Project: Improving the management of healthcare services for people with multiple chronic diseases in three Latin American countries - Brazil, Colombia and Uruguay

MULTIMORBIDITY: A PANORAMA OF BRAZIL

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Key messages

- The Brazilian population is aging at an accelerating pace, leading to an increase in the occurrence of multiple chronic diseases in individuals, which poses challenges to the Brazilian National Health System (SUS).

- In 2019, 29.5% of the Brazilian population had multimorbidity, meaning they had two or more chronic diseases.

- The most common chronic diseases in Brazil are hypertension (23.9%), chronic back problems (21.6%), high cholesterol (14.6%), and depression (10.2%). The most frequent combination of diseases is hypertension and chronic back problems (13.6%).

- Multimorbidity is more prevalent among individuals with lower levels of education, with a prevalence of 44.8% among those without education and 25.7% among those with higher education.

- The prevalence of multimorbidity is higher in women (35.4%) and increases with age, with over 50% of individuals over 60 years old having multimorbidity.
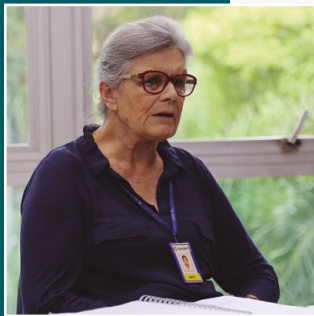
- Individuals with multimorbidity generally have higher scores in the assessment of Primary Health Care (PHC), but their scores are below the cut-off point of 6.6. However, they score higher in attributes such as affiliation, first contact (use), longitudinality, coordination (care), and comprehensiveness (services provided).

- People with multimorbidity account for the majority of health care expenses in the Brazilian National Health System (SUS), with 52.88% of expenditures allocated to this group.

- The more chronic diseases a person has, the higher their health care expenditure. The average per capita expenditure is 1,742.99 BRL for individuals without chronic diseases and 97,831.03 BRL for those with five or more chronic diseases.

- Clinical procedures and expenses on orthoses, prosthetics, and special materials account for the majority of health care expenses for people with multimorbidity.

- Mental health and cardiovascular diseases are among the combinations of diseases that contribute significantly to health care expenses.

More information

Introduction

The objective of this study is to identify opportunities for improving healthcare management for patients with multiple chronic non-communicable diseases in Brazil. The study aims to characterize multimorbidity in the country and identify successful cases. Multimorbidity is defined by the World Health Organization (WHO) as the presence of two or more chronic health conditions in the same individual.

Objectives

a. Characterize the multimorbidity of the Brazilian population in 2019 by:

    i.   Estimating the prevalence of multimorbidity within the Brazilian population in 2019;

    ii. Assessing the prevalence of the most common disease combinations among individuals with multimorbidity;

    iii. Analyzing the distribution of multimorbidity with respect to socioeconomic and demographic factors, health conditions, and health service characteristics;

    iv. Estimating healthcare expenditures for the multimorbid population utilizing the Unified Health System (SUS).

b. Identify and describe successful case studies in the management of patients with chronic diseases and multiple comorbidities.

Methodology

A cross-sectional study was conducted using data from the latest National Health Survey (PNS) of 2019 and from a database at the University of Minas Gerais (UFMG). This database integrates data from various public sources for the period from 2000 to 2015 (DATASUS). The PNS was authorized by the National Research Ethics Commission (CONEP)/National Health Council (CNS), under Opinion No. 3,529,376, and the current study received approval from the Ethics Committee of Fundação Getulio Vargas, under Opinion 160/2022 dated September 12, 2022.

The PNS sample encompassed 88,500 individuals aged 18 years or older who had complete data for all variables under consideration. The study focused on 14 chronic diseases: high blood pressure, diabetes, high cholesterol, heart disease, stroke, asthma, arthritis or rheumatism, chronic back problems, chronic obstructive pulmonary disease (COPD), work-related musculoskeletal disorders (WMSD), cancer, chronic kidney disease (CKD), depression, and other mental illnesses. Each condition, with the exception of chronic back problems, depression, and other mental illnesses, was assessed with the question: "Has a doctor ever diagnosed you with [name of illness]?" Chronic back problems were evaluated with: "Do you have any chronic back problems, such as chronic back or neck pain, low back pain, sciatica, or vertebral or disc issues?" Self-reported depression was assessed with: "Has a doctor or mental health professional (such as a psychiatrist or psychologist) ever diagnosed you with depression?" Other mental illnesses were evaluated with: "Has a doctor or health professional (such as a psychiatrist or psychologist) ever diagnosed

you with another mental illness, such as anxiety disorder, panic disorder, schizophrenia, bipolar disorder, psychosis, or OCD (Obsessive-Compulsive Disorder), etc.?" The covariates examined pertained to socio-demographic factors, health conditions and self-perception, lifestyle, and health service usage.

The UFMG database on the utilization of SUS services includes data on around 140 million individuals and has enabled the estimation of health expenditures.

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Results

In 2019, 34% of the Brazilian population rated their health as fair or poor/very poor, and 20% of individuals over 60 years old experienced difficulties performing basic activities of daily living (BADL). A significant proportion of the population is overweight or obese (58%), and many are not registered with a health unit (38.5%). Additionally, 14.4% of registered households did not receive visits from health agents.

The five most prevalent morbidities reported among Brazilians in 2019 were hypertension (23.9%), chronic back problems (21.6%), high cholesterol (14.6%), depression (10.2%), and diabetes (7.7%). The average number of diseases associated with these conditions ranged from 1.6 to 2.6 **(Table 1)**.

