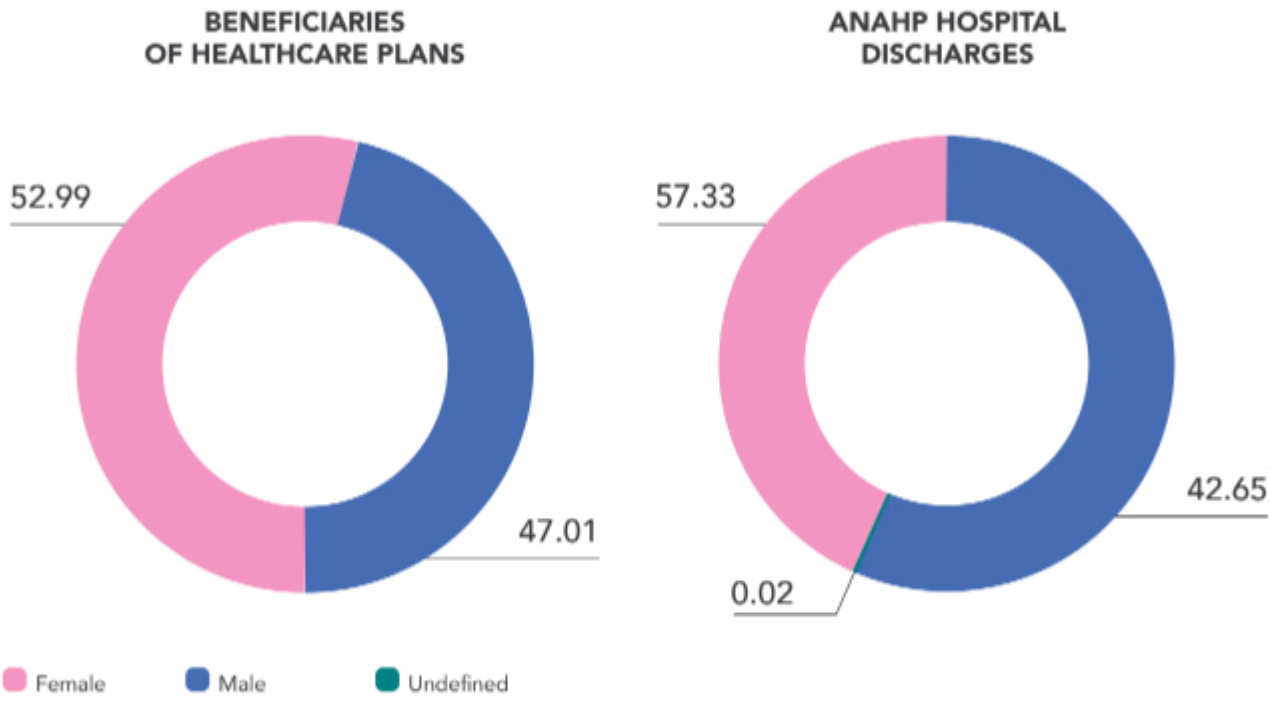
ICD-10 Chapter	2020		2021	
	LOS (days)	Grand Total (%)	LOS (days)	Grand Total (%)
Genitourinary	3.25	9.46	2.97	10.70
Neoplasm	4.69	9.48	4.56	9.86
Digestive	3.61	8.37	3.03	9.17
Circulatory	6.49	7.65	5.75	8.22
Infectious diseases	9.60	6.28	10.98	7.68
Pregnancy	2.43	8.40	2.47	7.41
Respiratory	9.06	6.32	6.95	6.76
Musculoskeletal	3.17	5.56	3.02	6.28
Lesions and poisoning	4.06	5.06	4.90	5.46
Endocrine	4.39	2.08	3.96	2.44
Perinatal	10.05	2.38	8.96	2.01
Nervous system	5.55	1.92	5.05	1.99
Skin	5.85	1.12	5.50	1.17
Congenital	5.21	0.96	4.67	1.05
Eyes and adnexa	2.29	0.53	1.64	0.76
Blood	6.09	0.60	6.58	0.57
Ear	3.05	0.49	3.15	0.56
Mental	7.02	0.48	6.42	0.54
Factors	3.64	14.64	3.51	7.62
Symptoms	5.38	5.96	4.87	6.34
No information	8.10	2.26	8.94	3.41
Total		100.00		100.00

Source: SINHA/Anahp.

Concerning patients' gender, in 2021, among private healthcare plan beneficiaries, 52.99% were female and 47.01% were male.

Among Anahp hospitals, the same trend was observed: 57.33% of the total hospital discharges were of female patients against 42.65% of male patients and 0.02% of not informed or not defined gender **(Graph 6)**.

GRAPH 6 Comparison of gender distribution among beneficiaries of healthcare plans and hospital discharges from Anahp hospitals (%) I 2021



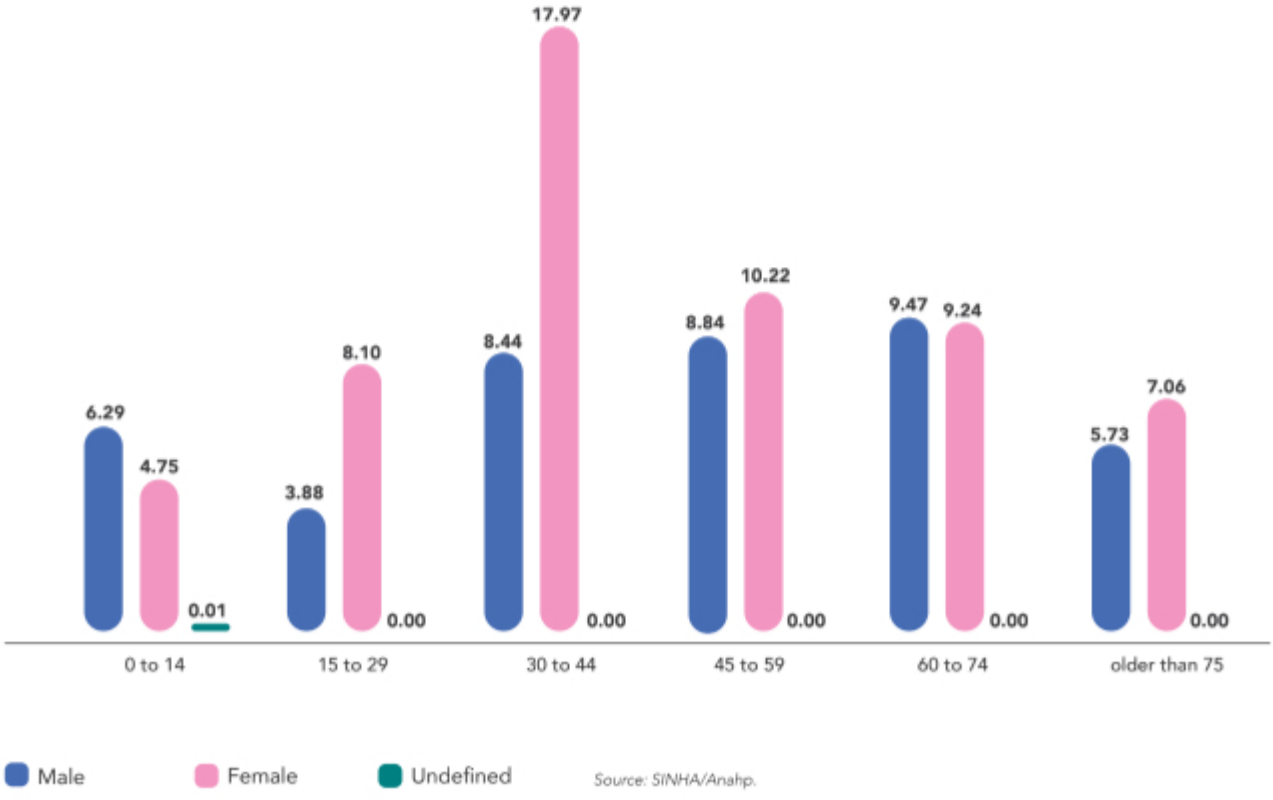
Source: SINHA/Anahp and ANS (accessed on 04/Mar/2022). Excludes exclusive dental care companies.

Among beneficiaries of healthcare plans and Anahp hospitals, most hospital discharges were of female patients.

The highest incidence of negative outcomes occurred among discharges classified as infectious diseases, which included Covid-19.

There was predominance of classified discharges in the age range 30 to 44 years, amounting to about 27% of the total. If including classification by gender, 17.97% were women in the same age range, which concentrates the highest number of women. Men were more predominant in the age range 60 to 74 years **(Graph 7)**.

GRAPH 7 | Hospital discharges by gender and age range (%) – 2021



Source: SINHA/Anahp.

It is important to observe the outcome of these discharges: in 90.74% of the cases, the discharge led to improved patients sent home; administrative discharge (evasion, external transfer or requested by patients) amounted to 3.08% of the total, and 2.84% of the discharges had negative outcome - death.

The highest incidence of negative outcomes occurred among discharges classified as infectious diseases, which included Covid-19, reaching 0.82% of the total deaths **(Table 6)**.

TABLE 6 | Type of hospital discharges according to ICD-10 chapter (%) | 2021

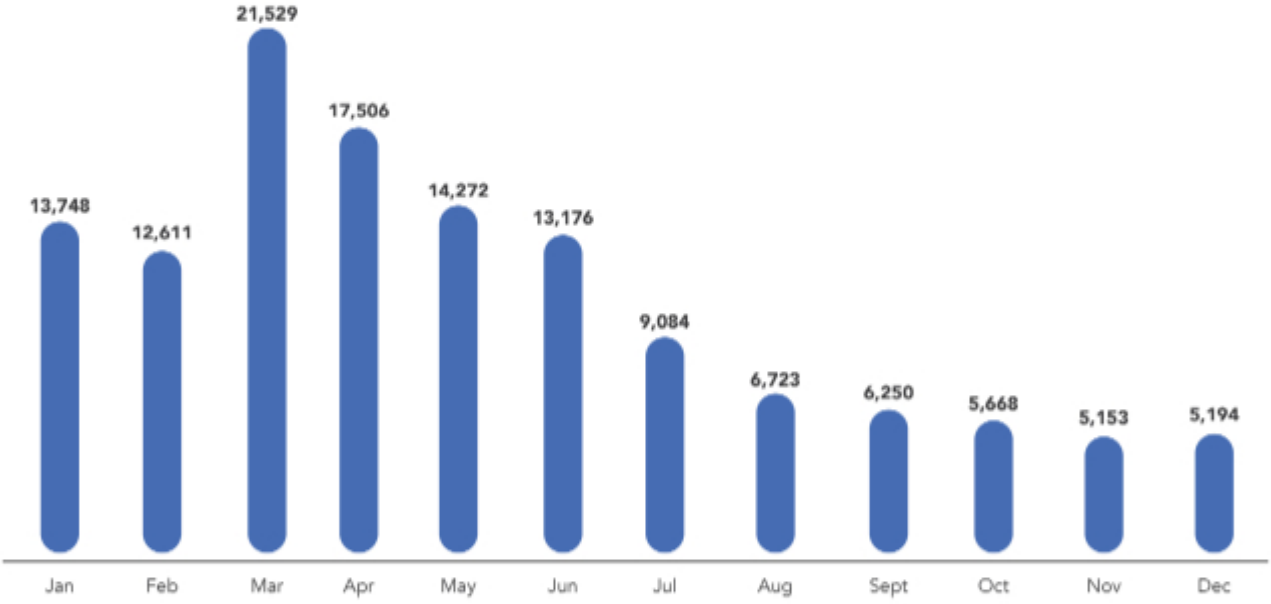
ICD-10 Chapter	2021				
	Discharge due to death	Discharged with improved status	Administrative discharge	Not informed	Grand Total
Genitourinary	0.10	10.09	0.29	0.23	10.70
Neoplasm	0.49	9.00	0.28	0.11	9.86
Digestive	0.11	8.61	0.30	0.16	9.17
Circulatory	0.34	7.42	0.25	0.22	8.22
Infectious diseases	0.82	5.88	0.25	0.74	7.68
Pregnancy	0.00	6.99	0.12	0.30	7.41
Respiratory	0.30	6.10	0.20	0.16	6.76
Musculoskeletal	0.01	6.04	0.12	0.12	6.28
Lesions and poisoning	0.06	5.14	0.17	0.09	5.46
Endocrine	0.03	2.32	0.06	0.03	2.44
Perinatal	0.02	1.67	0.17	0.14	2.01
Nervous system	0.03	1.85	0.06	0.06	1.99
Skin	0.01	1.11	0.03	0.03	1.17
Congenital	0.02	0.96	0.03	0.05	1.05
Eyes and adnexa	0.00	0.75	0.02	0.00	0.76
Blood	0.01	0.53	0.02	0.01	0.57
Ear	0.00	0.50	0.05	0.01	0.56
Mental	0.01	0.45	0.04	0.04	0.54
Factors	0.05	6.82	0.25	0.49	7.62
Symptoms	0.25	5.61	0.21	0.28	6.34
No information	0.17	2.90	0.16	0.07	3.41
Total	2.84	90.74	3.08	3.34	100.00

Source: SINHA/Anahp.

The analysis of monthly discharges by infectious diseases, which included Covid-19, showed significant increase in March 2021, with progressive reduction in subsequent months and stabilization in the last quarter of the year. The behavior was aligned with the Covid-19 waves in Brazil and it may be related with the progression of the immunization of the adult population **(Graph 8)**.

Infectious diseases represent the chapter "Some infectious and parasitic diseases" of ICD-10 that includes, in addition to Covid-19, intestinal infectious diseases, tuberculosis, certain zoonotic bacterial diseases, other bacterial diseases; infections with a predominantly sexual mode of transmission; other spirochetal diseases; other diseases caused by chlamydia; rickettsioses; viral infections of the central nervous system; arthropod-borne viral fevers and viral hemorrhagic fevers; viral infections characterized by skin and mucous membrane lesions; viral hepatitis; human immunodeficiency virus (HIV) disease; other viral diseases; mycoses; protozoal diseases; helminthiases; pediculosis, acariasis and other infestations; sequelae of infectious and parasitic diseases; bacterial and viral infectious agents, and other infectious diseases.

GRAPH 8 | Hospital discharges of infectious diseases per month I 2021

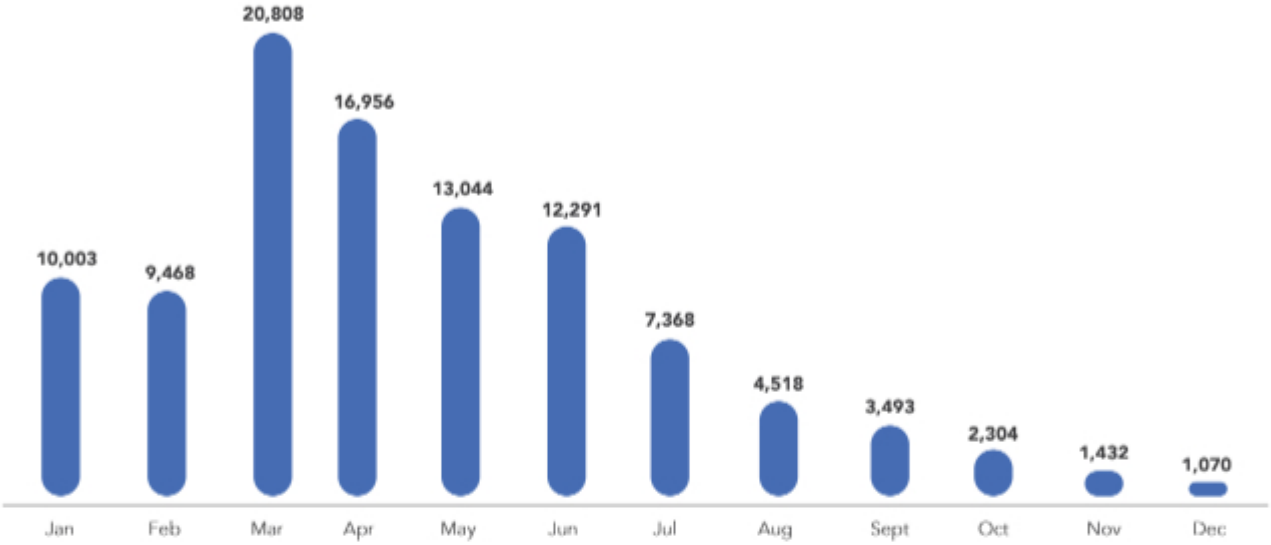


Source: SINHA/Anahp.

The analysis of monthly discharges by infectious diseases showed significant increase in March 2021.

By specifically analyzing the codes related to Covid-19 - B34.2, coronavirus infection - unspecific; U07.1, Covid-19, virus identified; U07.2, Covid-19, virus not identified, month by month, there was a peak in March 2021, followed by decrease in the numbers since then **(Graph 9)**, similar to the previous graph.

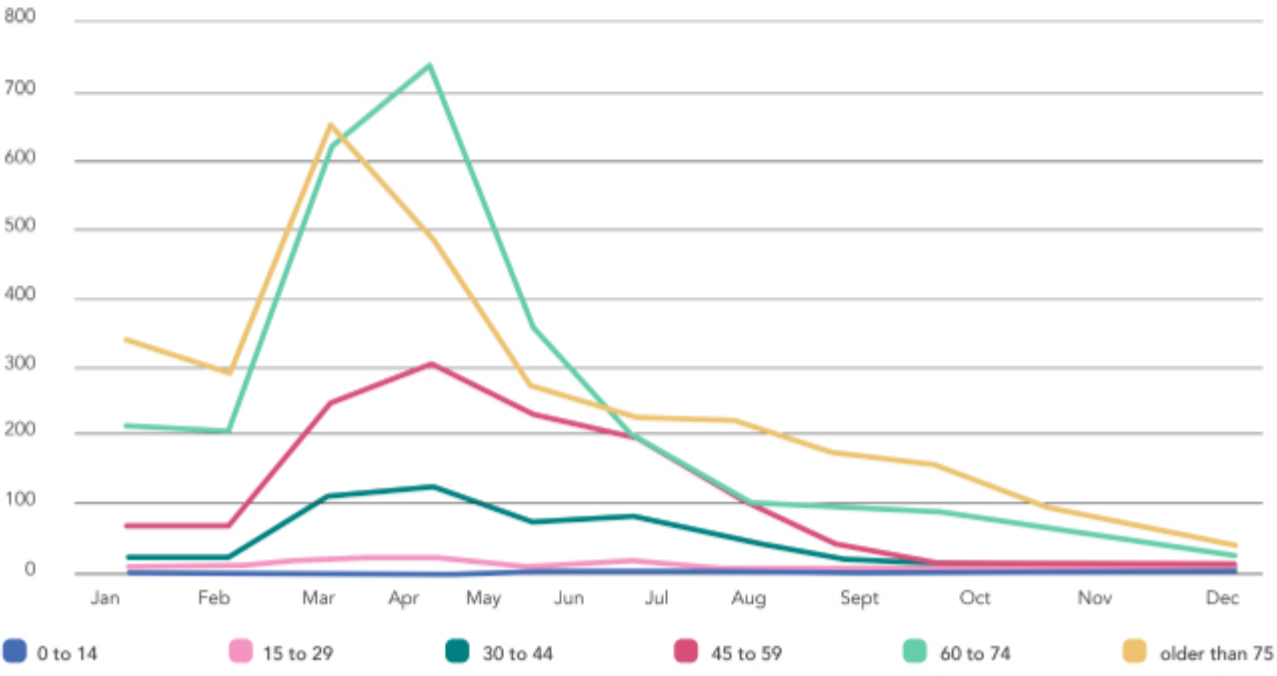
GRAPH 9 | Hospital discharges of Covid-19 cases, per month | 2021



Source: SINHA/Anahp.

Upon analyzing hospital discharge with outcome of death due to Covid-19 by age range and month **(Graph 10)**, we could see that the negative outcome was more prevalent among elderly patients over 60 years in all months of the year; the trend was inverted as of May, when the immunization of this age group was much advanced.

GRAPH 10 | Hospital discharges of Covid-19 infections with death as outcome by age range and month | 2021



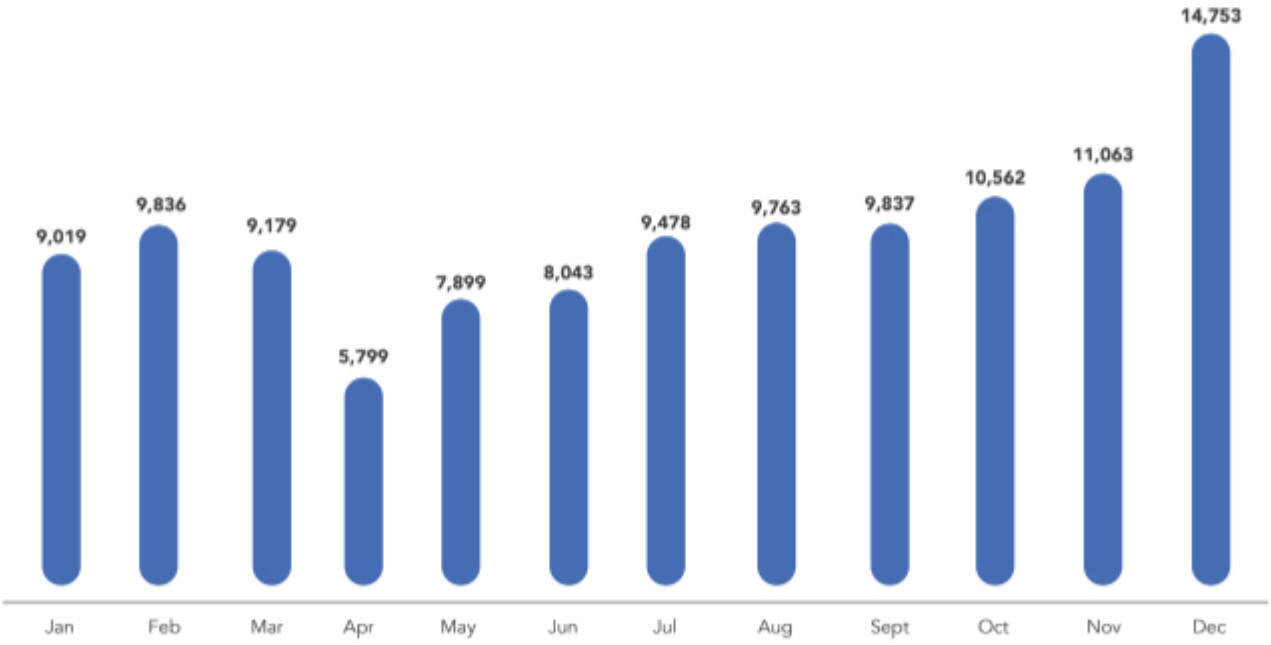
Source: SINHA/Anahp.

By analyzing the admission per respiratory system disease **(Graph 11)**, we could observe a significant increase in December 2021, the month in which Brazil faced the beginning of H3N2 influenza virus epidemics.

Respiratory system diseases include: acute upper respiratory tract infections (such as common cold, sinusitis, pharyngitis, tonsilitis, laryngitis); influenza (cold) and pneumonia; acute lower respiratory tract diseases (such as bronchitis, bronchiolitis); other diseases of upper respiratory tract (such as rhinitis, sinusitis, nasal polyp); chronic lower tract diseases (such as bronchitis, emphysema, asthma); lung diseases caused by external agents; other respiratory affections that impact primarily the interstitium; suppurative and necrotic conditions of the lower respiratory tract; other pleural diseases; other respiratory system diseases.

Hospital discharges after genitourinary system diseases and neoplasms presented increase as of March, when the number of Covid-19 cases started to drop in the country.

GRAPH 11 | Hospital discharges by respiratory system diseases per month | 2021



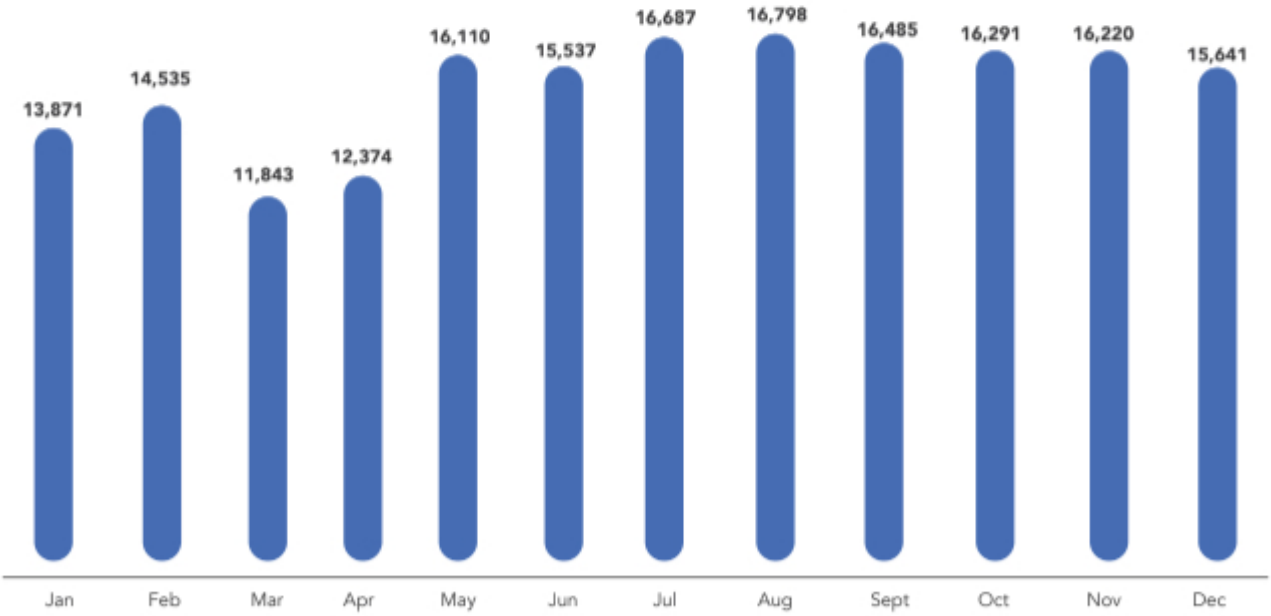
Source: SINHA/Anahp.

When analyzing the hospital discharges by the main chapter involved in the year - genitourinary system diseases **(Graph 12)** and neoplasms **(Graph 13)**, the increase was observed as of March, when the Covid-19 cases started to decrease in the country and there was a pick-up of elective procedures again.

Genitourinary system diseases include: glomerular diseases, renal tubulo-interstitial diseases, acute kidney failure and nephrolithiasis, other disorders of kidney and ureter, other diseases of the urinary system, diseases of male genital organs, disorders of breast, inflammatory diseases of female pelvic organs, noninflammatory disorders of female genital tract, other disorders of genitourinary system.

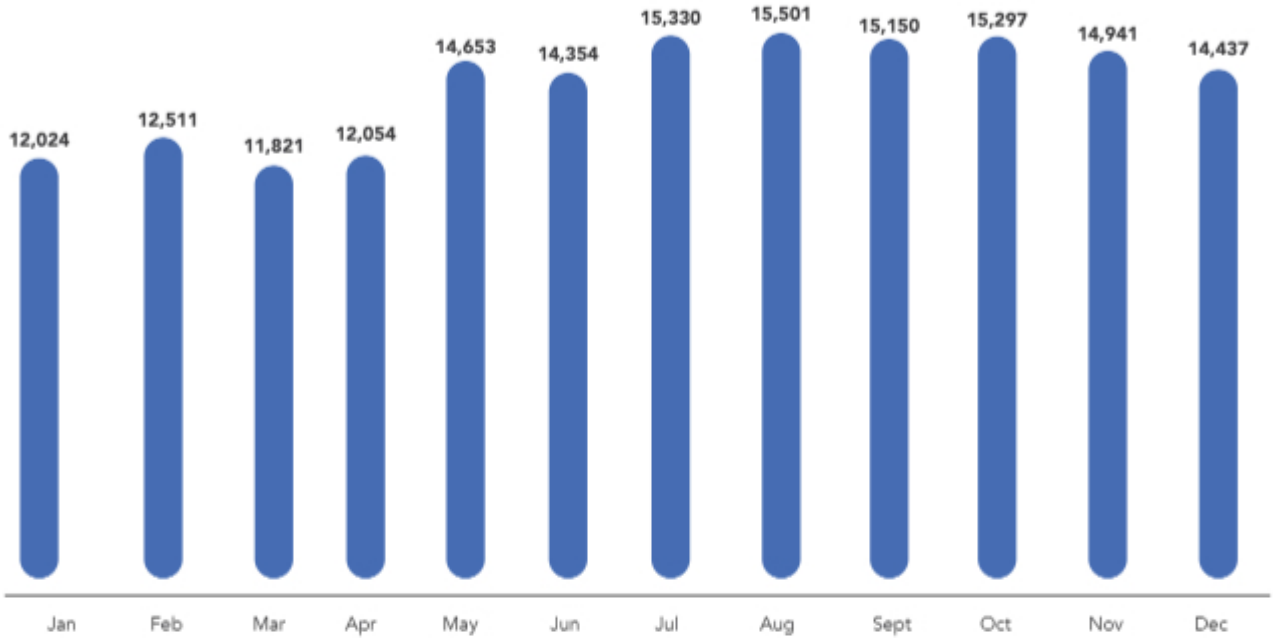
The neoplasm chapter includes: malignant neoplasms of lip, oral cavity and pharynx, malignant neoplasms of digestive organs, malignant neoplasms of respiratory and intrathoracic organs, malignant neoplasms of bone and articular cartilage, melanoma and other malignant neoplasms of skin, malignant neoplasms of mesothelial and soft tissue, malignant neoplasms of breast, malignant neoplasms of female genital organs, malignant neoplasms of male genital organs, malignant neoplasms of urinary tract, malignant neoplasms of eye, brain and other parts of central nervous system malignant neoplasms of thyroid and other endocrine of respiratory and intrathoracic organs, malignant neoplasms of bone and articular cartilage, melanoma and other malignant neoplasms of skin, malignant neoplasms of mesothelial and soft tissue, malignant neoplasms of breast, malignant neoplasms of female genital organs, malignant neoplasms of male genital organs, malignant neoplasms of urinary tract, malignant neoplasms of eye, brain and other parts of central nervous system malignant neoplasms of thyroid and other endocrine glands, malignant neoplasms of ill-defined, other secondary and unspecified sites, malignant neuroendocrine tumors, secondary neuroendocrine tumors, malignant neoplasms of lymphoid, hematopoietic and related tissue, malignant neoplasms of independent multiple locations (primary), in situ neoplasms, benign neoplasms, neoplasms of uncertain or unknown behavior.

GRAPH 12 | Hospital discharges by genitourinary system diseases per month | 2021



Source: SINHA/Anahp.

