

PUBLIC SECTOR FINANCING AND EXPENDITURE ON MEDICATIONS. PANAMA 2007-2011.

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Background

The economic and financial challenges that burden the global economy hinder the goal of universal access to essential medications in numerous countries. From an economic and sanitary standpoint, there is a need to evaluate the effectiveness of financing mechanisms and the public sector's expense on medications. Some of the main issues faced by developing countries in this regard include the lack of integrated information systems, inadequate standardization of coding methodologies, and the use of outdated technologies. This problem is aggravated by insufficient training of the personnel in charge of keeping the records and ultimately results in ineffective planning and decision making by the sanitary authorities in those countries.

Objectives

To develop a financing and expenditure on medications information system for Panama's public health institutions: the Ministry of Health (MINSa) and the Social Security (CSS), during the period 2007-2011.

Materials and Methods

A database incorporating information of MINSa and CSS institutions by level of care was created. Economic and ATC (Anatomical, Therapeutic, Chemical Classification System) variables of the medications were registered. Data from the Vital Facts Registry 2001-2010, National Census 2010, Household Income and Expense 2007 survey, statistics from the Ministry of Health, and reports on the medication's price increases published by the Consumer Protection and Competition Authority were also included in the analysis. A self-organizing map (SOM) was applied to the CSS and MINSa medication expenditure databases. Geographic Information Technologies were used and results were presented in a webmap format.

