

Comparison of the mortality caused by Cerebrovascular disease and Ischemic heart disease in Panama from 2001 to 2009, its relationship to gender and cardiovascular risk factors

Jorge Motta¹, Carlos Gordón¹, Beatriz Gómez¹, Eva Castillo¹, Víctor Herrera Ballesteros¹

¹Instituto Conmemorativo Gorgas de Estudios de la Salud

INTRODUCTION:

Cerebrovascular disease (CVD) and ischemic heart disease (IHD) are among the top 5 leading causes of death in the Republic of Panama. Despite this, little information is available about mortality trends and the relation between mortality by these diseases and their risk factors.

OBJECTIVES:

To characterize mortality trends of CVD and IHD in Panama and their relationship to biological and socioeconomic risk factors.

MATERIALS AND METHODS:

The methodology involved compilation and analysis of data from the National Quality of Life and Health, and Living Standards Survey obtained in a sample of 25,748 individuals, data from the National Population Census of 2000 and 2010 and the National Registries of mortality from all causes for the years 2001 to 2009. Mortality trends were analyzed monthly, using a first-order autoregressive model generated with the software ECOTRIM 10.1 version.

We generated indicators of crude, adjusted and specific rates of mortality from CVD and IHD. We then compared these rates with the prevalence of biological and socioeconomic risk factors at provincial, district and county levels. We derived regression coefficients from multivariate analysis of biologic and socioeconomic factors known to be related to the risk of dying from CVD and IHD.

We summarized in maps, using a composite health index, the principal components of the factorial analyses. In the maps, biological factors are displayed by districts, and socioeconomic factors by counties. The stacked column charts represent the proportional contribution of different risks factors to the crude mortality rate by province.

RESULTS:

In the study period CVD was the cause of 9% of all mortality in men and 10% of all mortality in women. For IHD caused 12% of all mortality in men and 10% of all mortality in women.

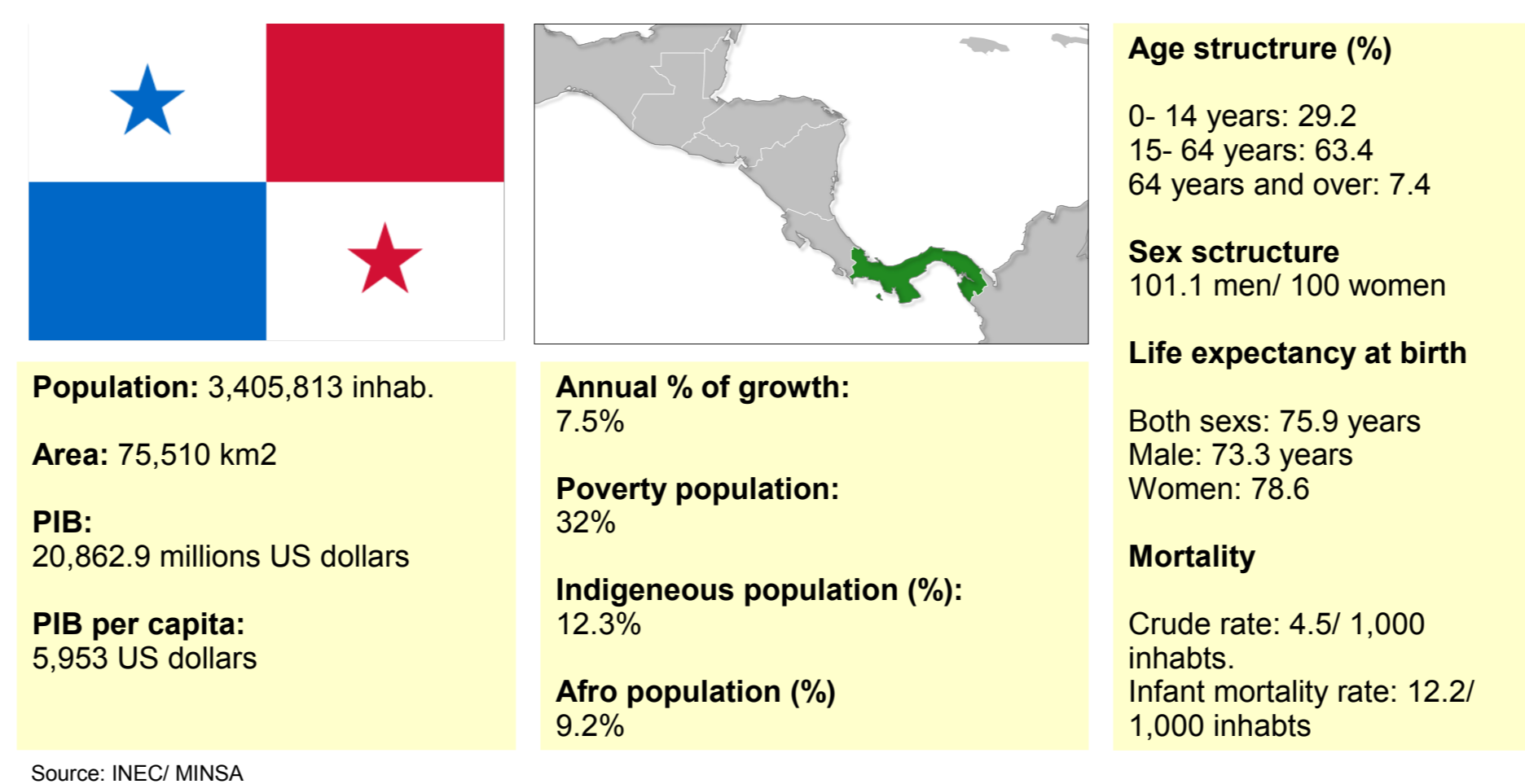
The crude and age adjusted death rates from CVD for 2001-2009 tended to decrease while the death rates for IHD showed a minimal increase. Males had a higher mortality rate than females in CVD and IHD. But the mortality rate gap was less for CVD than for IHD.