GRAPH 13 | Hospitals discharges due to neoplasms per month | 2021

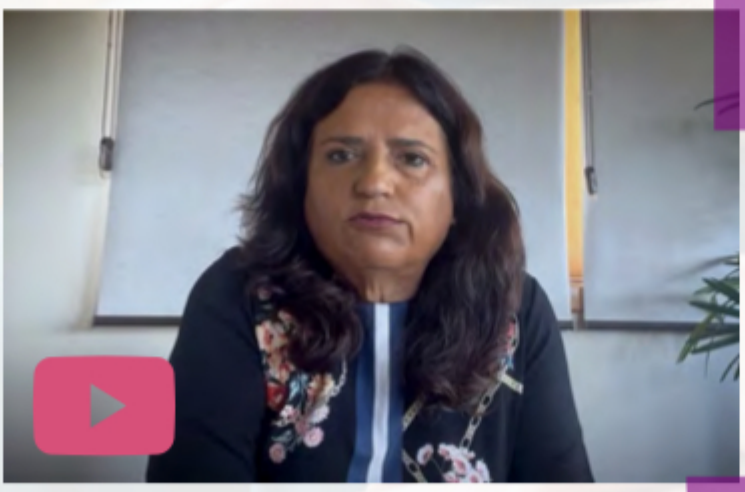


Source: SINHA/Anahp.

After the postponement of elective treatments, visits and periodic tests in 2020, the population went back to healthcare centers, which might have contributed to the diagnosis of other diseases during the year of 2021. It could be mainly observed as of March and April when the pandemic presented some signs of improvement and the immunization progressed fast.

Clinical Performance

This section presents the structure and annual production of Anahp hospitals, the analysis of operational and clinical indicators, quality and safety data and institutional protocols.



WATCH THE VIDEO showing the analysis of Clinical Quality VP of Rede D´OR São Luiz and Member of Observatorio Anahp Editorial Board Helidea Lima.

Executive Summary

ANAHP MEMBERS ARE HIGH COMPLEXITY HOSPITALS:

62.31%
Large-sized and special

37.69%
Small and mid-sized organizations

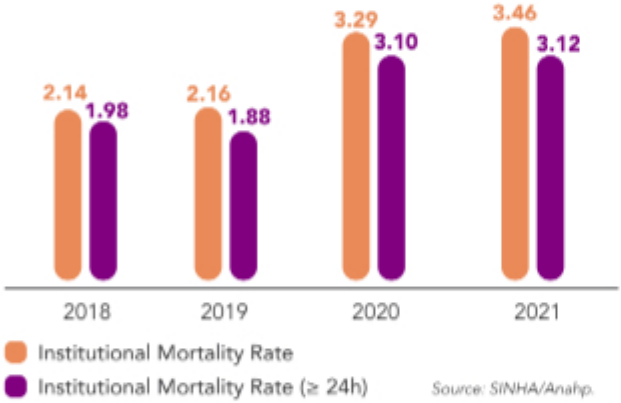
OPERATIONAL INDICATORS

OVERALL OPERATIONAL OCCUPANCY RATE (%)

was resumed in 2021,
after a significant drop in 2020

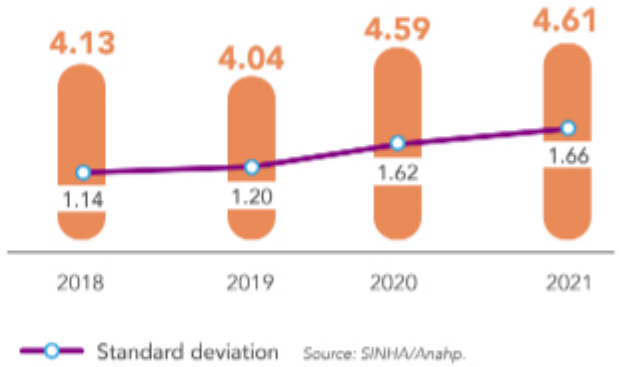
MORTALITY RATE (%)

Increasing trend in 2021



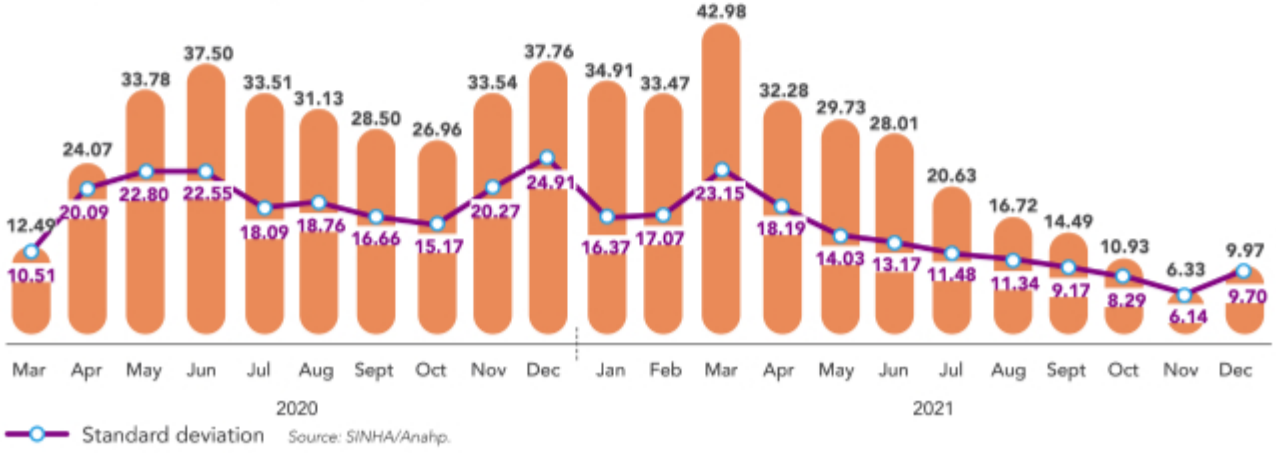
MEAN LENGTH OF STAY (DAYS)

Still high due to Covid-19 pandemic



COVID-19 INCIDENCE IN THE PERIOD (%)

Among Anahp hospitals, the peak was in March 2021



CLINICAL CARE QUALITY AND SAFETY INDICATORS

Indicator	2020	2021
Incidence density rate of central line-associated bloodstream infection – Adult ICU	2.61‰	**3.14‰**
Central venous catheter utilization rate - Adult ICU	55.78%	**57.54%**
Incidence density rate of central line-associated bloodstream infection – Neonatal ICU	3.31‰	**3.67‰**
Central venous catheter utilization rate - Neonatal ICU	30.02%	**32.30%**
Incidence density rate of central line-associated bloodstream infection – Pediatric ICU	1.51‰	**0.93‰**
Central venous catheter utilization rate - Pediatric ICU	45.55%	**42.66%**
Incidence density rate of central line-associated bloodstream infection – Step-Down Unit	1.95‰	**1.37‰**
Central venous catheter utilization rate - Step-Down Unit	30.50%	**41.93%**

Source: SINHA/Anahp.

INSTITUTIONAL PROTOCOLS

Selected pathologies	Indicators	2021	Parameters	
Acute myocardial infarction	Door-to-Balloon Median time (minutes)	**53.31**	90	American Heart Association
Ischemic stroke	Door-to-Report Median time (minutes)	**36.84**	<45	American Stroke Association
	Door-to-Venous Thrombolysis Median time (minutes)	**33.81**	<60	American Stroke Association

Source: SINHA/Anahp.

CLINICAL PERFORMANCE

Structure and annual production

62.31% of Anahp hospitals are large-sized or special organizations.

2021 Structure

The definition of hospitals by size according to the Ministry of Health is:

- **Small-sized hospital:**

Hospital that has installed capacity up to 50 beds.

- **Medium-sized hospital:**

Hospital that has installed capacity between 51 and 150 beds.

- **Large-sized hospital:**

Hospital that has installed capacity between 151 and 500 beds.

- **Special hospital:**

Hospital that has installed capacity of more than 500 beds.

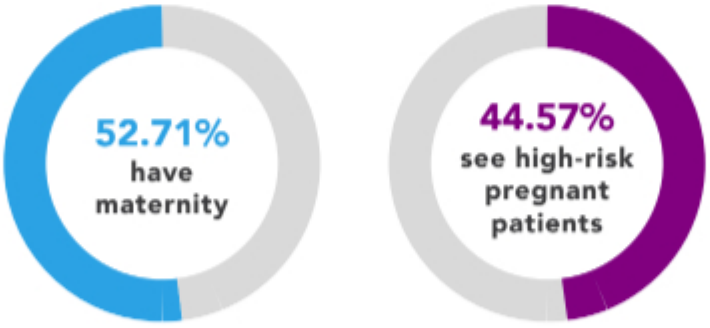
Based on this classification, in 2021, 62.31% of Anahp member hospitals classified as large-sized and special organizations **(Figure 1)**.

FIGURE 1 | Classification of size of Anahp hospitals / 2021

Source: SINHA/Anahp.

Among the member hospitals that answered the questionnaire, 52.71% of them have maternity and 44.57% see high-risk pregnant patients **(Figure 2)**.

FIGURE 2 | Maternity Structure / 2021



Source: SINHA/Anahp.

In 88.04% of member hospitals there are clinical outpatient units, totaling over 2,863 medical offices **(Table 1)**.

TABLE 1 | Outpatient Units

	2021
Organizations that have outpatient units	88.04%
Number of medical offices	2,863

Source: SINHA/Anahp.

The diagnostic support infrastructure at Anahp hospital is very robust:

- 94.57% of the hospitals provide CT scan, including 79.35% who have CT scan machines on site. The production to external patients (outpatients) is predominant, totaling 2 million tests, divided into 1.57 million outpatient tests (patients from Emergency Department or pre-scheduled) and 474,390 inpatient tests.
- 85.87% of Anahp member hospitals perform Magnetic resonance imaging (MRI) and 71.74% have an MRI machine at the facility. The production exceeded 984,000 tests, broken down as 842,450 outpatient images (patients from Emergency Department and pre-scheduled) and 142,000 were images for inpatients **(Table 2)**.
- 94.57% of the respondent hospitals offer laboratory tests, 70.65% perform chemotherapy and only 30.43% perform radiotherapy **(Table 3)**.
- 53.26% of respondent hospitals performed transplants in 2021. There were a total of 2,570 transplants in the period, primarily bone marrow and kidney transplants (Table 4). Under "others", the most frequent transplants were cornea and tissue.

Most Anahp hospitals that answered the survey have outsourced laundry and security services, as shown in **Figure 3**.

TABLE 2 | Imaging Services

	2021
Computed Tomography Scan	2,049,163
Magnetic Resonance Imaging	984,458

Source: SINHA/Anahp.

TABLE 3 | Diagnostic and therapy support

	2021
Clinical Laboratory	94.57%
Chemotherapy	70.65%
Radiotherapy	30.43%

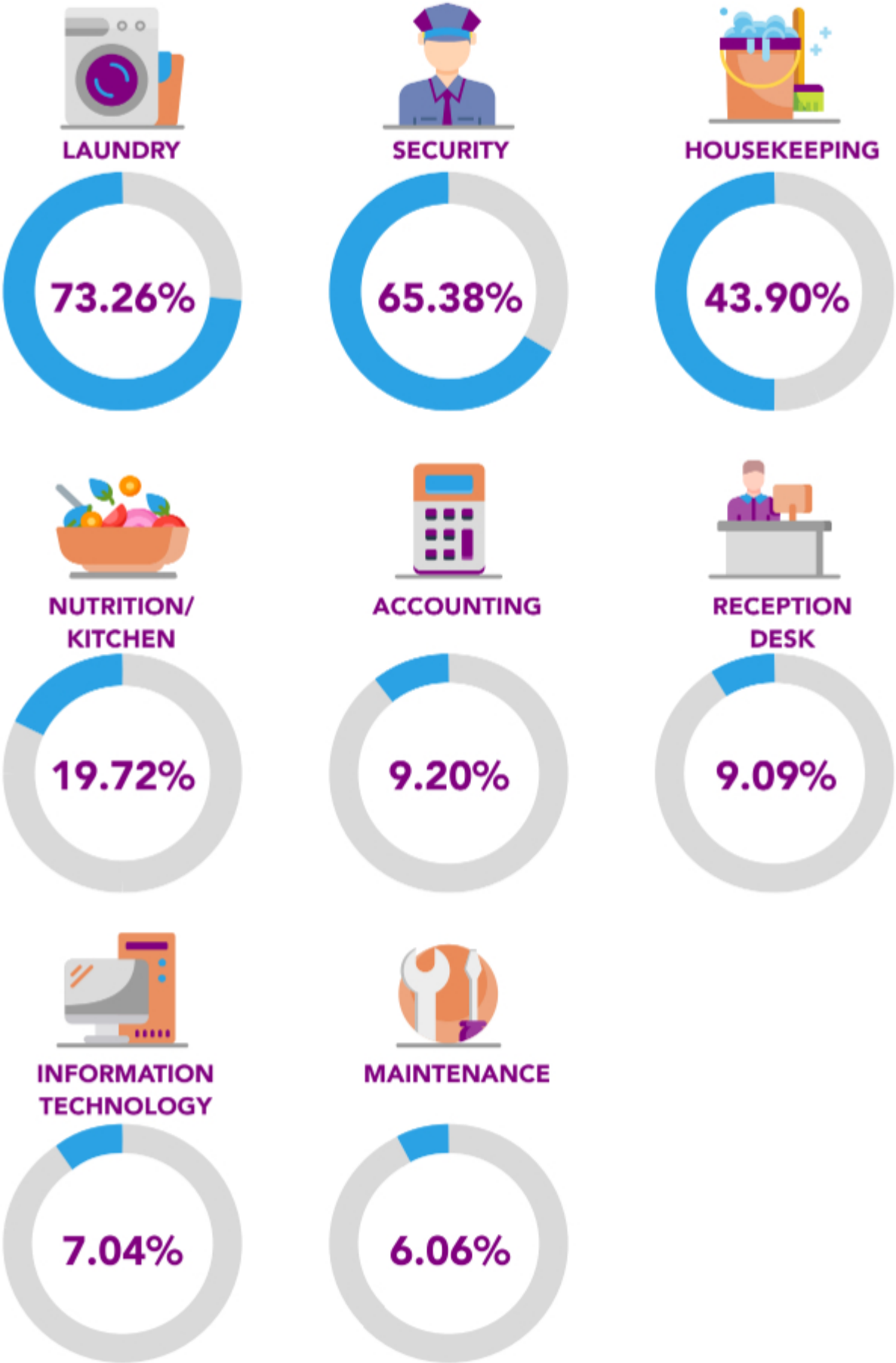
Source: SINHA/Anahp.

TABLE 4 | Transplant Performance

	2021
Organizations that perform transplants	53.26%
Bone marrow	1,172
Kidney	463
Liver	457
Pancreas	12
Heart	51
Others	411

Source: SINHA/Anahp.

FIGURE 3 | Outsourced Services / 2021



Source: SINHA/Anahp.

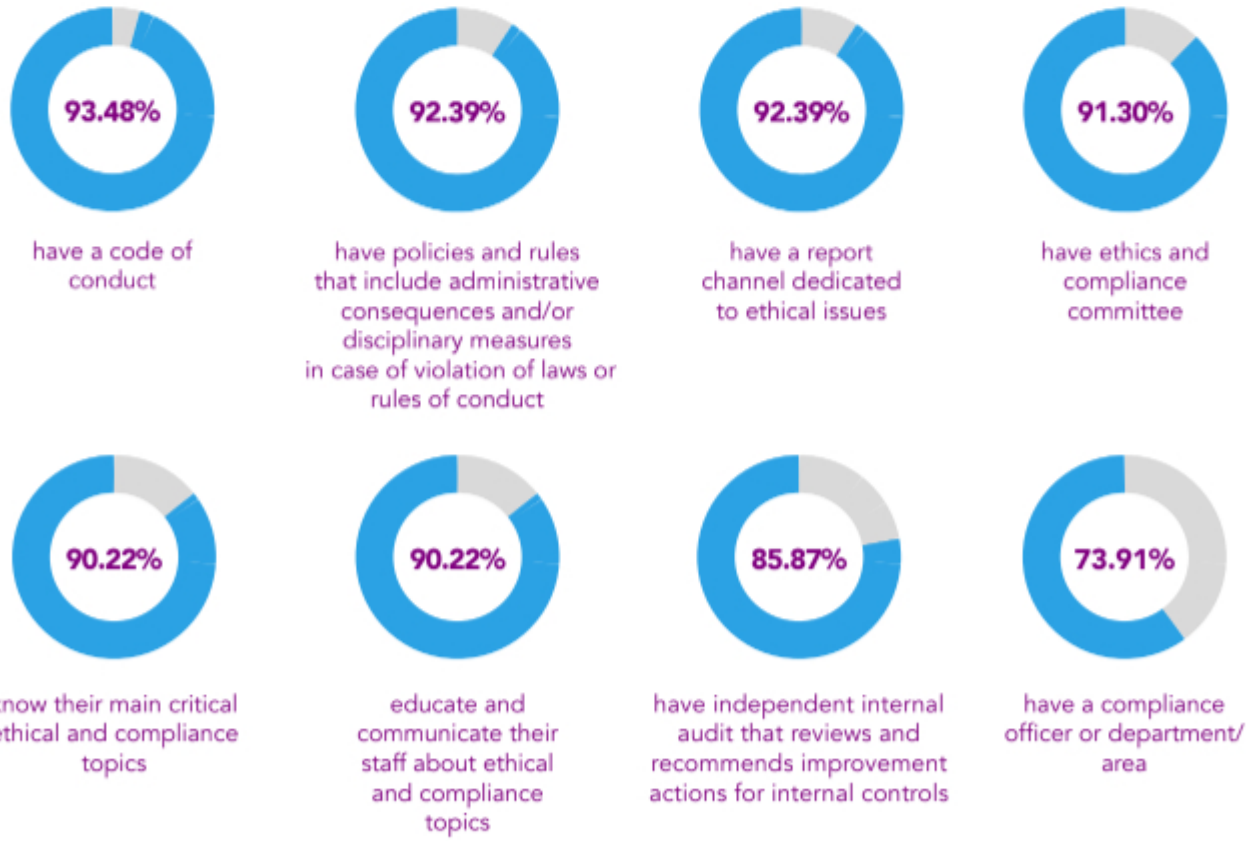
Compliance Structure

As a result of the global actions towards more ethical behavior and transparency in internal and external relations, since 2015 Anahp has been contributing to the industry by sharing the experience of its member hospitals, including international benchmarking and a constructive debate about business conduct and compliance, topics addressed in practically all events of the association since then.

Since 2018, the organization has measured annually simple quantitative indicators that evidence the progression of member associations in compliance initiatives.

Figure 4 presents the information identified among member hospitals in 2021.

FIGURE 4 | Compliance



Source: SINHA/Anahp.

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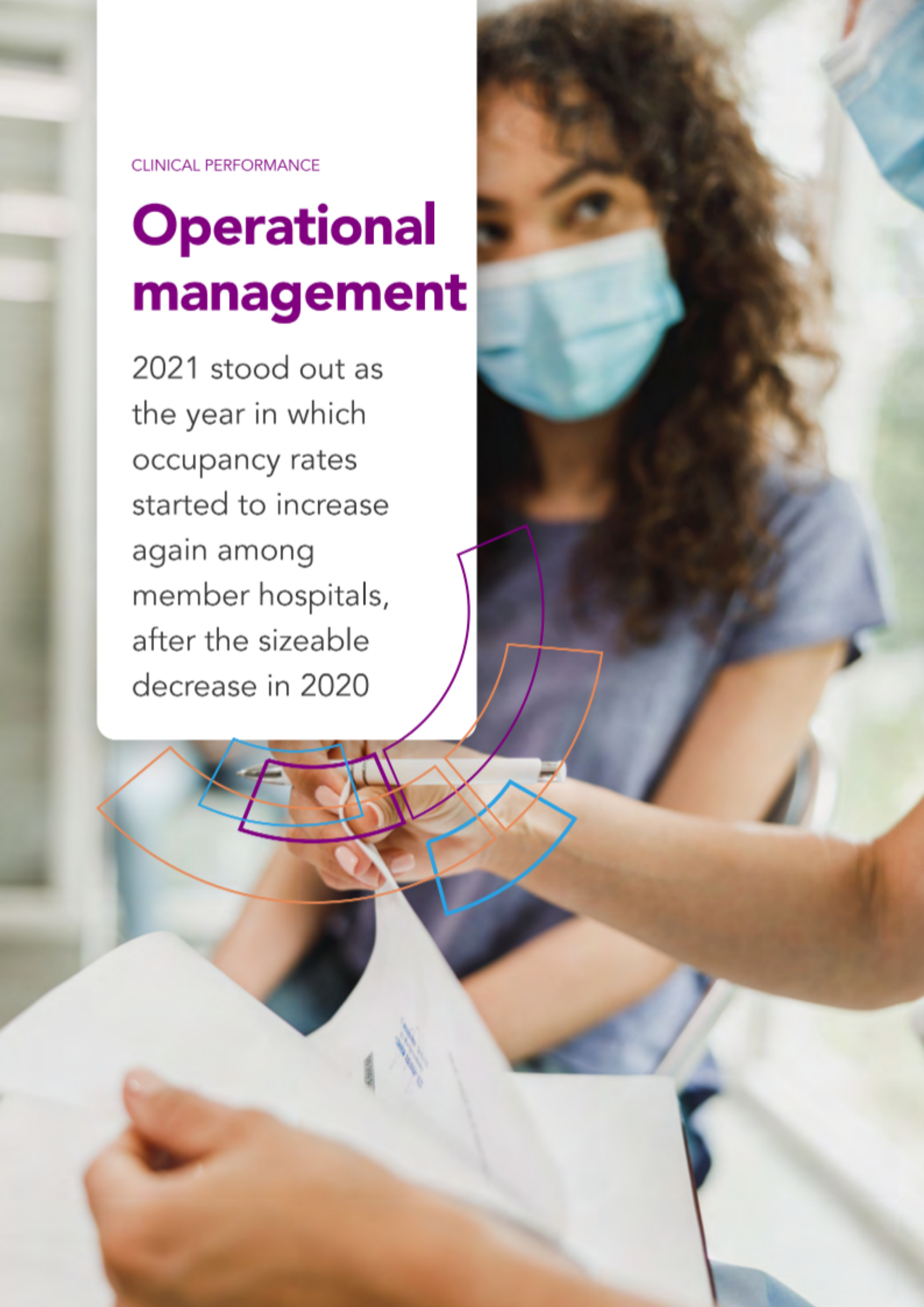
CLINICAL PERFORMANCE

Operational management

2021 stood out as the year in which occupancy rates started to increase again among member hospitals, after the sizeable decrease in 2020



Operational results, however, still show impacts of Covid-19 pandemic

To set references for continuous improvement in healthcare centers, since 2007 Anahp has gathered indicators related to clinical performance to assess efficiency of operational bed management, productivity and clinical effectiveness.

Exchanging experience, benchmarking and aligning operational practices among Anahp member hospitals remained an essential step to keep the standards and operational indicators within appropriate limits, especially during Covid-19 pandemic.

Compared to 2020, 2021 was characterized by the progressive recovery of indicators of occupancy, bed turnover and bed replacement interval among Anahp hospitals.

Operational Indicators:

The analyses that follow show the progression of general operational management indicators, which can be analyzed by regions of the country. Next, we show the indicators by area of care, including critical care areas - Adult ICU, Pediatric ICU, Neonatal ICU and Step-Down Unit.

The operational management indicators of Anahp Integrated Hospital Indicator System (SINHA) were calculated based on the data of 110 responding hospitals in 2021 **(Table 1)**.

The Emergency Department is the main entry of clinical patients into the hospital system.

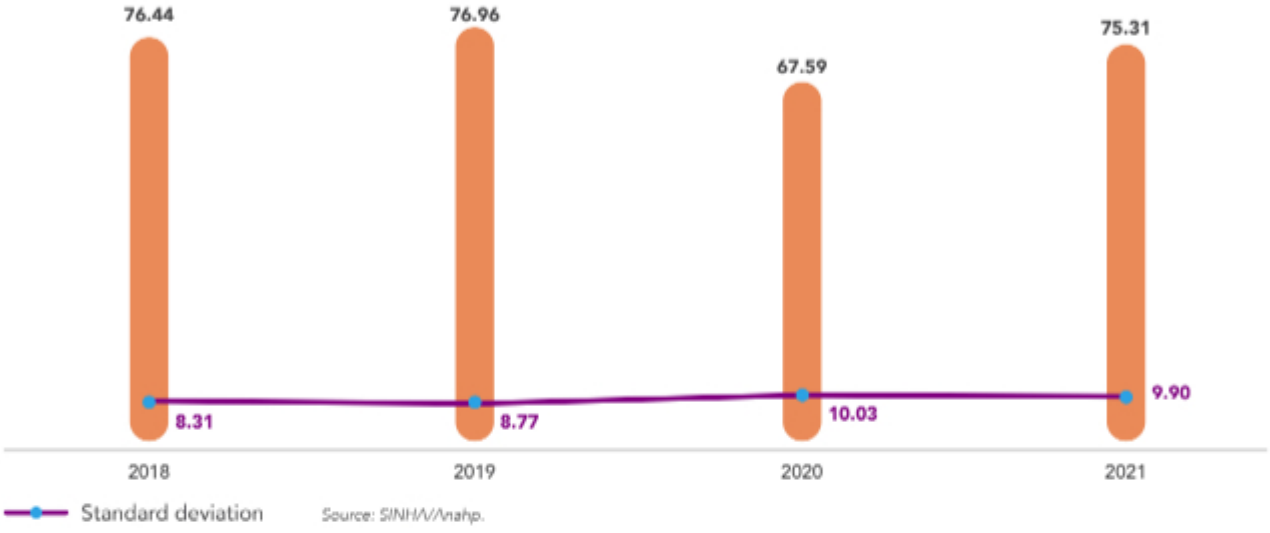
TABLE 1 | Annual summary of operational indicators

Indicator	2018	2019	2020	2021	Standard deviation 2021
Occupancy rate	76.44%	76.96%	67.59%	75.31%	9.90%
Variation of number of beneficiaries of Healthcare plan	47,100,146	47,031,425	47,615,162	48,995,883	-
Mean length of stay (days)	4.13	4.04	4.59	4.61	1.66
Bed turnover rate (times)	5.62	5.85	4.73	5.09	1.83
Replacement interval rate (days)	1.36	1.27	2.39	1.58	0.82
Conversion rate (hospital admissions in relation to total ED visits)	8.55%	8.29%	11.91%	11.58%	5.93%
Hospital admission from the Emergency Department (correlation with total number of hospital discharges)	43.21%	44.74%	48.83%	46.18%	17.66%
Institutional Mortality Rate	2.14%	2.16%	3.29%	3.46%	2.15%
Institutional Mortality rate ≥ 24h	1.98%	1.88%	3.10%	3.12%	2.03%
Rate of resident patients at the Hospital (> 90 days)	0.47%	0.45%	0.50%	0.51%	0.77%

Source: SINHA/Anahp.

After one year of occupancy rate reduction, as a consequence of Covid-19 and fewer admissions for elective surgeries and procedures related to other comorbidities, the numbers are resuming the levels from 2018 and 2019. In 2021, the occupancy rate was 75.31% **(Graph 1)**.

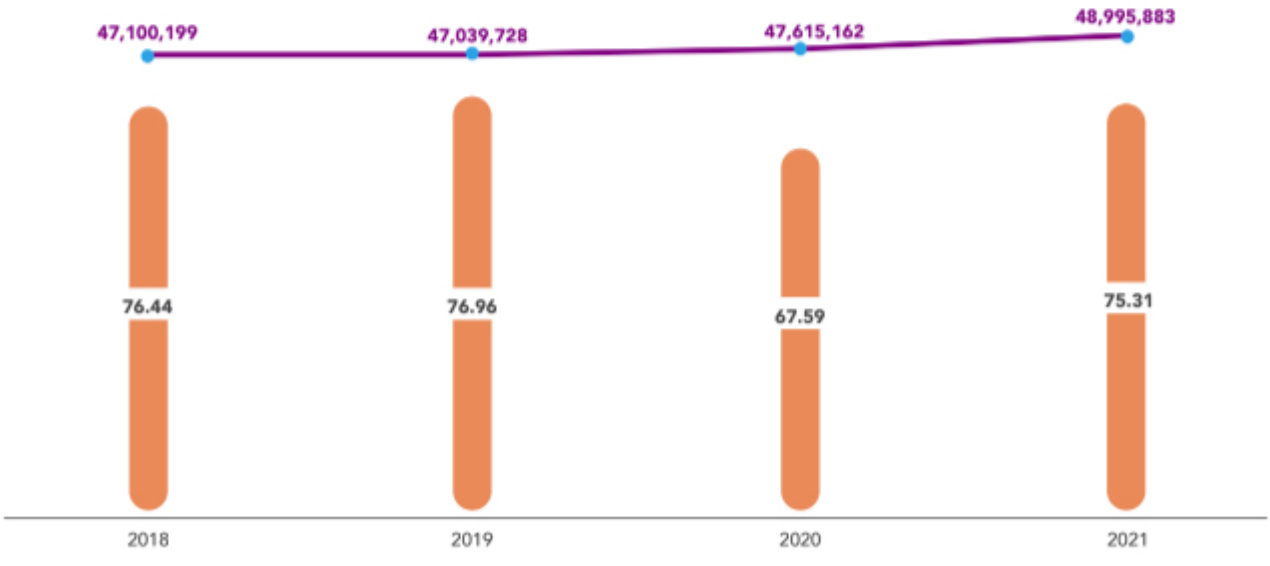
GRAPH 1 | Rate of overall operational occupancy (%)



Source: SINHA//Anahp.

Concerning healthcare plan beneficiaries, despite the negative impact of Covid-19 pandemic over the Brazilian economy for the past two years, there has been continuous improvement in number of beneficiaries since 2019. In 2020 and 2021, this growth might have contributed to the recovery of the occupancy rate last year **(Graph 2)**.

GRAPH 2 | Rate of overall operational occupancy (%) Number of health plan beneficiaries



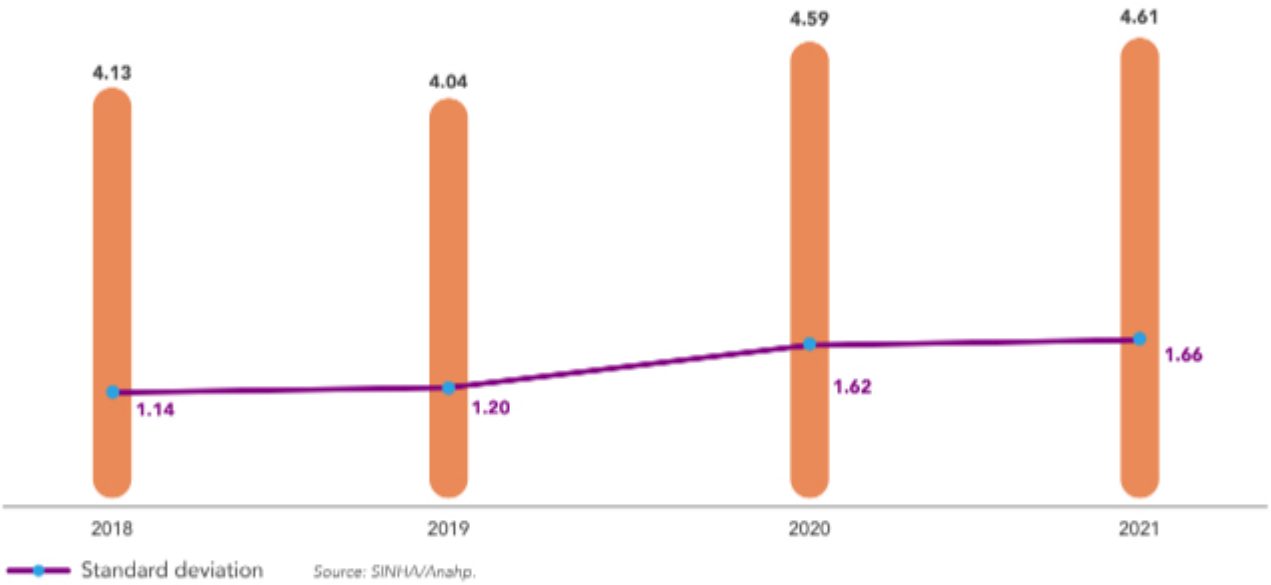
Source: SINHA/Anahp and ANS (accessed on 24/Feb/2022).

