

EXECUTIVE SUMMARY

SANITATION IS HEALTH:

HOW THE LACK OF ACCESS TO BASIC INFRASTRUCTURE
AFFECTS THE INCIDENCE OF DISEASES (DRIES)

ACCESS THE
FULL STUDY





WHAT IS THIS STUDY?

This report presents a detailed analysis of the incidence of Diseases Related to Inadequate Environmental Sanitation (DRIES) in Brazil between 2008 and 2024, with breakdowns of their consequences by region and social profile (age, gender, and ethnicity). It highlights that in areas with poor sanitation, the number of hospitalizations and deaths related to DRIES increases, with children and the elderly being the most significantly affected.



WHAT ARE DISEASES RELATED TO INADEQUATE ENVIRONMENTAL SANITATION (DRIES)?

- Fecal-oral transmitted diseases, such as diarrhea, salmonellosis, cholera, amebiasis, typhoid fever, hepatitis A, etc.;
- Vector-borne diseases, such as dengue, yellow fever, malaria, Chagas disease, etc.;
- Waterborne diseases, such as schistosomiasis and leptospirosis;
- Hygiene-related diseases, such as conjunctivitis, dermatophytosis, etc.;
- Soil-transmitted helminths and tapeworm infections, such as ascariasis, cysticercosis, etc.



STUDY HIGHLIGHTS:

- The implementation of basic sanitation is expected to reduce hospitalization rates by 69.1% within 36 months of the intervention.
- The state of Maranhão ranked worst in the analysis of total incidence of Diseases Related to Inadequate Environmental Sanitation (DRIES) and in the incidence of fecal-oral diseases.
- Women, children, mixed-race (pardo), Asian (amarelo), and Indigenous populations are the most affected by DRIES.
- Children aged 0 to 4 and the elderly account for 43.5% of all hospitalizations.
- With 344,000 hospitalizations in 2024, the lack of sanitation puts the health of Brazilians at risk and burdens the Unified Health System (SUS) with preventable diseases.



PUBLIC HEALTH EXPENDITURES

The universalization of sanitation in Brazil is expected to reduce the number of hospitalizations due to DRIES by 86,760 cases nationwide. At an average cost of BRL 506.32 per hospitalization in 2024, this reduction would represent an annual savings of BRL 43.9 million. The perpetuity of this gain — that is, the positive long-term legacy for Brazilian society in terms of hospital expenditure — would amount to BRL 1.255 billion.



HOSPITALIZATION INCIDENCE RATE DUE TO DRIES AND RELATED GROUPS, CASES PER TEN THOUSAND INHABITANTS, BY FEDERATIVE UNITS AND BRAZIL, 2024

Federative Units	A. Fecal-oral transmitted diseases	B. Vector-borne diseases	C. Diseases transmitted through contact with water	D. Hygiene-related diseases	E. Soil-transmitted helminth and tapeworm infections	Total DRIES
North	14,592	4,040	0,103	0,163	0,062	18,960
Rondônia	15,954	5,589	0,103	0,435	0,074	22,156
Acre	9,811	5,519	0,500	0,091	0,045	15,966
Amazonas	12,751	2,331	0,054	0,142	0,056	15,334
Roraima	7,938	2,762	-	0,084	0,028	10,812
Pará	18,187	3,414	0,104	0,137	0,068	21,911
Amapá	6,116	18,036	0,187	0,162	0,100	24,600
Tocantins	8,337	3,037	0,013	0,139	0,032	11,557
Northeast	12,650	3,452	0,089	0,181	0,049	16,420
Maranhão	42,590	2,861	0,027	0,291	0,089	45,815
Piauí	16,367	4,230	0,012	0,175	0,050	20,835
Ceará	11,129	1,874	0,054	0,128	0,052	13,236
Rio Grande do Norte	5,003	0,897	0,046	0,044	0,026	6,016
Paraíba	8,848	1,838	0,029	0,147	0,135	10,632
Pernambuco	6,613	1,524	0,239	0,171	0,027	8,574
Alagoas	3,261	2,730	0,140	0,081	0,019	6,230
Sergipe	4,627	2,060	0,109	0,105	0,017	6,918
Bahia	8,703	7,187	0,073	0,264	0,038	16,265
Southeast	3,605	8,819	0,070	0,667	0,023	13,184
Minas Gerais	5,193	16,691	0,047	0,378	0,020	22,329
Espírito Santo	5,119	7,742	0,093	0,212	0,049	13,251
Rio de Janeiro	3,416	4,778	0,127	1,641	0,033	9,994
São Paulo	2,804	6,778	0,058	0,477	0,019	10,135
South	5,765	11,359	0,255	0,235	0,025	17,639
Paraná	6,589	18,619	0,143	0,224	0,033	25,607
Santa Catarina	5,494	9,343	0,235	0,279	0,010	15,360
Rio Grande do Sul	5,093	5,161	0,387	0,215	0,027	10,883
Central-West	8,476	16,368	0,077	0,610	0,035	25,505
Mato Grosso do Sul	8,687	8,422	0,010	2,023	0,052	19,194
Mato Grosso	8,213	9,350	0,003	0,337	0,021	14,824
Goiás	7,589	21,250	0,020	0,325	0,033	29,217
Federal District	10,795	24,950	0,034	0,416	0,040	36,234
BRAZIL	7,707	7,935	0,101	0,424	0,035	16,202

Source: DATASUS, Ministry of Health, and IBGE. Prepared by: Ex Ante Economic Consulting.



WHO ARE THE MOST AFFECTED?



In 2024, hospitalizations due to DRIES among women accounted for 53% of the total (344,400 cases).



Children and the elderly are the most affected by DRIES. In 2024, the country recorded 70,000 hospitalizations among children aged 0 to 4 (representing 20% of the total). Among seniors aged over 60, there were 80,900 hospitalizations (23.5% of all DRIES-related hospitalizations).



In 2024, 223,163 hospitalizations were recorded among individuals who self-identified as mixed-race or Black (64.8% of the total). As for incidence rates, the highest were observed among self-declared Asian (amarelo) individuals (36.4 cases per 10,000 people) and Indigenous peoples (27.5 cases per 10,000 people).



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