Mortality rates for CVD and IHD were higher in urban areas. Biological risk factors had a greater influence in the mortality rate of both diseases in urban and more developed districts. Socioeconomic risk factors had a greater influence in the mortality rate of these diseases in rural and less developed counties.

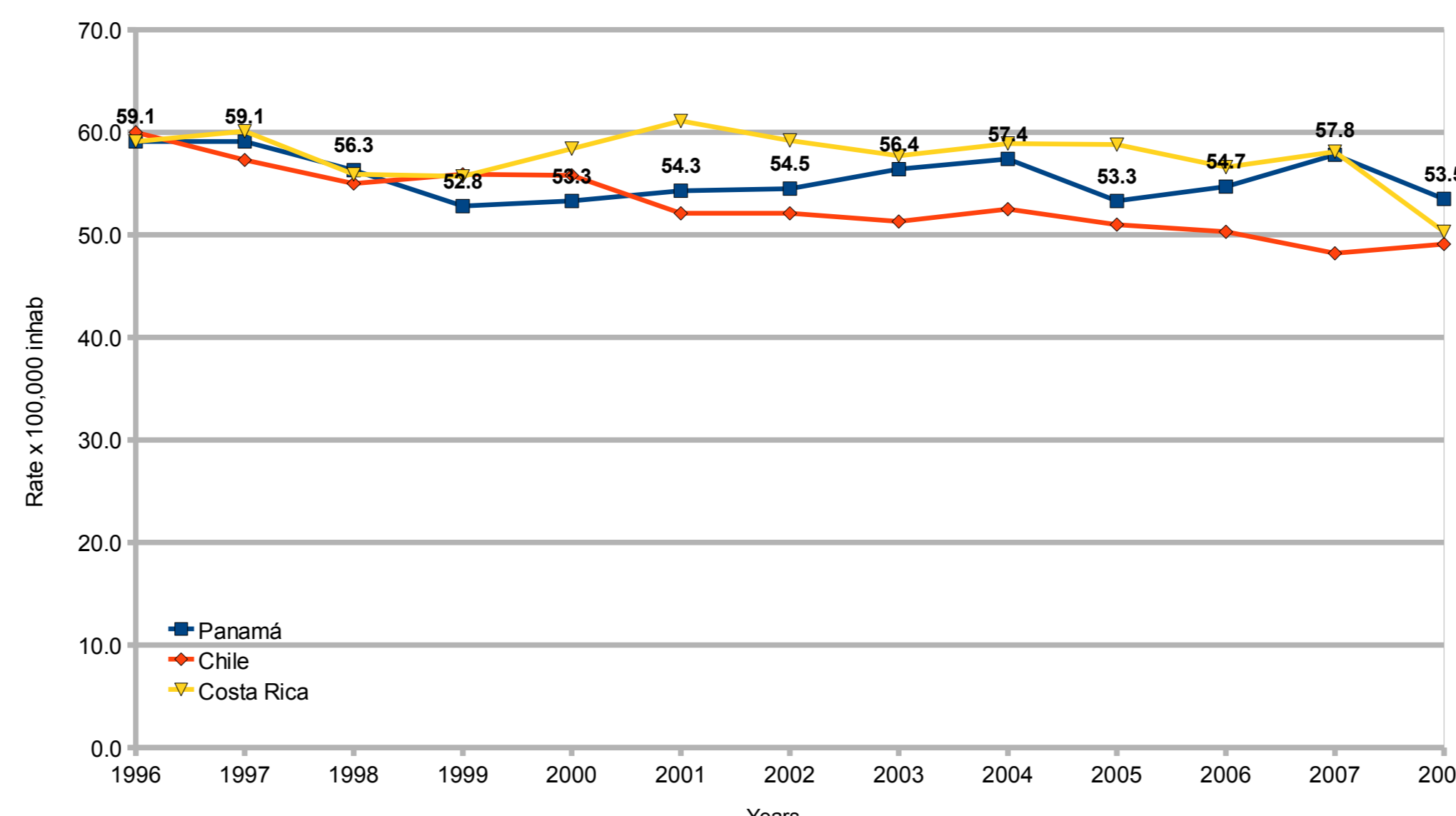
CONCLUSIONS