The overall mean length of stay, which had presented decreasing trend in recent years, increased to 4.59 days in 2020 and stayed at 4.61 days in 2021 **(Graph 3)**. It is important to highlight that patients with Covid-19 have longer mean length of stay than other comorbidities seen at Anahp hospitals, a factor that has influenced the length of stay for the past two years.

Turnover rate, in turn, which measures the average monthly utilization for each admission bed, increased from 4.73 times in 2020 to 5.09 times in 2021. Consequently, the replacement interval, which shows the mean time the bed remains empty between the discharge of a patient and the admission of another one, reduced from 2.39 days in 2020 to 1.58 days in 2021. The Emergency Department is a relevant entry point for the hospital system, being the main one for clinical cases.

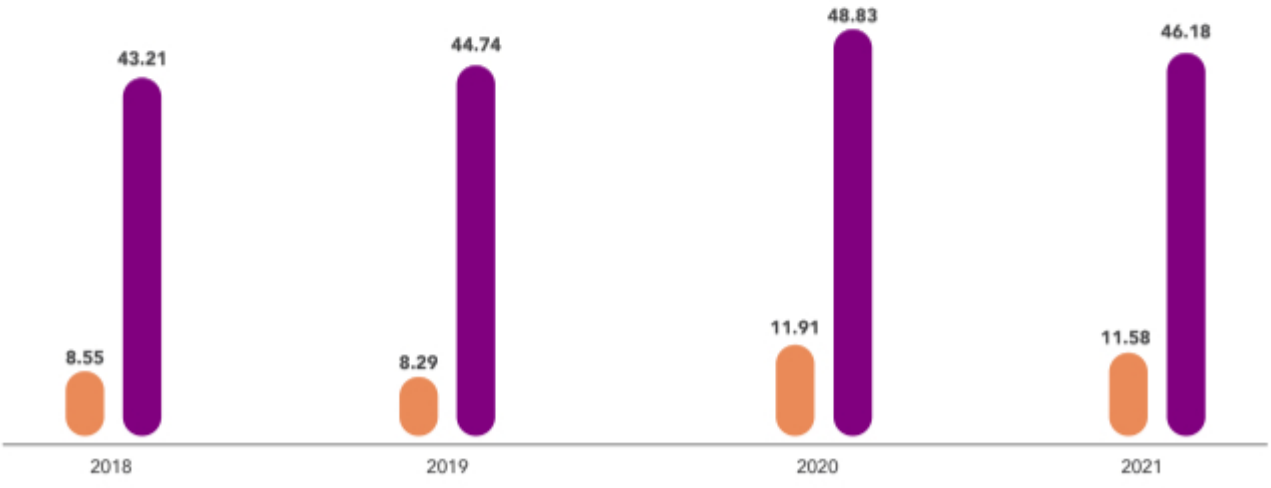
Between 2020 and 2021, the percentage of admissions through the Emergency Department over the total hospital discharges reduced from 48.83% to 46.18%, whereas the percentage of admissions through the ED over the total number of ED visits went down from 11.91% in 2020 to 11.58% in 2021 **(Graph 4)**. Our results still remain high when compared to the two years before the pandemic (2018 and 2019).

GRAPH 3 | Mean length of stay at Anahp hospitals (days)



Source: SINHA/Anahp.

GRAPH 4 | Admissions through ED (%)



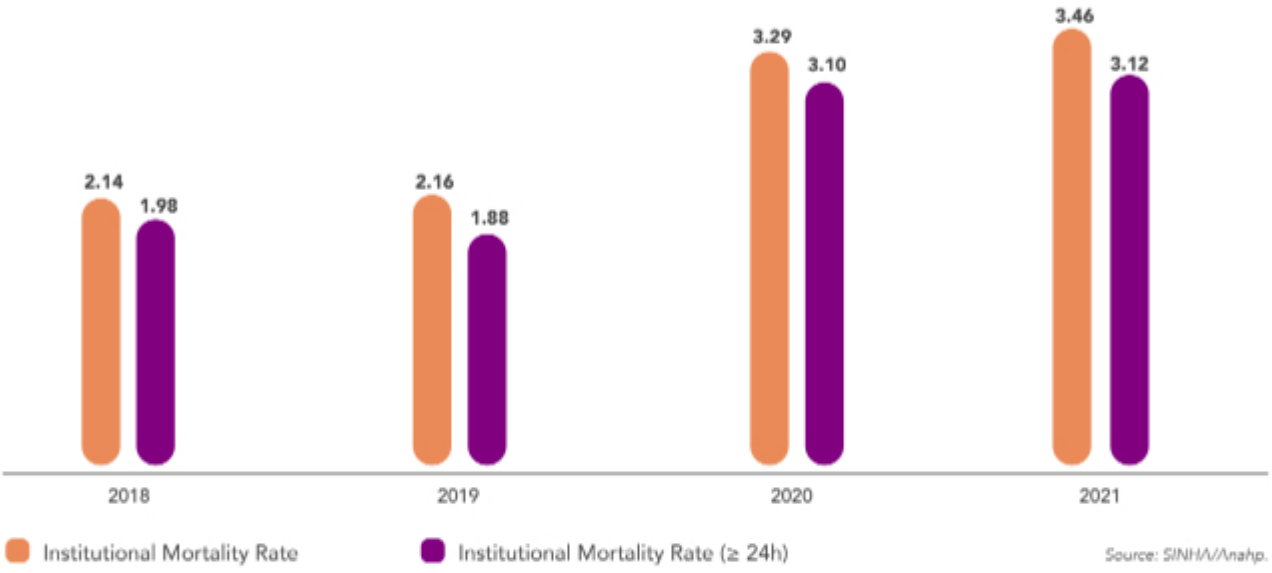
Source: SINHA/Anahp.

Institutional mortality rates, which represent the percentage of deaths in relation to the number of hospital discharges (discharges, external transfers and deaths), had been showing a decreasing trend until 2019. However, the pandemic has led to significant increase in these indicators.

In 2021, the institutional mortality rate, regardless of length of stay, was 3.46%, whereas institutional mortality rate for longer than 24 hours after hospital admission was 3.12% **(Graph 5)**.

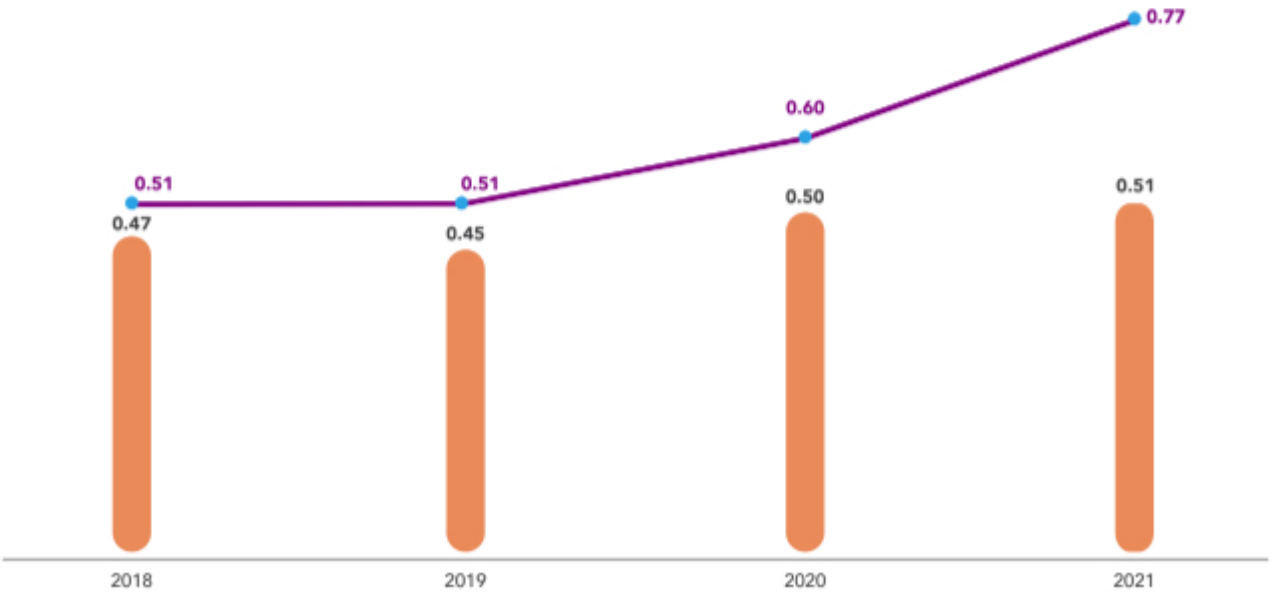
The rate of patients staying longer than 90 days was stable between 2020 and 2021, reaching 0.51% in the last year **(Graph 6)**.

GRAPH 5 | Mortality rate (%)



Source: SINHA//Anahp.

GRAPH 6 | Patients staying >90 days (%)



Source: SINHA/Anahp.

The analysis of operational indicators by country regions **(Figure 1 and Table 2)** showed that the occupancy rate of Anahp hospitals was 76.83% in the Southeast region, which concentrates the highest number of healthcare plan beneficiaries.

In regions North and Center-West, the mean length of stay was shorter (3.62 days in 2021) than in the other regions, which resulted in the highest bed turnover rate in the country - 6.47 times, on average, in 2021. In the South region, the admission rate through the ED over hospital discharges was only 38.04%, whereas in the Northeast region the rate of patients staying longer than 90 days was 0.39% in the year.

Regional analyses provide understanding about the dynamics of the member hospitals

FIGURE 1 | Occupancy rate of Anahp hospitals in Brazil (%) / 2021

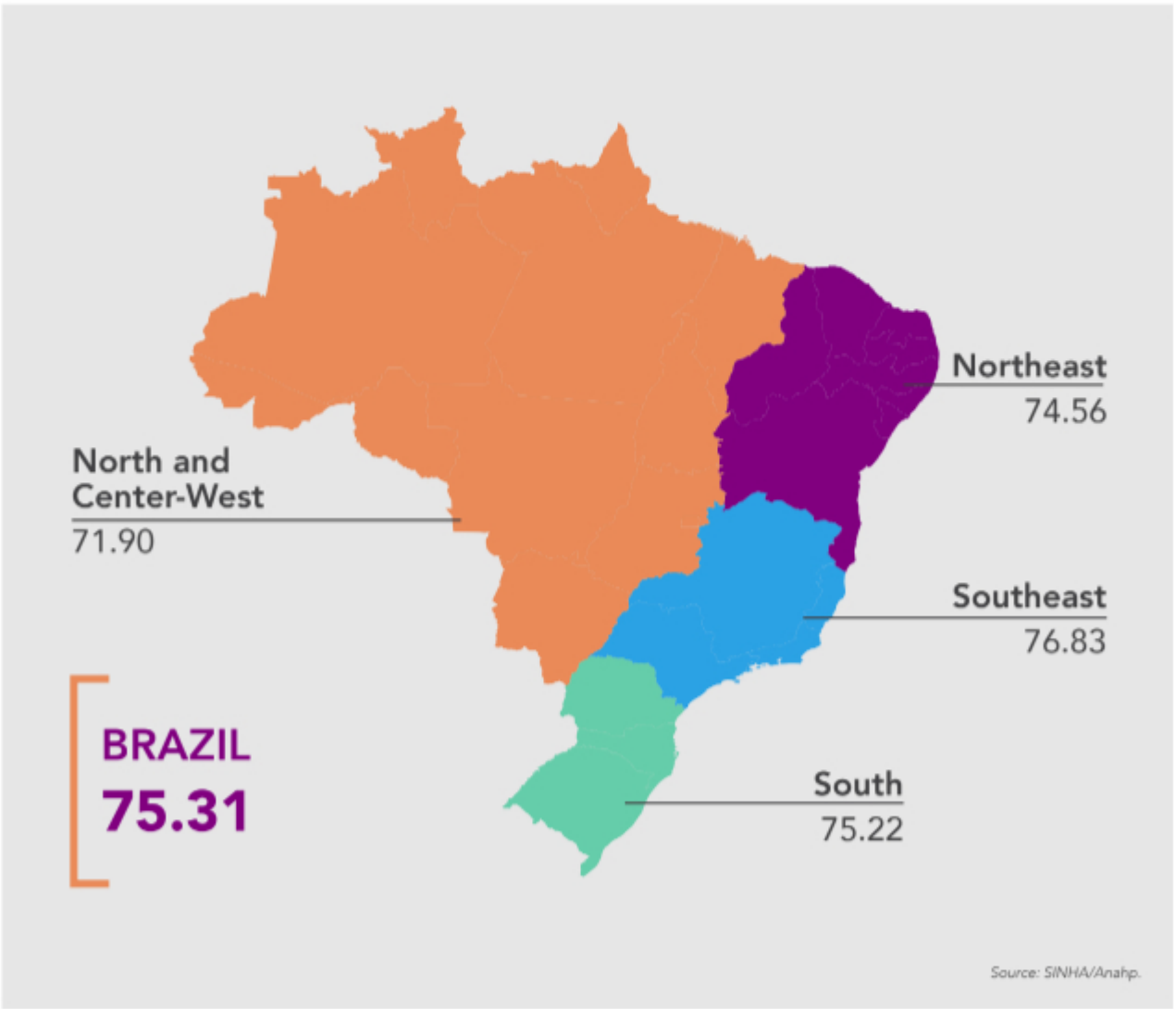


TABLE 2 | Regional operational indicators

Indicador	2021				
	South Region	Southeast Region	Northeast Region	North and Center-West Region	Brazil
Occupancy rate	75.22%	76.83%	71.90%	74.56%	**75.31%**
Number of beneficiaries of Healthcare Plans	7.119.876	29.659.575	6.884.304	5.295.538	**48.995.883**
Mean length of stay (days)	5.19	4.56	5.06	3.62	**4.61**
Bed turnover rate (times)	4.36	5.08	4.52	6.47	**5.09**
Replacement interval rate (days)	1.71	1.53	1.84	1.38	**1.58**
Conversion rate (hospital admissions in relation to total ED visits)	14.58%	10.54%	12.36%	8.80%	**11.58%**
Hospital admission from the Emergency Department (correlation with total number of hospital discharges)	38.04%	47.35%	53.19%	45.42%	**46.18%**
Institutional Mortality Rate	5.01%	2.83%	3.92%	3.25%	**3.46%**
Institutional Mortality rate ≥ 24h	4.27%	2.54%	3.57%	3.15%	**3.12%**
Rate of patients staying at the hospital longer than 90 days	0.34%	0.56%	0.39%	0.30%	**0.51%**

Source: SINHA/Anahp.

Between 2020 and 2021, the rate of patients submitted to surgical procedures increased from 50.73% to 53.30%, but still lower than it used to be in 2018 and 2019 **(Table 3)**. In 2021, the number of surgeries per patient was 1.66 and the surgical mortality rate was 0.37% **(Graph 7)**.

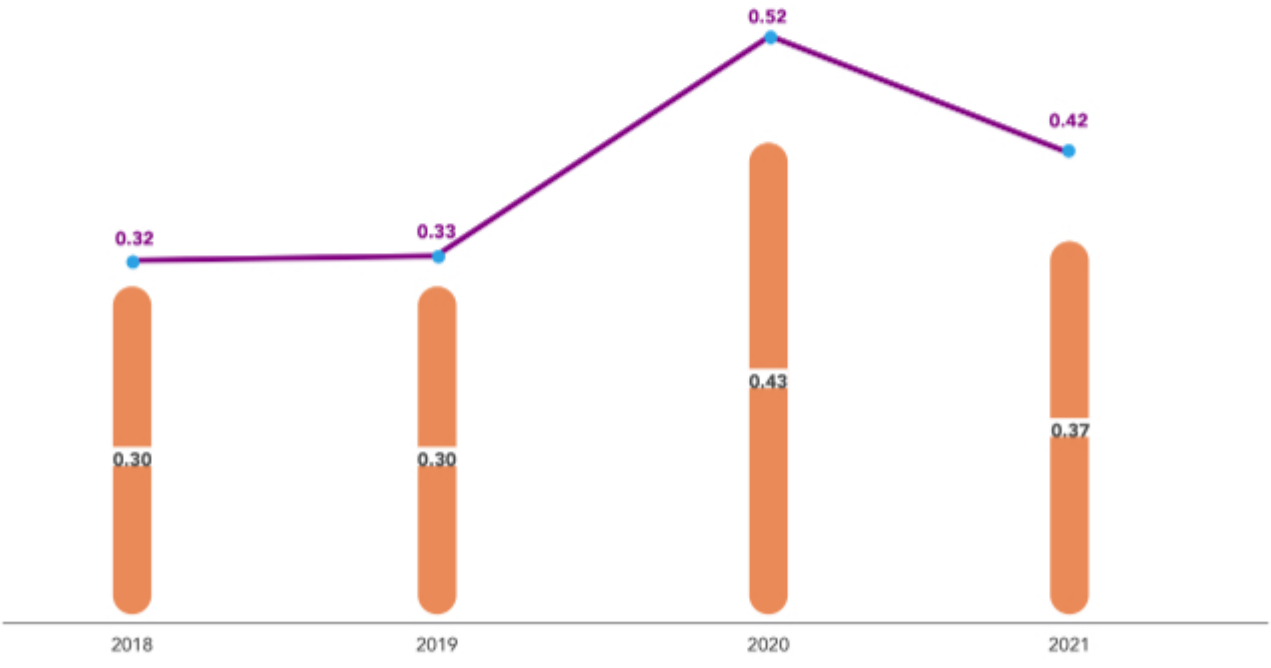
Considering the classification established by the American Society of Anesthesiologists (ASA), which groups people in anesthetic risk classes – small (ASA I and II), medium (ASA III and IV) and high (ASA V and VI), in 2021, there was stability in the surgical mortality rate in ASA groups I and II, a decreasing trend in ASA groups III and IV, and increase in ASA groups V and VI, when compared to 2020.

TABLE 3 | Operational Indicators

Indicator	2018	2019	2020	2021	Standard deviation 2021
N of patients undergoing surgical procedures	57.96%	55.14%	50.73%	53.30%	19.26%
Rate of surgery per patient	1.51	1.52	1.70	1.66	0.69
Surgical mortality rate	0.30%	0.30%	0.43%	0.37%	0.42%
Rate of surgical mortality according to ASA I and II	0.05%	0.04%	0.05%	0.05%	0.09%
Rate of surgical mortality according to ASA III and IV	2.32%	2.07%	2.40%	2.19%	2.84%
Rate of surgical mortality according to ASA V and VI	12.02%	20.01%	18.02%	25.97%	37.15%

Source: SINHA/Anahp.

GRAPH 7 | Surgical Mortality (%)



Source: SINHA/Anahp.

Operational Indicators – Intensive Care Units

When considering the activities in the critical care units, the Adult ICU presented the highest occupancy rate, followed by increase in mean length of stay, when comparing 2020 and 2021 **(Table 4)**.

Similarly, the Step-Down Unit showed higher occupancy rate in 2021, over 2020, whereas the mean length of stay was stable between the two years **(Table 5)**.

The results showed that in 2021 there was recovery of operational indicators in the Critical Care and Step-Down Units, when compared to the atypical year of 2020, which may indicate a progressive return to pre-pandemic levels at hospitals, including the scheduling of elective surgeries.

Adult ICUs and the Step-Down Units showed higher occupancy rates in 2021, compared to 2020.

TABLE 4 | Operational indicators – Adult ICU

Indicator	2018	2019	2020	2021	Standard deviation 2021
Occupancy rate	78.12%	79.33%	74.91%	80.06%	**11.59%**
Mean length of stay (days)	6.78	5.53	5.34	5.57	**2.09**
Bed turnover rate (times)	4.28	4.82	4.43	4.41	**1.70**
Replacement interval rate (days)	1.94	1.48	2.06	1.56	**1.31**

Source: SINHA/Anahp.

TABLE 5 | Operational indicators - Step-Down Unit

Indicator	2018	2019	2020	2021	Standard deviation 2021
Occupancy rate	80.88%	83.32%	73.27%	80.22%	**11.43%**
Mean length of stay (days)	7.83	5.85	5.44	5.44	**2.21**
Bed turnover rate (times)	3.80	4.12	4.05	4.25	**1.70**
Replacement interval rate (days)	1.42	1.19	1.98	1.46	**1.12**

Source: SINHA/Anahp.

The occupancy rate in the Pediatric ICU was 69.09% in 2021, with mean length of stay of 6.32 days. The turnover rate was 3.60 times, on average, throughout the year **(Table 6)**.

TABLE 6 | Operational indicators – Pediatric ICU

Indicator	2018	2019	2020	2021	Standard deviation 2021
Occupancy rate	73.17%	72.35%	56.23%	69.09%	**16.24%**
Mean length of stay (days)	7.77	6.29	6.51	6.32	**3.06**
Bed turnover rate (times)	3.19	3.64	2.84	3.60	**1.53**
Replacement interval rate (days)	3.46	2.77	5.64	3.30	**3.05**

Source: SINHA/Anahp.

The occupancy rate of the Neonatal ICU presented increase between 2020 and 2021, with mean length of stay of 13.79 days in the last analyzed year. The replacement interval rate was 6.16 days in 2021 **(Table 7)**.

TABLE 7 | Operational indicators – Neonatal ICU

Indicator	2018	2019	2020	2021	Standard deviation 2021
Occupancy rate	72.08%	69.70%	65.60%	72.01%	**17.68%**
Mean length of stay (days)	15.93	13.84	13.67	13.79	**4.70**
Bed turnover rate (times)	1.45	1.51	1.46	1.54	**0.52**
Replacement interval rate (days)	7.67	6.81	8.40	6.16	**5.15**

Source: SINHA/Anahp.

Concerning specific indicators of maternal/ neonatal care, **Table 8** shows that the occupancy rate of the maternity was 65% in 2021. The mean length of stay in the same year was 2.23 days, with turnover rate of 8.81 times, showing increasing trend when compared to the numbers presented in 2020.

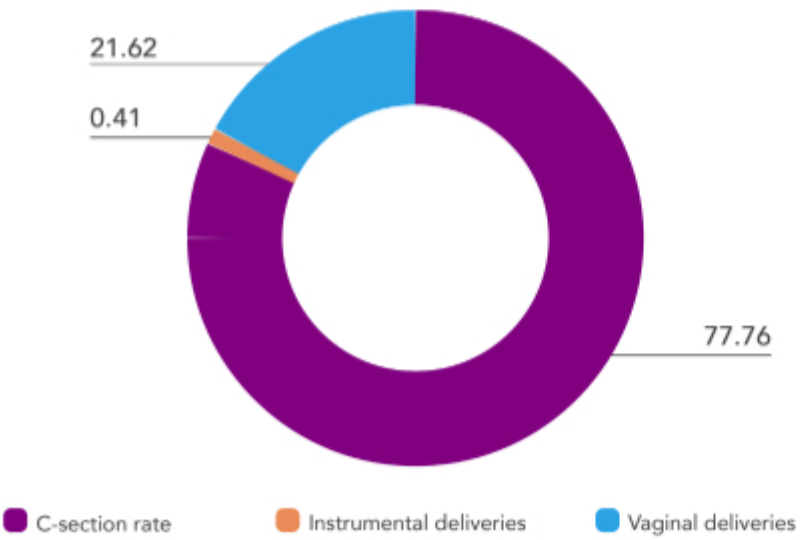
TABLE 8 | Operational indicators – Maternity/ Neonatal

Indicator	2018	2019	2020	2021	Standard deviation 2021
Occupancy rate	67.65%	67.33%	59.19%	65.00%	13.64%
Mean length of stay (days)	2.20	2.12	2.17	2.23	0.52
Bed turnover rate (times)	8.65	8.49	8.19	8.81	2.12
Replacement interval rate (days)	1.09	1.04	1.49	1.22	0.70

Source: SINHA/Anahp.

Among Anahp hospital, there were over 135,000 deliveries performed in 2021. Out of the total, 78% were C-sections (including the need for instruments), as shown in **Graph 8** and **Table 9**.

GRAPH 8 | Delivery profile



Source: SINHA/Anahp.

TABLE 9 | Operational indicators – Maternity/ Neonatal

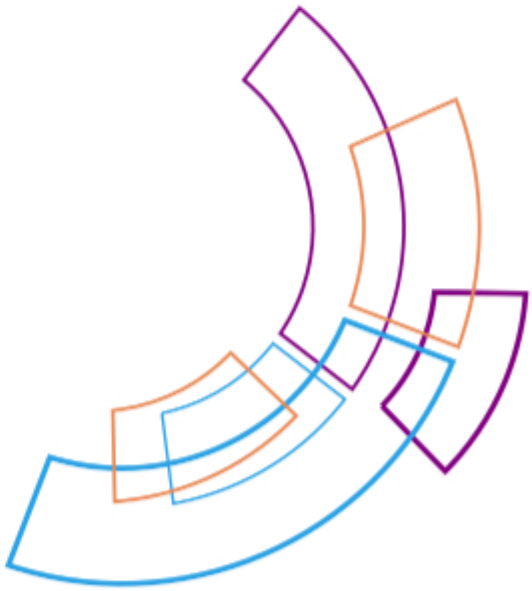
Indicator	2018	2019	2020	2021	Standard deviation 2021
Rate of C-section	82.49%	81.14%	79.44%	77.76%	**12.53%**
Rate of instrumental delivery	0.41%	0.44%	0.60%	0.41%	**0.79%**
Rate of vaginal delivery	17.22%	17.65%	19.48%	21.62%	**12.23%**
Neonatal mortality within 27 days (every 1,000 living births)	3.30	3.90	4.48	3.59	**3.40**
Maternal mortality (every 100,000 women)	19.71	17.96	28.80	26.89	**63.16**

Source: SINHA/Anahp.

Maternal death is the "death of a woman during pregnancy or up to 42 days after end of gestation, regardless of the duration or location of the pregnancy, caused by anything related to or worsened by pregnancy or measures related to it, but not caused by accidents or incidents."[1]

Data from the Ministry of Health[2] show that maternal mortality rate in Brazil[3] was 57.90 deaths per 100,000 living births in 2019. It is important to note that, historically, the identification of maternal deaths has two problems: 1) Underdiagnosis - when death is determined as being due to other cause; and 2) Underreporting - when death is not reported. Among Anahp hospitals, maternal mortality was 26.89 for every 100,000 women in 2021.

Still according to the Ministry of Health[4], early neonatal mortality[5] in Brazil was estimated as 7.20 in 2017 (last available data). Late neonatal mortality[6] in the country was estimated as 2.30 in 2017 (last available data). Among Anahp hospitals, maternal mortality was 3.59 for every 100,000 living births in 2021.



[1] MINISTÉRIO DA SAÚDE. Secretaria de Atenção à Saúde. Departamento de Ações Programáticas Estratégicas. Manual dos comitês de mortalidade materna/Ministério da Saúde, Secretaria de Atenção à Saúde, Departamento de Ações Programáticas Estratégicas. 3 ed. BRASILIA: Editora do Ministério da Saúde, 2007. Available from: <https://bvsms.saude.gov.br/bvs/publicacoes/comites_mortalidade_materna_3ed.pdf>; accessed on 10/Mar/2022.
[2] MINISTÉRIO DA SAÚDE. Boletim Epidemiológico. Brasília, v. 52, n. 29, 2021. Available from: <https://www.gov.br/saude/pt-br/centrais-de-conteudo/publicacoes/boletins/boletins-epidemiologicos/edicoes/2021/boletim_epidemiologico_svs_29.pdf/view>; accessed on 24/Fev/2022.
[3] Maternal mortality ratio is defined as number of maternal deaths per 100,000 living births of mothers who live in a specific geographic space.
[4] MINISTÉRIO DA SAÚDE. Saúde Brasil 2019: uma Análise da Situação de Saúde com Enfoque nas Doenças Imunopreveníveis e na Imunização. Brasília, 2019. Available from: <https://bvsms.saude.gov.br/bvs/publicacoes/saude_brasil_2019_analise_situacao.pdf>; accessed on 24/Feb/2022.
[5] Early neonatal mortality is defined as "(number of deaths of residents aged 0 to 6 days of age ÷ number of living births of resident mothers) x 1,000".
[6] Late neonatal mortality is defined as "(number of deaths of residents aged 7 to 27 days of age ÷ number of living births of resident mothers) x 1,000".

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CLINICAL PERFORMANCE

Clinical Care Quality and Safety

The rates of use of central venous catheter, urinary catheter and mechanical ventilation remained high in 2021

Always focused on reducing patient harm, Anahp hospitals practice care continuous improvement

Since its creation in 2001, one of the purposes of Anahp has been to provide continuous quality improvement of care and clinical safety.

One of the pillars of the organization is to show the improvement in a transparent way, to transform the healthcare care industry as a whole. Similar to previous years, among other actions, hospitals have worked to prevent pressure ulcers and healthcare-associated infections, to safely prescribe medications and to increase the barriers to ensure safe surgeries.

Through the actions of its working groups, Anahp provides protocols and manuals that significantly contribute to patient safety and quality, standardizing the practices, which are frequently revisited and updated by the groups. Concerning the quality and safety indicators presented in this chapter, it is important to emphasize that there might be relevant standard deviations, expected from the heterogeneity of the group of hospitals.

In general, the change in profile of patients because of Covid-19 pandemic has brough new challenges to Anahp hospitals. In the Adult ICU and in Step-Down Units, there was increased utilization of central venous catheter, urinary catheter and mechanical ventilation. The dissemination of clinical quality and safety best practices has been essential to prevent unfavorable outcomes from infections related to the use of these devices.

Safety indicators

The patient safety system intends to reduce patient harm. A priority for Anahp member hospitals, it leads to improved care, better utilization of resources and enhanced clinical efficiency. The process also requires independent external assessment to identify improvement opportunities and to assess the efficacy of their implementation.

In recent years, many Anahp member hospitals have achieved more than one model of accreditation certificate, including the entire hospital or specific clinical programs.

