

Hematopoietic cell transplantation for all: report from the 2025 Congress of the Brazilian Bone Marrow Transplantation and Cellular Therapy Society

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Section editor: Abrahão Elias Hallack Neto 

Received: Sep. 24, 2025 • Accepted: Oct. 2, 2025

ABSTRACT

This article provides an analysis of the current landscape of hematopoietic cell transplantation (HCT) in Brazil, highlighting current data, challenges, and ongoing initiatives, as presented at the Brazilian Society of Cellular Therapy and Bone Marrow Transplantation (SBTMO) 2025 meeting. Brazil has seen a significant increase in the number of HCT procedures in recent years, being the country with the highest number of transplants, HCT centers, and transplant teams in Latin America. However, important challenges remain, including regional disparities in access, limited local availability of HCT, and insufficient hospital beds. These topics were discussed alongside partial updates of the new National Transplant System (SNT) regulations with representatives from SBTMO, SNT, Brazilian Health Regulatory Agency, Brazilian National Cancer Institute, Brazilian Association of Lymphoma and Leukemia, and Brazilian Association of Hematology, Hemotherapy, and Cellular Therapy, to improve equity, safety, and outcomes of hematopoietic stem cell transplants across Brazil.

Keywords: Hematopoietic Stem Cell Transplantation. Brazil. Health Services Accessibility. Waiting Lists.

INTRODUCTION

Brazil is a global reference in transplantation, with the largest public transplant system in the world^{1,2}. The number of hematopoietic stem cell transplants (HCT) has increased over the years³. Despite these advances, significant challenges remain, such as limited access, waiting lists, and insufficient hospital beds. In addition, partial updates to the regulations of the National Transplant System (SNT) and the current situation of HCT in Brazil were presented during the 2025 Annual Brazilian Society of Cellular Therapy and Bone Marrow Transplantation (SBTMO) Congress. SBTMO members, the General Coordinator of the SNT, representatives from the Brazilian Health Regulatory Agency (ANVISA), the coordinator of the Brazilian Bone Marrow Donor Registry (REDOME/Brazilian National Cancer Institute—INCA), the chief executive officer of the Brazilian Blood Cancer Association (ABRALE), and the president of the Brazilian Association of Hematology, Hemotherapy and Cell Therapy (ABHH) participated in the discussions with the goal of identifying strategies to improve the national HCT landscape.

HEMATOPOIETIC STEM CELL TRANSPLANTS IN BRAZIL

Brazil is the country in Latin America with the highest number of HCT centers and teams, currently accounting for 137 accredited centers and 275 active teams (Fig. 1). Currently, the transplant rate (TR) in Brazil in 2024 was 89.8 HCTs per 10 million inhabitants, based on 1,909 procedures performed and a population of 212.6 million³⁻⁵. This intermediate rate compared to other countries reflects that Brazil still faces limitations in proportional access to HCT³.



Source: adapted by Fernando Barroso Duarte from courtesy of Sebastian Galeano, HCT data manager of Latin America.

Figure 1. Distribution and number of hematopoietic cell transplantation (HCT) centers and teams in Latin America in 2025.

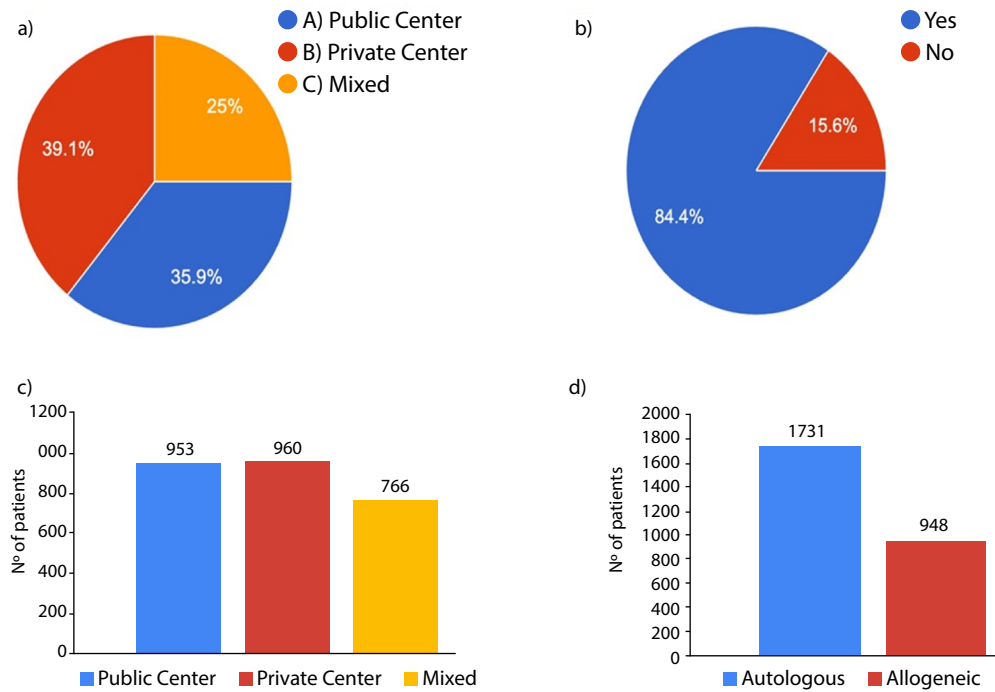
Brazil has a universal, public healthcare system, the Unified Health System (SUS), which provides comprehensive services through public institutions at the federal, state, and municipal levels, and also involves public-private partnerships⁶. Approximately 70% of procedures are performed in the SUS and 30% in the private sector, with predominance in the Southeast region and a marked deficit in the North and Northeast regions, reflecting inequalities in access to HCT^{1,3}. Brazil has the third largest donor registry in the world, the REDOME, which includes 5.9 million registered volunteer donors, with an average of over 125,000 new registrations per year and more than 5,100 transplants facilitated over the last 30 years from donors identified through the registry⁷.