In Panama, during the years 2001 - 2009, crude mortality rates for CVD decreased, while crude mortality rates for IHD remained unchanged. We have no explanation for the secular trends observed given the absence of a specific national strategy for control of CVD.

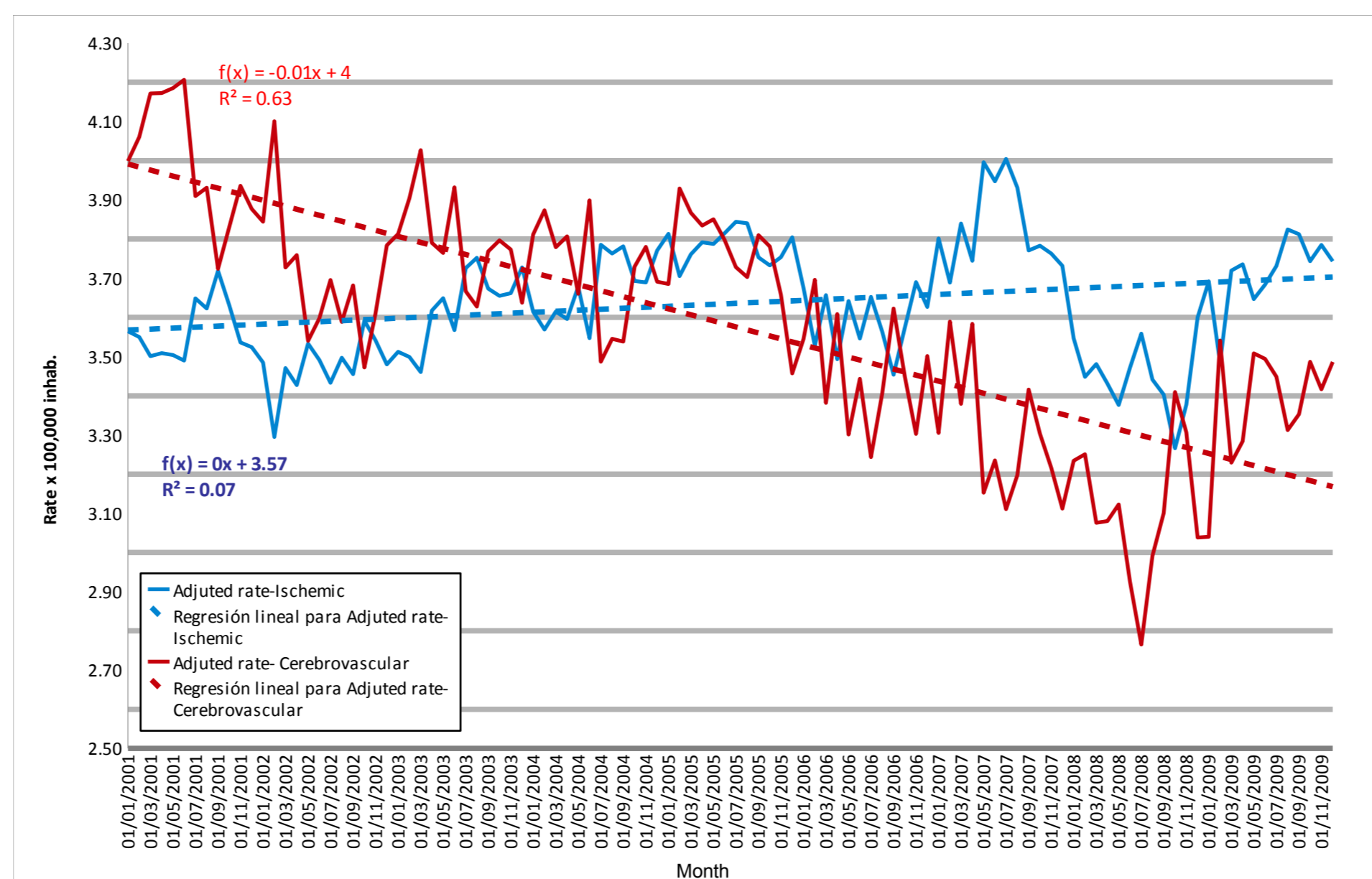
Economic, Social and Health Indicators of Republic of Panama. 2010.