Organizations can be recognized by one or more accreditation model, Brazilian – National Accreditation Organization (ONA) – or international – Qmentum International Accreditation Program, Joint Commission International (JCI), and DNV International Accreditation Standard / National Integrated Accreditation for Healthcare Organizations (DIAS/NIAHO), among other certifications recognized by the International Society for Quality in Health Care (ISQua).

Patient safety is an agenda considered relevant by the Ministry of Health, which launched in 2013 the Patient Safety National Program to monitor and prevent healthcare-associated harm, based on the expansion and inspection of rules and clinical protocols that prevent failures in clinical care. Among the assessed data, they include prevention of healthcare-associated infections, safe surgery, prevention of pressure ulcers and falls.

In recent years, Anahp hospitals have achieved accreditations from more than one model of certification, both for the organization and for specific programs.

Prevention of healthcare-associated infections

For years, Anvisa has been considering as mandatory to monitor and submit data referring to healthcare-associated infections. In 2017, the agency updated the monitoring criteria for handling hospital materials to mitigate any harm to patients.

In the same year, Anahp hospitals changed the specifications of the indicators proposed by Anahp Integrated Hospital Indicator System (SINHA) to meet market expectations and Anvisa's criteria. Among the indicators monitored by the association, it includes the incidence density of central line associated bloodstream infections (CLABSI), associated with the use of central venous catheter (CVC) in intensive care units (ICU) **(Table 1)**.

According to Anvisa data[1], the incidence density of CLABSI in adult ICUs was 4.30 for every 1,000 patients-day in 2020. In the Neonatal ICU, this number was 6.95 every 1,000 patients-day whereas in the Pediatric ICU it was 4.60 every 1,000 patients-day in the same year.

Among Anahp hospitals, in 2021, the incidence density of CLABSI was 3.14 for every 1,000 patients-day in the Adult ICU and 1.37 for every 1,000 patients-day in the Step-Down Unit. It is worth noticing that, in that year, the utilization rate of central lines in adult ICUs was 57.54% and 41.93% in the Step-Down Unit, results higher than in previous years, which may be related to a higher number of Covid-19 patients.

In 2021, the rate of CLABSI was 3.67 for every 1,000 patients-day in the Neonatal ICU and 0.93 for each 1,000 patients-day in the Pediatric ICU.

In turn, CVC utilization rate in the Neonatal and Pediatric ICU was 32.30% and 42.66%, respectively, in the year.

TABLE 1 | Central line associated bloodstream infection at Anahp hospitals

Indicator	2018	2019	2020	2021	Standard deviation 2021
Incidence density rate of central line-associated bloodstream infection – Adult ICU	2.61‰	1.96‰	2.61‰	3.14‰	**3.38‰**
Rate of utilization of central venous catheter - Adult ICU	49.27%	49.20%	55.78%	57.54%	**21.91%**
Incidence density rate of central line-associated bloodstream infection – Neonatal ICU	4.87‰	4.65‰	3.31‰	3.67‰	**6.04‰**
Central venous catheter utilization rate - Neonatal ICU	30.16%	31.06%	30.02%	32.30%	**19.03%**
Incidence density rate of central line-associated bloodstream infection – Pediatric ICU	1.75‰	1.61‰	1.51‰	0.93‰	**2.02‰**
Central venous catheter utilization rate - Pediatric ICU	43.64%	43.83%	45.55%	42.66%	**24.53%**
Incidence density rate of central line-associated bloodstream infection – Step-Down Unit	1.56‰	2.00‰	1.95‰	1.37‰	**2.28‰**
Central venous catheter utilization rate - Step-Down Unit	32.48%	33.92%	30.50%	41.93%	**23.05%**

Source: SINHA/Anahp.

[1] ANVISA. "Avaliação Nacional dos indicadores de IRAS e RM – 2020". In: Boletim Segurança do Paciente e Qualidade em Serviços de Saúde, n. 23. Available from: <https://www.gov.br/anvisa/pt-br/centraisdeconteudo/publicacoes/servicosdesaude/publicacoes>; accessed on 2424/Feb/2022.

Monitoring the incidence density of the use of central lines has contributed to making more appropriate indications, more timely withdrawals, and more standardized handling by nursing teams.

Hospitals should increase their efforts to reduce the utilization of central lines or limit the time the device stays in the patient because, according to Anvisa, prolonged exposure to an invasive device is the main risk factor for patient infection. Another indicator monitored by Anahp hospitals is the density of urinary tract infections (UTI) associated with use of indwelling urinary catheters **(Table 2)**.

The literature recommends limiting to the minimal time necessary the use of urinary catheters by inpatients. Anvisa 2020 data[2] show that the incidence density of urinary tract infections associated with urinary catheters was 3.24 for every 1,000 devices-day, both in Adult and in Pediatric ICUs.

Among Anahp hospitals, the incidence density of urinary tract infections associated with urinary catheters was 1.35 for every 1,000 devices-day in the Adult ICU and 2.33 for every 1,000 devices-day in the Step-Down Unit. It should be noted that the utilization rate of urinary catheters in Adult ICU and in the Step-Down Units was 44.61% and 14.72%, respectively, in the year mentioned. Despite the significant increase in the utilization rate, there was no decrease in the performance of indicators, when compared to pre-pandemic years.

In 2021, in the Pediatric ICU, the incidence density of urinary tract infections associated with urinary catheters was 0.19 for every 1,000 devices-day, and the utilization rate of urinary catheters was 11.86%.

TABLE 2 | Urinary tract infection at Anahp hospitals

Indicator	2018	2019	2020	2021	Standard deviation 2021
Incidence density rate of catheter-associated urinary tract infection – Adult ICU	1.95‰	1.34‰	1.22‰	1.35‰	2.12‰
Rate of urinary catheter utilization in Adult ICU - Anvisa	37.20%	35.42%	42.52%	44.61%	19.59%
Incidence density rate of catheter-associated urinary tract infection – Pediatric ICU	0.99‰	0.24‰	0.66‰	0.19‰	0.83‰
Rate of urinary catheter utilization in Pediatric ICU	12.57%	12.18%	12.79%	11.86%	9.09%
Incidence density rate of catheter-associated urinary tract infection – Step-Down Unit	2.56‰	2.93‰	1.67‰	2.33‰	4.54‰
Rate of urinary catheter utilization in Step-Down Unit	10.57%	11.12%	14.17%	14.72%	9.10%

Source: SINHA/Anahp.

The assessment of these correlated indicators serves as the basis for each hospital, with their own epidemiological characteristics, to adopt preventive measures to reduce the incidence of infections.

[2] ANVISA. "Avaliação Nacional dos indicadores de IRAS e RM – 2020". In: Boletim Segurança do Paciente e Qualidade em Serviços de Saúde, n. 23. Available from: <https://www.gov.br/anvisa/pt-br/centraisdeconteudo/publicacoes/servicosdesaude/publicacoes>; accessed on 24/Feb/2022.

The prevalence of comorbidities and the high severity score of patients when arriving in the unit increase the risk of device-associated hospital infections. Thus, the quality of measures adopted at ICUs is a key aspect for managing hospital services.

Ventilation-associated pneumonia (VAP) is an infection related to the intubation of patients for more than two days. The results obtained in the period under analysis are shown in **Table 3**.

According to Anvisa 2020 data[3], the incidence density of ventilation-associated pneumonia in Adult ICUs was 10.61 per 1,000 ventilator days. In Neonatal ICUs, this number was 3.81 per 1,000 ventilator days, while in Pediatric ICUs it was 4.46 per 1,000 ventilator days in that same year.

Among Anahp hospitals, in 2021, the incidence density of ventilation-associated pneumonia in adult ICUs was 6.55 per 1,000 ventilator days in the Adult ICU and 3.88 in the Step-Down Unit. It is worth noticing that the utilization rate of mechanical ventilation was 34.34% in the adult ICUs and 4.07% in the Step-Down Unit in the year, higher than reported in previous years, which may be the result of patients admitted with Covid-19.

In neonatal ICUs, the incidence density of VAP was 2.07 per 1,000 ventilator days, and in pediatric ICUs, it was 1.38 per 1,000 ventilator days. In turn, the utilization rate of mechanical ventilation in Neonatal and Pediatric ICUs was 13.83% and 19.38%, respectively, in the same year.

TABLE 3 | Ventilator-associated pneumonia at Anahp hospitals

Indicator	2018	2019	2020	2021	Standard deviation 2021
Incidence density rate of ventilator-associated pneumonia - Adult ICU	5.40‰	4.25‰	5.27‰	6.55‰	**7.88‰**
Utilization Rate of Mechanical Ventilation – Adult ICU	22.62%	21.57%	31.47%	34.34%	**16.84%**
Incidence density rate of ventilator-associated pneumonia - Neonatal ICU	1.88‰	1.09‰	1.75‰	2.07‰	**5.49‰**
Utilization Rate of Mechanical Ventilation – Neonatal ICU	15.05%	14.74%	13.21%	13.83%	**11.05%**
Incidence density rate of ventilator-associated pneumonia - Pediatric ICU	0.83‰	1.22‰	0.98‰	1.38‰	**3.65‰**
Utilization Rate of Mechanical Ventilation – Pediatric ICU	25.32%	22.92%	23.69%	19.38%	**13.52%**
Incidence density rate of ventilator-associated pneumonia – Step-Down Unit	1.78‰	1.82‰	2.80‰	3.88‰	**8.47‰**
Utilization Rate of Mechanical Ventilation – Step-Down Unit	4.80%	4.62%	3.46%	4.07%	**5.24%**

Source: SINHA/Anahp.

[3] ANVISA. "Avaliação Nacional dos indicadores de IRAS e RM – 2020". In: Boletim Segurança do Paciente e Qualidade em Serviços de Saúde, n. 23. Available from: <https://www.gov.br/anvisa/pt-br/centraisdeconteudo/publicacoes/servicosdesaude/publicacoes>; accessed on 24/Feb/2022.

Reducing healthcare-related infection risks and preventing complications is a continuous quality improvement struggle in the organizations. Such actions result in fast recovery of patients, who can resume their regular activities, lower social cost, lower proportion of disabilities and better quality of life. In addition, these actions result in lower risk of readmissions, which represents significant savings for the healthcare system.

Surgical site infections are those related to surgical procedures, with or without the placement of implants, in inpatients and outpatients. Clean surgeries are those without signs of inflammation, without contact with the respiratory, digestive, genital, and urinary tracts and, therefore, with lower probability of causing infection in patients.

Data from Sao Paulo's Epidemiological Surveillance Center (CVE) indicate that acceptable infection rates for clean surgeries may range from 1% to 5%[4]. The measurement of indicators related to this type of infection favors the identification of the correlation between prevention actions conducted by the hospital staff and their impact on the occurrence of such infections.

Below, we present the data related to clean surgeries at member hospitals **(Table 4)**:

TABLE 4 | Infection related to clean surgeries at Anahp hospitals

Indicator	2018	2019	2020	2021	Standard deviation 2021
Rate of surgical site infection in clean surgeries	0.60%	0.46%	0.42%	0.34%	**0.42%**
Rate of surgical site infection after appendectomy	0.09%	0.11%	0.16%	0.16%	**0.63%**
Rate of surgical site infection after knee arthroplasty	0.69%	0.42%	0.27%	0.21%	**1.04%**
Rate of surgical site infection after total hip arthroplasty	0.47%	0.68%	0.66%	0.61%	**2.42%**
Rate of surgical site infection after cholecystectomy	0.08%	0.10%	0.04%	0.02%	**0.10%**
Rate of surgical site infection after colectomy	2.75%	1.99%	1.97%	1.38%	**4.55%**
Rate of surgical site infection after craniotomy	2.04%	1.85%	1.36%	1.25%	**3.97%**
Rate of surgical site infection after herniorrhaphy/ hernioplasty	0.18%	0.29%	0.17%	0.19%	**0.81%**
Rate of surgical site infection after hysterectomy	0.19%	0.10%	0.06%	0.09%	**0.41%**
Rate of surgical site infection after mastectomy	0.31%	0.44%	0.16%	0.34%	**1.55%**
Rate of surgical site infection after C-section	0.37%	0.38%	0.26%	0.21%	**0.42%**
Rate of surgical site infection after myocardial revascularization	2.84%	2.87%	1.35%	1.17%	**3.47%**

Source: SINHA/Anahp.

[4] SECRETARIA DE ESTADO DA SAÚDE DE SÃO PAULO, Coordenadoria de Controle de Doenças (CCD), Centro de Vigilância Epidemiológica "Prof. Alexandre Vranjac", Divisão de Infecção Hospitalar. Manual de Orientações e Critérios Diagnósticos: Definições e Conceitos – Sistema de Vigilância Epidemiológica das Infecções Hospitalares do Estado de São Paulo. São Paulo, 2021 Available from: <https://www.prefeitura.sp.gov.br/cidade/secretarias/upload/saude/Definicoes_Conceitos_2021.pdf>; accessed on 24/Feb/2022.

Laterality Marking

Still talking about patient safety in the surgical environment, Anahp hospitals monitor the indicator of side marking, that is, the site of the surgical intervention (right, left, both, or multiple structures) marked by the surgeon. In the analysis of this indicator, the higher, the better, that is, the risk of site errors in surgical procedures will be lower or nonexistent. Among member hospitals, the side marking rate was 96.08% in 2021 as seen in **Table 5**.

TABLE 5 | Laterality marking at Anahp hospitals

Indicator	2018	2019	2020	2021	Standard deviation 2021
Rate of side marking	94.91%	95.87%	95.91%	96.08%	8.27%

Source: SINHV/Anahp.

Among member hospitals, laterality marking rate was 96.08% in 2021.

Clinical Quality

To assess nursing care quality and the practices adopted for continuing improvement of care, two indicators have been historically used: the incidence density of falls and the incidence density of pressure ulcers.

According to the Joint Commission International (JCI), a fall is an unintentional change in position coming to rest on the ground and it may be classified according to the severity of the injury caused to the patient: minor (required the application of dressing, ice, wound cleaning, elevation of a limb, topical medication, contusion, or abrasion); moderate (required suture, application of adhesive suture of skin glue, split, or muscle or joint strain); or major (involving surgery, modelling, traction, fracture or requiring appointment for neurological, other structures or internal organ injuries), and death (patient dies because of the injuries caused by the fall).

According to Anvisa 2018 data[5], there were reports of 11,372 cases of fall in hospitals. This number may be underestimated due to underreporting of the event by the multidisciplinary team. Thus, to analyze this indicator, we should assume that the lower the number of events, or the lower the incidence, the better.

In 2021, Anahp member hospitals presented the results shown by **Table 6**.

TABLE 6 | Falls at Anahp hospitals

Indicator	2018	2019	2020	2021	Standard deviation 2021
Incidence density rate of falls in patients aged 18 years and older	0.92‰	0.73‰	0.79‰	0.75‰	**0.59‰**
Incidence density rate of falls that led to injury in patients aged 18 years and older	0.22‰	0.18‰	0.20‰	0.17‰	**0.20‰**
Percentage of falls that led to moderate or severe harm to patients aged 18 years and older	6.76%	12.91%	8.06%	11.06%	**21.21%**
Incidence density rate of falls in patients aged younger than 18 years	0.22‰	0.29‰	0.12‰	0.09‰	**0.31‰**
Incidence density rate of falls that led to injury in patients aged younger than 18 years	0.05‰	0.02‰	0.02‰	0.03‰	**0.12‰**
Percentage of falls that led to moderate or severe harm to patients aged younger than 18 years	8.49%	5.96%	11.11%	9.58%	**13.14%**

Source: SINHA/Anahp.

[5] ANVISA. "Incidentes relacionados à assistência à saúde – 2018". In: Boletim Segurança do Paciente e Qualidade em Serviços de Saúde, n. 20 Available from: <https://www.gov.br/anvisa/pt-br/centraisdeconteudo/publicacoes/servicosdesaude/publicacoes>; accessed on 24/Feb/2022.

Pressure ulcers are injuries on the skin and/or underlying soft tissues, usually over the patient's bones or related to the use of medical devices or another device. The ulcer occurs as the result of intense and/ or prolonged pressure in combination with shearing.

According to Anvisa data[6], in 2018, 19,297 cases of pressure ulcers were reported in Brazil in inpatient units alone, data which stress the importance of monitoring these indicators.

The indicators of incidence and prevalence of this adverse event are constantly monitored by Anahp hospitals, so that, together they may find effective barriers to mitigate harm. The results obtained are shown in **Table 7**.

The change in patient profile, because of Covid-19 cases and more prolonged hospital stays in 2020 and 2021, may explain the increase observed in these indicators for patients aged over 18 years.

Incidence and prevalence of pressure ulcers are constantly monitored by Anahp hospitals.

TABLE 7 | Pressure ulcers at Anahp hospitals

Indicator	2018	2019	2020	2021	Standard deviation 2021
Incidence density rate of hospital-acquired pressure ulcer in patients aged 18 years and older	1.44‰	1.38‰	1.68‰	1.76‰	**1.51‰**
Incidence density rate of hospital-acquired pressure ulcer in patients aged younger than 18 years	0.29‰	0.47‰	0.33‰	0.21‰	**0.57‰**
Prevalence of hospital-acquired pressure ulcer in patients aged 18 years and older	0.92‰	1.01‰	1.39‰	1.40‰	**1.47‰**
Prevalence of hospital-acquired pressure ulcer in patients aged younger than 18 years	0.07‰	0.24‰	0.14‰	0.25‰	**1.14‰**

Source: SINHA/Anahp.

[6] ANVISA. "Incidentes relacionados à assistência à saúde – 2018". In: Boletim Segurança do Paciente e Qualidade em Serviços de Saúde, n. 20 Available from: <https://www.gov.br/anvisa/pt-br/centraisdeconteudo/publicacoes/servicosdesaude/publicacoes>; accessed on 24/Feb/2022.

CLINICAL PERFORMANCE

Institutional Protocols

The medians of door-to-balloon, door-to-report and door-to-thrombolysis presented good results, within the internationally recommended parameters

WATCH THE VIDEO with the analysis of FVG Saude Coordinator and member of Observatorio Anahp Editorial Board Ana Maria Malik.

Having readily access to healthcare centers is essential for better clinical outcomes, even during the Covid-19 pandemic

Organizational protocols are care delivery resources to standardize medical-surgical processes and to guide professionals on what to do to provide care to a certain pathology. In this manner, hospitals strive to reduce care variability and to have better outcomes, that is, more homogeneous and safer care delivery, better management of the resources used and higher patient satisfaction.

This chapter presents the results from 2018 to 2021 of indicators related to acute myocardial infarction, ischemic stroke, congestive heart failure, and sepsis (in patients aged 18 years and over).

Acute myocardial infarction

Acute myocardial infarction (code I21 of the International Classification of Diseases and Health-Related Problems, 10th revision – ICD-10) is an injury in the cardiac muscle caused by the interruption of blood circulation in part of heart. It accounted for 7.08% of the mortality in the country (95,557 deaths) in 2019. In that same year, there was a total of 1,349,802 deaths in Brazil, according to data from the Ministry of Health[1]. Still according to DataSUS, the increase in the condition is related to risk factors such as an imbalanced diet rich in fat, carbohydrates, salt and processed foods, alcohol abuse, smoking and use of other drugs, recurrent stressful situations and sedentary life. In **Table 1** we can see the numbers for Anahp hospitals and the international benchmark. The median door-to-balloon time – which measures the time between patient's arrival at the hospital door and opening of a coronary artery at the cath lab – was 53.31 minutes in 2021 among Anahp member hospitals, showing better performance than in previous years. The international literature and the American Heart Association recommend maximum 90 minutes. It is worth mentioning that data dispersion is wide for this indicator - the standard deviation was 41.83 minutes, which shows heterogeneity of the sample.

In the same year, the mean length of stay of patients with this pathology was 4.69 days and the sample lethality was 5.29%. Aspirin prescription at discharge for patients with diagnosis of acute myocardial infarction was 97.22% in 2021.

TABLE 1 | Acute myocardial infarction protocol

Pathology	Indicators	2018	2019	2020	2021	Standard deviation 2021	Parameters	
ACUTE MYOCARDIAL INFARCTION (AMI)	**Median door-to-balloon time (minutes)**	62.90	61.19	62.42	53.31	41.83	90	American Heart Association
	Median of LOS (days)	5.70	5.23	4.49	4.69	2.67	-	-
	Lethality	4.86%	4.45%	6.24%	5.29%	9.81%	-	-
	Prescription of aspirin at discharge	98.60%	96.58%	97.30%	97.22%	11.05%	-	-

Source: SINHA/Anahp.

[1] MINISTÉRIO DA SAÚDE. Banco de Dados do Sistema Único de Saúde – Datasus. Brasília, 2022.
Available from: <http://tabnet.datasus.gov.br/cgi/deftohtm.exe?sim/cnv/obt10uf.def>; accessed on 24/Feb/2022.

Ischemic stroke

Ischemic stroke is caused by the lack of blood supply to a certain area of the brain because of an obstruction in an artery. Data of the World Stroke Organization[2] indicate that one in every four people will have a stroke in their lifetime and up to 90% of the cases could be avoided. In Brazil, stroke (code I64 of ICD-10, stroke not specified as hemorrhage or infarction) accounted for 2.51% of the country's mortality (33,895 deaths) in 2019, according to data of the Ministry of Health[3].

The incidence of stroke is associated with compliance rate to treatment of hypertension and intensive exposure to risk factors. The risk factors include smoking, high glucose levels, alcohol abuse, sedentary life and obesity. Thus, the initiatives directed to prevention, such as promoting smoking cessation, increase physical activity, and reduction of body mass index are essential to reduce the incidence of cerebrovascular diseases.

Fast access to healthcare services in such cases is key for the prognosis, medical intervention and level of disability resulting from the disease. Quality of life and social impact on the family after discharge of the patient are directly affected by fast and appropriate interventions.

The results of Anahp hospitals **(Table 2)** show that the indicator door-to-report time, which is the median time a patient takes between admission at the emergency department with suspected ischemic stroke until receiving the report of a brain imaging test to support diagnosis – was 36.84 minutes in 2021. International parameters recommend it should be below 45 minutes.

In turn, the indicator door-to-thrombolysis time, which is the median time between admission at the emergency department and the beginning of venous thrombolysis in patients with suspected ischemic stroke eligible for this procedure – was 33.81 minutes in 2021, a result that has been stable for the past four years. The American Stroke Association recommends it should be up to 60 minutes.

In the year, the median length of stay of patients with ischemic stroke was 5.45 days and the disease lethality was 6.40%.

TABLE 2 | Ischemic stroke protocol

Pathology	Indicators	2018	2019	2020	2021	Standard deviation 2021	Parameters	
ISCHEMIC STROKE	Median of Door-to-Report time (minutes)	37.05	38.40	38.33	36.84	32.39	< 45	American Stroke Association
	Median Door-to-Needle Time (minutes)	35.01	34.70	36.27	33.81	34.02	< 60	American Stroke Association
	Median of LOS (days)	5.67	5.92	5.36	5.45	3.44	-	-
	Lethality	5.64%	6.27%	7.77%	6.40%	9.93%	-	-

Source: SINHA/Anahp.

[2] WORLD STROKE ORGANIZATION. "Stroke Prevention." Geneva, 2020.
Available from: <https://www.world-stroke.org/world-stroke-day-campaign/why-stroke-matters/stroke-prevention>; accessed on 24/Feb/2022.
[3] Ministério da Saúde. Banco de Dados do Sistema Único de Saúde – Datasus. Brasília, 2022.
Available from: <http://tabnet.datasus.gov.br/cgi/deftohtm.exe?sim/cnv/obt10uf.def>; accessed on 24/Feb/2022.

Congestive Heart Failure

Known as CHF, this pathology prevents blood from being pumped as much and as frequently as necessary for human body to properly operate. In Brazil, data from the Ministry of Health[4] indicate that there were 27,080 deaths related to this disease (code I50 of ICD-10, heart failure) in 2019. The results of Anahp hospitals **(Table 3)** show that the median length of stay of these patients was 7.40 days, with 9.15% lethality in 2021.

The utilization of ACE inhibitors (angiotensin converting enzyme)/ ARA (angiotensin receptor antagonist) and beta-blockers reduce mortality and morbidity in patients with heart failure and left ventricle systolic dysfunction. In 2021, the utilization rate of these agents was 99% for ACEI/ ARA and 94.13% for beta-blockers. The standard deviation for these indicators was 4.13% for utilization rate of ACEI/ ARA in patients with CHF at discharge and 15.40% for beta-blockers at discharge of eligible patients with CHF.

TABLE 3 | Congestive Heart Failure

Pathology	Indicators	2018	2019	2020	2021	Standard deviation 2021	Parameters	
CONGESTIVE HEART FAILURE (CHF)	Median length of stay (days)	6.72	6.84	7.27	7.40	3.34	-	-
	Lethality	5.26%	5.13%	7.86%	9.15%	8.71%	-	-
	Rate of utilization of ACEI or ARA at discharge	88.41%	90.66%	96.49%	99.00%	4.13%	-	-
	Rate of Beta-blocker at discharge Eligible patients	94.29%	98.66%	98.16%	94.13%	15.40%	-	-

Source: SINHA/Anahp.

[4] Ministério da Saúde. Banco de Dados do Sistema Único de Saúde – Datasus. Brasília, 2022.
Available from: <http://tabnet.datasus.gov.br/cgi/deftohtm.exe?sim/cnv/obt10uf.def>; accessed on 24/Feb/2022.

Sepsis

Sepsis is a life-threatening organic dysfunction caused by deregulated response of the body to an infection. A protocol should be implemented due to high prevalence, high morbidity and mortality rates of sepsis, in addition to the high cost related to treatment.

The first-hour bundle includes a series of actions that the hospital should adopt up to one hour after the diagnosis, to minimize the risks to patients. Such actions involve collection of arterial lactate, peripheral and central catheter blood cultures from long or short-time catheters (if applicable) and administration of antibiotics.

In 2021, for patients aged 18 years or older, the compliance of Anahp hospitals with the one-hour bundle was 87.08%, and the rate of antibiotic within one hour from diagnosis was 89.08% **(Table 4)**. In that same year, among Anahp hospitals, the median length of stay for this disease was 10.02 days; the lethality rate of the disease was 24.46% for patients aged 18 years or older. The increase in lethality rate in 2020 and 2021 was probably due to the higher prevalence of Covid-19 cases in these years.

TABLE 4 | Community-acquired sepsis

Pathology	Indicators	2018	2019	2020	2021	Standard deviation 2021	Parameters	
SEPSIS ≥ 18 YEARS	Compliance with first hour bundle	80.67%	84.05%	84.24%	87.08%	17.91%	-	-
	Median length of stay (days)	8.59	7.93	8.82	10.02	5.82	-	-
	Rate of antibiotics within 1 hour from diagnosis	86.72%	89.43%	88.70%	89.58%	15.95%	-	-
	Lethality	16.24%	14.21%	20.55%	24.46%	17.78%	-	-

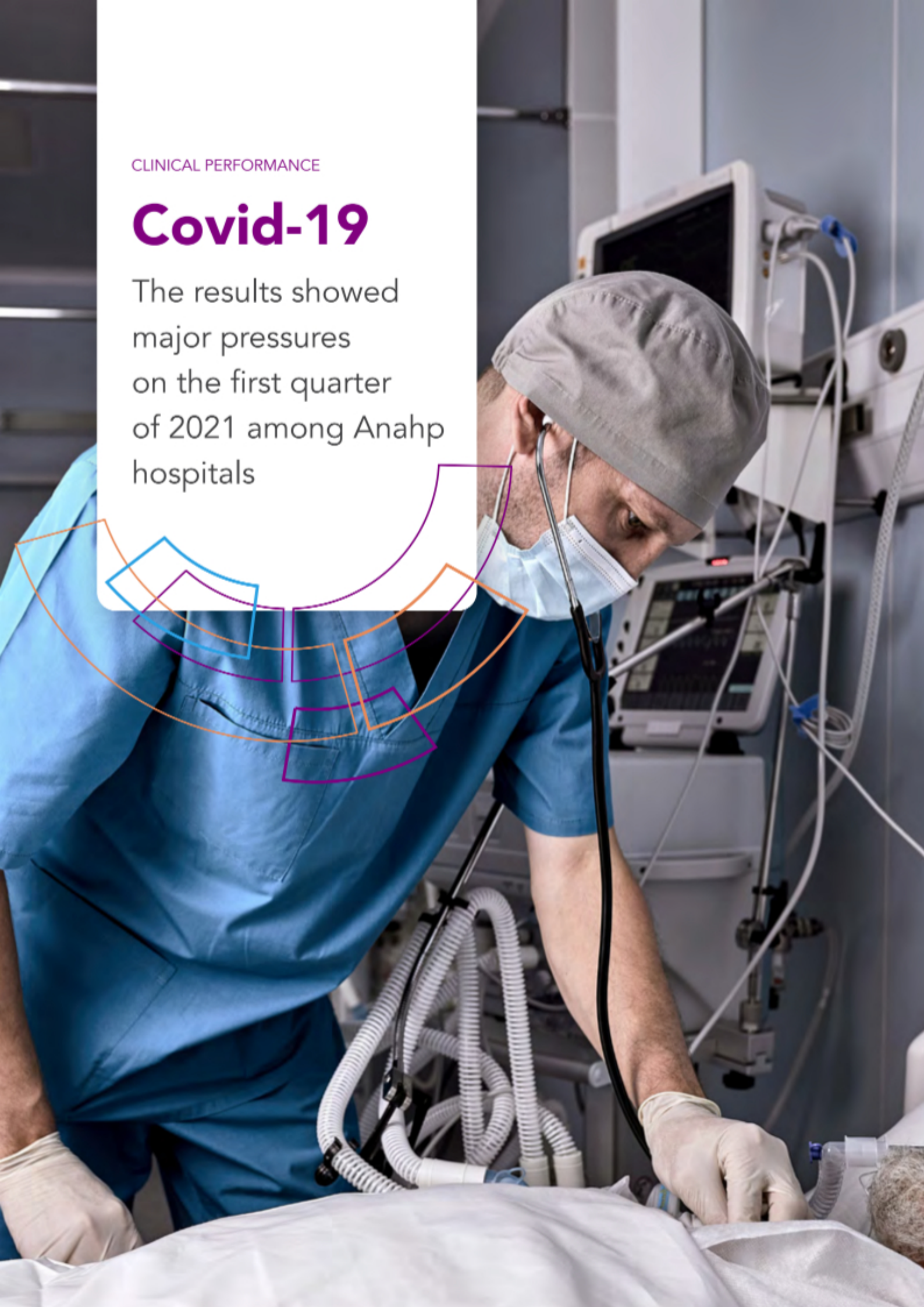
Fonte: SINHA/Anahp.

In 2021, the compliance with first-hour bundle among Anahp hospitals for patients aged 18 years or older was 87.08%.

CLINICAL PERFORMANCE

Covid-19

The results showed major pressures on the first quarter of 2021 among Anahp hospitals



During the year, we witnessed the second wave of the pandemic and, as the immunization coverage increased, there was continuous improvement of indicators

In the first quarter of 2020, healthcare systems in the world felt weak in view of the challenges imposed by the Covid-19 pandemic.