Two simultaneous illnesses were reported by 14.2% of the population, three illnesses by 7.7%, and one illness by 25.4%. No chronic diseases were found in 45.2% of the interviewees, as indicated in **(Table 2)**.

A significant proportion of the population is overweight or obese (58%), and many are not registered with a health unit (38.5%). Additionally, 14.4% of registered households did not receive visits from health agents.

Table 1. Distribution of the population aged 18 and over according to self-reported morbidities. Brazil, 2019.

Morbidities	% (IC 95%)	Associated illnesses (average)
Hypertension	23,9 (23,4; 24,4)	1,6 (1,6; 1,7)
Chronic back problem	21,6 (21,0; 22,1)	1,6 (1,5; 1,6)
High cholesterol	14,6 (14,1; 15,0)	2,0 (1,9; 2,0)
Depression	10,2 (9,9; 10,6)	2,1 (2,0; 2,2)
Diabetes	7,7 (7,4; 8,0)	2,2 (2,1; 2,2)
Arthritis/rheumatism	7,6 (7,2; 7,9)	2,5 (2,4; 2,6)
Other mental illness	6,5 (6,1; 6,8)	2,0 (1,9; 2,1)
Heart disease	5,3 (5,0; 5,6)	2,6 (2,5; 2,7)
Asthma	5,3 (5,0; 5,6)	1,6 (1,5; 1,7)
Cancer	2,6 (2,4; 2,7)	2,1 (2,0; 2,3)
WMSD	2,5 (2,3; 2,8)	2,2 (2,0; 2,3)
Stroke	2,0 (1,8; 2,1)	2,6 (2,5; 2,8)
COPD	1,7 (1,5; 1,8)	2,6 (2,3; 2,8)
CKD	1,5 (1,3; 1,6)	2,6 (2,4; 2,8)

Source: National Survey of Health (PNS) 2019

Table 2. Distribution of the population aged 18 and over according to the number of self-reported diseases. Brazil, 2019.

Number of illnesses	% (CI 95%)
0	45,2 (44,5 - 45,8)
1	25,4 (24,9 - 25,9)
2	14,2 (13,8 - 14,6)
3	7,7 (7,4 - 8,0)
4	4,1 (3,8 - 4,3)
5	2,0 (1,8 - 2,2)
6	0,8 (0,7 - 0,9)
7	0,4 (0,3 - 0,6)
8	0,1 (0,1 - 0,2)
9	0,1 (0,0 - 0,1)

Source: PNS 2019

The most prevalent comorbidity was the co-occurrence of hypertension and chronic back problems, which was present in 13.6% of the interviewees **(Figure 1)**.

Figure 1. Venn diagram for the relationship between the four most prevalent morbidities among individuals aged 18 or over with multimorbidity. Brazil, 2019
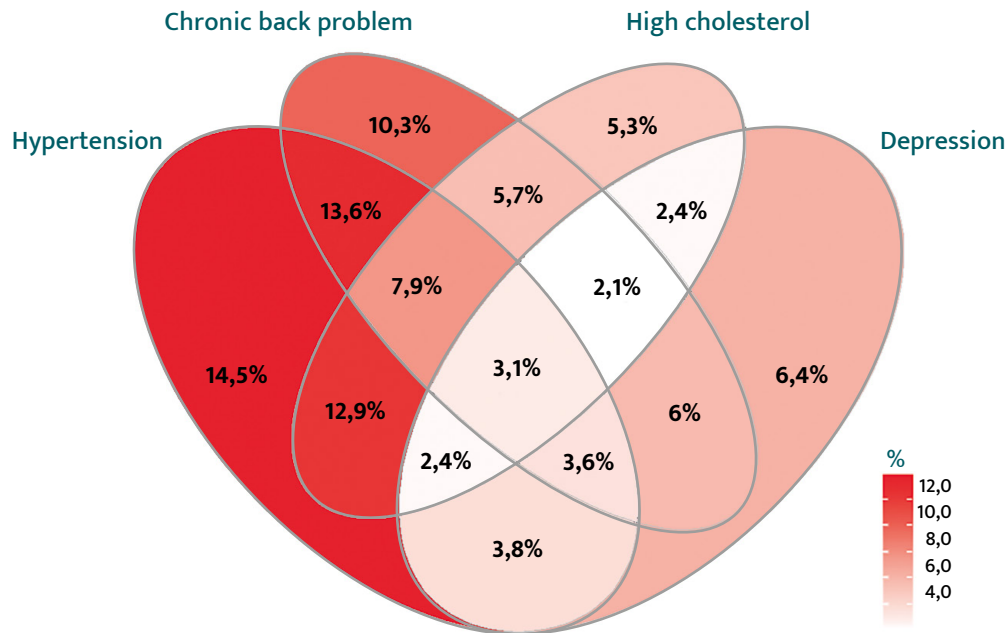
Source: PNS 2019

Individuals with lower levels of education exhibited a higher prevalence of multimorbidity. In Brazil, the prevalence of multimorbidity among individuals without any formal education was 44.8%, whereas it was 25.7% among those with a higher education degree **(Figure 2)**.

