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1137 – Spatial distribution of mammography units and demographic density in Goiânia: an ecological study

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Introduction: Breast cancer is the leading cause of morbidity and mortality among women, and early detection through mammography is essential to reduce deaths. The effectiveness of screening programs depends on equitable access to healthcare, which may be influenced by the spatial distribution of diagnostic resources, particularly in urban areas with sociodemographic inequalities.

Methods: This ecological study used secondary data from DATASUS and the Health Surveillance Agency. A total of 88 facilities with mammography units in Goiânia were identified. An active search, including telephone surveys, collected information on service provision, such as coverage by private insurance and the Unified Health System (SUS). Data were correlated with the geographic distribution of the city's regions to analyze spatial patterns. The protocol was registered in PROSPERO (CRD420261349401). The PICO model defined facilities as the population; service availability and spatial distribution as exposure; areas with different population densities as reference groups; and access measures and inequalities as outcomes.

Results: Mammography services were predominantly offered by the private sector, with limited participation from the SUS. Distribution was heterogeneous, concentrated in wealthier areas, with lower availability in high-density regions. Of 34 facilities identified in both databases, 20 performed mammography, privately or through insurance, without free SUS provision, though 8 offered discounts. Among 51 facilities identified only in DATASUS, 21 performed exams (18 via insurance, 18 private, 6 through SUS, 2 with discounts). Three facilities from Health Surveillance lacked available data.

Conclusion: There is an unequal distribution of mammography services in Goiânia, with predominance of the private sector and gaps in public coverage. These findings highlight the need for improvement in equitable access, aligning resource distribution with population density.

Ethics: Public data.

Registry: PROSPERO CRD420261349401.

Keywords: mammography; mass screening; health services accessibility; population density; geographic information Goiânia.