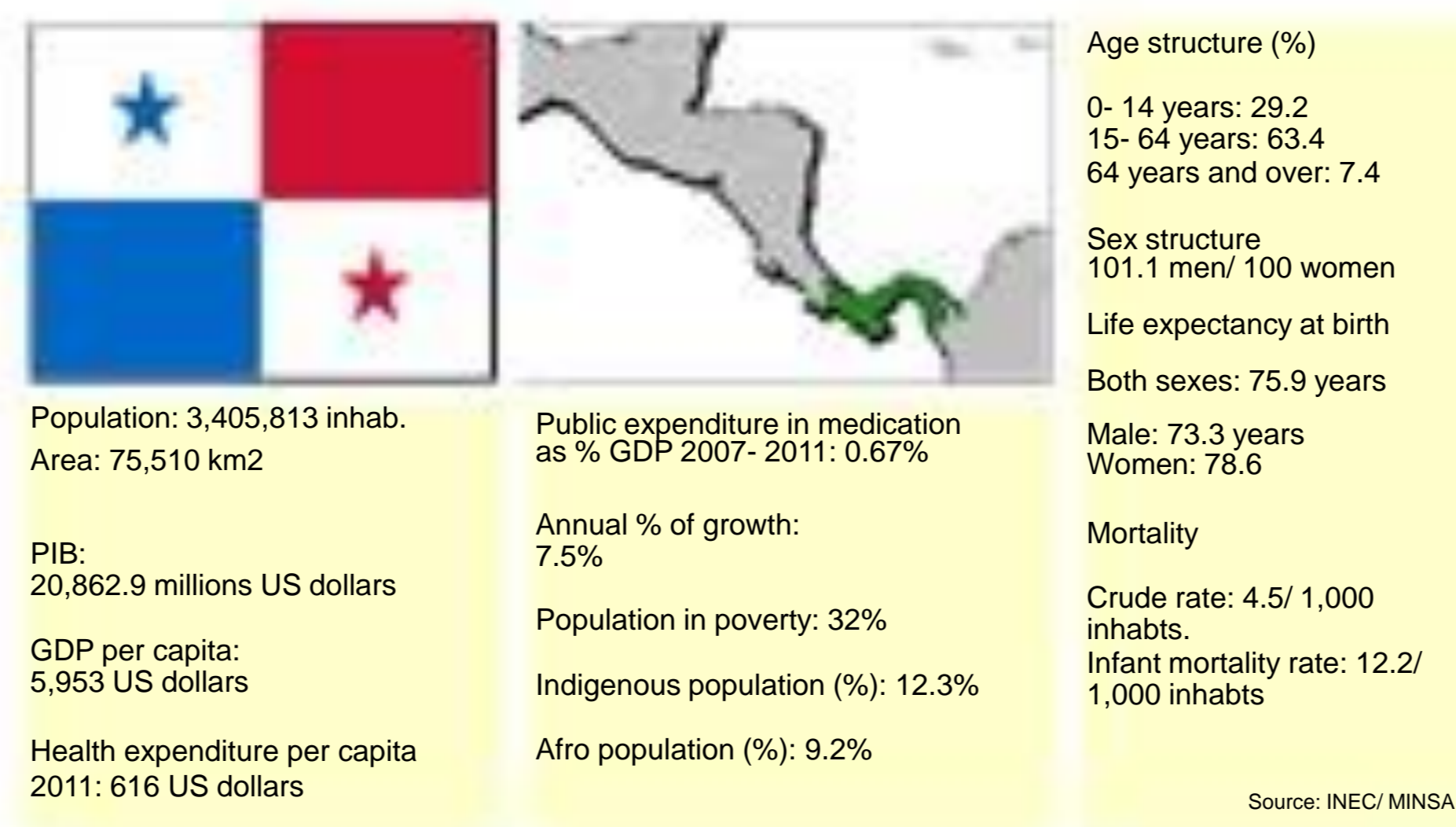
Results

An increase in Panama's public sector medication expenditure was observed, from US\$ 101.6 million in 2007 to US\$ 176.8 million in 2011. The groups of medications representing the greatest expense (millions of US\$) in descending order include: antineoplastic and immunologic agents US\$ 134.3, systemic anti-infectives US\$ 85.9, blood and blood derivatives US\$ 71.3, and cardiovascular drugs US\$ 64.6 million. The six specialized national hospitals had a total medication expense of US\$ 249.5 millions, which was higher than the rest of the country's public health network. Spending on vaccines increased, a fact which can be explained by the inclusion of new vaccines in the vaccination schemes. SOM analysis revealed that the CSS segment corresponding to the Metropolitan Hospital was composed of specialized and costly medication purchases, in contrast to MINSa, CSS regional hospitals, and CSS polyclinics who appeared to be more focused on chronic and infectious diseases. The per capita medication expense was greater in areas with more urban development. This suggests that national hospitals, which are located in the metropolitan area, are concentrating specialized healthcare versus regional hospitals.

Conclusions

The reasons that may explain the increase in the public sector's medication expenditure include: an increase in life expectancy, the epidemiologic profile of the country, the expanded health coverage of the CSS, the public sector's organizational model for the provision of health services, and asymmetries in the national market. The State should develop national medication accounts, which would allow a better understanding of how the expenditure is structured; evaluate alternatives for optimizing medication expense; and improve the social and geographic access to medications.