Figure 2. Prevalence of multimorbidity according to education. Brazil and regions, 2019
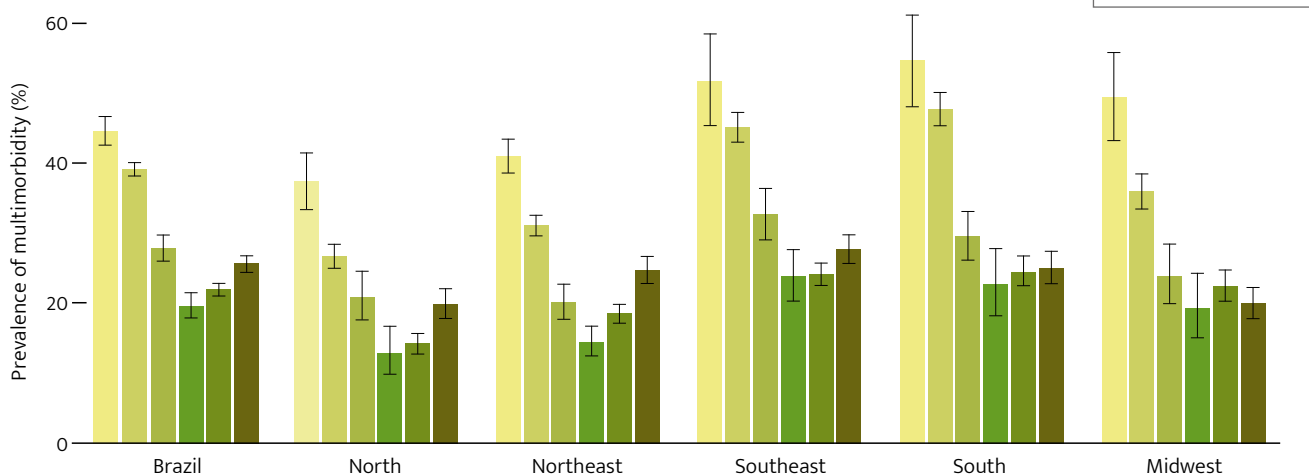
Source: PNS 2019

In the age group of 60 years and older, except for the North region, all regions had more than 50% of the population with multimorbidity. The highest prevalence was observed in the Southern region (59.3%), and the lowest in the Northern region (46.9%). Among the younger demographic (18-39 age group), the estimate for Brazil was 12.1%, with regional variations ranging from 9.0% in the North to 14.2% in the South **(Figure 3)**.
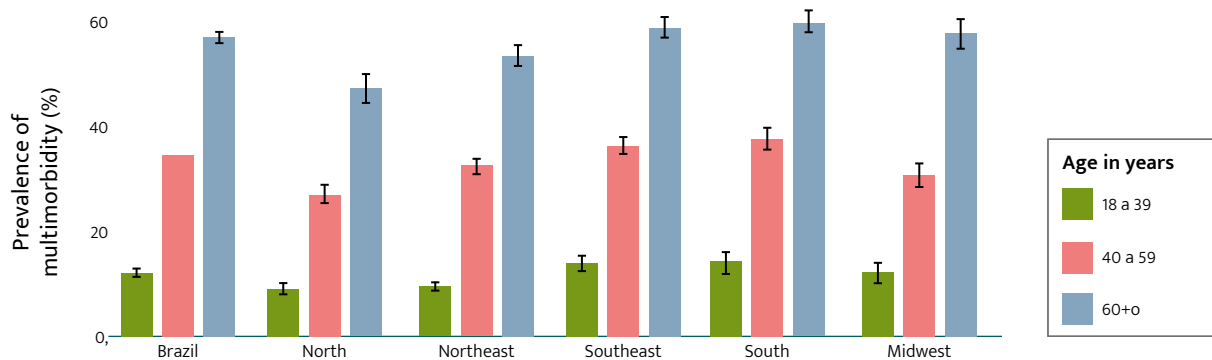
Figure 3. Prevalence of multimorbidity according to age groups. Brazil and regions, 2019

Source: PNS 2019

There was also a notable difference in the prevalence of multimorbidity in Brazil according to race/color, with higher rates observed among white individuals (32.3%) compared to black (28.1%) and mixed-race individuals (27.0%). With the exception of the South region, a correlation between race/color and the presence of multimorbidity was observed **(Figure 4)**.

Figura 4 - Prevalence of multimorbidity according to race/color. Brazil and regions, 2019

Fonte: PNS 2019

The distribution of multimorbidity varied according to the sex of the interviewees, being higher among women (35.4%) as indicated **(Figura 5)**.
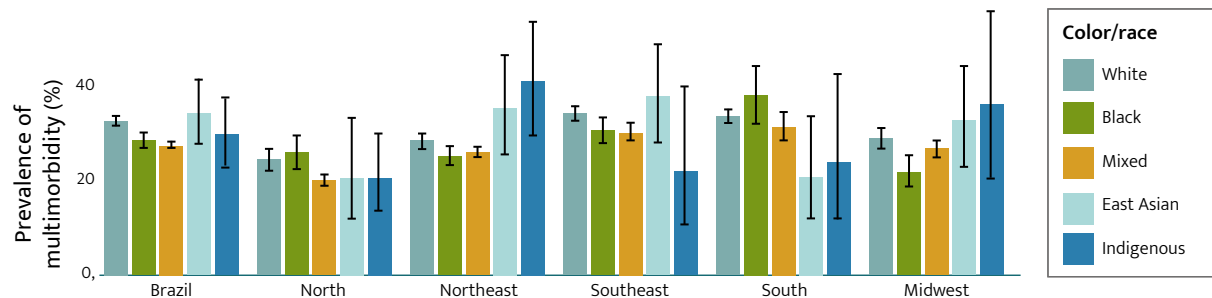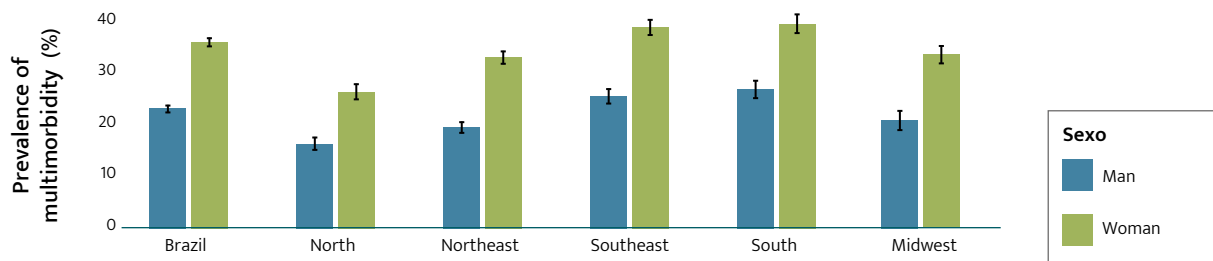
Figure 5. Prevalence of multimorbidity according to sex. Brazil and regions, 2019