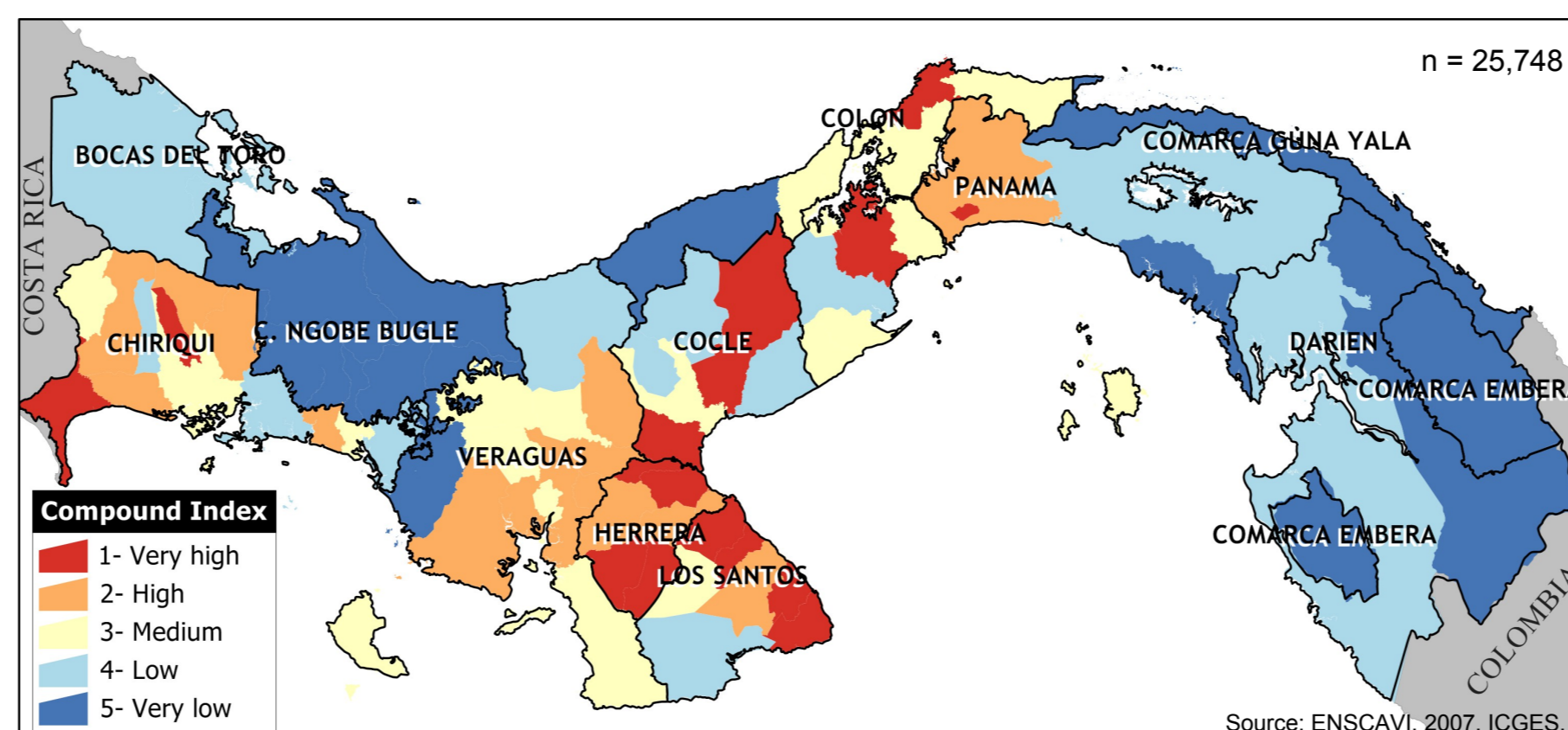
Estimated mortality rate for ischemic heart disease (ICD/10: I20-I25) in Panama and other selected countries, 1996-2008.