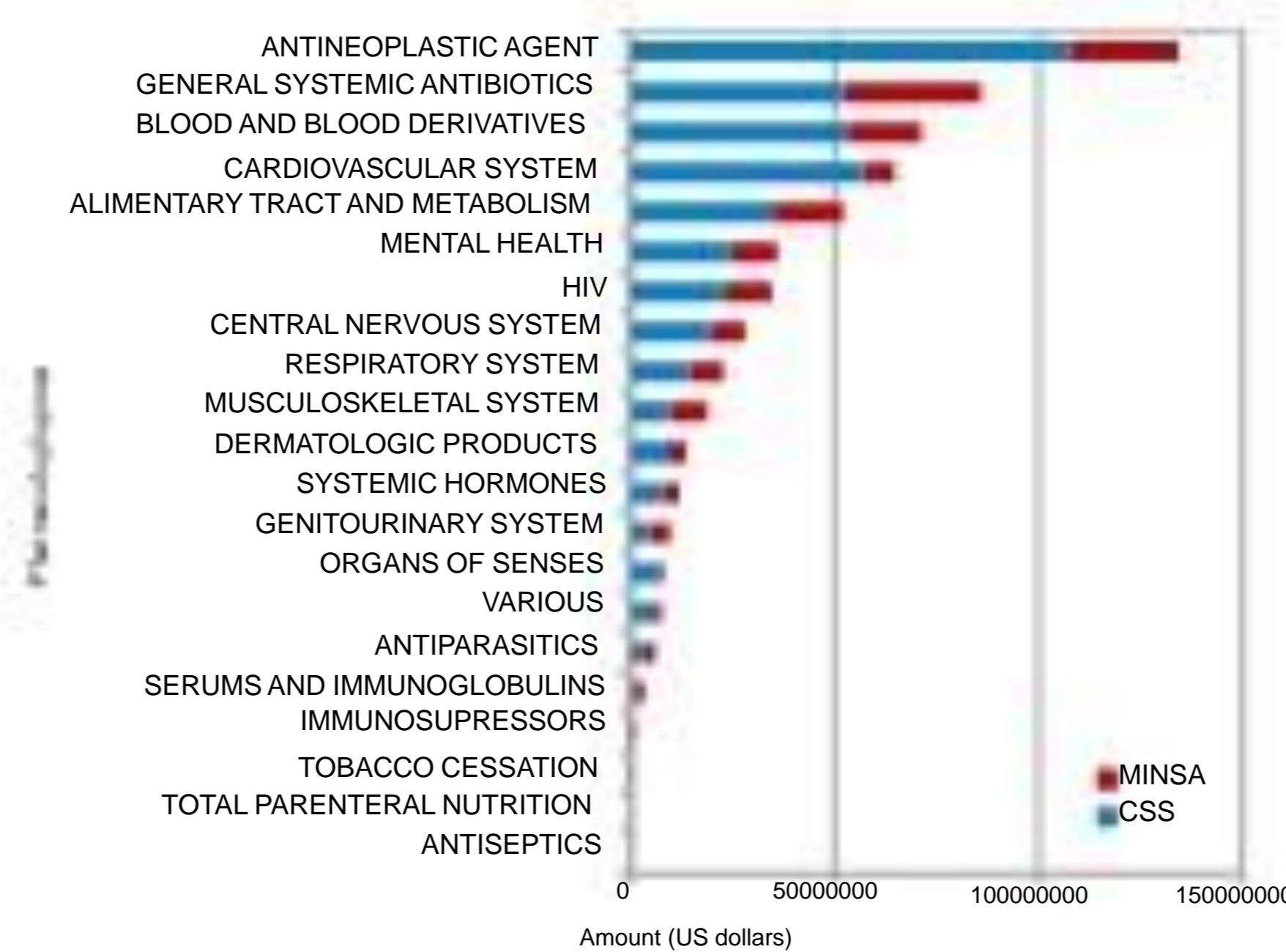
Economic, Social, and Health Indicators of the Republic of Panama. 2010.



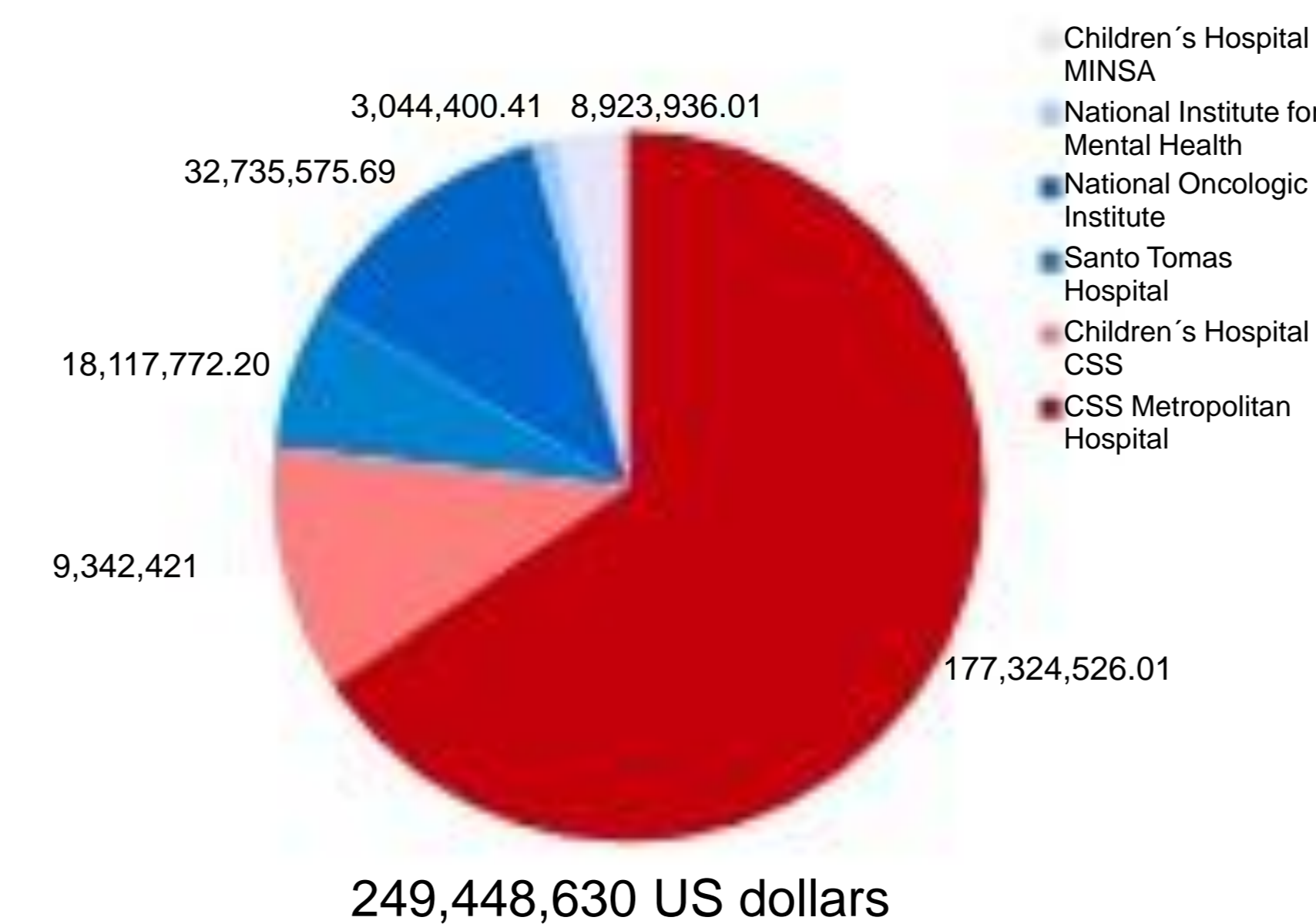
Organization of Health Facilities. Attention and Complexity levels.



