

## SOCIAL INEQUALITIES IN CANCER INCIDENCE AND MORTALITY IN CAMPINAS, BRAZIL: A DECADE OF POPULATION-BASED REGISTRY DATA (2010-2019)

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### Description

The main strategy for fighting an enemy is to know him as well as possible. Know the number of its combatants, their geographical positions, their main targets, their strategies of action. Cancer is a major challenge for the Brazilian health system (but also worldwide) given its epidemiological, social, and economic complexity. The fight against cancer has as its main objectives the prevention of the emergence of new cases, early detection and assertive treatments to increase cure rates or years of survival with quality.

The Population-Based Cancer Registries (PBCR) are bodies created specifically to fulfill the mission of promoting statistical and epidemiological investigations of cancer. The main activities carried out by the registries are the systematized collection of data from every case diagnosed with invasive neoplasia in a given territory, consolidation and "cleaning" of the database, systematization and dissemination of information. The main information generated through data from a cancer registry are: most incident types, age groups and sex most affected by each type of neoplasm, patterns of disease incidence in different population groups, temporal differences in incidence in the same population, among others.

There are currently around 30 active registrations in Brazil. The National Cancer Institute, an agency linked to the Ministry of Health, is responsible for organizing and systematizing the work of the registries, qualifying the teams and offering technical support. In addition, using the data from the registries and applying appropriate statistics, it is possible to estimate the incidence of the main types of cancer for all states and capitals in Brazil. These estimates are widely disseminated to serve as a reference for planning and management, studies and research [1].

The collection of neoplasm cases from residents of Campinas is carried out in several public and private health institutions such as pathology laboratories, chemotherapy and radiotherapy clinics, clinical oncology clinics, hospitals, among others, which ensures a wide coverage of cases and enables reliable data and reliable information. In Campinas, Cancer is in the group of diseases of compulsory communication. The IARC an agency linked to the WHO, has among its attributions the evaluation of the quality of data from all registries in the world. IARC is responsible for producing epidemiological data on worldwide cancer incidence using data from registries classified as high quality after undergoing a careful evaluation that includes criteria of comparability, completeness, and accuracy of the data.

The data from PBCR Campinas, were included in Volume VII of IC5 which compiles cancer incidence data from 455 cancer registries, covering 588 populations in 70 countries. PBCR of Campinas is linked to two major world surveys. The first is the Cancer Risk in Childhood Cancer Survivors (CRICCS), focusing on childhood neoplasms. The second is a CONCORD survey now in its fourth edition, and is a worldwide surveillance program of trends in cancer survivorship, led by the London School of Hygiene & Cancer Tropical Medicine. The program is supported by 40 national and international agencies, including WHO EURO, OECD and the World Bank.

Global studies such as these are of paramount importance to verify the existing inequalities between developed countries and others and to propose strategies capable of reducing these inequalities. The use of reliable information in care planning actions has been shown to be increasingly essential. A cross-sectional analysis was conducted using data from the Population-Based Cancer Registry and the Mortality Information System for two periods: 2010–2014 and 2015–2019. Age-standardized incidence and mortality rates were estimated for the most frequent cancers among men and women and stratified according to levels of social vulnerability, based on the São Paulo Social Vulnerability Index. Social inequalities were assessed using rate ratios and the Relative Index of Inequality (RII).

Among men, incidence rates for prostate and stomach cancers declined, while mortality remained largely stable, with reductions observed only for stomach cancer [2]. Socially vulnerable men consistently experienced higher mortality from prostate, stomach, and oral cavity cancers, with widening disparities over time. Among women, incidence increased for breast and lung cancers, accompanied by rising overall mortality, particularly from lung cancer. Cervical cancer incidence and mortality remained persistently higher among socially vulnerable women, whereas breast cancer incidence was higher among less vulnerable groups. Inequalities in colorectal cancer incidence and mortality narrowed over time for both sexes.

The findings of our manuscript reinforce global evidence demonstrating the central role of social inequalities in shaping cancer burden. In this context, the availability of a consolidated Population-Based Cancer Registry (RCBP) with 10 consecutive years of high-quality data in Campinas is a critical asset, enabling continuous monitoring of cancer incidence, mortality, and social disparities. Such information is essential to guide oncology policy within Brazil's Public Health System (SUS) and to evaluate the impact of interventions aimed at reducing inequities. From the creation of educational and prevention campaigns to the allocation of human resources and the implementation of new technologies, actions tend to be more assertive if we have a panorama that clearly shows us the magnitude of the problem to be faced. Brazil should encourage all federated entities to create and maintain their population-based registries. Within this new policy to combat cancer, now law in the country, registries will certainly play a fundamental role.

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