The Brazilian public health system is recognized as the largest transplant program in the world, responsible for more than 30,000 procedures performed in 2024 through the SUS. Despite this high volume, demand still exceeds supply, with approximately 78,000 people on the waiting list for an organ¹.

The waiting list for HCT remains one of the greatest challenges^{1,3}. SBTMO conducted a survey with 64 transplant centers reporting HCT data to assess the current bone marrow transplant waiting list situation in Brazil (Fig. 2).

According to the survey, as of July 2025, there were 2,679 people on the transplant waiting list. Among the centers, 39.1% are private, 35.9% public, and 25% mixed (Fig. 2a). Approximately 85% of centers report data to at least one platform: SBTMO/Center for International Blood and Marrow Transplant Research (CIBMTR) (64%) and/or Brazilian Association of Organ Transplantation/Brazilian Transplant Registry (65%) (Fig. 2b). The number of patients waiting by center type is 960 in private centers, 953 in public centers, and 766 in mixed

centers (Fig. 2c). Among the total, 1,731 patients are awaiting autologous transplants and 948 allogeneic transplants (Fig. 2d). The three states with the highest number of patients on the waiting list are São Paulo (1,021), Ceará (189), and the Federal District (164).



Source: Sociedade Brasileira de Terapia Celular e Transplante de Medula Óssea (2025).

Figure 2. Brazilian Society of Cellular Therapy and Bone Marrow Transplantation Survey on the waiting list for hematopoietic cell transplantation in Brazil.

According to the results of *Hematopoietic Stem Cell Transplantation in Brazil – Brazilian Summary Slides 2025 (SBTMO/ CIBMTR)*, a total of 14,331 transplants were reported between 2012 and 2024⁴. An increase in haploidentical transplants was observed, from 2020 onwards during the pandemic, rising from 29% in 2019 to 44% in 2024. The main indications for HCT in Brazil in 2024 are multiple myeloma (28%), acute myeloid leukemia (15%), and acute lymphoblastic leukemia (12%)⁴. In 2025, an unprecedented inclusion was made in the Brazilian Transplant Registry 2024²: data from the Brazilian Multicenter Registry of Hematopoietic Cell Transplants, both autologous and allogeneic, and cellular therapy, carried out in Brazil and reported to the CIBMTR^{2,4}.

UPDATES IN THE BRAZILIAN NATIONAL TRANSPLANT SYSTEM REGULATION

Recent updates in the Brazilian SNT regulations on HCT established requirements for transplant center accreditation. Authorized centers must contribute with stem cell collections (bone marrow or peripheral blood) for donors identified through the Brazilian REDOME, reinforcing the principle of national solidarity⁸.

The main updates regarding the required composition of the HCT team, the authorization of centers (whether accredited/qualified or not within the Brazilian SUS), and the renewal of authorization while ensuring compliance with the established requirements are as follows. The minimum medical team must include two physicians who either are specialists or have residency/training with proven clinical practice in bone marrow transplantation. For perform pediatric HCT, the team must include at least one pediatrician with experience in this field; in centers with multiple teams, a physician must act as the unit coordinator with proven experience in at least 20 allogeneic and 20 autologous transplants. In addition to a multidisciplinary team consisting of

a nutritionist, psychologist, physiotherapist, and social worker, data reporting professional and coordinating nurse. For nursing coordination, a minimum experience of six months in allogeneic transplants and four months in autologous transplants is required⁸.