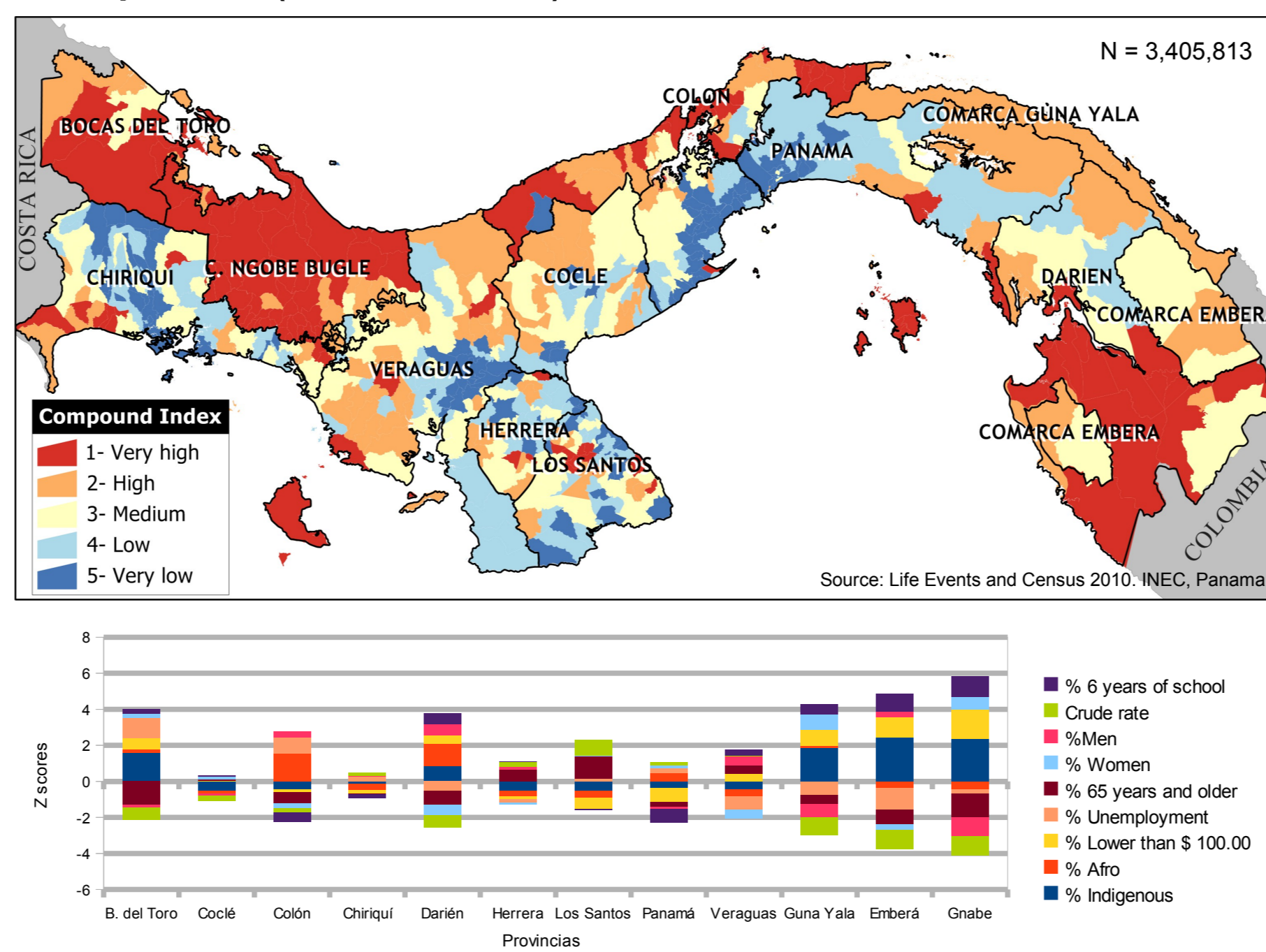
Adjusted monthly mortality rate for ischemic heart disease (ICD/10: I20-I25) and cerebrovascular disease (ICD 10: I60-I69) by sex and age groups. Panama. 2001 to 2009.