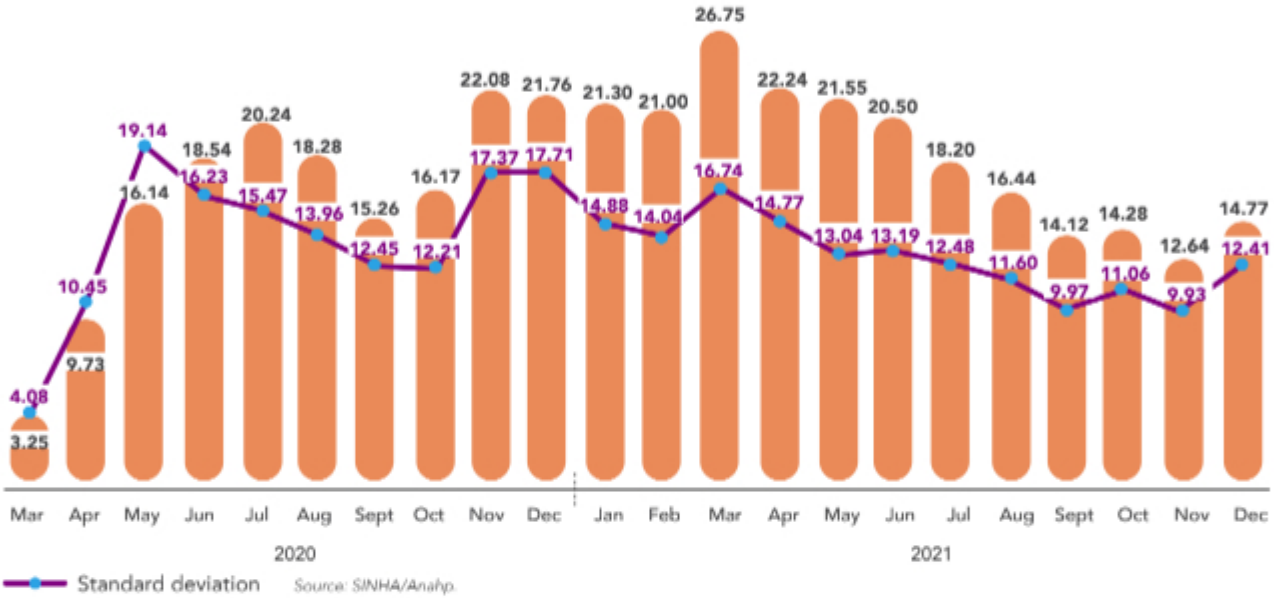
In face of this scenario, in March 2020, Anahp structured four monthly indicators (rate of patients seen in the emergency department with suspected Covid-19, incidence of Covid-19, rate of urgency and emergency visits converted into hospitalizations due to Covid-19, and Covid-19 lethality rate) to be monitored by member hospitals.

These indicators have been monitored since March 2020, were analyzed in 2021 and are reported in this chapter with monthly frequency, as an exception.

Covid-19 indicators

The total number of patients seen in urgency and emergency departments who had suspected Covid-19 infection compared to the total number of patients seen in urgency and emergency reached the highest percentage in March 2021 (26.75%), the peak of the second wave. In subsequent months, the indicator gradually fell, as the immunization coverage increased. It was elevated once again in December, as a result of the omicron variant wave **(Graph 1)**.

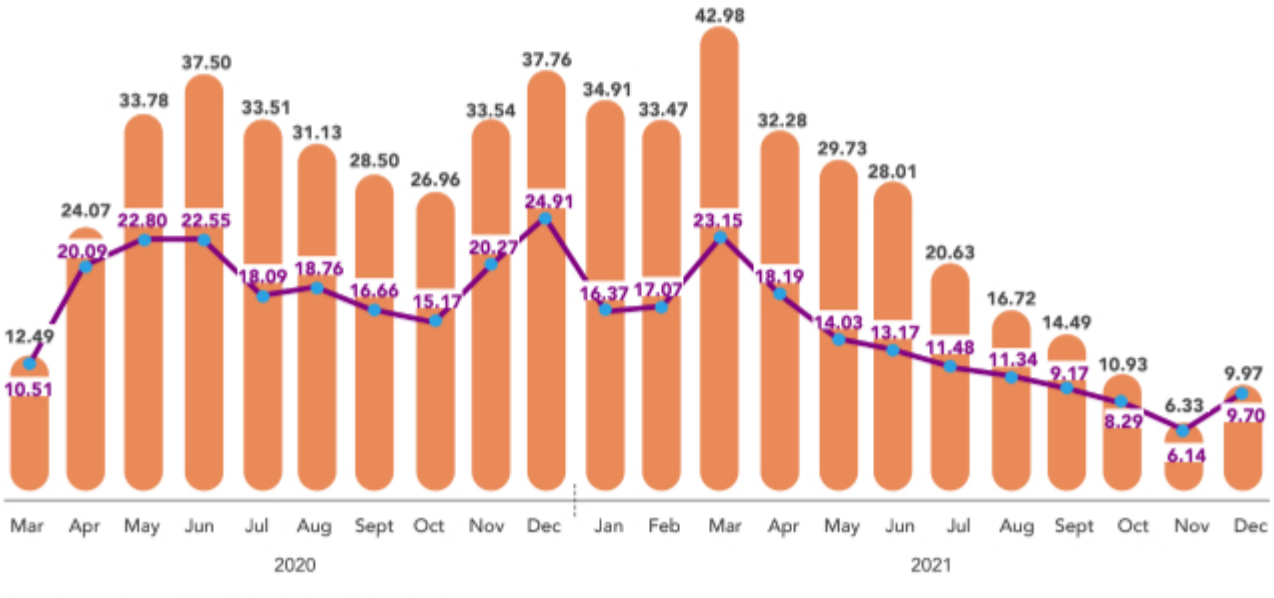
GRAPH 1 | Rate of patients seen in urgency and emergency with suspicion of Covid-19 infection (%)



Source: SINHA/Anahp.

The total number of patients seen in urgency and emergency departments who had confirmed positive diagnosis of the disease, compared to the total number of patients seen in urgency and emergency with suspicion of the disease (Covid-19 incidence) reached its peak in March 2021, or 42.98% **(Graph 2)**. In subsequent months, the indicator presented a gradual decline, following a similar behavior of reduction of number of patients seen in the urgency and emergency with suspected Covid-19, as shown by the previous graph.

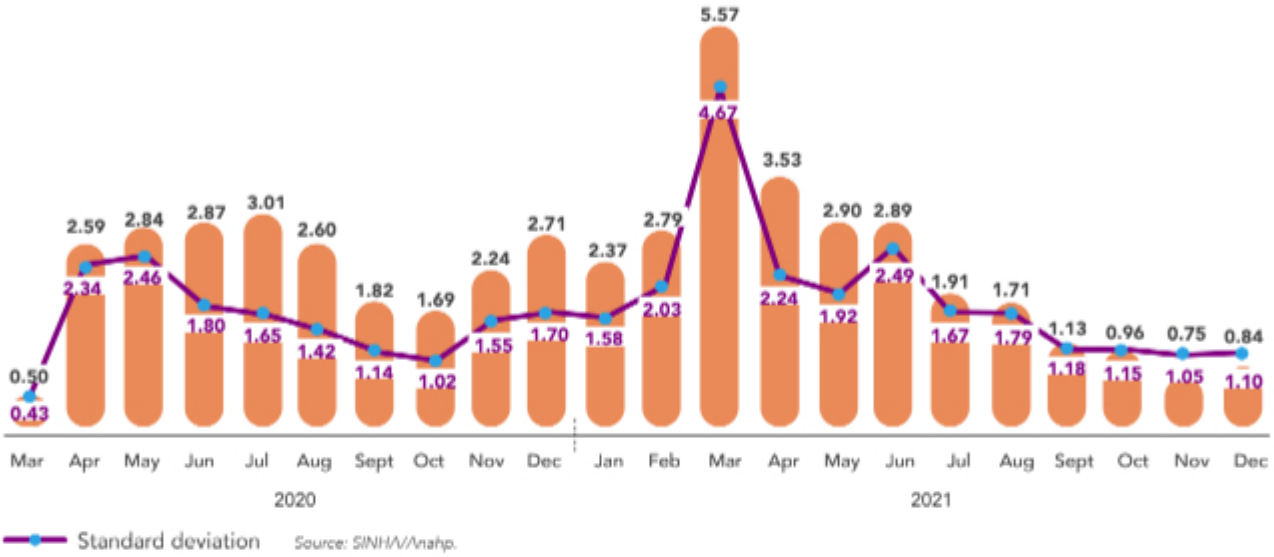
GRAPH 2 | Incidence of COVID-19 in the period (%)



Source: SINHA/Anahp.

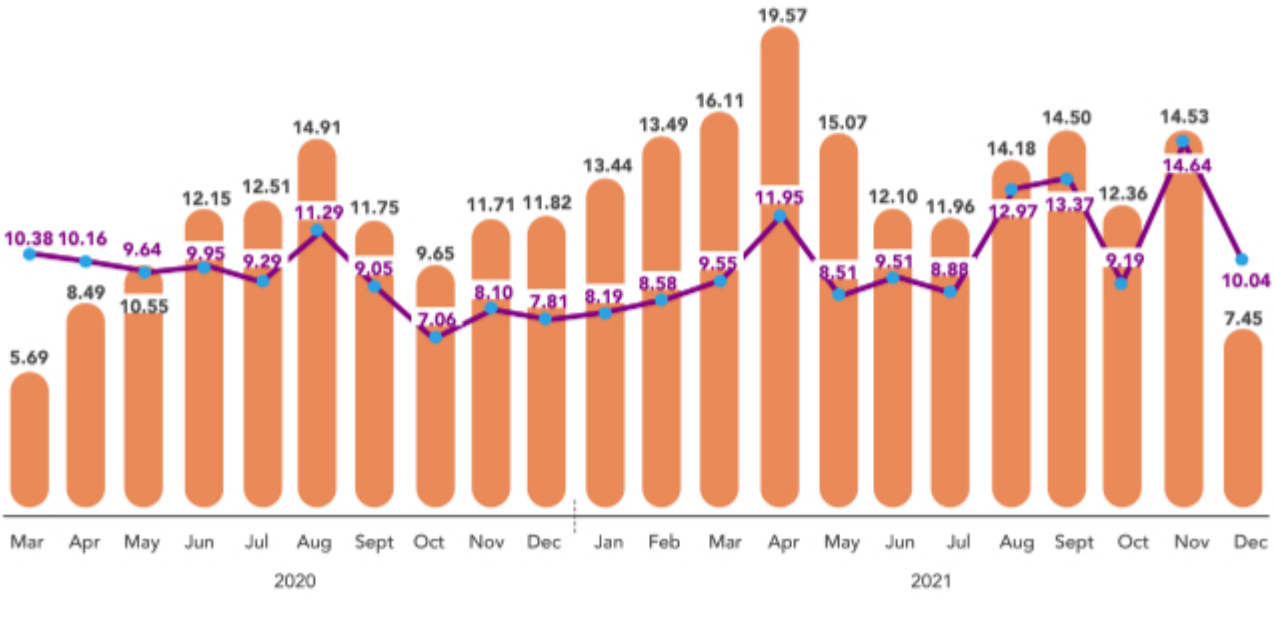
Urgency and emergency visits of patients with confirmed diagnosis of Covid that were converted into admissions reached 5.57% in March 2021, the highest percentage observed since the beginning of the pandemic. Since then, the number started to decrease, raising somewhat again in December 2021 **(Graph 3)**, possibly as a result of the omicron variant.

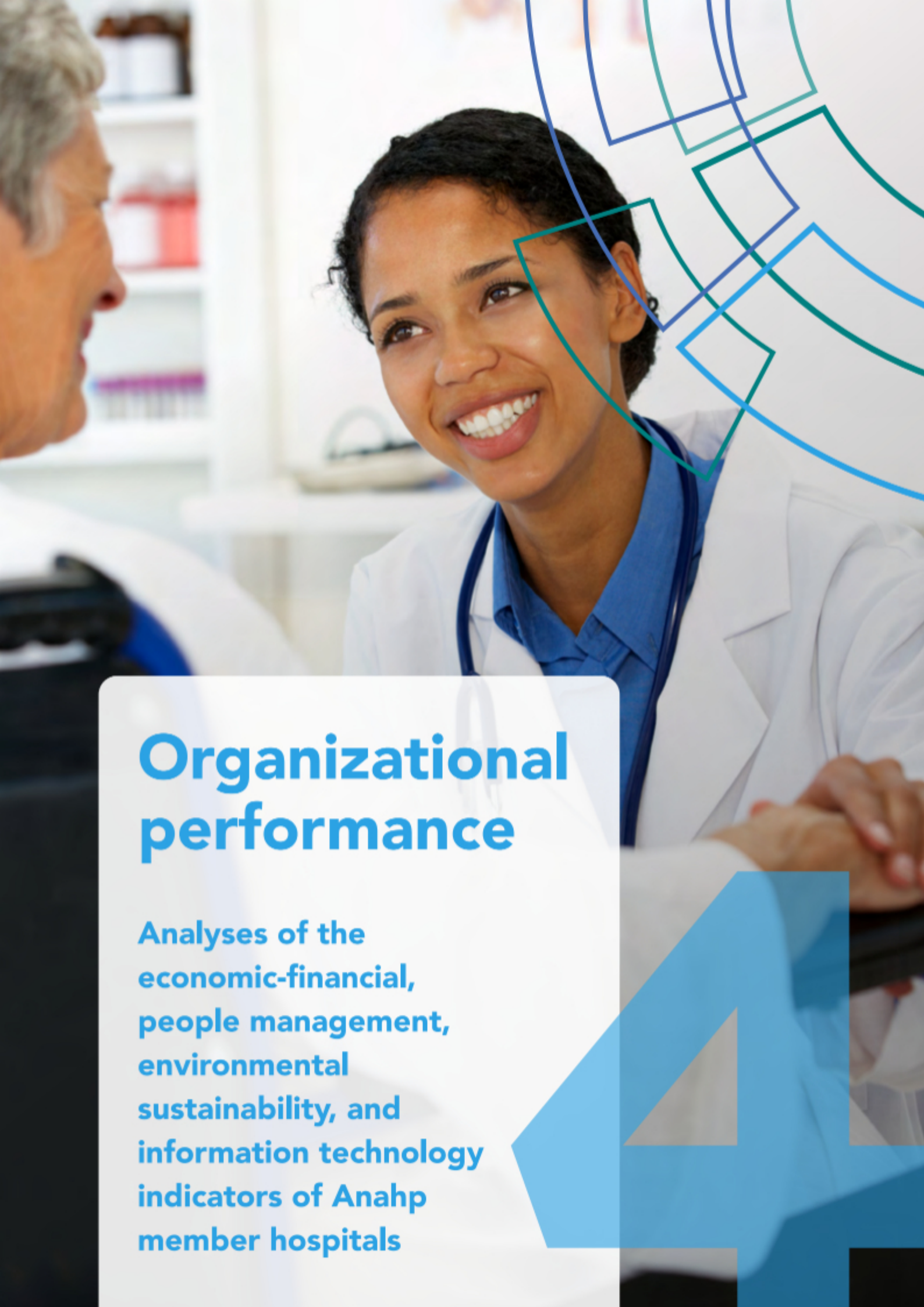
GRAPH 3 | Rate of urgency and emergency visits converted into admissions due to Covid-19 (%)



The disease lethality rate in Anahp hospitals, which represents the percentage of deaths with diagnosed Covid-19 compared to the number of people infected by the disease in member hospitals, peaked in March 2021. In the subsequent months, there was continuous decrease of this rate, probably reflecting the good results from the high vaccination coverage of the population **(Graph 4)**.

GRAPH 4 | Covid-19 lethality rate (%)





Organizational performance

Analyses of the economic-financial, people management, environmental sustainability, and information technology indicators of Anahp member hospitals

4

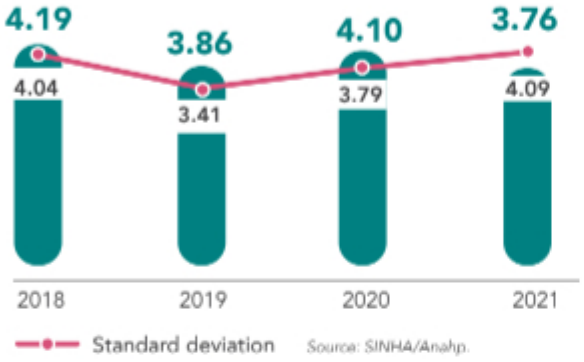
Executive summary

ECONOMIC-FINANCIAL MANAGEMENT

The rate of denials (health carriers' refusal to pay) and average accounts receivables days remained at high levels in 2021, with a negative impact on the economic-financial balance of hospitals.

RATE OF DENIALS (% OF NET REVENUE)

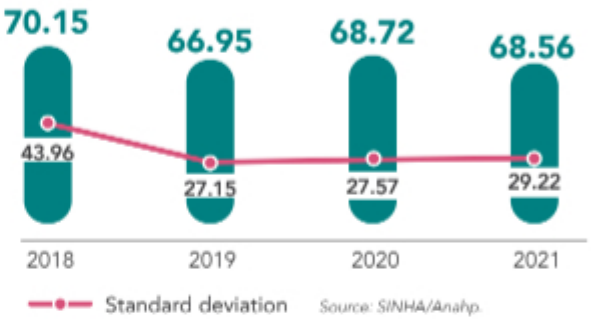
Average of Anahp hospitals



Source: SINHA/Anahp.

AVERAGE ACCOUNTS RECEIVABLES DAYS

Average of Anahp hospitals

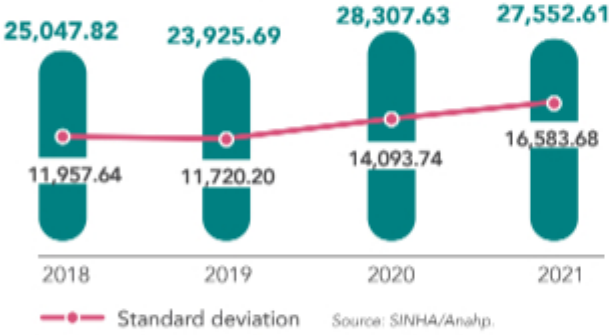


Source: SINHA/Anahp.

NET REVENUE PER HOSPITAL DISCHARGE (BRL IN 2021)

ACTUAL VARIATION (DISCOUNTING INFLATION)

Average of Anahp hospitals

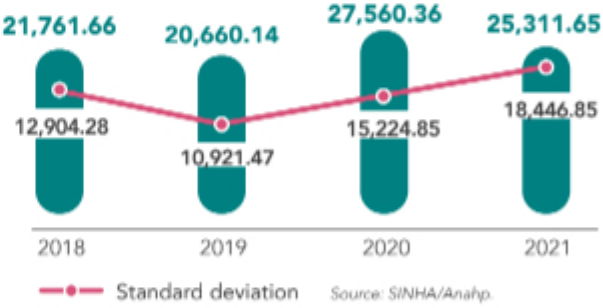


Source: SINHA/Anahp.

TOTAL EXPENSE PER HOSPITAL DISCHARGE (BRL IN 2021)

ACTUAL VARIATION (DISCOUNTING INFLATION)

Average of Anahp hospitals



Source: SINHA/Anahp.

DISTRIBUTION OF GROSS REVENUE PER PAYOR, PER REGION (%) | 2021

Sources of revenue	South	Southeast	North and Center-West	Northeast	Brazil
Healthcare Companies	77.64	89.80	92.80	77.34	**84.49**
Medical Cooperative Groups	65.78	19.99	31.19	27.67	**34.46**
Self-Managed Plans	17.35	25.85	36.10	43.03	**25.51**
Insurance Companies	7.83	28.85	25.73	19.13	**22.34**
HMO	5.07	24.84	5.91	10.17	**16.20**
Philanthropy	3.95	0.35	0.06	0.00	**1.34**
International Plans	0.02	0.12	1.02	0.00	**0.15**
SUS (Universal Health System)	8.45	3.95	0.27	16.59	**7.25**
Out-of-pocket	4.96	4.27	4.15	3.99	**4.50**
Other payors	8.95	1.97	2.95	2.07	**3.76**

Source: SINHA/Anahp.

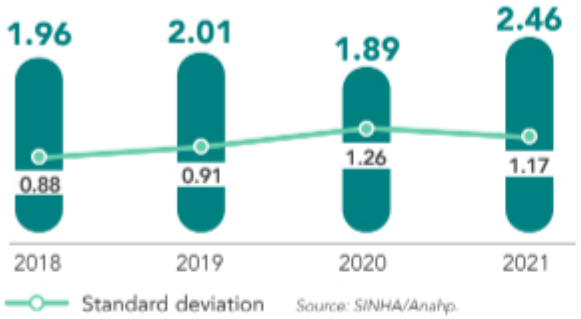
PEOPLE MANAGEMENT

The number of new hires per headcount (active headcount) presented an increase in 2021, after one year of fall

In this manner, it is closer to pre-pandemic levels

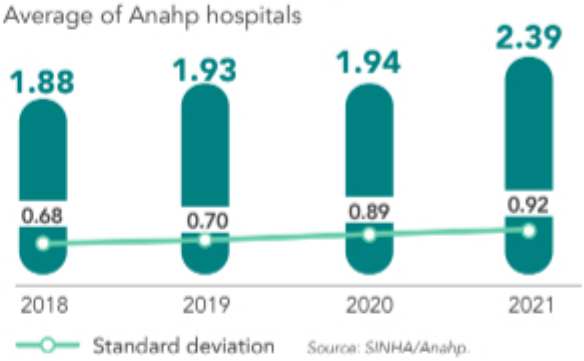
NUMBER OF HIRES PER HEADCOUNT (%)

Average of Anahp hospitals



TURNOVER RATE (%)

Average of Anahp hospitals



ENVIRONMENTAL SUSTAINABILITY

The consumption of water, electric power and generation of waste per patient-day is directly related to the volume of admissions

CONSUMPTION OF ELECTRIC POWER IN KWH PER PATIENT-DAY

Average of Anahp hospitals

WATER CONSUMPTION IN M³ PER PATIENT-DAY

Average of Anahp hospitals

GENERATION OF INFECTIOUS WASTE PER PATIENT-DAY (KG)

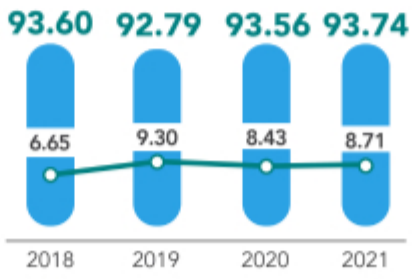
Average of Anahp hospitals

INFORMATION TECHNOLOGY

Similarly to recent years, the satisfaction rate of internal customers was high, as well as the IT problem-solving rate.

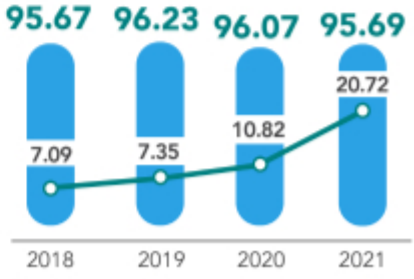
SATISFACTION RATE OF INTERNAL IT CUSTOMERS (%)

Average of Anahp hospitals



IT PROBLEM SOLVING RATE (%)

Average of Anahp hospitals

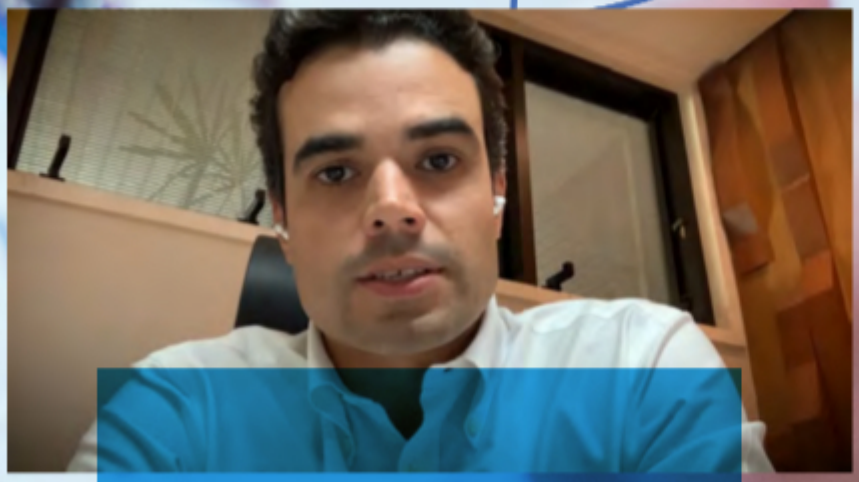


Standard deviation Source: SINHA/Anahp.

ORGANIZATIONAL PERFORMANCE

Economic-financial management

The pursuit for financial balance drives the decisions of hospital managers

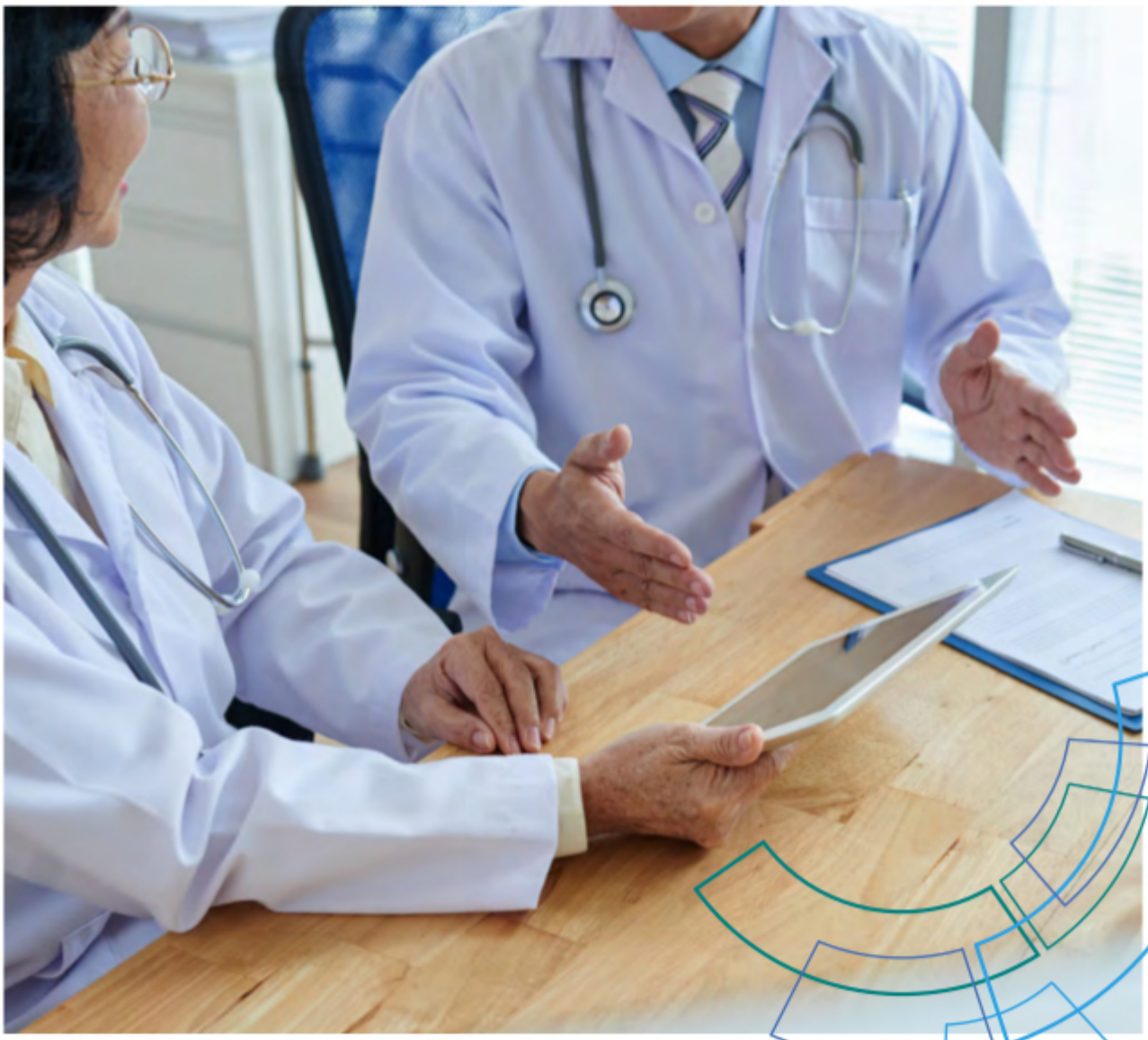


WATCH THE VIDEO with the analysis of Jose Henrique Salvador, COO of Rede Mater Dei de Saúde and member of the Editorial Board of Observatorio Anahp.

Expense cuts partly explain the balance of the EBITDA margin in 2021

Anahp hospitals were significantly impacted by the pandemic. With the postponement of elective procedures in 2020 and their gradual resumption in 2021, in a constant pursuit to operate more efficiently, hospitals worked even harder to cut waste, to minimize impacts on the EBITDA margin (earnings before interest, taxes, depreciation and amortization). In 2021, the average EBITDA of Anahp hospitals was 11.72%.

The time to receive payments form health plan carriers and the rate of denials (when payors refuse to pay) remained at high levels, with a negative impact on the economic-financial balance of hospitals, affecting particularly cash flow.



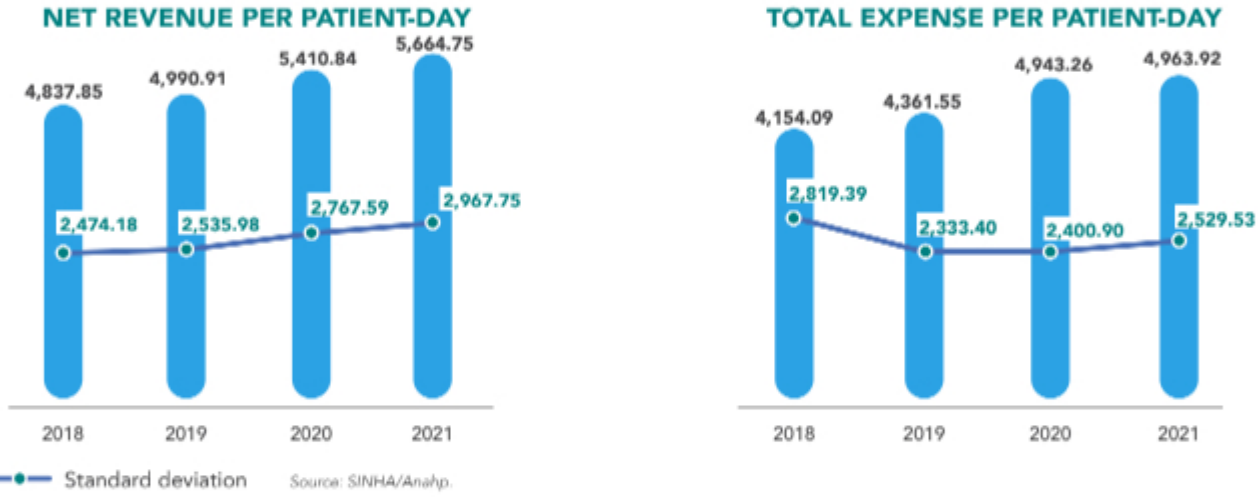
Economic-financial performance of Anahp hospitals

The revenues and expenses of hospitals are a combination of the quantity and type of care provided to patients, considering the profile of their customer portfolio, with costs associated with the rendering and improvement of those services, as well as to the maintenance and expansion of the hospital infrastructure and the necessary investments.