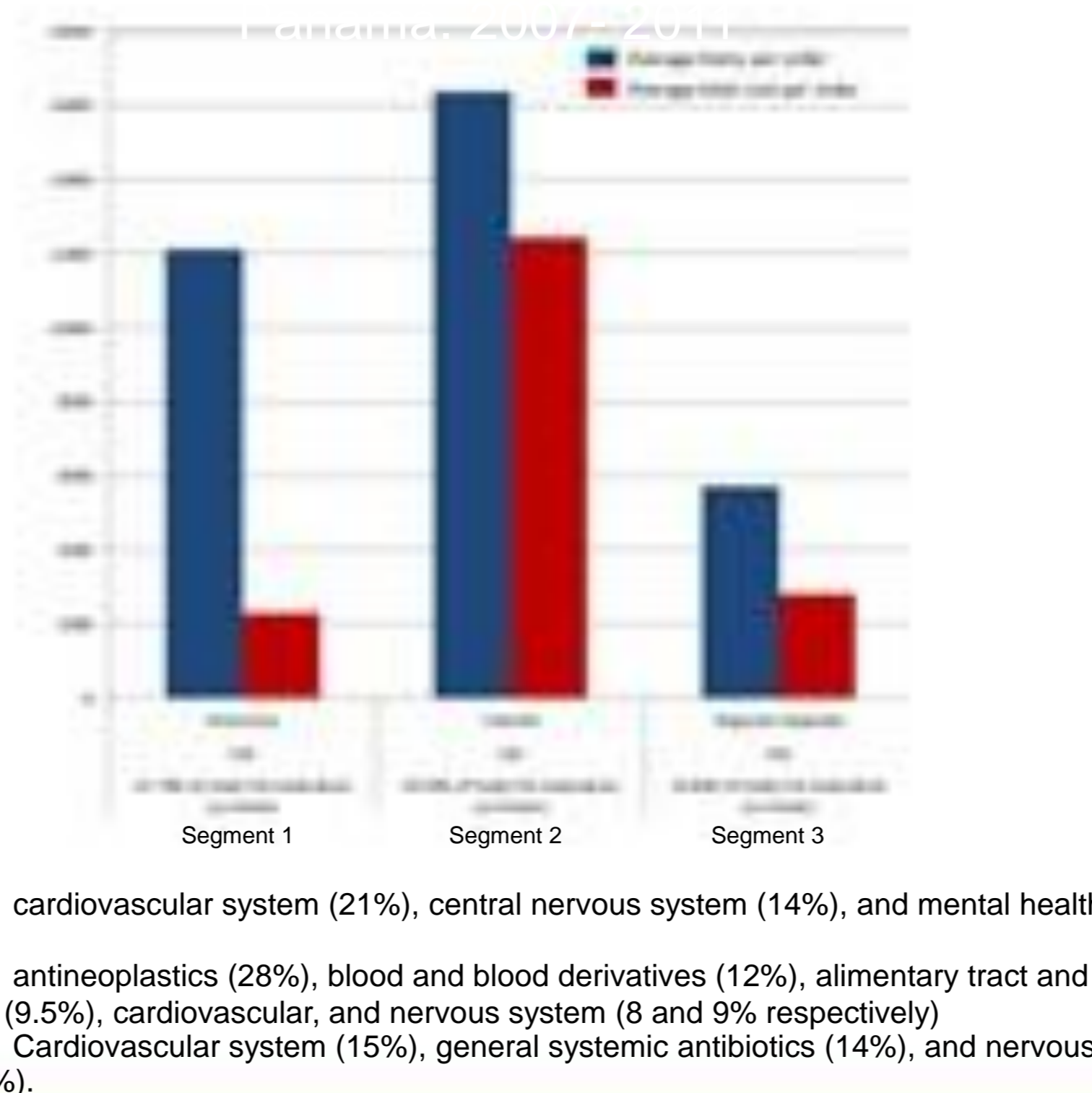
Global Medication Expense in Public Health Institutions (MINSa - CSS) by Pharmacologic Group. Panama. 2007-2011.