Source: PNS 2019

The prevalence of multimorbidity was greater in individuals who rated their health as poor or very poor; had a medical consultation in the last six months or hospitalizations in the previous year; had ceased their usual activities; and in older adults with limitations in basic activities of daily living (BADL), as detailed in **Table 3**.

Table 3. Prevalence of multimorbidity according to variables related to the use of healthcare services and health conditions. Brazil, 2019.

Variables	%	IC 95%
Health self-evaluation*		
Very good/good	18,6	(18,0 - 19,3)
Regular	46,6	(45,6 - 47,7)
Bad/very bad	69,4	(67,3 - 71,4)
Stopped performing usual activities*		
No	26,7	(26,1 - 27,3)
Yes	57,7	(55,8 - 59,6)
Last medical consultation*		
Up to 6 months	37,4	(36,6 - 38,0)
More than 6 months	16,4	(15,7 - 17,0)
Hospitalization in the last 12 months (other than child labor)*		
No	27,8	(27,2 - 28,4)
Yes	55,2	(53,0 - 57,3)
Limitations in basic activities of daily living (60 years-old or over)*		
No	52,0	(50,7 - 53,0)
Yes	74,5	(72,5 - 76,0)

*p-value < 0,05; **p-value < 0,01; ***p-value < 0,001.

Note: Limitations to carry out usual activities were assessed with the question: "In the last two weeks, did __ not carry out any of your usual activities (work, go to school, play, household chores, etc.) because of your health?" Limitation in basic activities of daily living was assessed by reporting difficulties in carrying out one or more of the following activities: getting in/out of bed, eating, walking on ground level, bathing, dressing and going to the bathroom. All activities were evaluated using the following question: "In general, how difficult is it to perform [activity]?"

Source: PNS 2019

Regarding the assessment of Primary Health Care (PHC), the general PCAtool score was below the cut-off point (less than or equal to 6.6). Scores equal to or above 6.6 are indicative of services more strongly aligned with PHC attributes. With the exception of family and community orientation scores, all PCAtool scores were significantly higher for individuals with multimorbidity compared to those with one or no chronic disease. Specifically, among patients with multimorbidity, five components scored lower than 6.6, namely: First contact (access); Coordination (information systems); Comprehensiveness (available services); Family orientation; and Community orientation, as depicted in **Figura 6**.

Figure 6. General score and components of primary health care according to the distribution of multimorbidity among people aged 18 and over. Brazil, 2019
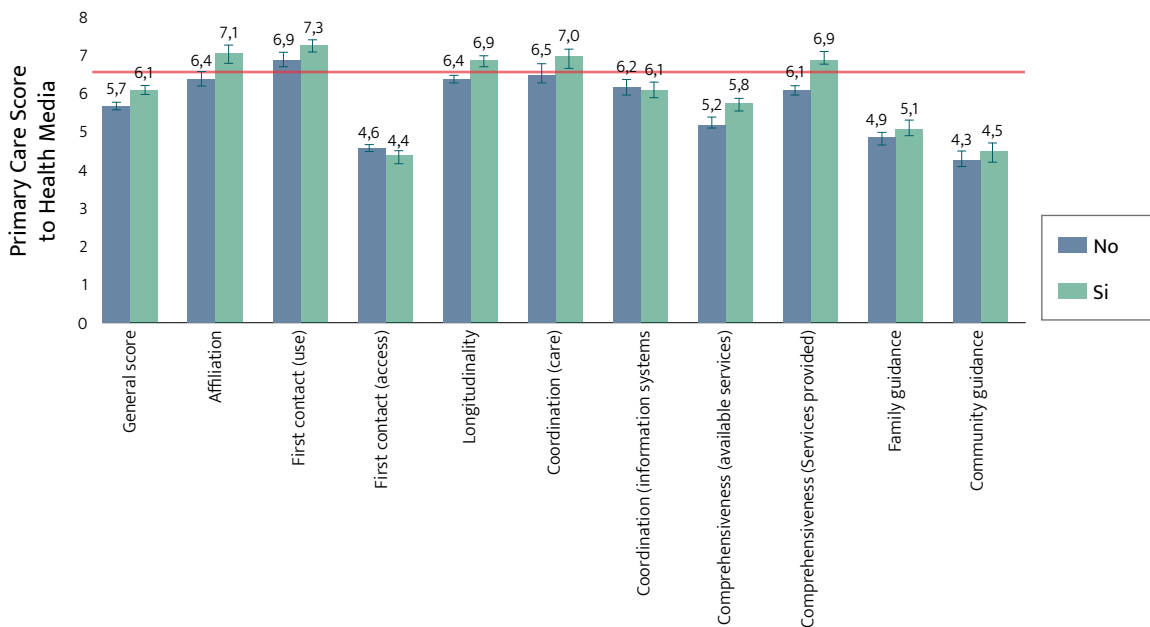
Note: The red line corresponds to the value of 6.6, which indicates services more oriented to the attributes of primary health care.

