



Call for Special Issue: “Contemporary Health Challenges in Rio de Janeiro and its Metropolitan Region”

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The city of Rio de Janeiro and its Metropolitan Region constitute an urban space marked by intense social, environmental, and territorial inequalities, which directly and complexly shape the health conditions of the population (Bortz *et al.*, 2015). The combination of high population density, socioeconomic heterogeneity, environmental degradation, climate change, challenges in the organization of health services, and accelerated urbanization processes imposes multiple obstacles to health promotion, disease prevention, and the guarantee of the right to health (Hone *et al.*, 2023). In recent decades, there has been growing academic and institutional interest in understanding health from a territorial perspective, recognizing that illness and care processes are profoundly influenced by the urban environment, living conditions, and socio-spatial dynamics. In the context of Rio de Janeiro, issues such as air pollution, urban heat islands, precarious sanitation, the circulation of infectious diseases, maternal and child vulnerabilities, and inequalities in access to health technologies highlight the need for interdisciplinary and context-sensitive approaches (Fernandez-Medina *et al.*, 2025; Collazo *et al.*, 2025; Teixeira, 2022; Leal, 2025).

Furthermore, the impacts of climate change, the persistence and reemergence of arboviruses, the lessons learned from the COVID-19 pandemic, and the advancement of digital and computational technologies applied to health reinforce the urgency of studies that articulate scientific production, innovation, and public policy (Fornazin; Rachid; Coelho Neto, 2022). In this scenario, the analysis of urban health in Rio de Janeiro and its Metropolitan Region becomes essential to support planning, management, and intervention strategies that engage with the complexity of the territory. This special dossier of the journal *Coleção Estudos Cariocas* aims to gather theoretical, methodological, and empirical contributions that address contemporary health challenges in Rio de Janeiro and its Metropolitan Region, emphasizing studies with an explicit territorial focus and interdisciplinary perspectives within the health sciences. We welcome original articles, theoretical essays, methodological analyses, and case studies that engage with the following thematic axes, among others:

- 1. Urban health, environment, and quality of life:** impacts of air pollution on health; urban heat islands and effects on morbidity and mortality; relationship between green areas, well-being, and mental health; sanitation, water, and health in urban and peri-urban areas; and climate change and health in the city of Rio de Janeiro.
- 2. Health surveillance and urban epidemiology:** infectious and neglected diseases in the urban context; arboviruses and environmental determinants in Rio de Janeiro and the RMRJ; territory-based epidemiological surveillance; use of georeferenced data

in public health; and lessons from the COVID-19 pandemic in the context of Rio de Janeiro.

3. Maternal and child health, from newborns to adolescence: maternal and infant mortality in Rio de Janeiro; care for high-risk newborns; child development and social inequalities; adolescent health in urban contexts; and care and monitoring technologies in maternal and child health.

4. Technologies, innovation, and health in the context of Rio de Janeiro: use of digital health technologies (applications, telemedicine, artificial intelligence); innovation within the SUS in Rio de Janeiro; computational analysis applied to health; assistive technologies and rehabilitation; and health technology assessment in urban contexts.

Although relevant research exists in the field of health, studies that articulate, in an integrated and territorialized manner, the environmental, social, epidemiological, and technological dimensions of health in Rio de Janeiro and its Metropolitan Region remain scarce. Gaps persist particularly in analyses sensitive to intra-urban inequalities, environmental transformations, and the use of new technologies in concrete life and care contexts. By bringing together investigations grounded in the territory of Rio de Janeiro, this dossier seeks to contribute to the strengthening of interdisciplinary approaches, in alignment with the mission of Estudos Cariocas to foster critical and qualified reflections on the contemporary challenges facing the city and its region.

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