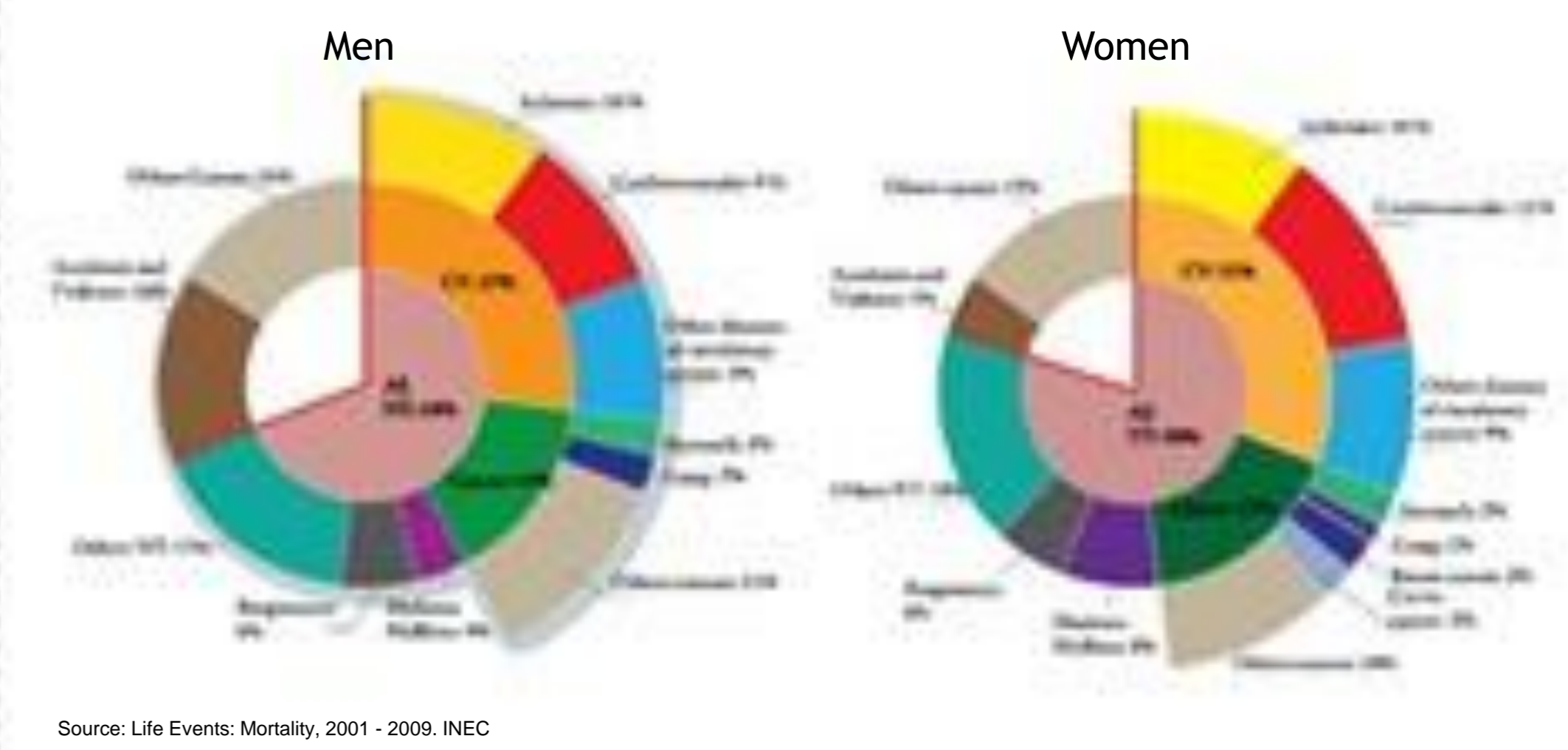
Medication Expenditure in National Hospitals of CSS and MINSa. Panama. 2007- 2011