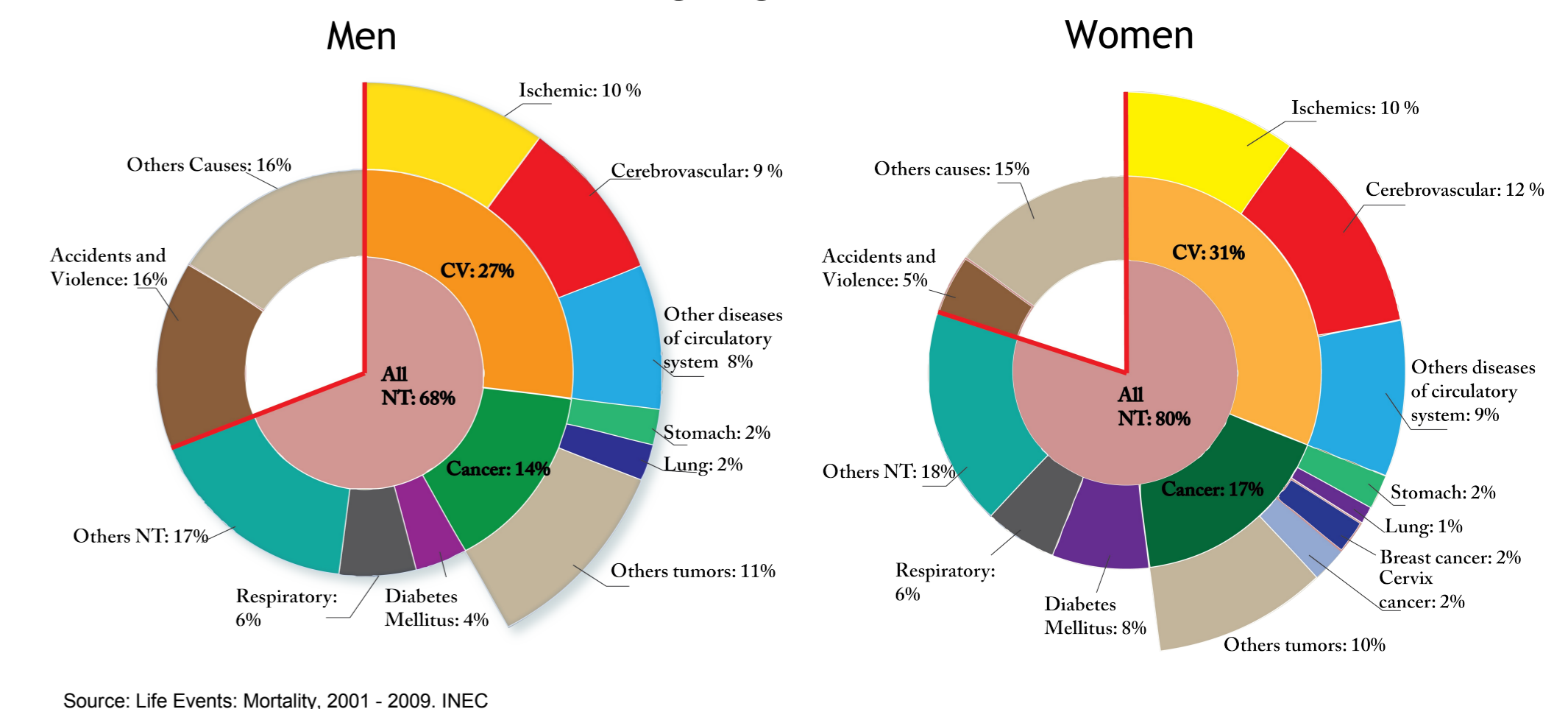
Composite index of biological risks factors and mortality for ischemic heart disease, coronary disease, acute coronary syndrome and angina pectoris (ICD/10: I20-I25), by district. Panama. 2001 to 2009.



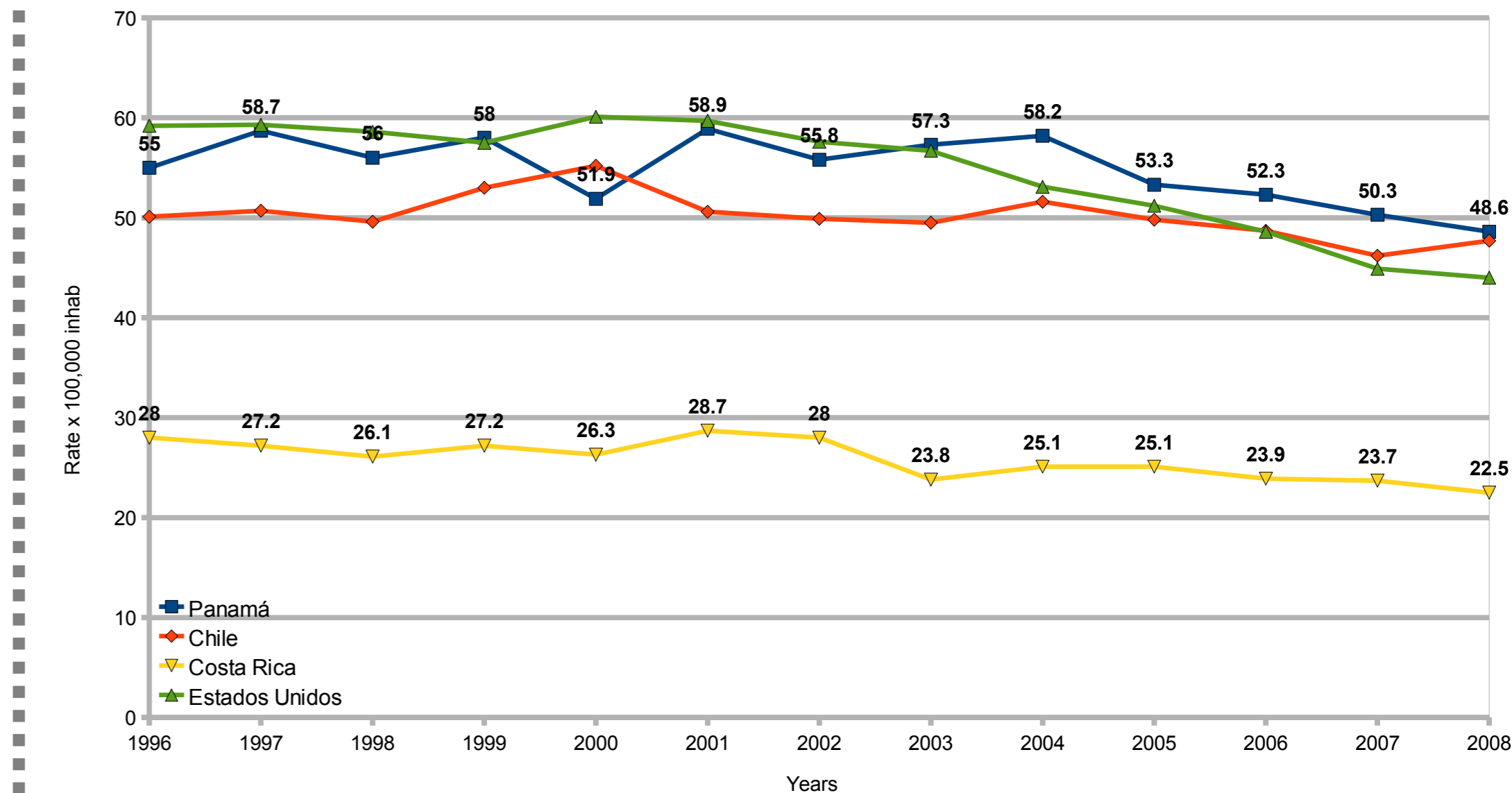
Composite index of socioeconomic determinants and mortality for ischemic heart disease, coronary disease, acute coronary syndrome and angina pectoris (ICD/10: I20-I25) as counties. Panama. 2001 to 2009.