Fonte: PNS 2019

In the private sector, patients with health insurance report higher rates of multimorbidity, particularly among those dissatisfied with their coverage. Specifically, 32.5% of individuals rating their insurance as very good or good experience multimorbidity, compared to 45.5% of those who deem their insurance bad or very bad, as shown in **Table 4.**

Table 4. Prevalence of multimorbidity according to variables related to the use of healthcare services. Brazil, 2019.

Variables	%	CI 95%
Health insurance***		
No	27,9	(27,3 - 28,5)
Yes	33,7	(32,6 - 34,9)
Evaluation of insurance***		
Very good/ good	32,5	(31,3 - 33,8)
Regular	37,7	(35,0 - 40,6)
Bad / very bad	45,5	(39,2 - 51,9)
Never used it	27,7	(20,1 - 36,7)

* *p-value < 0,05; **p-value < 0,01; ***p-value < 0,001.

Source: PNS 2019

Estimation of health care expenditures for the multimorbid population using SUS

The average annual per capita expenditure increases with the number of diseases simultaneously present, with 15.27% of the sample of individuals having two or more diseases which accounts for 52.88% of expenditures **(Table 5)**.

Table 5. Descriptive statistics according to the number of morbidities/aggravations observed in the period. Population aged 18 and over using SUS, Brazil, 2000 to 2015.

|	Age >= 18 years, n = 16.118.053						
	Number of morbidities / aggravations						
	0	1	2	3	4	5+	Total
Percentage of sample (%)	48,44	36,29	9,56	3,49	1,35	0,87	100,00
Average usage time (in years)	2,72	3,72	5,78	6,82	7,61	8,67	3,64
Average age (in years)	40,20	51,59	57,86	61,26	63,20	64,77	47,28
Male (%)	26,75	41,19	43,02	44,66	45,64	46,43	34,60
Female (%)	73,25	58,81	56,98	55,34	54,36	53,57	65,40
Total average annual expenditure per capita (BRL)	825,30	14.711,39	27.417,09	35.292,58	39.138,35	46.946,16	10.528,12
Total average annual expenditure per capita (BRL - adjusted IPCA)*	1.742,99	30.687,21	58.019,54	74.962,09	82.697,93	97.831,03	22.111,09
Total average annual expenditure per capita (adjusted USDPPP)**	689,99	12.147,91	22.967,74	29.674,66	32.736,99	38.727,61	8.752,95
Percentage of total spending in the period (%)	1,72	45,40	26,83	13,98	6,45	5,62	100,00

*Broad National Consumer Price Index

**US Dollars Purchasing Power Parity

Source: Datasus, Database UFMG, 2023

The average total annual per capita expenditures for individuals with only one disease and for those with two or more diseases are significantly different. The highest averages are concentrated in the Southeast and South regions, which also have the highest percentages of individuals aged 60 and over, as indicated in **Figure 7.**

Figure 7. Total average annual expenditure per capita (adjusted USDPPP) according to number of morbidities/conditions and Brazilian region. Population aged 18 and over using SUS, Brazil, 2000 to 2015.
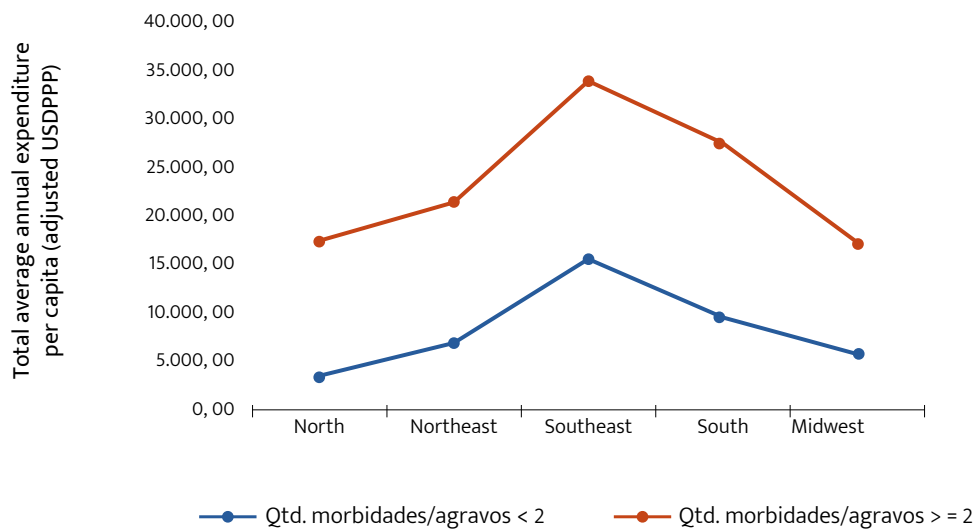
Source: Datasus, Database UFMG 2023

Regarding the nature of health expenditures, it is observed that costs for clinical procedures, and for orthoses, prostheses, and special materials, are primarily associated with the group with multimorbidity. In contrast, the majority of expenses for health promotion, disease prevention, diagnostic procedures, and complementary health care actions are incurred by the group of patients with only one disease, as illustrated in **Figure 8.**