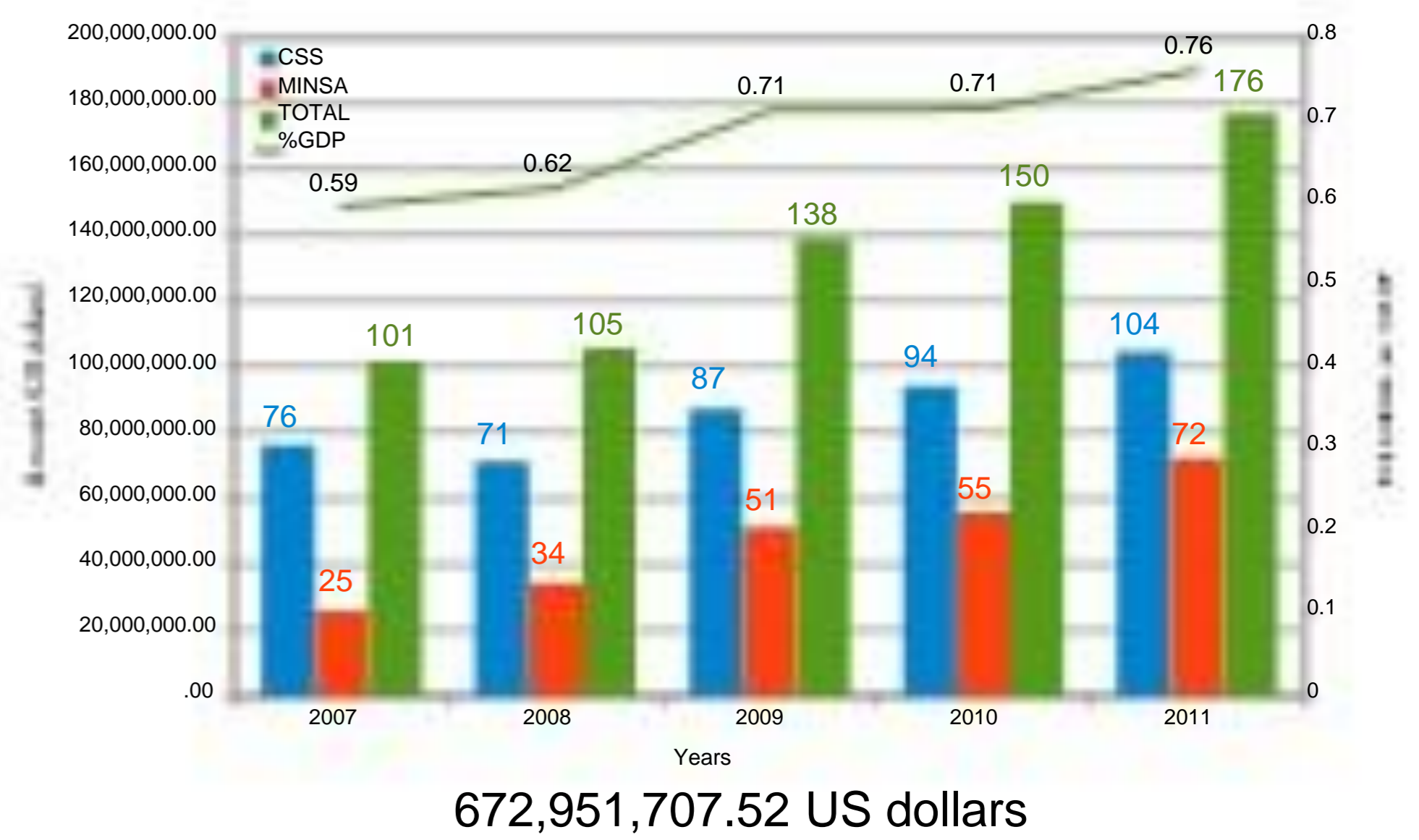
Principal Medication Expense Segments in CSS. 2007- 2011. Self Organizing Map Analysis