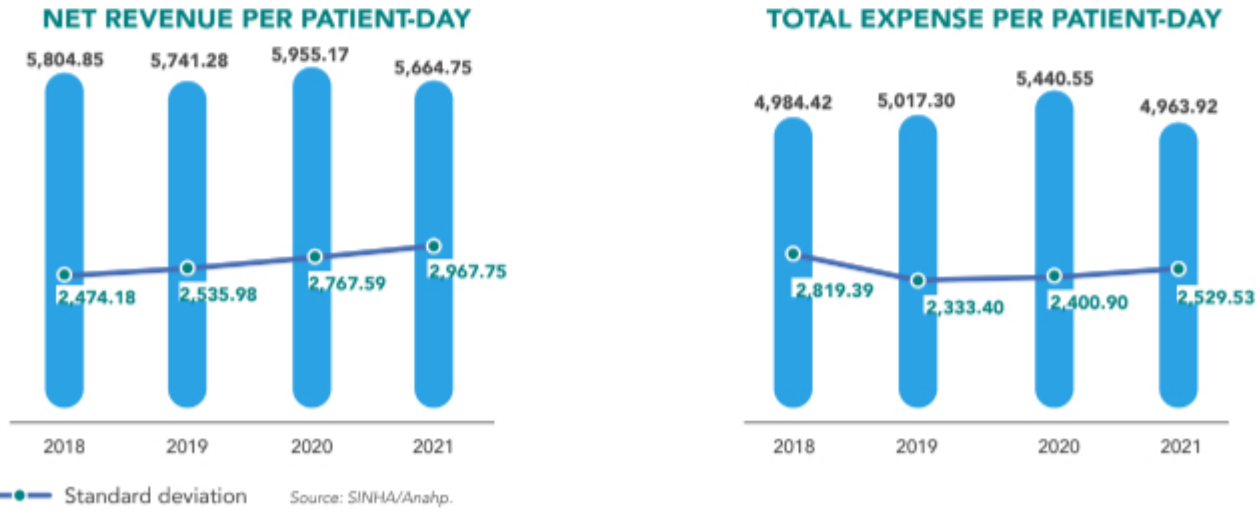
In 2021, the net revenue[1] per patient-day had a variation of 4.69%, while total expense per patient-day had a variation of 0.42% **(Graph 1)**. When we discount inflation (as measure by IPCA – Extended National Consumer Price index), it is possible to note an actual fall of 4.88% in net revenue per patient-day and 8.76% in total expense per patient-day in 2021 **(Graph 2)**.

These indicators are evidence of the successful effort of Anahp hospitals to improve technical and operational efficiency in the allocation and management of their funds.

GRAPH 1 Net revenue and total expense per patient-day (BRL) – Average of Anahp hospitals



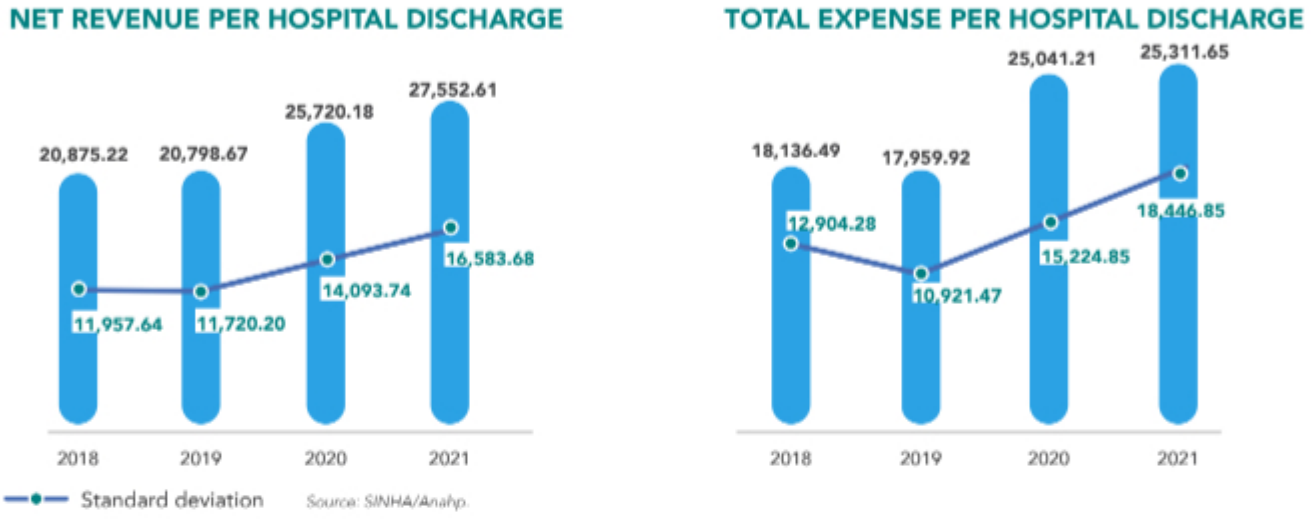
GRAPH 2 Net revenue and total expense per patient-day (BRL in 2021) – actual variation (discounting IPCA inflation) – Average of Anahp hospitals



[1] Net revenue is formed by gross revenue minus payments of taxes due on revenue and amounts denied and not received. Total expenses include expenses with personnel; contracts with third parties for support and logistics; technical and operational contractors; medications, materials, OPME (orthoses, prostheses, and special materials); medical gas; other hospital supplies; maintenance and technical assistance; utilities (electric power, water, and other government-regulated prices); financial expenses (including interest on loans); depreciation; and other operational expenses.

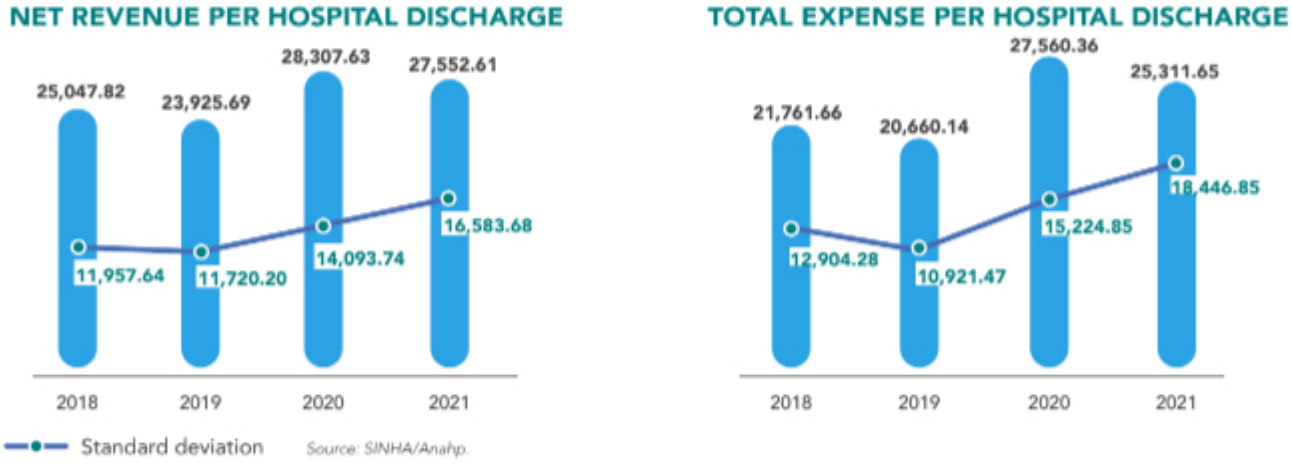
The indicators net revenue and total expense per hospital discharge grew between 2020 and 2021 due to the fall in the number of discharges **(Graph 3)**, but when IPCA inflation is discounted **(Graph 4)**, it is possible to note a reduction in actual amounts related to both net revenue and net expense per hospital discharge.

GRAPH 3 | Net revenue and total expense per hospital discharge (BRL) – Average of Anahp hospitals



Source: SINHA/Anahp.

GRAPH 4 | Net revenue and total expense per hospital discharge (BRL in 2021) – actual variation (discounting IPCA inflation) – Average of Anahp hospitals



Source: SINHA/Anahp.

In 2021, net revenue per patient-day fell by 4.88% and overall expenses per patient-day dropped 8.76%.

In the year of 2021, the EBITDA margin was 11.72%, a recovery of 3.68 percentage points as compared to the 2020 average, but still lower than the average rates seen in the pre-pandemic period (2018 and 2019) **(Graph 5)**.

GRAPH 5 | EBITDA Margin (%) – Average of Anahp hospitals

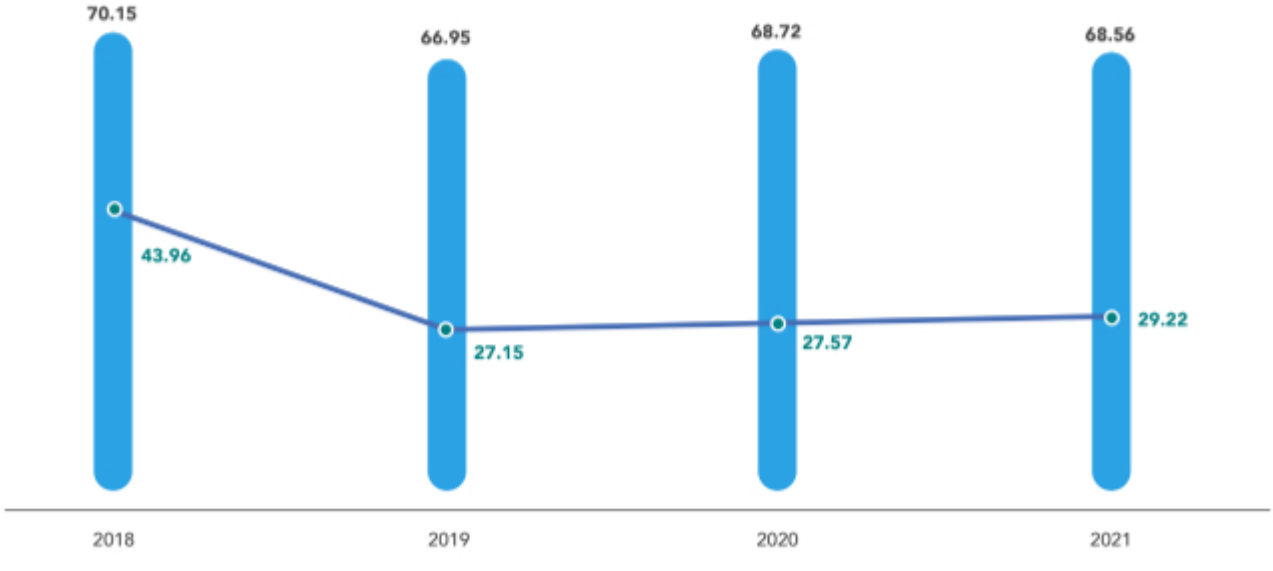
Source: SINHA/Anahp.

Denials and accounts receivables days

Monitoring the accounts receivables days health plan carriers take to pay what they owe to hospitals and the denial rate (when health carriers refuse to pay), as well as the ratio between average accounts receivables days and average days payable outstanding, is extremely relevant for the analysis of working capital requirements, among other economic-financial parameters.

Average accounts receivables days were 68.56 in 2021. This number kept the historical average of previous years **(Graph 6)**.

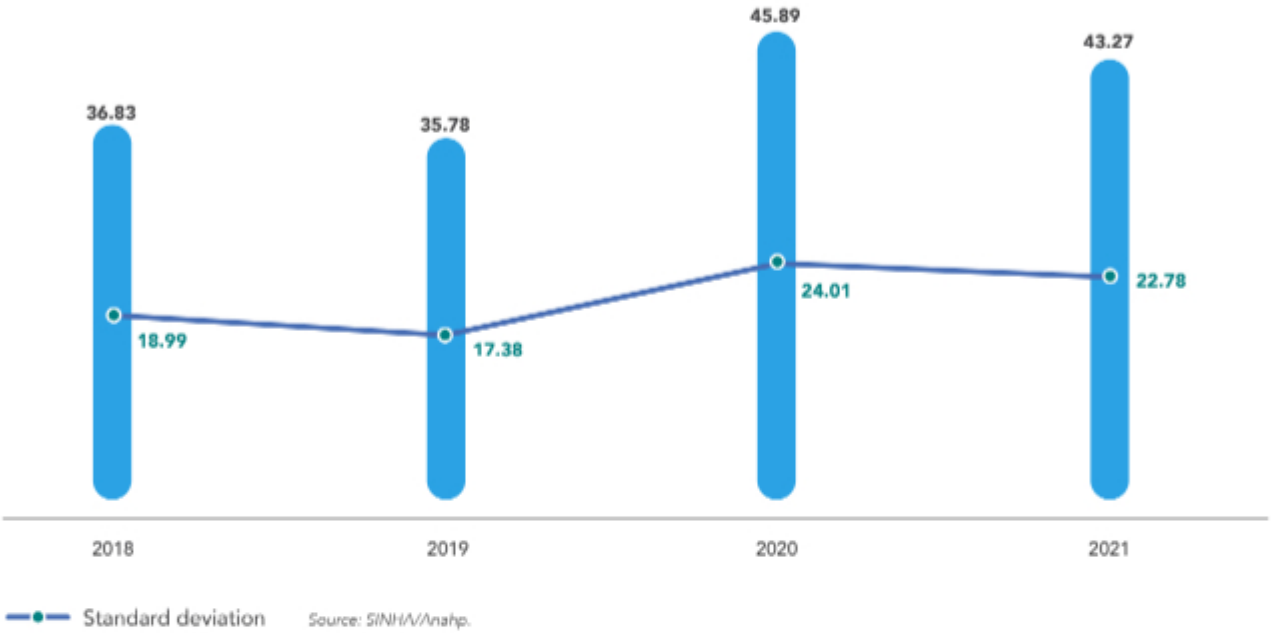
GRAPH 6 | Average accounts receivables days – Average of Anahp hospitals



Source: SINHA/Anahp.

Average days payable outstanding was 43.27 in 2021, still well above the historical average, only below the number for 2020 (45.89 days), which is evidence of the negotiation efforts of hospitals with their suppliers in face of the adverse scenario imposed by the Covid-19 pandemic **(Graph 7)**.

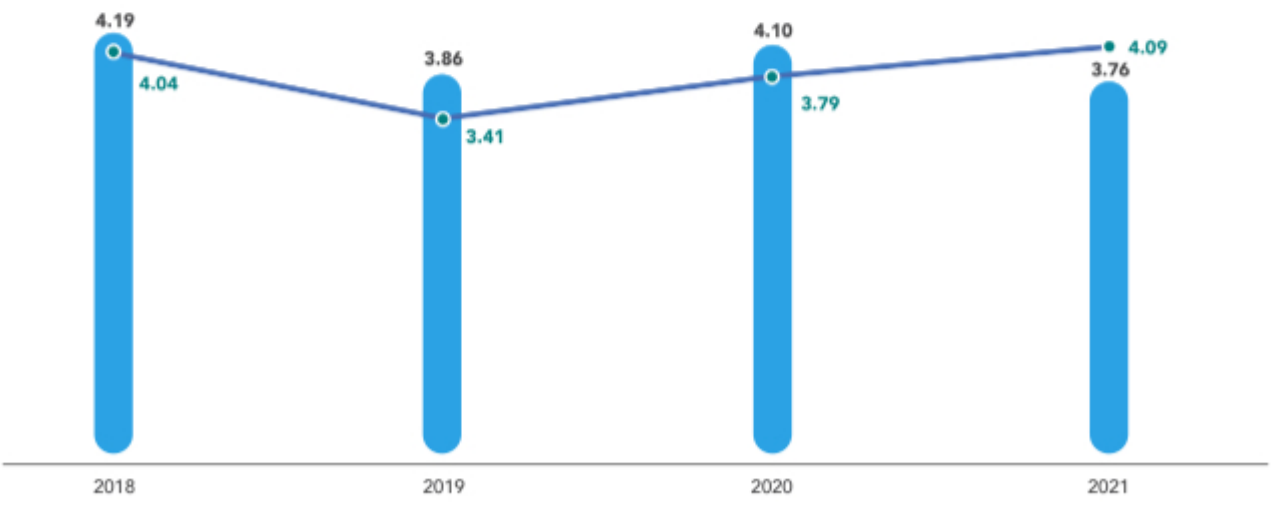
GRAPH 7 | Average days payable outstanding – Average of Anahp hospitals



Source: SINHA/Anahp.

The denial rate, measured as a proportion of the net revenue, was 3.76% in 2021, which represents a falling trend when compared to 2020 **(Graph 8)**. This is evidence of the positive effort by the management of Anahp hospitals to negotiate and present the results of their care delivery actions to payors.

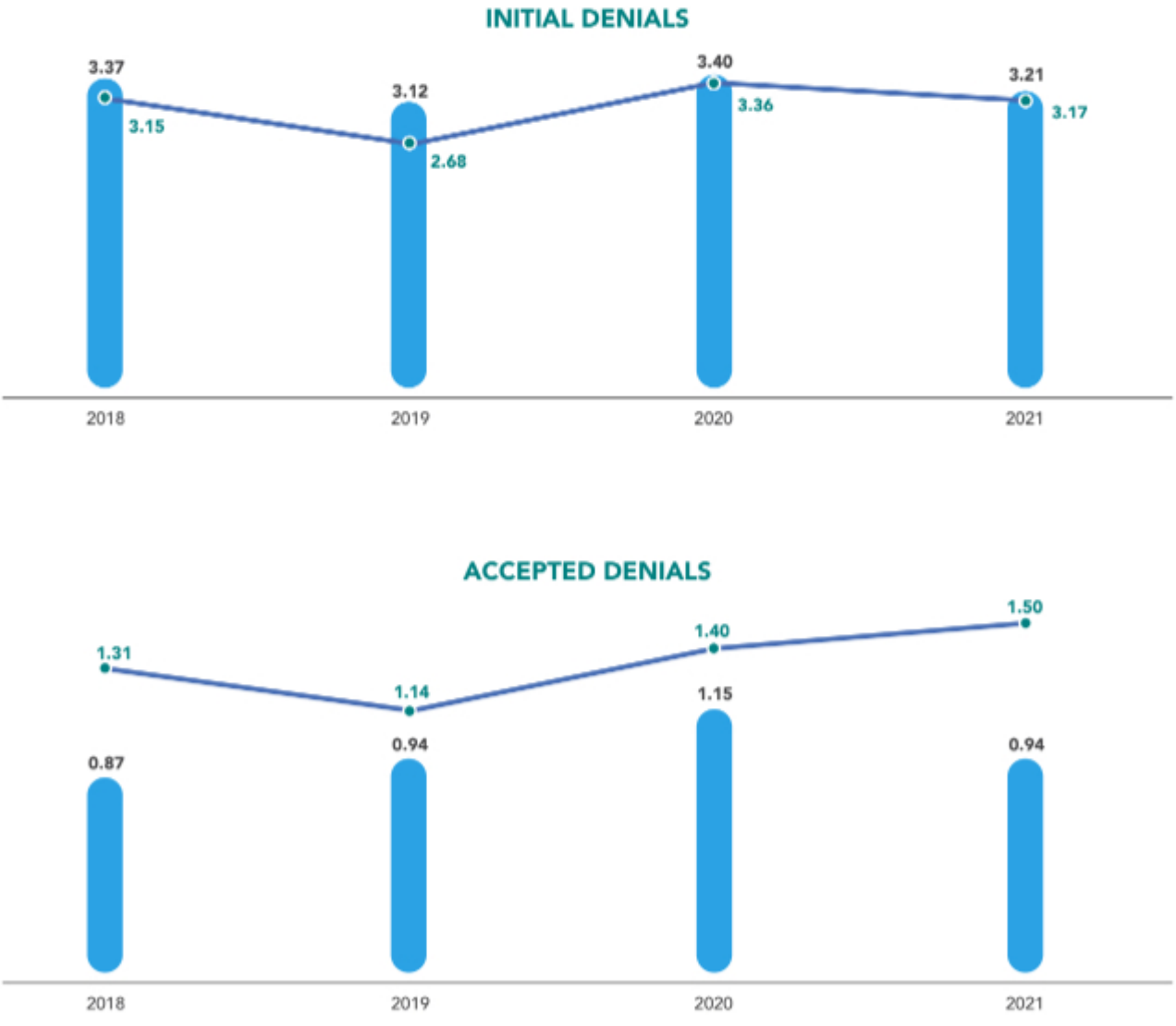
GRAPH 8 | Rate of denials (% of net revenue) – Average of Anahp hospitals



Source: SINHA/Anahp.

This result was the consequence of a drop both in initial denials and in accepted denials among Anahp hospitals **(Graph 9)**. Initial denials are defined as the total amount of denied bills before they are assessed / negotiated by the hospital, whereas accepted denials are the amount of denied bills that hospitals accept as loss.

GRAPH 9 Rate of initial and accepted denials (% of net revenue) – Average of Anahp hospitals



Source: SINHA/Anahp.

Expense profile

Labor expenses, including both formal jobs (personnel cost) and contracted technical services (technical and operational contracts), accounted for about 50% of the expenses of Anahp hospitals in 2021.

Last year, materials and medications accounted for 6.44% and 12.88% of expenses, respectively, rates above those seen in 2020. These results may be a reflex of the high inflation of materials and medications, as well as of the increase in the consumption of personal protective equipment (PPE) by healthcare workers due to Covid-19.

The item orthoses, prostheses, and special materials (OPME), whose consumption is variable depending directly on the number of patients-day and surgeries, was 6.18% in 2021, still below the numbers of pre-pandemic periods, but above that of 2020 **(Table 1)**.

Labor expenses accounted for about 50% of total expenses of Anahp member hospitals in 2021.

TABLE 1 | Distribution of total expense per type of expense (%) – Average of Anahp hospitals

Types of expense	2018	2019	2020	2021	Standard deviation 2021
Personnel cost	37.32	37.03	35.33	35.11	12.86
Technical and operational contracts	13.72	14.33	14.80	14.54	8.89
Medications	10.79	10.63	11.48	12.88	4.66
Other expenses	8.18	9.09	9.77	8.31	8.67
Materials	6.37	5.74	5.80	6.44	2.15
OPME	7.18	6.56	5.91	6.18	3.88
Support and logistics contracts	4.27	4.03	3.73	3.42	2.89
Other supplies	2.77	3.13	3.40	3.34	2.47
Depreciation	2.87	2.82	3.21	3.15	1.49
Financial expenses	2.06	2.15	2.10	2.80	2.99
Maintenance and technical assistance	1.91	2.02	2.05	1.83	0.99
Utilities	2.24	2.23	2.16	1.70	0.93
Medical gas	0.32	0.23	0.26	0.30	0.19

Source: SINHA/Anahp.

Revenue profile

Between 2020 and 2021, there were no significant variations in the breakout per type of gross revenue in Anahp hospitals. Medications accounted for 25.02% of the revenues of Anahp hospitals in 2021; daily fees and rates accounted for 22.57%; other operational revenues, 21.69%; materials, 15.84%; OPME, 6.62%; other service revenues, 6.11%; medical gas, 1.75%; and donations, 0.39% **(Table 2)**.

TABLE 2 | Distribution of Gross Revenue per type (%) – Average of Anahp hospitals

Types of revenue	2018	2019	2020	2021	Standard deviation 2021
Medications	24.66	25.75	25.84	25.02	10.83
Daily fees and rates	21.65	22.90	22.90	22.57	9.18
Other operational revenues	19.01	19.02	20.39	21.69	13.60
Materials	20.36	18.32	16.37	15.84	8.62
OPME	8.30	8.27	7.07	6.62	4.46
Other service revenues	3.39	3.45	5.25	6.11	9.28
Medical gas	2.30	1.83	1.72	1.75	1.19
Donations	0.34	0.46	0.46	0.39	0.72

Source: SINHA/Anahp.

In 2021, 84.49% of the revenues of Anahp hospitals came from funds managed by health plan carriers. Of this total, 34.46% came from medical cooperative groups; 25.51%, from self-managed plans; 22.34%, from insurance companies; 16.20%, from HMOs; 1.34%, from philanthropy; and 0.15%, international plans.

The revenues from SUS (Universal Healthcare System) accounted for 7.25% of the total in 2021; revenues paid out-of-pocket by patients were 4.50%; and other payors, 3.76% **(Table 3)**.

In 2021, 84.49% of the revenues of Anahp hospitals came from funds managed by health plan carriers.

TABLE 3 | Distribution of Gross Revenue per payor (%) – Average of Anahp hospitals

Types of revenue	2018	2019	2020	2021	Standard Deviation 2021
Healthcare Companies	90.97	89.91	82.78	84.49	10.71
Medical Cooperative Groups	31.80	31.82	30.50	34.46	28.21
Self-Managed Plans	27.16	27.86	27.70	25.51	17.60
Insurance Companies	26.91	24.50	23.48	22.34	19.14
HMOs	12.49	13.88	16.30	16.20	16.85
Philanthropy	1.52	1.85	1.81	1.34	3.06
International plans	0.12	0.09	0.21	0.15	0.43
SUS (Universal Healthcare System)	4.65	5.61	9.62	7.25	9.92
Out-of-pocket	3.45	3.26	3.95	4.50	3.58
Other payors	0.92	1.23	3.65	3.76	6.12

Source: SINHA/Anahp.

Regional features of Anahp hospitals

Since 2017, with the improvement of the platform of Anahp Integrated Hospital Indicator System (SINHA), it has been possible to make comparative regional analyses of the group of member hospitals.

Of the revenues of Anahp hospitals in regions North and Center-West, 92.80% comes from funds managed by health plans; of those, 36.10% comes from self-managed plans and 31.19% from medical cooperative groups. In Anahp hospitals in region Northeast, the share of SUS (16.59%) stands out, considerably higher than what is seen in other regions **(Table 4)**.

TABLE 4 | Distribution of Gross Revenue per payor, per region (%) – Average of Anahp hospitals | 2021

Types of revenue	South	Southeast	North and Center-West	Northeast	Brazil
Healthcare Companies	77.64	89.80	92.80	77.34	**84.49**
Medical Cooperative Groups	65.78	19.99	31.19	27.67	**34.46**
Self-Managed Plans	17.35	25.85	36.10	43.03	**25.51**
Insurance Companies	7.83	28.85	25.73	19.13	**22.34**
HMOs	5.07	24.84	5.91	10.17	**16.20**
Philanthropy	3.95	0.35	0.06	0.00	**1.34**
International Plans	0.02	0.12	1.02	0.00	**0.15**
SUS	8.45	3.95	0.27	16.59	**7.25**
Out-of-pocket	4.96	4.27	4.15	3.99	**4.50**
Other payors	8.95	1.97	2.95	2.07	**3.76**

Source: SINHA/Anahp.

Aggregate revenue of Anahp hospitals

In 2021, the aggregate gross revenue of member hospitals reached BRL 47.55 billion.

This issue of Observatorio Anahp, as well as others, used data of all members in that year. In the 2021 issue, although results still reflect the impact the Covid-19 pandemic had on member hospitals, they also showed an increase in the number of members, which went from 118 in December 2020, to 130 members in December 2021.

Anahp member hospitals and new payment models in the industry

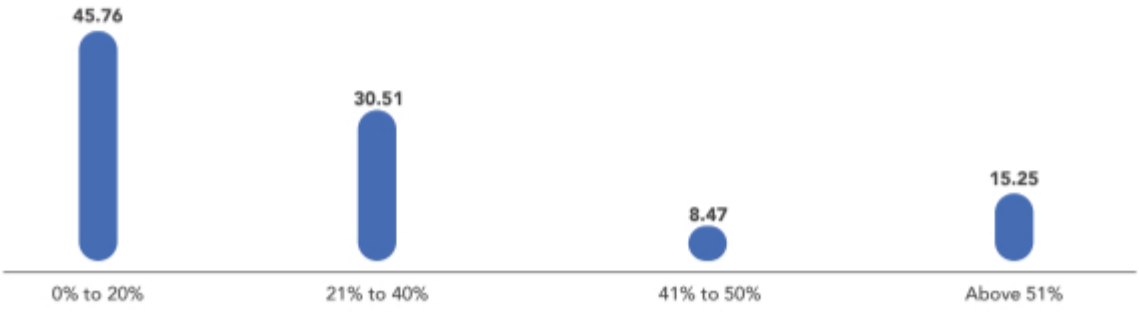
For years, the need to change the payment model of private health has been discussed, and this is a strategic item in Anahp's agenda. Fee for service, the prevailing payment model in private health, is regarded by many experts as inadequate because it leads to a misalignment of incentives. There is a predominant vision that the industry should promote initiatives that can accelerate change towards models that are patient-centered and add more value to them. Their practical implementation is challenging and complex because they require investments both by providers and health plan carriers, a relationship of trust between parties and, especially, a culture change in the organizations that decide to adopt these new practices. In 2021, to understand how this evolution process had been going on among its members, Anahp applied a survey to learn which are the payment models practiced by its members and health plan carriers.

The survey was applied through Survey Monkey and had 68 respondents. We share below some of the results:

GRAPH 1 Hospitals of the sample that use payment models other than fee for service

Source: Anahp Survey

GRAPH 2 Percentage of the hospitals' gross revenue coming from these other payment models (%)



Source: Anahp Survey

GRAPH 3 | Other payment models used by hospitals (%)

Source: Anahp Survey

ORGANIZATIONAL PERFORMANCE

People Management

Highest turnover rate of recent years among Anahp hospitals

WATCH THE VIDEO with the analysis of Raquel Oliveira, Strategic People Manager of Hospital Albert Sabin (MG) and member of the Editorial Board of Observatorio Anahp.

Keeping quality in the delivery of care despite frontline workers' turnover was one of the challenges of 2021

With the improvement of the pandemic scenario in Brazil, new challenges emerged in the domain of people management. Staff turnover had a great impact on the concerns with human resources in 2021.