Authorized hospitals for HCT will be classified into three modalities: autologous HCT; allogeneic HCT from a human leukocyte antigen-identical related donor; and allogeneic HCT from a haploidentical related or unrelated donor. For each modality, the transplant physician's experience will be assessed. For renewal of authorization, centers must demonstrate compliance with the minimum required number of procedures per modality, occupancy of HCT-designated hospital beds, a record of transplants performed (both SUS and private), regular reporting of production and survival data to General Coordination of the National Transplant System, availability of an updated waiting list by modality, and a formal declaration of commitment to collect stem cells from unrelated donors for REDOME⁸.

HEMATOPOIETIC CELL TRANSPLANTATION: WHERE ARE WE?

Recent advances in Brazil include the incorporation of intravenous ganciclovir and oral valganciclovir into the SUS for the prophylaxis and treatment of cytomegalovirus (CMV) infection in patients undergoing solid organ transplantation and HCT (SECTICS/MS Ordinance No. 12, February 18, 2025)⁹. In addition, maribavir has been included in the SUS for the treatment of refractory CMV, with or without resistance, in adult post-transplant patients (SECTICS/MS Ordinance No. 64, December 20, 2024)¹⁰, representing an important step toward expanding therapeutic options.

Despite these advances, significant challenges remain: expanding access to chimerism testing as a tool for post-HCT monitoring; updating the Clinical Protocols and Therapeutic Guidelines to include polymerase chain reaction detection of CMV, EBV, and BK virus; implementing systematic testing for anti-human leukocyte antigen antibodies; and increasing the number of available transplant beds to meet the growing demand and ensure greater equity in access. Furthermore, it is essential to improve local access to HCT, since many patients face difficulties traveling due to economic, cultural, support, and family-related barriers.

CONCLUSION

Although Brazil is a global reference in transplantation and has made significant progress in the number of hematopoietic stem cell transplants performed, important challenges remain, including regional disparities in access, the need for timely diagnosis, and the performance of transplants locally and in a timely manner. The upcoming update of the SNT technical regulations and the intensification of oversight of transplant centers are fundamental actions and represent strategic steps to ensure greater safety, quality, and equity in care. Furthermore, it is essential to continue strengthening the multidisciplinary team, as well as the reporting and monitoring of clinical data and patient survival, to maintain an accurate view of the transplant landscape in Brazil and ensure that all patients have timely access to available therapies.

CONFLICTS OF INTEREST

Nothing to declare.

DATA AVAILABILITY STATEMENT

All data sets were generated or analyzed in the current study.

FUNDING

Not applicable.

AUTHOR'S CONTRIBUTIONS

Conception: Duarte FB. **Data collection:** Duarte FB. **Manuscript writing:** Duarte FB. **Supervision:** Melo AL, Arantes A and Bonfim CMS. **Critical revision:** Melo AL, Arantes A and Bonfim CMS. **Final approval:** Duarte FB.

ACKNOWLEDGMENTS

The authors thank Patrícia Freire (SNT), Ângelo Maiolino (ABHH), Catherine Weber Abramo (ABRALE), João Paulo Lyra (ANVISA), and Danielli Oliveira (REDOME) for their contributions and for the relevant topics discussed. We also thank the debaters Eduardo Paton (ONCOBIO Health Services, Belo Horizonte, MG, Brazil) and Lúcia Silla (Universidade Federal do Rio Grande do Sul) for their valuable insights.

For contribution of the SBTMO 2025 Survey, we thank the hematologists Abrahão Elias Hallack Neto, Adriana Seber, Adriano Arantes, Alessandro de Moura, Andreza Ribeiro, Antônio Henrique Pecego, Beatriz Stella Gomes de Souza Pitombeira Araújo, Bruno Cape, Bruno Garcia Peixoto Pires da Silva, Carolina Borges, Celso Arrais-Rodrigues, Cláudia Cáceres Astigarraga, Cilmar Kuwahara, Décio Lerner, Dorcina Santos, Eduardo José de Alencar Paton, Erika Oliveira de Miranda Coelho, Fernando Barroso Duarte, Fernando Blumm, Flávia Dias Xavier, Giancarlo Fatobene, George Navarro, Gláucia Santos, Gustavo Brandão Fischer, Gustavo Machado Teixeira, Henrique Pecego, Jaqueline Batista, João Saraiva, João Feliciano, Lorena Bedotti Ribeiro, Marcelo Aduan, Marcelo E. Z. Capra, Marilza Santos, Maria Cláudia Rodrigues Moreira, Mariana Motta B. Salvador Chalup, Milton Artur Ruiz, Natália A. Borges, Reijane Assis, Renata Kitazulo, Ricardo de Sá Bigni, Ricardo Chiattonne, Roberto Luiz da Silva, Rodolfo Calixto, Rodolfo Daniel de Almeida Soares, Roselene Passos, Thais Azevedo, Thiago Xavier, Vanessa dos Anjos Bovolenta, Vaneuza Araújo Moreira Funke, Vergílio Antônio Rensi Colturato, Vinícius Grilo, Virgilio da Costa Farnese, and Yana Novis.

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