Figure 8. Distribution of expenditure according to number of morbidities/aggravations and expenditure group. Population aged 18 and over using SUS, Brazil, 2000 to 2015.
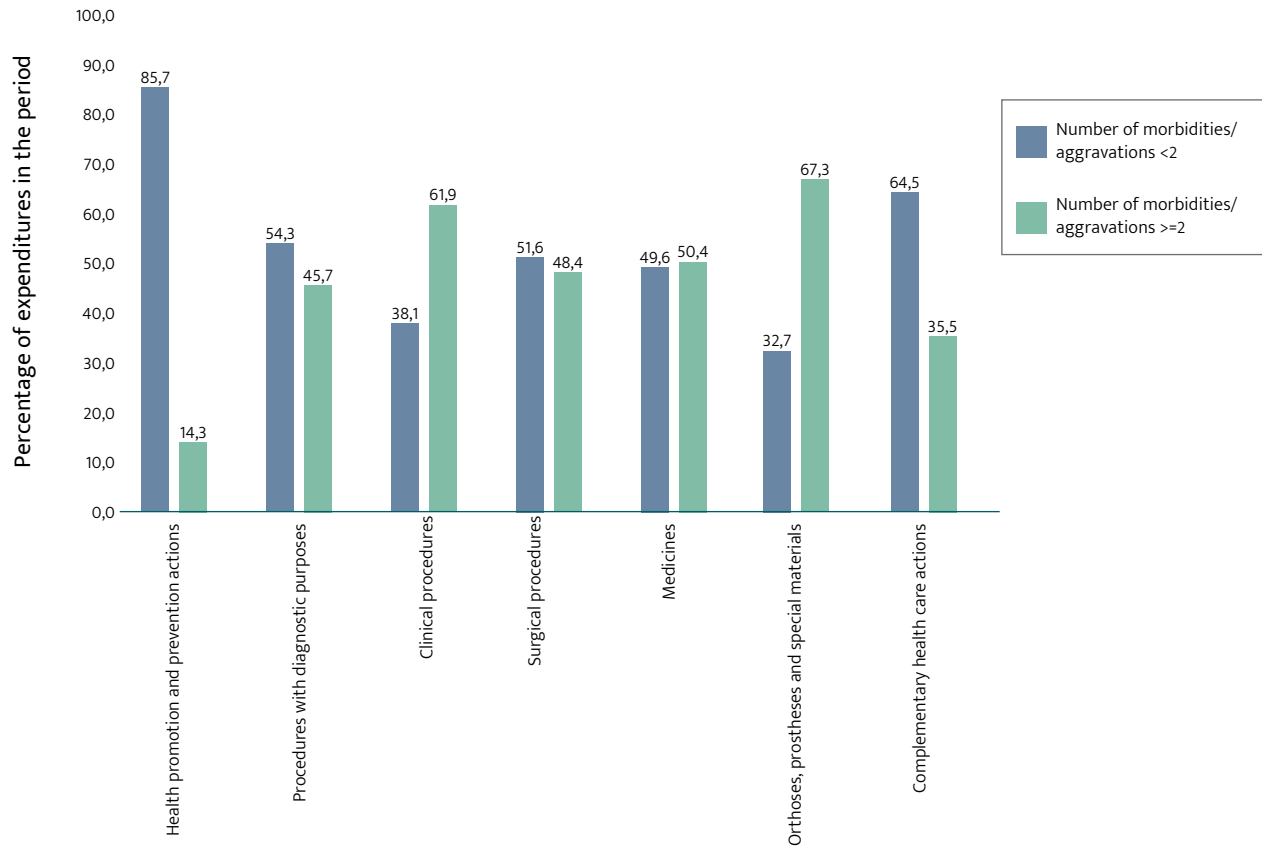
Fonte: Datasus, Database UFMG 2023

The largest portion of expenditures, irrespective of the presence of morbidities/conditions, is on medicines, which represent 75.72% of the expenses, and clinical procedures, which account for 21.68%. For the group without chronic diseases, there is a greater share of spending on private health care actions (11.60%), surgical procedures (8.45%), and diagnostic procedures (3.89%), as presented in **Table 6.**

The average annual per capita expenditure increases with the number of diseases simultaneously present, with 15.27% of the sample of individuals having two or more diseases which accounts for 52.88% of expenditures.

Table 6. Descriptive statistics regarding the nature of healthcare actions according to the number of morbidities/conditions observed in the period. Population aged 18 and over using SUS, Brazil, 2000 to 2015.

	(Age in years >= 18 years, n = 16.118.053)						
	Number of morbidities/aggravations						
	0	1	2	3	4	5+	Total
Spending group (%)							
Health promotion and prevention actions	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Procedures with diagnostic purposes	3,89	0,21	0,23	0,26	0,29	0,32	0,30
Clinical procedures	16,39	17,59	22,95	25,92	29,33	31,01	21,68
Surgical procedures	8,45	0,85	0,86	0,92	1,12	1,18	1,03
Organ, tissue and cell transplants	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Medicines	58,03	80,43	74,92	71,73	67,85	65,86	75,72
Orthoses, prostheses and special materials	0,56	0,34	0,52	0,63	0,84	1,02	0,51
Complementary health care actions	11,60	0,51	0,44	0,45	0,48	0,48	0,67
Others	1,08	0,07	0,08	0,08	0,08	0,12	0,09
Total	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Annual average outpatient visits per capita	1,22	4,30	7,11	8,96	10,29	12,55	3,39
Annual average hospital admissions per capita	0,36	0,76	1,21	1,53	1,71	1,87	0,66

Fonte: Datasus, Database UFMG 2023

Among the combinations of conditions with the highest share of health spending, mental health and cardiovascular diseases are particularly notable. In the period analyzed from 2000 to 2015, the combination of schizophrenia or other psychotic disorders with mood, anxiety, or behavioral disorders represented the combination with the largest share of total health expenditure and medication costs, accounting for 1.52% of total expenditure and an average annual per capita amount of 60,092.06 (adjusted for purchasing power parity, USDPPP).