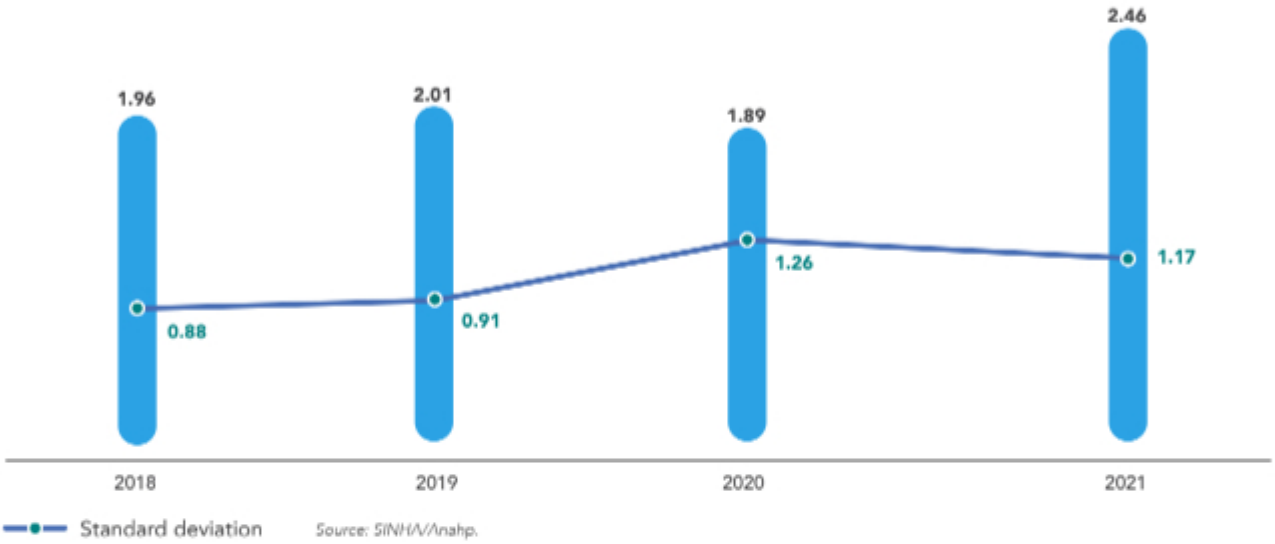
As mentioned in the first chapter of this publication, "Economic scenario and the healthcare market", the healthcare industry – especially the segment of hospitals – stood out for the creation of jobs in Brazil in recent years, a factor which is reflected in the people management indicators presented in this section.

Among the indicators analyzed in this chapter, the following ones stand out: number of new hires over total headcount (active headcount) among Anahp hospitals, which increased in 2021, in line with the employment recovery in Brazil, albeit slow; and absenteeism rate, which had a sharp increase in 2020 and a slight drop in 2021, remained above the average of the last three years, having as relevant fact the leaves of healthcare workers who had Covid-19.

New hires, terminations, and turnover

The number of new hires by headcount (active headcount) presented a significant increase in 2021, when compared to the previous year, remaining above the levels seen before the pandemic, like in 2019 **(Graph 1)**.

GRAPH 1 | Number of new hires by headcount (%) – Average of Anahp hospitals

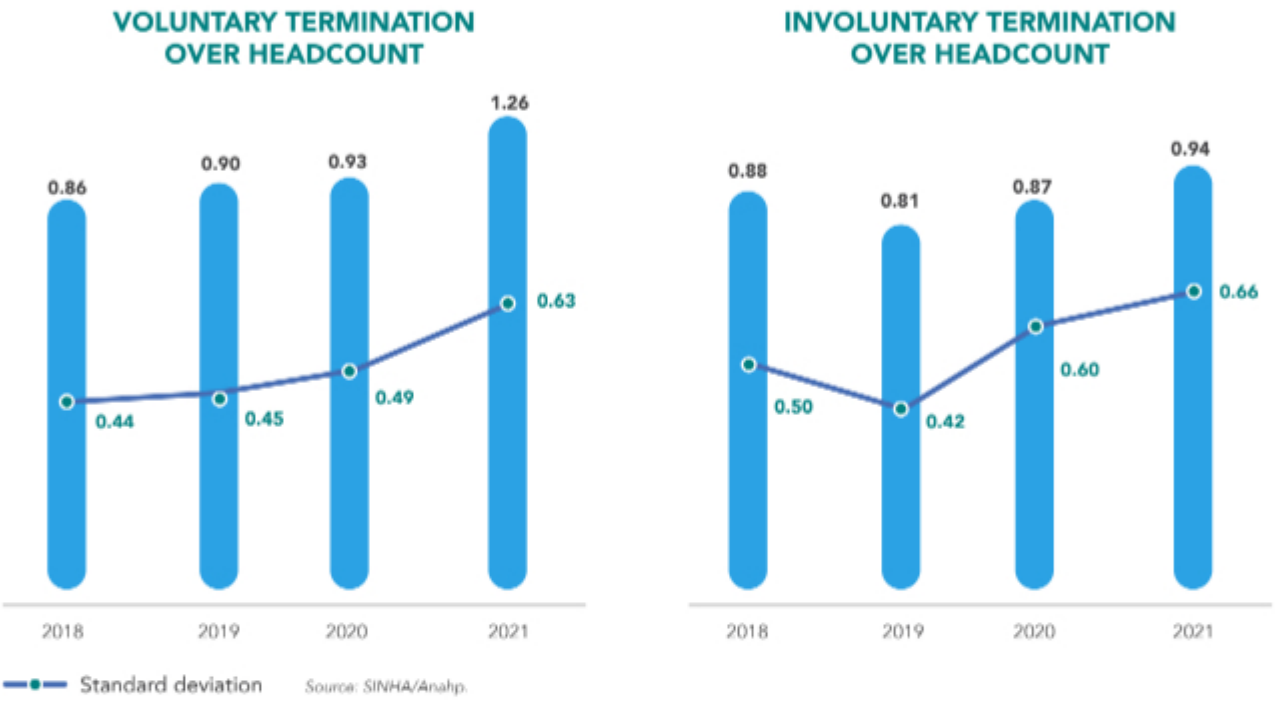


Source: SINHA/Anahp.

In 2021, staff turnover rate was 2.39%, higher than it was in the last three years.

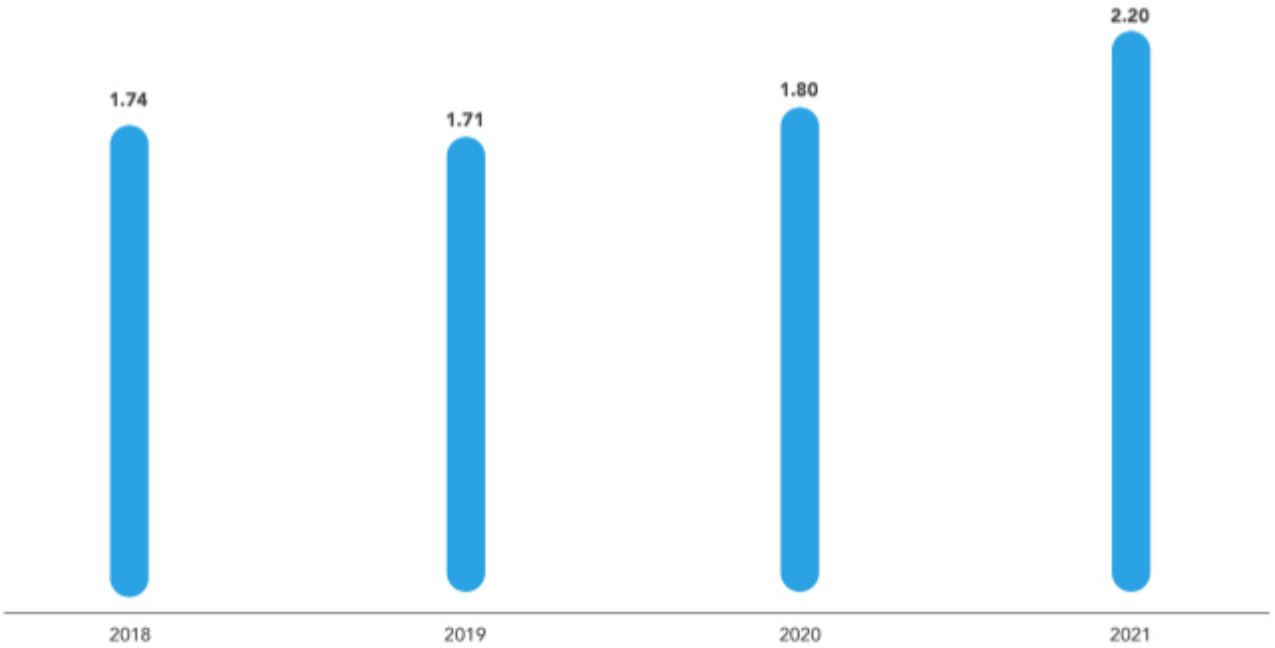
The indicator of voluntary terminations over headcount, which has been showing an upwards trend since 2018, accelerated in 2021, reaching 1.26%. The rate of voluntary terminations was above the average of recent years, getting to 0.94% in 2021. Thus, the overall termination rate was 2.20% in 2021, a significant increase as compared to previous years **(Graphs 2 and 3)**.

GRAPH 2 | Rates of voluntary and involuntary terminations over headcount (%) – Average of Anahp hospitals



Source: SINHA/Anahp.

GRAPH 3 | Overall termination rate over headcount (%) – Average of Anahp hospitals

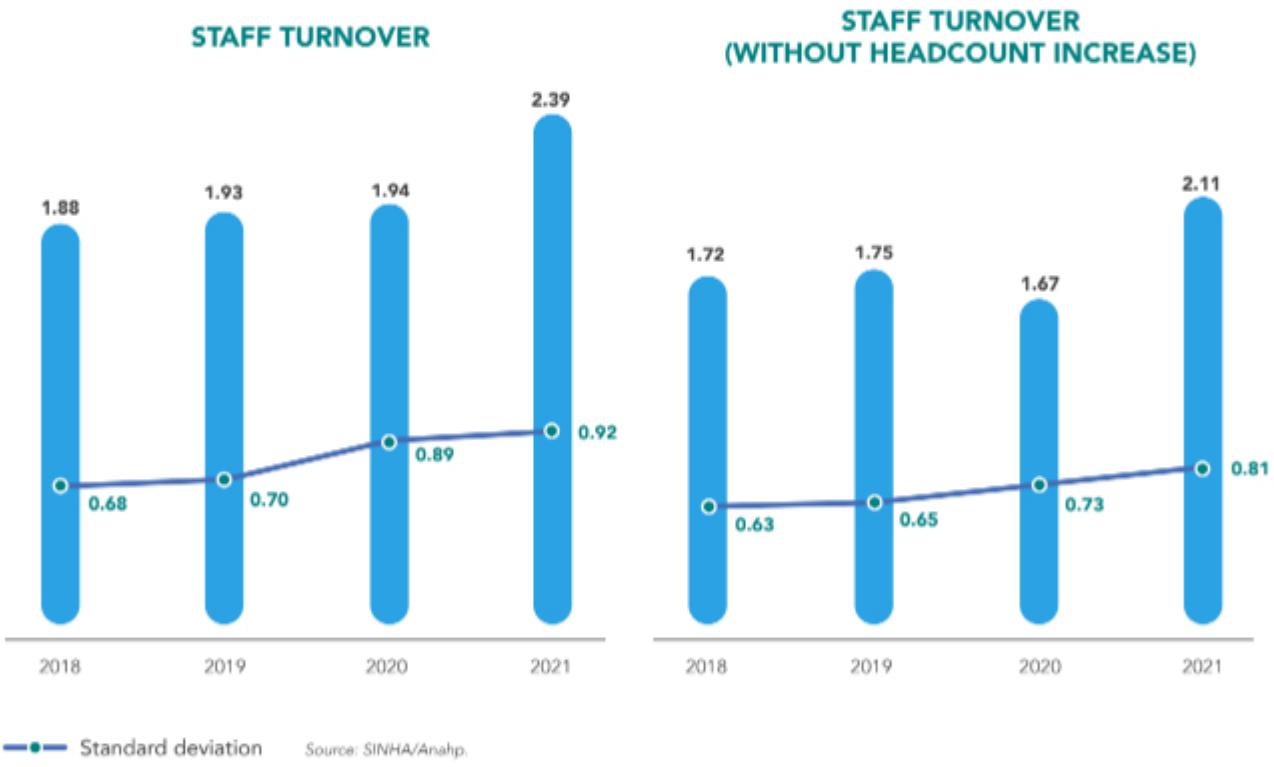


Source: SINHA/Anahp.

Staff turnover is one of the great challenges in the management of human resources in organizations, because it directly affects the processes of integration, development, knowledge management, cultural strengthening, and staff qualification, implies cost increase and may impact patient care. Therefore, establishing and developing programs designed to retain professionals and internal reallocations are important initiatives that reduce the impact of turnover.

Staff turnover is the average rate of new hires (due to headcount increase or replacements) and terminations in relation to the total headcount at a given period, measuring, therefore, total employee turnover in organizations. In 2021, staff turnover rate was higher than it was in the last three years, getting to 2.39%, and turnover rate without headcount increase was 2.11% **(Graph 4)**.

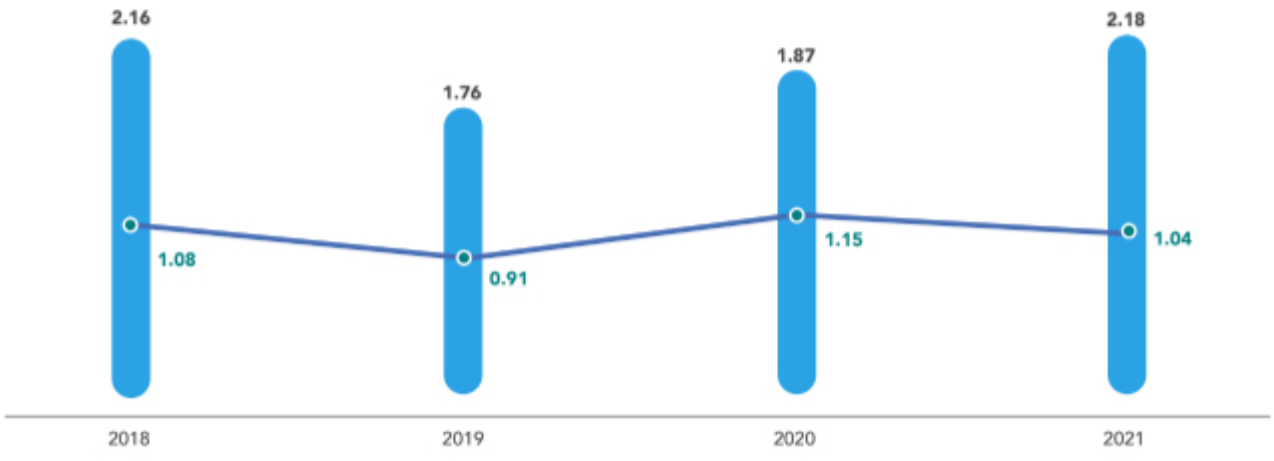
GRAPH 4 | Turnover rates (%) – Average of Anahp hospitals



Source: SINHA/Anahp.

When one analyzes the indicator nursing turnover, which is directly related to the care provided to patients, it is possible to see the same trend as other indicators, amounting to 2.18% **(Graph 5)**.

GRAPH 5 | Nursing turnover rate (%) – Average of Anahp hospitals



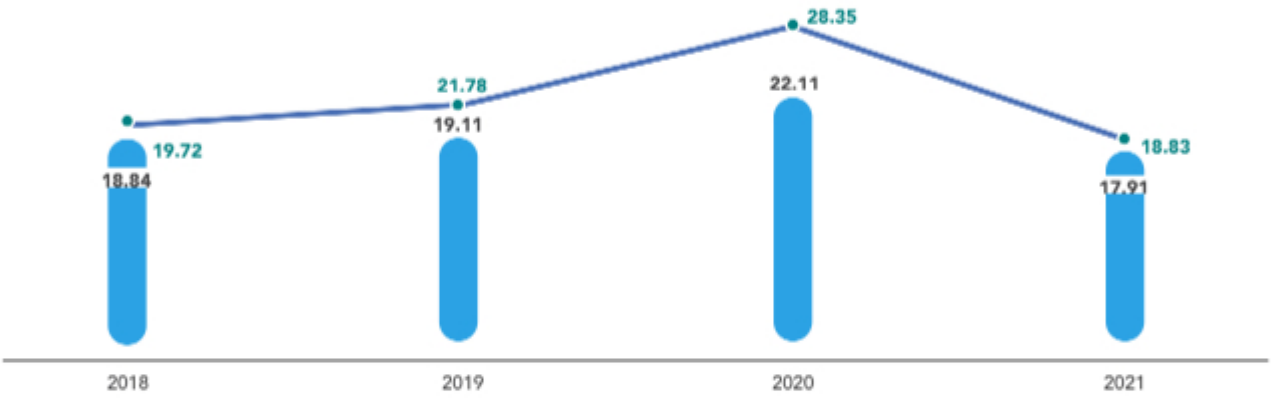
Source: SINHA/Anahp.

Rate of internal hires and average time to fill vacancies

Organizations tend to invest in internal hires to optimize time to hire and train. However, the rate of internal hires dropped to 17.91% in 2021, number below that of previous years (Graph 6).

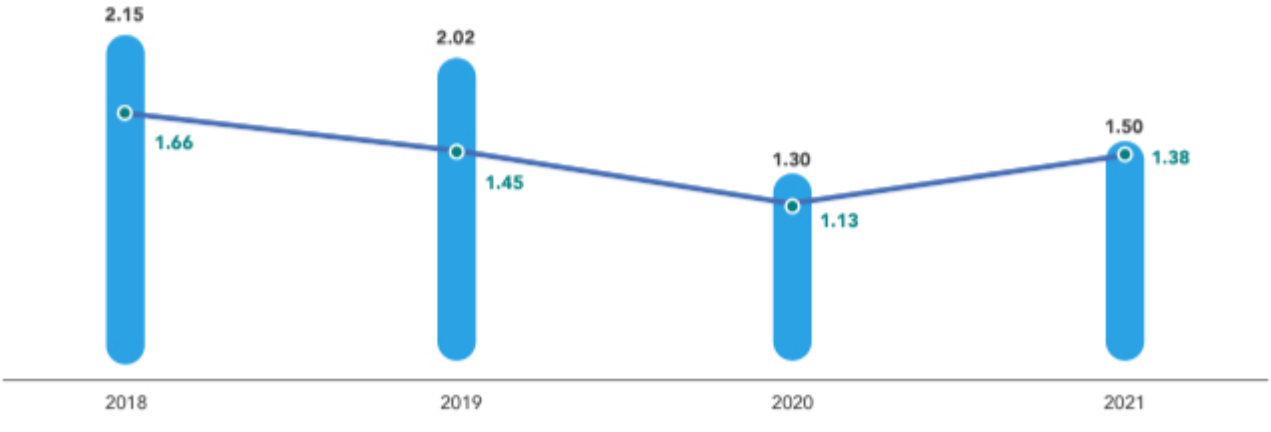
The indicator training time, in turn, went up in 2021, as compared to the previous year, going from 1.30 up to 1.50 hours, although it is not yet back to pre-pandemic levels **(Graph 7)**.

GRAPH 6 | Rate of internal hires (%) – Average of Anahp hospitals



Source: SINHA/Anahp.

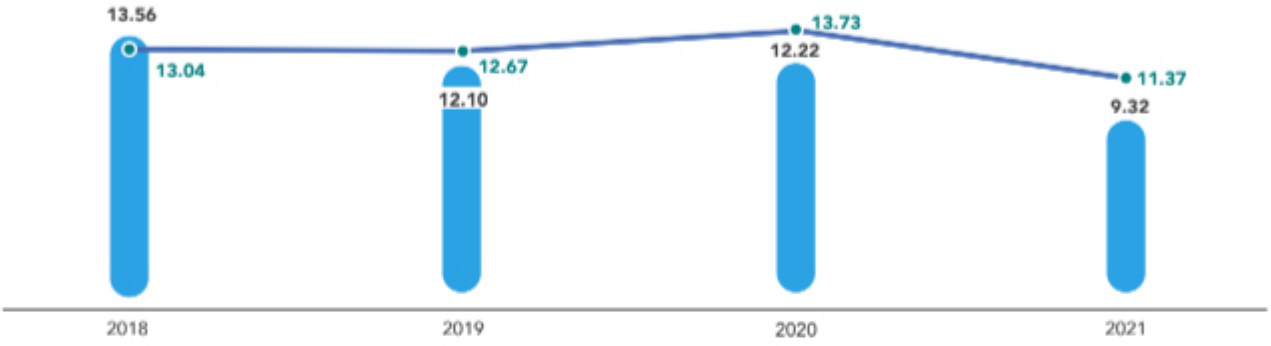
GRAPH 7 | Training time over headcount (in hours) – Average of Anahp hospitals



Source: SINHA/Anahp.

The average time to fill vacancies (period between opening the vacancy and the professional starting to work) was 9.32 days in 2021, the shortest since 2018 (13.56 days), which indicates efficiency improvement in this process **(Graph 8)**.

GRAPH 8 | Average time to fill vacancies (days) – Average of Anahp hospitals



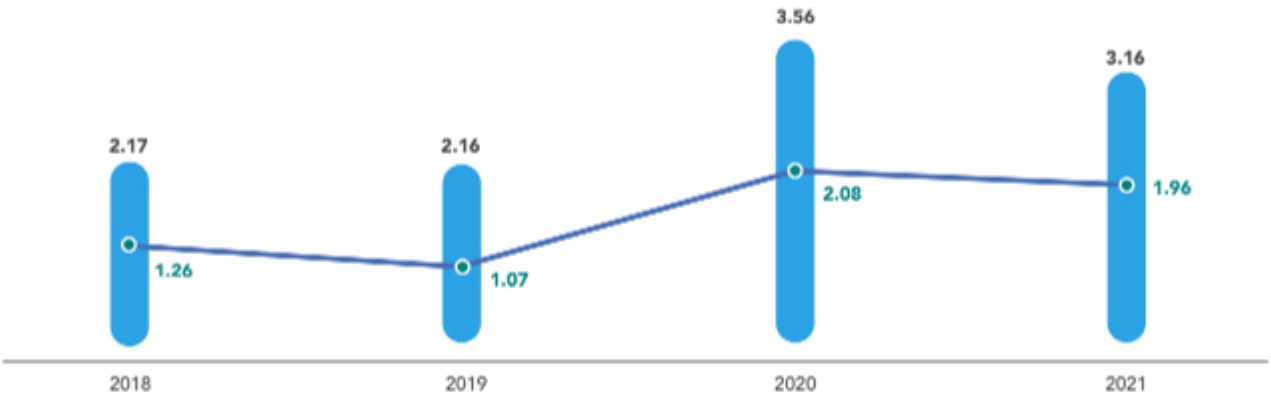
Source: SINHA/Anahp.

The average time to fill vacancies was 9.32 days in 2021, the shortest time since 2018 (13.56 days).

Occupational health and safety

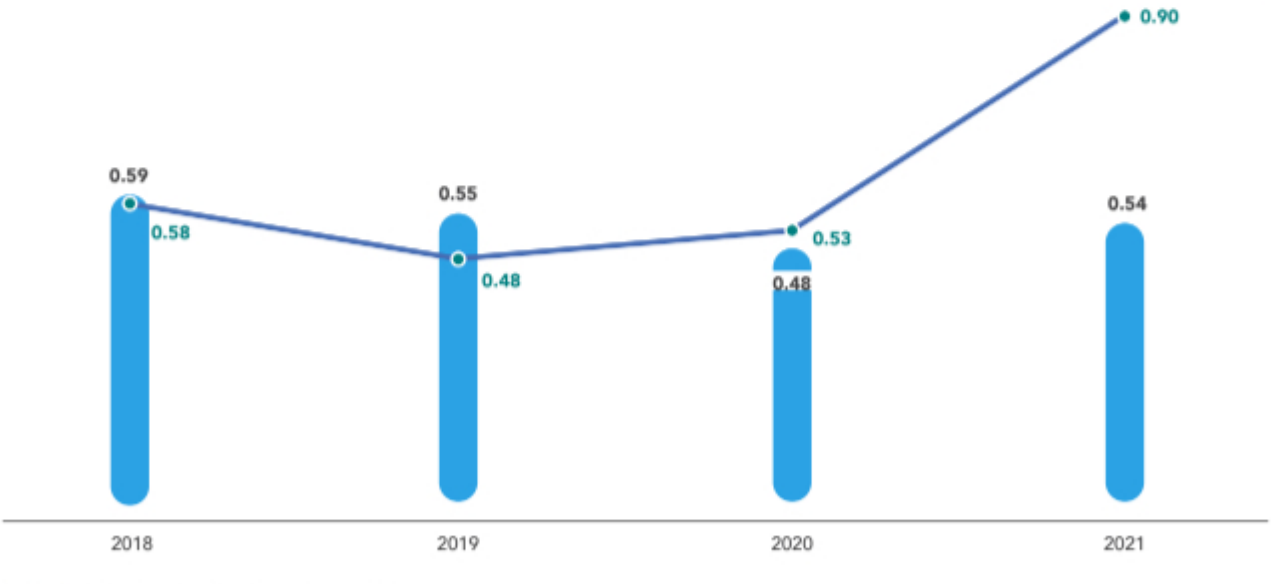
Absenteeism is associated with many factors, such as workers' mental health, process changes, and susceptibility to diseases, which may be worsened by the multiple jobs some employees have. The monthly rate of absenteeism[1] equal to or smaller than 15 days was 3.16% in 2021, a percentage lower than that of 2020, but still a lot higher than those of previous years **(Graph 9)**. This result possibly has as its main cause the leaves of healthcare workers who had Covid-19. Absenteeism due to unjustified absence remained on the average of recent years, at 0.54% **(Graph 10)**. It is important to say that, among Anahp members, absenteeism management has received attention, with organizations working for disease prevention and health promotion of the staff.

GRAPH 9 | Rate of absenteeism ≤ 15 days (%) – Average of Anahp hospitals



Source: SINHA/Anahp.

GRAPH 10 | Rate of absenteeism ≤ 15 days (%) due to unjustified absence – Average of Anahp hospitals

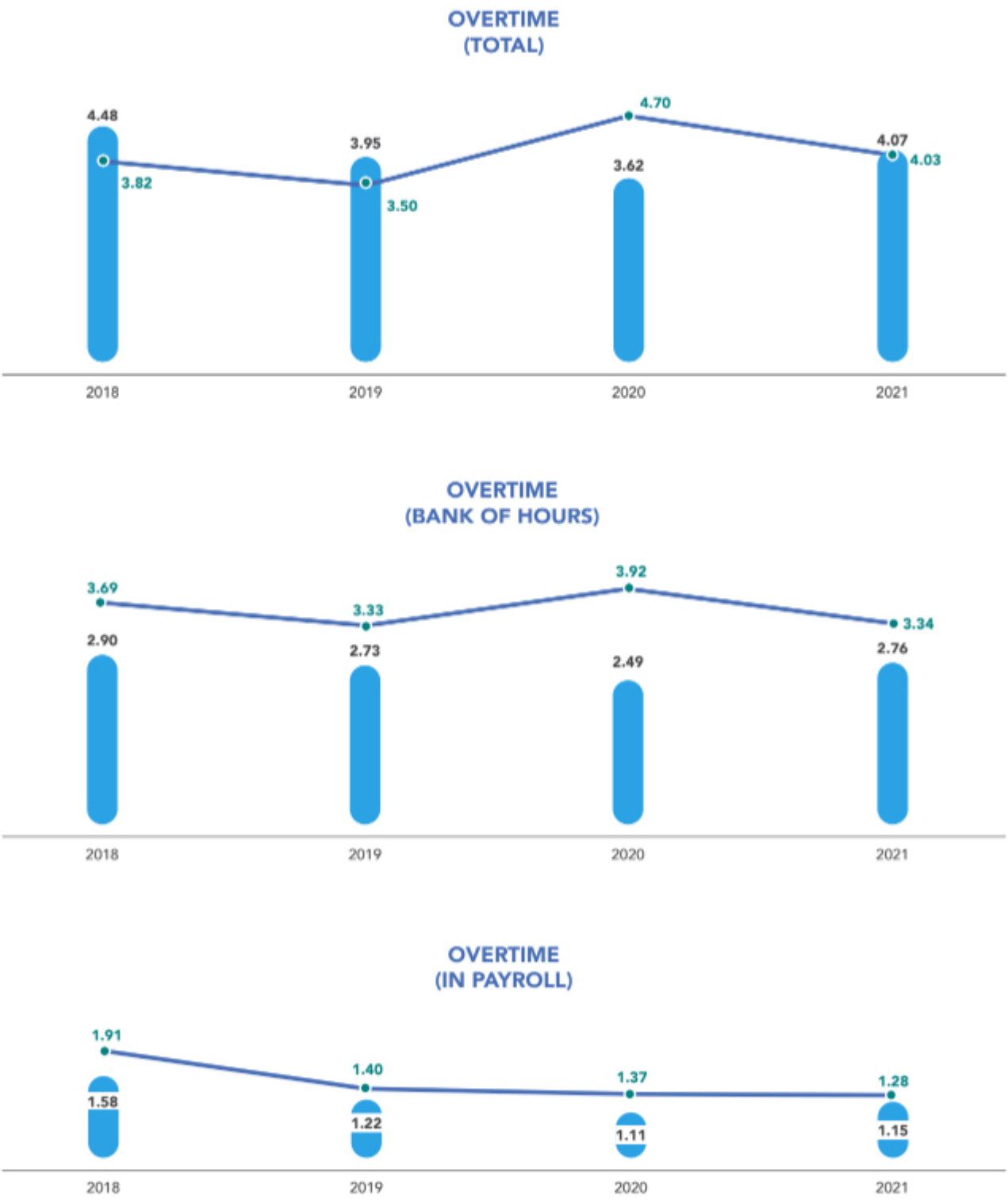


Source: SINHA/Anahp.

[1] The rate of absenteeism, which considers absences lasting for up to fifteen days, is the ratio between the total number of absent hours because of missed workdays, delays or leaves of absence of hospital employees over the total number of expected work hours.

The indicator total overtime was 4.07% in 2021, higher than in 2020, influenced mainly by the increase in the indicator overtime with bank of hours, which was 2.76% **(Graph 11)**.

GRAPH 11 | Overtime (%) – Average of Anahp hospitals



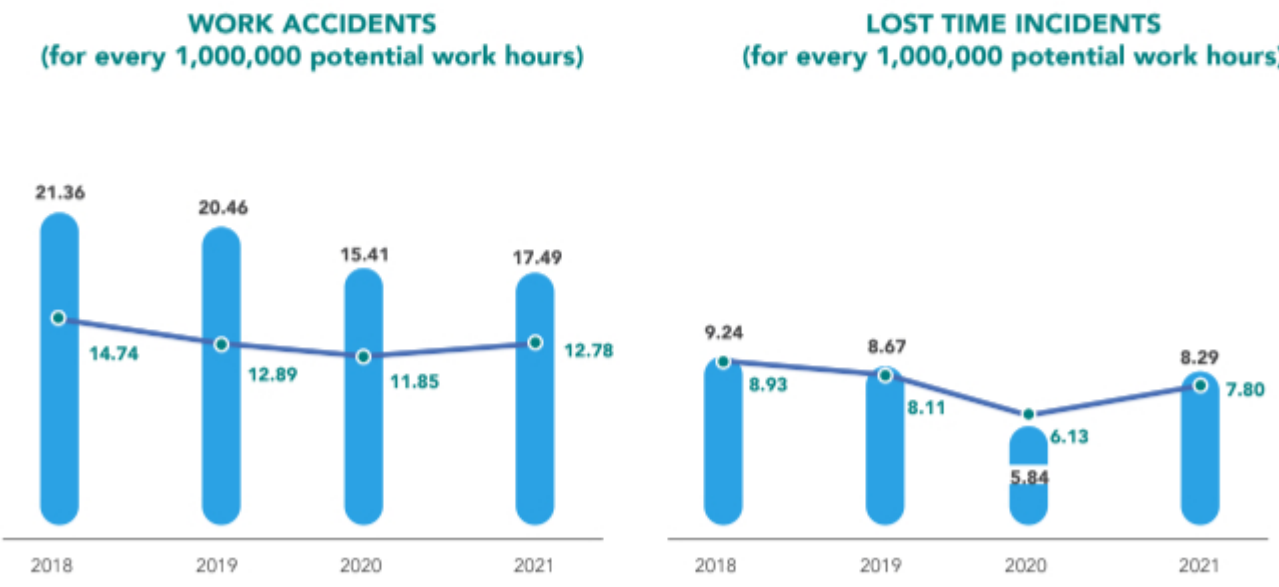
Source: SINHA/Anahp.