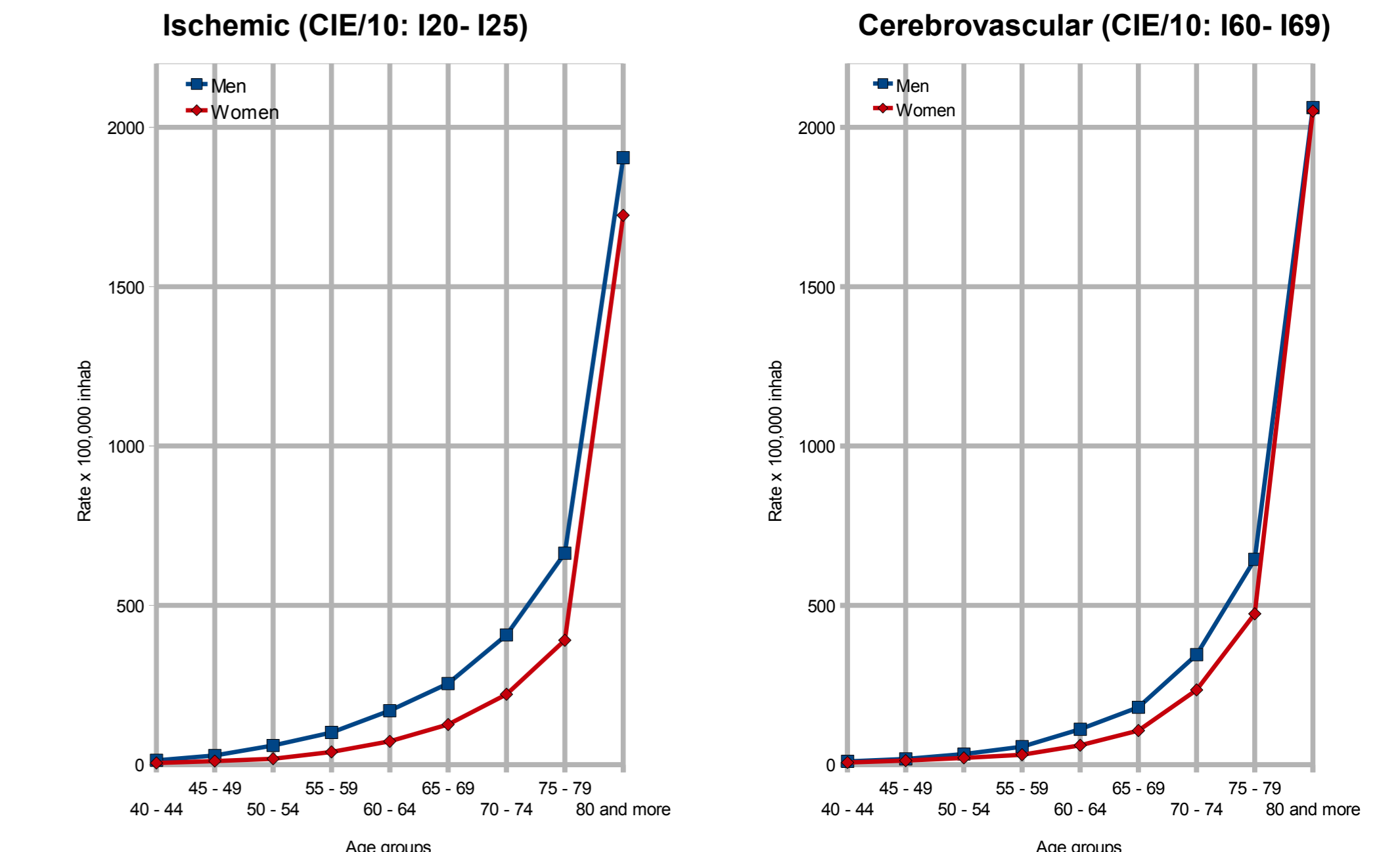
Estimated proportional mortality by major causes of death in Panama according to gender, 2001-2009.