Regarding hospital admissions during the same period, the combination of heart failure and ischemic heart disease accounted for the largest share of hospital admission expenses, representing 0.55% of total hospital spending and an average annual per capita cost of 3,504.12 (adjusted for purchasing power parity, USDPPP).

More information

> **Among the combinations of conditions with the highest share of health spending, mental health and cardiovascular diseases are particularly notable.**

Limitations

The data used in this study are based on self-reported morbidities and do not encompass all chronic diseases. The information regarding health expenditures or resource utilization is an estimated figure. The potential effects or biases related to the COVID-19 pandemic could not be assessed.

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Contemporary brazilian experiences in health management

Health care planning

The Health Care Planning (Planificação da Atenção à Saúde - PAS) corresponds to the organization of the work processes of healthcare teams, focusing on patients' needs. It was implemented in Brazil through PlanificaSUS, which supports state and municipal health departments in strengthening Primary Health Care (Atenção Primária à Saúde - APS) and Specialized Outpatient Care (Atenção Ambulatorial Especializada - AAE) in the organization of the Health Care Network (Rede de Atenção à Saúde -RAS). It was developed in 25 health regions and 11 Brazilian states as part of the Multimorbidities Project (Projeto Multimorbidades – Brasil).

The PAS was adopted by the National Council of Health Secretaries (CONASS) since 2004 and has its theoretical foundation anchored in the "Model of Attention to Chronic Conditions (MACC)" and the "Model of the Social Construction of Primary Health Care" based on the models of the Kaiser Permanente Risk Pyramid, chronic care and social determinants of health, proposed by Eugênio Vilaça Mendes. This is a continuing education process that allows developing the skills of healthcare teams for planning, organizing and monitoring health care work processes, focusing on patients' needs.

The effective participation of CONASS and COSEMS is fundamental to starting the PAS; and the region to be worked on must present the following criteria: a) Membership of mayors and municipal health departments (Technical Cooperation Term); b) ESF implemented in the selected municipal territory; c) Professional teams (doctors, nurses and

others) effectively fulfilling the contracted workload (40h/week for ESF); d) Existence of AAE (in operation); e) Decision to regionalize the AAE.

In practice, workshops are held as tools to provoke change, moments in which central elements are worked on for the implementation stages, guided by action plans. PAS decisions are publicly formalized through a protocol of intentions between those involved and a workshop for conceptual alignment ('mother workshop'), with macro definitions and identification of state facilitators who will lead the process in the selected region. The initial meetings are in person and involve all professionals in the workplace. They are then continued remotely through different strategies and tutorials, in which the processes agreed in the action plans are organized.

During the process, clearly justified priority health conditions and strategies are defined in relation to the development of clinical guidelines, financing and continuing education.

Health Care Planning (Planificação da Atenção à Saúde - PAS) involves organizing the work processes of healthcare teams to focus on patient needs. It was implemented in Brazil through PlanificaSUS, which aids state and municipal health departments in enhancing Primary Health Care (Atenção Primária à Saúde - APS) and Specialized Outpatient Care (Atenção Ambulatorial Especializada - AAE) within the Health Care Network (Rede de Atenção à Saúde - RAS). The PAS has been developed in 25 health regions across 11 Brazilian states as part of the Multimorbidities Project (Projeto Multimorbidades – Brasil).

Adopted by the National Council of Health Secretaries (CONASS) since 2004, PAS is theoretically grounded in the "Model of Attention to Chronic Conditions (MACC)" and the "Model of the Social Construction of Primary Health Care," drawing from the Kaiser Permanente Risk Pyramid, chronic care models, and social determinants of health, as proposed by Eugênio Vilaça Mendes. It is a continuous education process that develops the capabilities of healthcare teams in planning, organizing, and monitoring healthcare work processes, with a focus on patient needs.

Criteria for participate in PAS:

a) Membership of mayors and municipal health departments (Technical Cooperation Term);

b) ESF implemented in the selected municipal territory;

c) Professional teams (doctors, nurses and others) effectively fulfilling the contracted workload (40h/week for ESF);

d) Existence of AAE (in operation);

e) Decision to regionalize the AAE.

The active participation of CONASS and COSEMS is crucial for initiating PAS. The region selected must meet the following criteria: a) Commitment from mayors and municipal health departments (Technical Cooperation Term); b) Implementation of the Family Health Strategy (Estratégia Saúde da Família - ESF) in the chosen municipal area; c) Professional teams (doctors, nurses, and others) effectively fulfilling their contracted workload (40 hours/week for ESF); d) Operational AAE; e) Decision to regionalize AAE services.

In practice, workshops serve as catalysts for change, where key elements for implementation stages are addressed, guided by action plans. PAS decisions are formalized through an intent protocol among stakeholders and a conceptual alignment workshop ('mother workshop'), which sets broad definitions and identifies state facilitators to lead the process in the chosen region. Initial meetings are held in person with all workplace professionals and are subsequently continued remotely through various strategies and tutorials, organizing the processes outlined in the action plans.

During the process, health conditions and strategies are prioritized based on clear justifications, focusing on the development of clinical guidelines, financing, and continuing education.

PAS implementation occurs in two phases:

Phase 1. APS:

- Situational diagnosis
- Territorialization
- Family registration
- Organization of vaccination rooms
- Family record
- Implementation of schedule/shifts
- Risk classification of chronic conditions

Phase 2. SEA - basic macro-processes and care function

- Situational diagnosis
- Organization of service portfolio
- Discussion about access
- Organization and structuring of the calendar
- Organization of administrative processes
- Model training on caring for chronic conditions and sharing care with PHC.