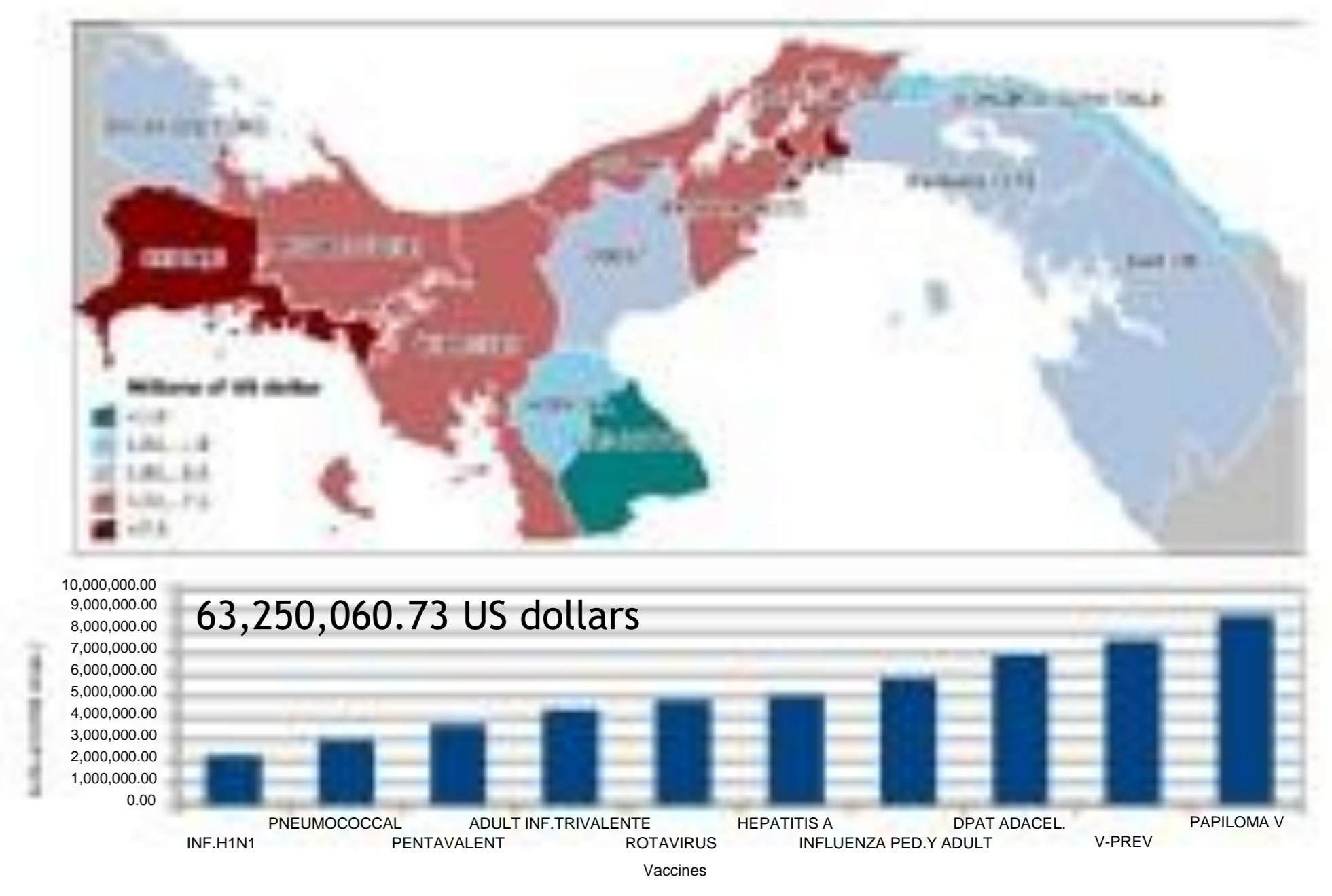
Estimated Proportional Mortality by Major Causes of Death in Panama According to Gender, 2001-2009.