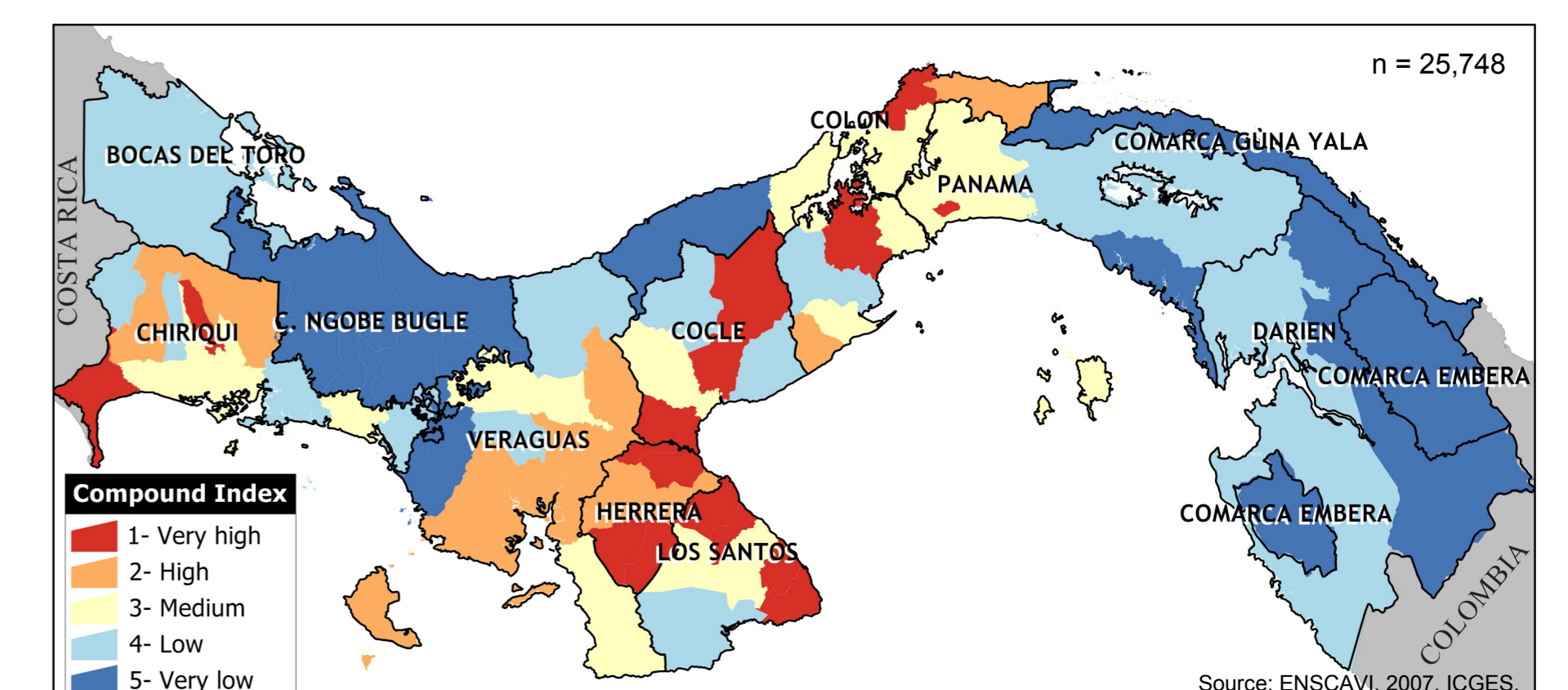
Estimated mortality rate for cerebrovascular disease (ICD/10: I60-I69) in Panama and other selected countries, 1996-2008.



Specific mortality rate for ischemic heart disease (ICD/10: I20-I25) and cerebrovascular disease (ICD 10: I60-I69) by sex and age groups. Panama. 2001 to 2009.



Composite index of biological risks factors and mortality for cerebrovascular disease (ICD/10: I60-I69), by district. Panama. 2001 to 2009.



Composite index of socioeconomic determinants and mortality for cerebrovascular disease (ICD/10: I60-I69) as counties. Panama. 2001 to 2009.