Care management of elderly patients

Prevent Senior is a health operator established in 1997, focusing on health services for the elderly population in São Paulo. During its first five years, the growth in the number of beneficiaries was slow and steady, with an emphasis on selling individual plans. As of 2023, the operator boasts 45 units, 550,000 users, and 14,000 registered workers, providing services in São Paulo, Rio de Janeiro, Curitiba, Porto Alegre, Santo André, and Santos. The company attributes its growth to the low monthly costs of its plans, which are competitive with those of other operators, and to the fact that most services are delivered within its own network, satisfying 70% of outpatient needs and 80% of hospital demands from beneficiaries.

The operator's high affiliation levels, retaining over 50% of São Paulo's elderly population in 2017 (Herzlinger, Malik, Zogbi, 2017), are due to its quality processes, integration of hospitals, outpatient clinics, and diagnostic centers, investment in Lean Six Sigma methodology for continuous improvement, and a high degree of digitalization. This approach, combined with the use of data and artificial intelligence, enhances user knowledge, promoting responsiveness and the ability to anticipate issues.

Notable strategies include:

a) the use of artificial intelligence to identify patients on specific medications or polypharmacy, or those with abnormal test results, for more intensive monitoring. For instance, Cardiocare, a component

of the Care program, prioritizes patients with congestive heart failure, valvular heart disease, smokers, pacemaker users, or those on anticoagulants. Osteocare is dedicated to the prevention and monitoring of the elderly to prevent falls and fractures by providing guidance on adequate calcium intake, monitoring vitamin D levels, encouraging physical activity, and closely monitoring the more seriously ill patients.

b) ´Clubs´ that offer psychosocial activities centered on health, supported by a multidisciplinary team. Activities range from sewing workshops, theater, and music to consultations and lectures. For example, Coração Valente, a cardiology program for less seriously ill patients and their companions, includes outdoor walks and yoga supervised by medical and physiotherapy professionals, along with health assessments. Users are categorized into five groups corresponding to the pillars of care: Primary Health Care; Chronic Conditions; Oncology; Home Care; Palliative Care. These pillars are interwoven, and although patients typically progress in complexity, those in the Chronic pillar who are stable can be monitored by Primary Health Care.

Hospitalizations are allocated to different centers based on the primary needs of users. In São Paulo, for example, there are specialized hospitals for emergency surgeries, oncology, thoracic, plastic and pelvic surgery, breast and high-complexity endoscopy, hemodynamics, endovascular procedures, vascular, cardiac and neurosurgery, chronic kidney and dialysis, orthopedics, oral and maxillofacial surgery, hematology, clinical oncology, and advanced geriatrics, as well as transition hospitals and rehabilitation with extended hospitalization.

Outpatient care is specialized and segmented, coordinated by a referring physician and a multidisciplinary team, with integrated medical records and easy access to specialists and specific programs tailored to the disease. Among the qualification processes, training professionals to proactively meet patient needs and developing soft skills are emphasized. Additionally, there is a relationship team, with a 'relationship tutor,' who monitors patients over the phone, supported by a multidisciplinary team. In this model, the main team coordinates care and interfaces with other professionals, monitoring the patient's entire journey through the network and redirecting as necessary.

More information

Future perspectives

The Brazilian Ministry of Health is increasing its focus on areas such as Digital Health and Oncology, potentially signaling a shift toward prioritizing multimorbidity solutions. Even the most decisive and effective Primary Health Care (PHC) requires new strategies to ensure patient pathways within the service network and to expedite access to specialized care, including hospital care. To this end, care coordination, comprehensiveness, and person-centered care are essential.

New programs and care lines are being developed, and their strategies may inspire or support the care of multimorbid patients. The recent expansion and regulation of Telehealth during the COVID-19 pandemic have developed and validated new processes, paving the way for a chronic disease management model with a strong Digital Health component. CONASS (National Council of Health Secretaries) and CONASEMS (National Council of Municipal Health Secretaries) are key collaborators, as demonstrated by Health Care Planning and Improvement Courses and CONASEMS Live TV.

As a continuation of this work, it is suggested to identify more successful experiences, including the use of Digital Health and potential public-private collaborations; to pinpoint technologies that can promote interoperability and are suitable for the Brazilian context; to pilot test models; and to consider potential funding lines that support the dissemination of successful practices after pilot tests.

The demographic transition accompanied by the epidemiological transition, evidenced by the change in the health profile of the Brazilian population, brings important challenges to the Unified Health System. The accelerated aging of the population further accentuates the effects of the triple burden of diseases, placing society as a all in the face of this new reality. Important changes are underway, both economic and social.

The Coronavirus pandemic has made this context even more complex, increasing inequalities, including in health, further impacting health services, which were excessively demanded in these three years, initially due to the global health challenge that found Brazil one of its most fertile grounds, and, subsequently, by the consequences left by the inevitable prioritization of the emerging disease, which led services to leave aside much of the care for chronic patients.

Considering the gradual increase in the concomitant occurrence of multiple chronic diseases affecting the same individual, whether over the last few decades or throughout the citizen's life, the current situation of multimorbidity deserves, at the very least, the attention of health authorities.

The presence of comorbidities/multimorbidities requires greater quality and efficiency of the health system as a whole, with an emphasis on the provision of health services in a care network, with the strengthening of primary care, so that it is capable of identifying and managing more complex patients , as well as better structured and organized specialized care, with appropriate medication use systems, case management that includes hospital care, all with appropriate care protocols and information that follows the patient. Evidently, this long-desired conformation has important implications for the healthcare system as a whole and its costs.

This report characterizes multimorbidity in the country, presenting two examples of chronic disease management, one from the public sector and the other from the private sector.

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