The rate of leaves of absence, which had been falling since 2017, presented a rise in 2020 and 2021, reaching 5.22% last year **(Graph 12)**. The number of work accidents was 17.49 for every 1 million potential work hours in 2021, which means an increase as compared to 2020, even so, lower than it was in the pre-pandemic period. Lost time incidents were 8.29 for every 1 million potential work hours in 2021, a significant increase as compared to 2020, but at a lower level than in 2018 and 2019 **(Graph 13)**. As to leaves of absence because of accidents that occurred inside healthcare organizations, the indicator was 5.62 for every 1 million potential work hours **(Graph 14)**.

GRAPH 12 | Rate of leaves of absence (%) – Average of Anahp hospitals

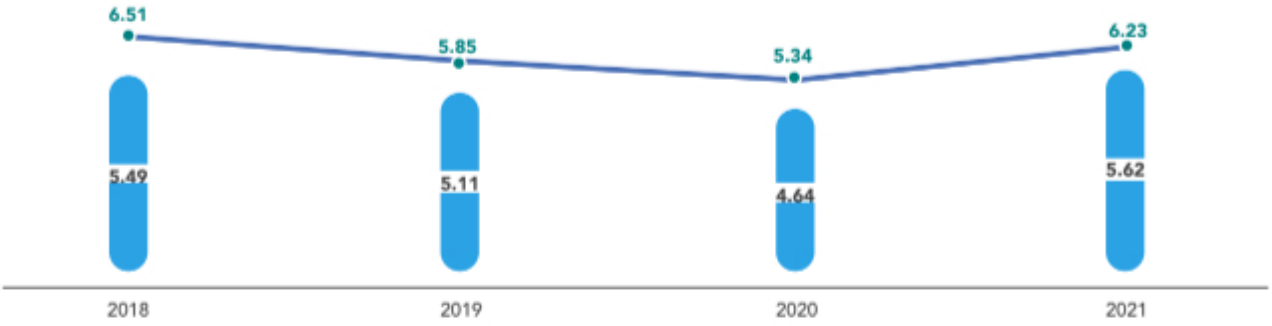
Source: SINHA/Anahp.

GRAPH 13 | Work accidents – Average of Anahp hospitals



Source: SINHA/Anahp.

GRAPH 14 Work accidents that occurred in organizations leading to leaves of absence (for every 1,000,000 potential work hours) – Average of Anahp hospitals



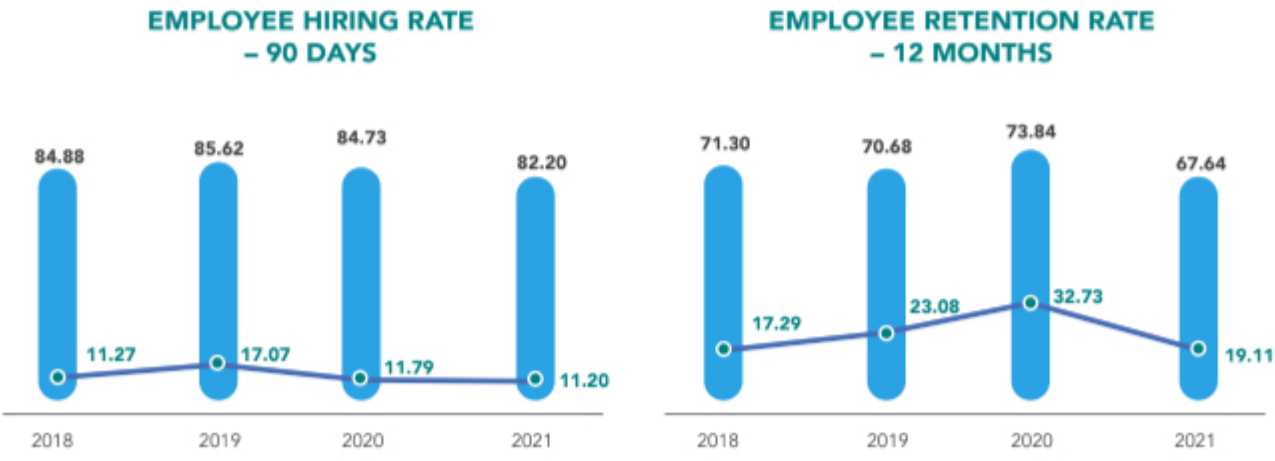
Source: SINHA/Anahp.

Talent retention

One of the great difficulties of the healthcare industry is dealing with the growing demand and limited supply of highly qualified professionals. In that sense, the indicators that measure hires after the three-month probation period and retention at twelve months are useful resources for healthcare organizations to assess their performance against the challenge of attracting and retaining talents.

The employee hiring rate, which shows the percentage of newly hired employees who went through the initial three-month probation period, was 82.20% in 2021, a little smaller than what was seen in previous years. A sharper fall was observed in the employee retention rate (twelve months), which was 67.64% in 2021 **(Graph 15)**.

GRAPH 15 Hiring rate and retention rate – Average of Anahp hospitals



Source: SINHA/Anahp.

Regional features of Anahp hospitals

Considering regional differences and the importance of their analysis to accurately interpret people management indicators, the charts below present the number of members **(Graph 16)** and the number of formally hired employees **(Graph 17)** per region in Brazil.

GRAPH 16 | Anahp hospitals per region | December 2021

BRAZIL
130

Source: SINHV/Anahp.

GRAPH 17 | Employees formally hired by Anahp hospitals per region | December 2021

BRAZIL
215,267

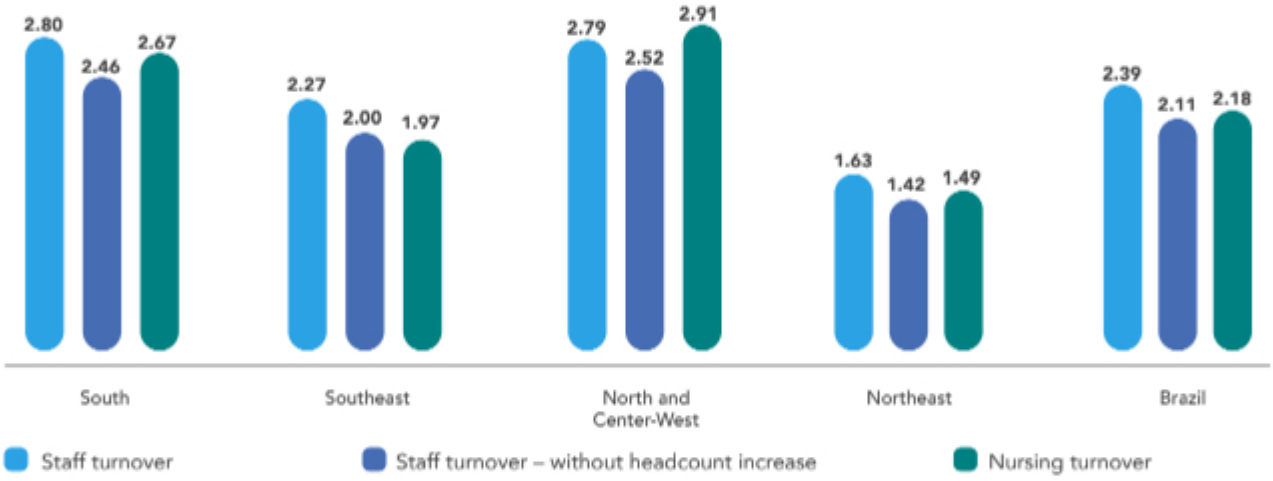
Source: "Institutional Profile" section herein.

In 2021, member hospitals totaled 215,000 employees (active employees in December). With this, Anahp hospitals accounted for 15.25% of the total number of formal employees in the hospital care industry.

One of the indicators monitored on a monthly and annual basis by our members all over Brazil is the turnover rate, which generates higher expenses with hiring and training, in addition to the loss of knowledge and investments already made in employee development, among other impacts.

The regional analysis of this indicator shows that regions North and Center-West are the ones with the highest rates, followed by region South. One of the concerning factors is that in regions North and Center-West the average nursing turnover, directly related to patient care, is higher than that of other workers **(Graph 18)**.

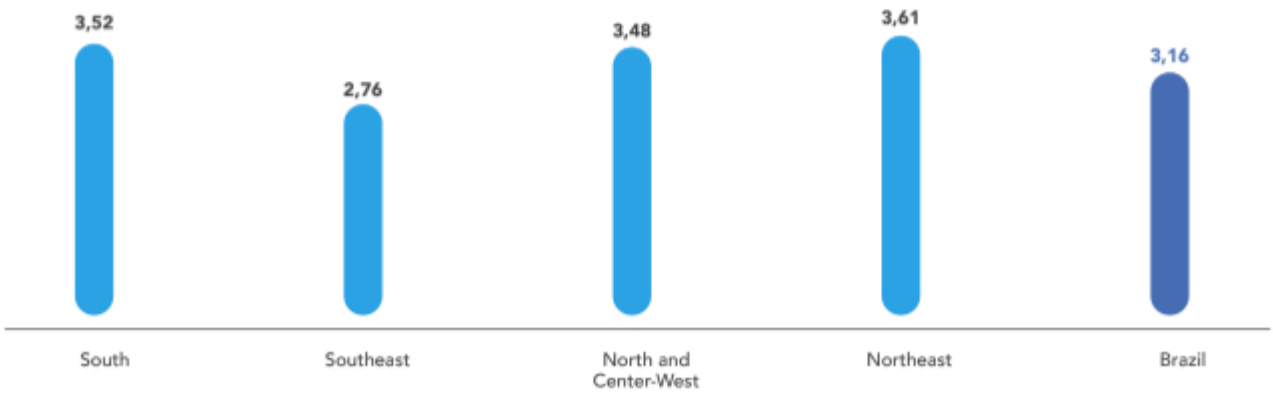
GRAPH 18 | Turnover indicators (%) – Average of Anahp hospitals per region | 2021



Source: SINHA/Anahp.

Regions Northeast and South had higher absenteeism than other regions of Brazil **(Graph 19)**.

GRAPH 19 | Absenteeism (%) – Average of Anahp hospitals per region | 2021



Source: SINHA/Anahp.

Environmental sustainability

The consumption of water and electric power and the generation of waste by organizations show results compatible with the dynamics of the pandemic

Fighting waste is essential for the sustainability of this industry

Optimizing the use of resources has been a key tone among hospitals, which was exacerbated during the Covid-19 pandemic. Management centered on the preservation of the environment has been increasingly incorporated by Anahp members.

For the last few years, Anahp hospitals have been using environmental sustainability indicators to objectively measure the industry challenges and advances in the integration of practices that promote sustainable development.

The consumption of water and electric power, and the generation of waste is directly related to the volume of patients-day, that is, consumption of these resources is likely to grow along with the demand of the period. On the other hand, there is room to seek higher efficiency and cost reduction in the use of resources. As compared to costs, expenses with utilities, for example, accounted for 1.70% among Anahp members in 2021.

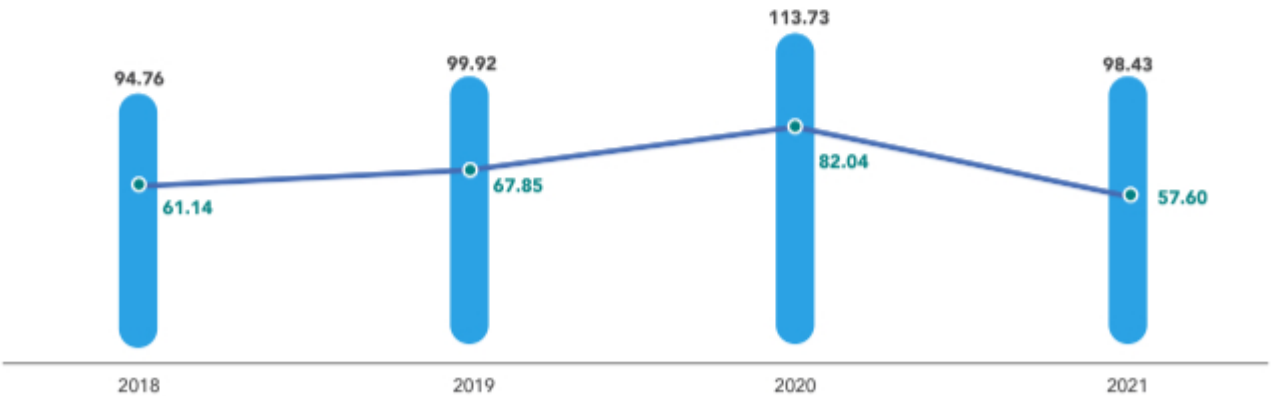
Consumption of electric power

The consumption of electric power per operating bed fell when compared to the previous year **(Graph 1)**, going from 2,292.23 kWh in 2020 to 2,170.52 kWh in 2021. Between 2020 and 2021, the consumption of electric power per patient-day also fell, going back to 2019 levels **(Graph 2)**.

GRAPH 1 Consumption of electric power in kWh per operational bed – Average of Anahp hospitals

Standard deviation *Source: SINHA/Anahp.*

GRAPH 2 Consumption of electric power in kWh per patient-day – Average of Anahp hospitals



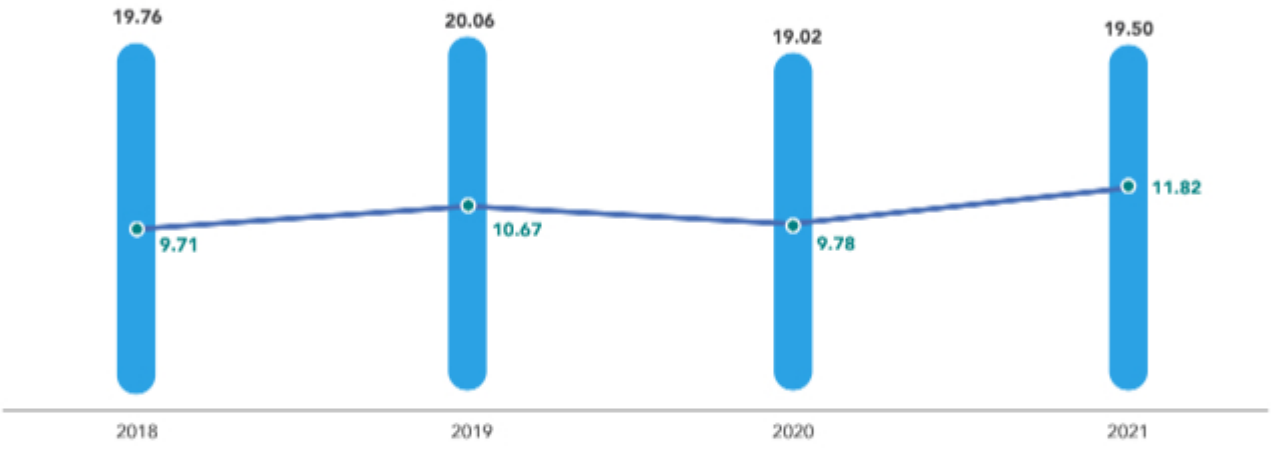
Standard deviation *Source: SINHA/Anahp.*

Consumption of water

The water shortage in recent years in Brazil has certainly left as its legacy the implementation of initiatives for efficient water consumption. It is perceptible that, along years, the variation in water consumption indicators has been small.

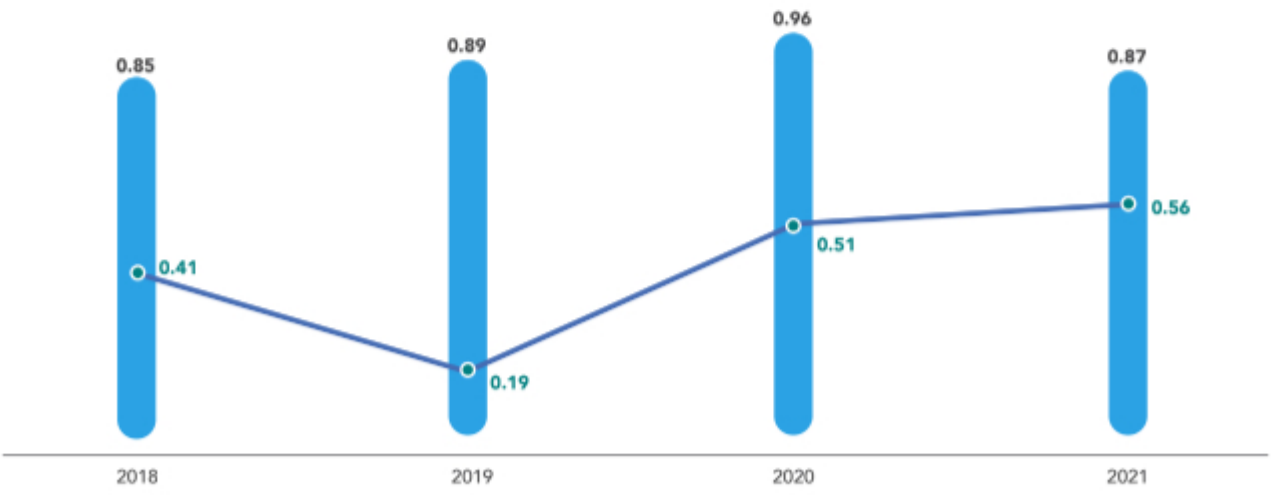
Average water consumption per operating bed went from 19.02 m³ in 2020 to 19.50 m³ in 2021 **(Graph 3)**, while consumption per patient-day, which was 0.96 m³ in 2020, went to 0.87 m³ last year **(Graph 4)**.

GRAPH 3 Water consumption in m³ per operational bed – Average of Anahp hospitals



Source: SINHA/Anahp.

GRAPH 4 Water consumption in m³ per patient-day – Average of Anahp hospitals



Source: SINHA/Anahp.

Waste

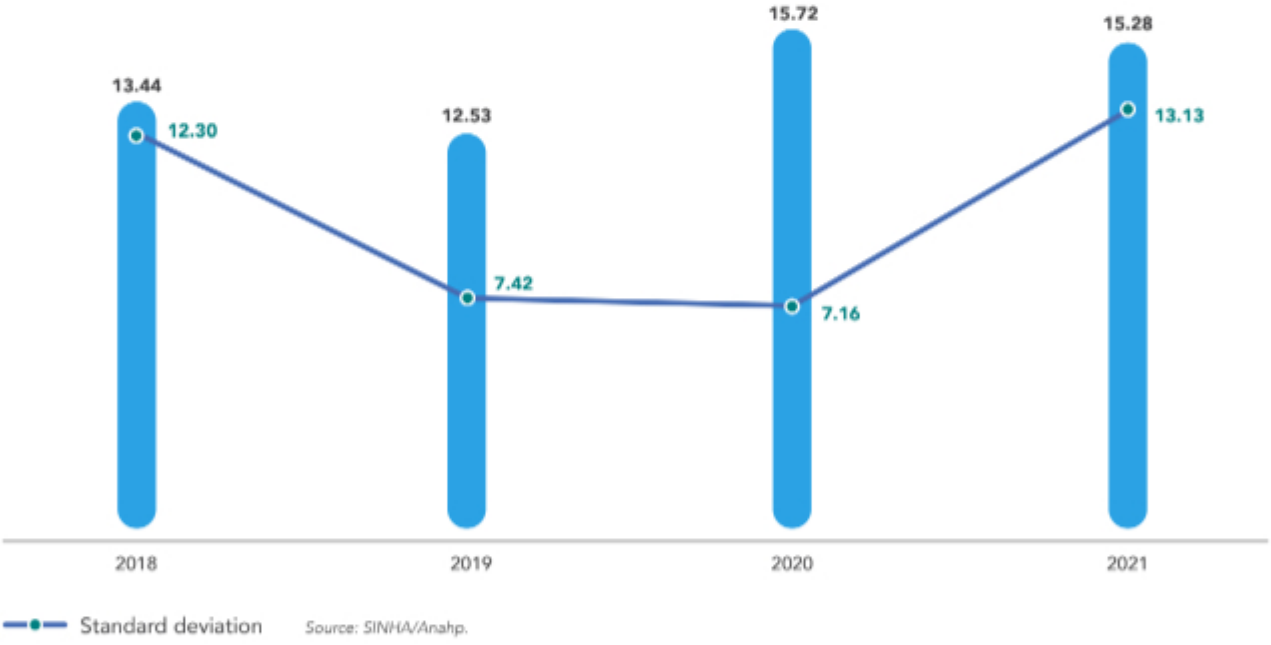
Health services waste is the waste produced by the care provided to patients in any healthcare facility. We may mention as examples, syringes, plastic materials, gauze, and biological materials.

In order to mitigate the damages caused by the disposal of these materials, the National Health Surveillance Agency (Anvisa), through RDC number 33/03, which sets forth the Waste Management Plan for Health Services (PGRSS), established rules for the generation, segregation, packaging, collection, storage, transportation, processing, and final disposal of waste.

The agency classified hospital waste in groups with common features, namely, group A, potentially infectious waste; group B, chemical waste; group C, radioactive waste; group D, common waste; group E, sharps and needles. The variation of waste indicators, as well as indicators of water and electric power consumption is directly related to the number of patients who received medical and surgical care.

When analyzing the data for 2020 and 2021, it is possible to see that the total waste generation of Anahp hospitals was directly impacted, as the result of the Covid-19 pandemic, by changes in care delivery protocols for patients with respiratory diseases that require greater consumption of disposable materials (PPE) than other patients **(Graph 5)**.

GRAPH 5 Waste generation (kg) (infectious + recyclable + nonrecyclable) per patient-day – Average of Anahp hospitals

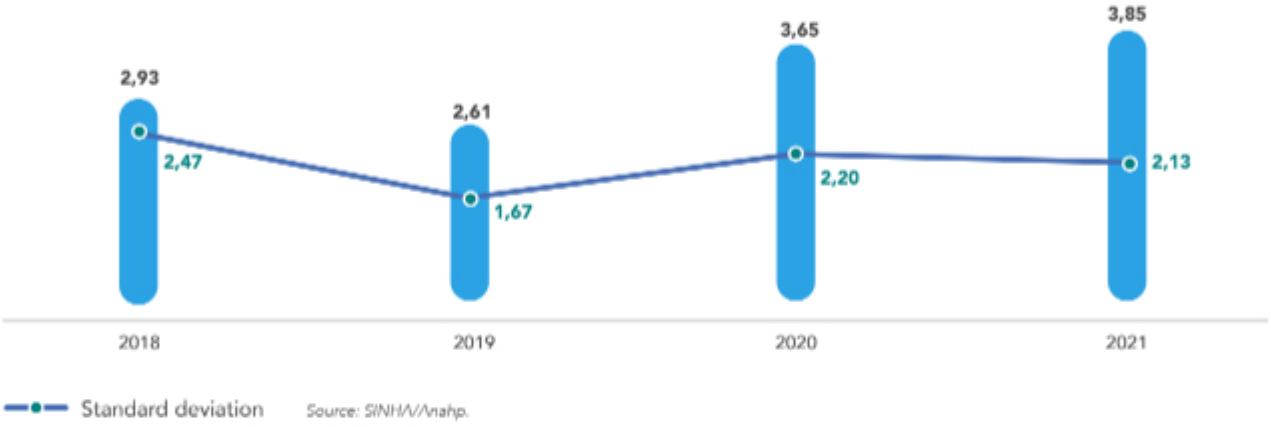


Source: SINHA/Anahp.

Changes in care delivery protocols for patients with respiratory diseases affected waste generation.

The generation of infectious waste (blood, culture media, tissues, organs, waste from isolation areas and clinicals analyses laboratories, sharps and needles, and others) also increased **(Graph 6)**.

GRAPH 6 | Generation of infectious waste per patient-day (kg) – Average of Anahp hospitals



Anahp member hospitals and ESG novelties

In 2022, Anahp will expand its attention to sustainability themes and will start to gear the entity and its members towards the concept of ESG, that is, environmental, social, and corporate governance, which is nothing more than an assessment of the collective awareness a company has of social and environmental factors.

Initiatives with this broad vision of the theme are already being implemented in the entity, like the launch in March 2022 of the publication "ESG in Anahp hospitals: results and best practices" (access here). As part of these actions, the association has also started a cooperation with the movement "Voluntarios da Saude" (Health Volunteers), whose first initiative was to mobilize member hospitals to fight the floods in Bahia in January 2022 (click here to see the results).

ESG NOS HOSPITAIS ANAHP

RESULTADOS E BOAS PRÁTICAS

Conheça *cases* de sucesso para inspirar ações de sustentabilidade, governança e impacto social.

+ de 190 projetos relacionados aos Objetivos de Desenvolvimento Sustentável da ONU

4,2 milhões
de pessoas impactadas

R$ 119,6 milhões
investidos em:

- Saúde e bem-estar
- Consumo e produção responsáveis
- Água potável e saneamento
- Educação de qualidade
- Energia limpa e acessível

e muito mais!

BAIXE GRATUITAMENTE

ORGANIZATIONAL PERFORMANCE

Information Technology

Service level to internal customers remains high, both in satisfaction and resolution

WATCH VIDEO with the analysis of IT Manager of Moinhos de Vento and member of the Editorial Board of Observatório Anahp Vitor Ferreira.

An IT team that develops best practices can interrelate data that will optimize the routine of the hospital staff

Information technology (IT) is present in all links of the world's production chain, and it has been many years since it was about machines and software only; now it is about its role as an information system.

Optimizing human resources is undoubtedly one of the major drivers of any technology department in organizations. In hospitals, the concern is even greater: making available to the staff and managers tools that will provide patients with the best experience they can have with the highest data safety possible.

Understanding the relevance of the matter, in 2015, Anahp and its members created the Information Technology Working Group, aiming at sharing best practices and finding solutions for similar problems.

In 2018, through the tools of Anahp Integrated Hospital Indicator System (SINHA), members started to measure and benchmark service management indicators.

Anahp member hospitals x hospital systems implemented

According to the annual questionnaire that 70% of our members answered in SINHA, in December 2021, the main systems hospitals had implemented were Tasy and MV, which were used in 44.57% and 39.13% of the hospitals, respectively. WPD and TOTVS systems, in turn, were used in 9.78% and 8.70% of the sample **(Table 1)**.

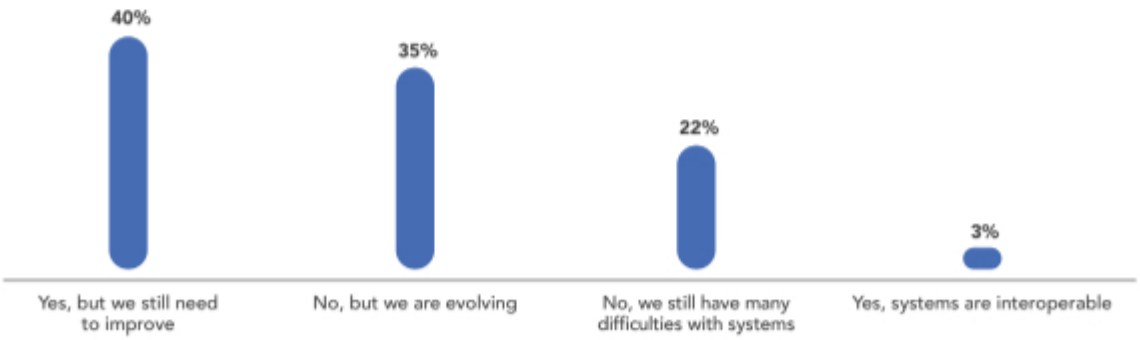
TABLE 1 | Systems implemented in Anahp hospitals (% of members) I 2021

Indicators	2021
Tasy	44.57
MV	39.13
WPD	9.78
Datasul/TOTVS	8.70

Source: SINHA/Anahp.

The webinar "Challenges for the interoperability of hospital systems", promoted by Anahp in February 2022, addressed the need for investments, systems integration, and cooperation between the players to connect the health network. At the end of the debate, a survey was applied through Zoom platform, with 208 respondents. The results are shared below **(Graphs 1, 2 and 3)**.

GRAPH 1 | In your opinion, is system interoperability a reality in hospitals?



Source: Anahp Survey.

In addition to care delivery indicators, organizations started to collect economic-financial and people management data

At the end of 2019, the association opened Anahp Integrated Hospital Indicator System (SINHA) to public and philanthropic organizations that are not members of Anahp. The main objective was to disseminate good management practices to the Brazilian health system, making available the platform's resources and functionalities for result assessment and measurement, as well as to provide parameters for the comparison of results (benchmarking) and to encourage continuing improvement processes.

About fifteen non-member hospitals joined this initiative in 2020, and other 20 hospitals were included in 2021. Today, about 36 hospitals are in SINHA platform, some in the first phase of this initiative and others in the second phase already.

In the first phase of collection, organizations had access to 41 care delivery indicators. In the second phase, other 20 care delivery indicators were added, in addition to 21 economic-financial management indicators and 11 people management indicators. Therefore, hospitals in the second phase collected a total of 93 indicators.

People management

People management indicators of non-member hospitals also started to be published this year.

The number of new hires per headcount (active headcount) was 2.24% in 2021, while terminations over headcount were like this: voluntary 1.18%, involuntary 0.91%, and by mutual agreement 0.08%. Overall staff turnover rate was 2.21% and nursing turnover was 2.27%. Other indicators are shown in **Table 4**.

TABLE 4 | Annual summary

Indicator	2021	Standard Deviation 2021
New hires over headcount	2.24	1.01
Voluntary terminations over	1.18	0.62
Involuntary terminations over headcount	0.91	0.61
Mutually agreed terminations over headcount	0.08	0.11
Staff turnover	2.21	0.87
Nursing turnover	2.27	1.28
Internal hires	20.73	11.62
Monthly absenteeism (≤ 15 days)	2.89	2.17
Absenteeism due to unjustified absence (≤ 15 days)	0.55	0.29
Rate of leaves of absence (inactive)	3.39	1.14

Source: SINHA/Anahp.

Anahp Partners

DIAMOND

GOLD

SUPPORT