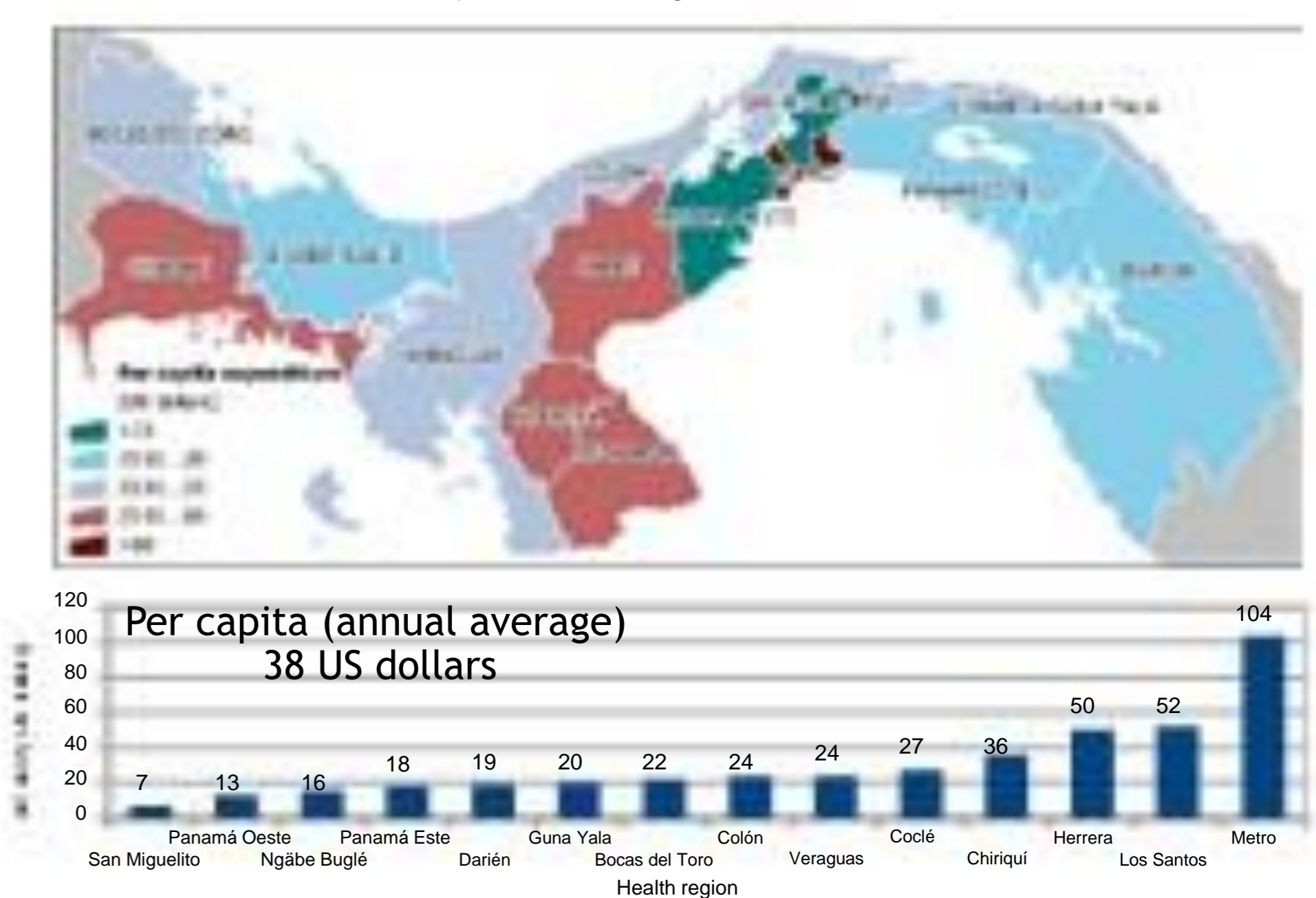
Global Medication Expense in Public Health Institutions (MINSa - CSS) and as % GDP. Panama. 2007-2011.



Vaccine Expenditure by Health Region and by the 10 Vaccines of Greatest Expense. Panama. 2007-2011.



Per Capita Medication Expenditure of Health Institutions (MINSa-CSS) by Health Region. Panama. 2007-2011.



Principal Medication Expense Segments in MINSa. 2007-2011. Self Organizing Map Analysis

