

Impact of the prohibition of smoking in enclosed spaces on hospital admissions for acute myocardial infarction. Panama. 2011

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INTRODUCTION

There are many reports around the world of a decrease in the number of admissions for cardiac events and of improvements in some health indicators, after smoking bans have been implemented. On January 25th 2008, Panama implemented the 13th law, which totally banned consumption of tobacco products in public and other specific areas. However, there has been no scientific assessment of the impact of this legislation in Panamanians' health.

OBJECTIVES

To provide a preliminary report on the findings of hospital admission rates for acute myocardial infarction (AMI) in individuals over 20 years of age in Panama, during the 2006-2010 period.

MATERIALS AND METHODS

A retrospective study was designed which reviewed the medical records of patients admitted in 16 public hospitals of the country with a diagnosis of AMI, in a 24 month period before and a 24 month period after the implementation of the legislation.

The universe of the study consisted of all patients diagnosed with AMI (I21.0-I21.9) during the 2006-2010 period. The estimated sample was of 4 600 AMI admissions. The inclusion criterion was patients over 20 years of age admitted with a diagnosis of AMI (I21.0-I21.9). Patients in which AMI was a secondary diagnosis were excluded.

The data was presented as an age adjusted rate of cases of AMI per 100 000 individuals of over 20 years of age. Subgroup analyses were performed on smokers, non smokers, patients under 45 years, patients 45 years and older, obese and non obese. Seasonal patterns were generated by calculating a monthly mortality time series for the period 2006 to 2010, and its components were decomposed into a twelve-month period using a moving average technique.

RESULTS

Up to this point, we have registered 1964 cases, representing 42.7% of the total study sample. This preliminary data is primarily composed of males (63.1%), with a median age of 66 (57 – 76) years. There were 116 (5.9%) patients under 45 years of age. The smoking prevalence was 37.7% in the group of patients under 45 years of age, and 32.6% overall.

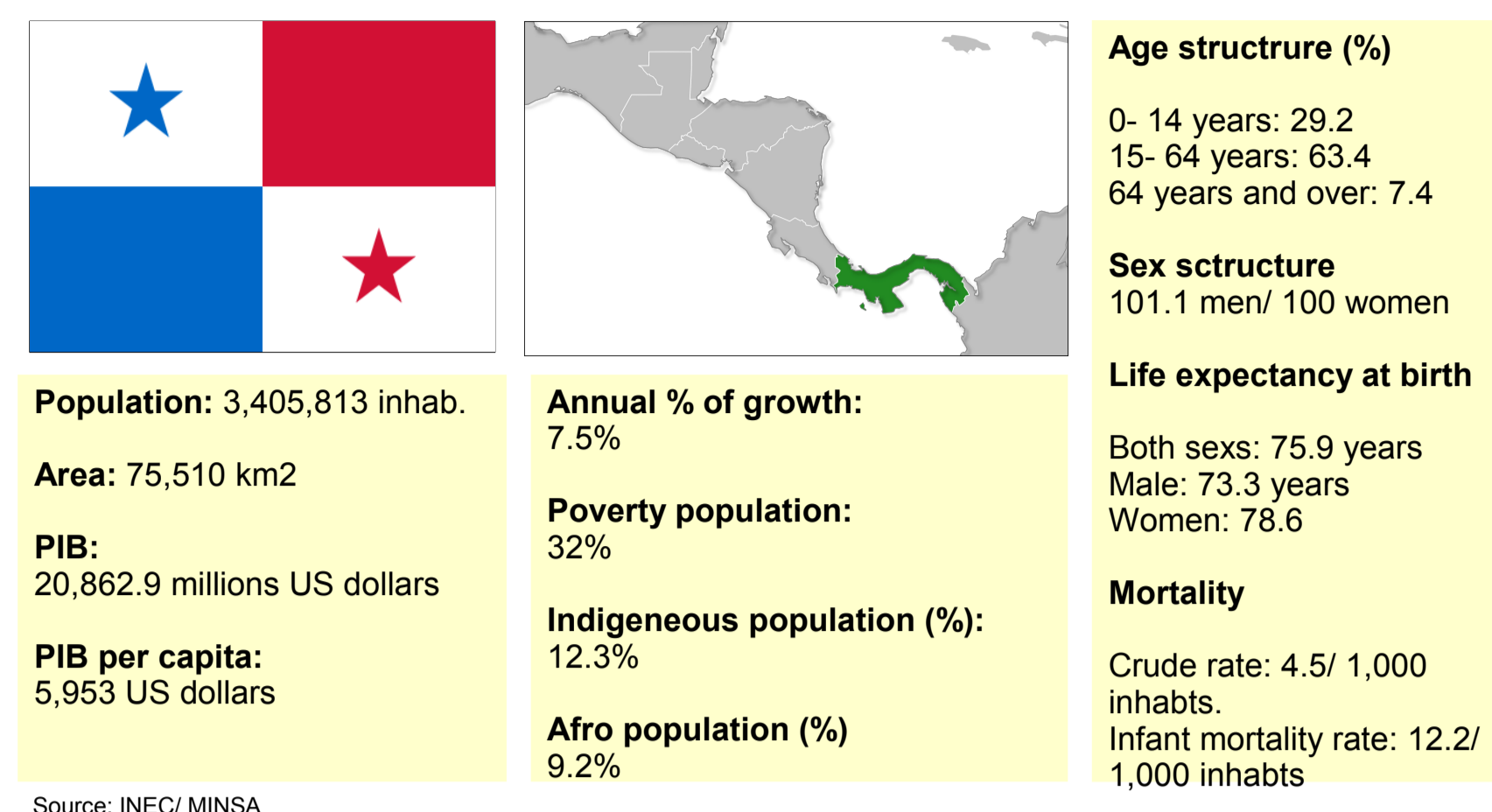
The year 2009 had the highest number of AMI admissions in the study period, with 443 (22.8%) admissions. Our preliminary data shows a tendency towards increasing absolute numbers of AMI admissions. However, there appears to be a tendency towards decreasing rates of hospital admissions of AMI cases in patients 20 years and older, in the 2006-2010 period.

A seasonal pattern in the AMI hospital admissions during the 2006-2010 period was observed. This appears to be similar to the seasonal pattern of AMI and ischemic heart disease (IHD) mortality in Panama, during the period of 2001-2009.

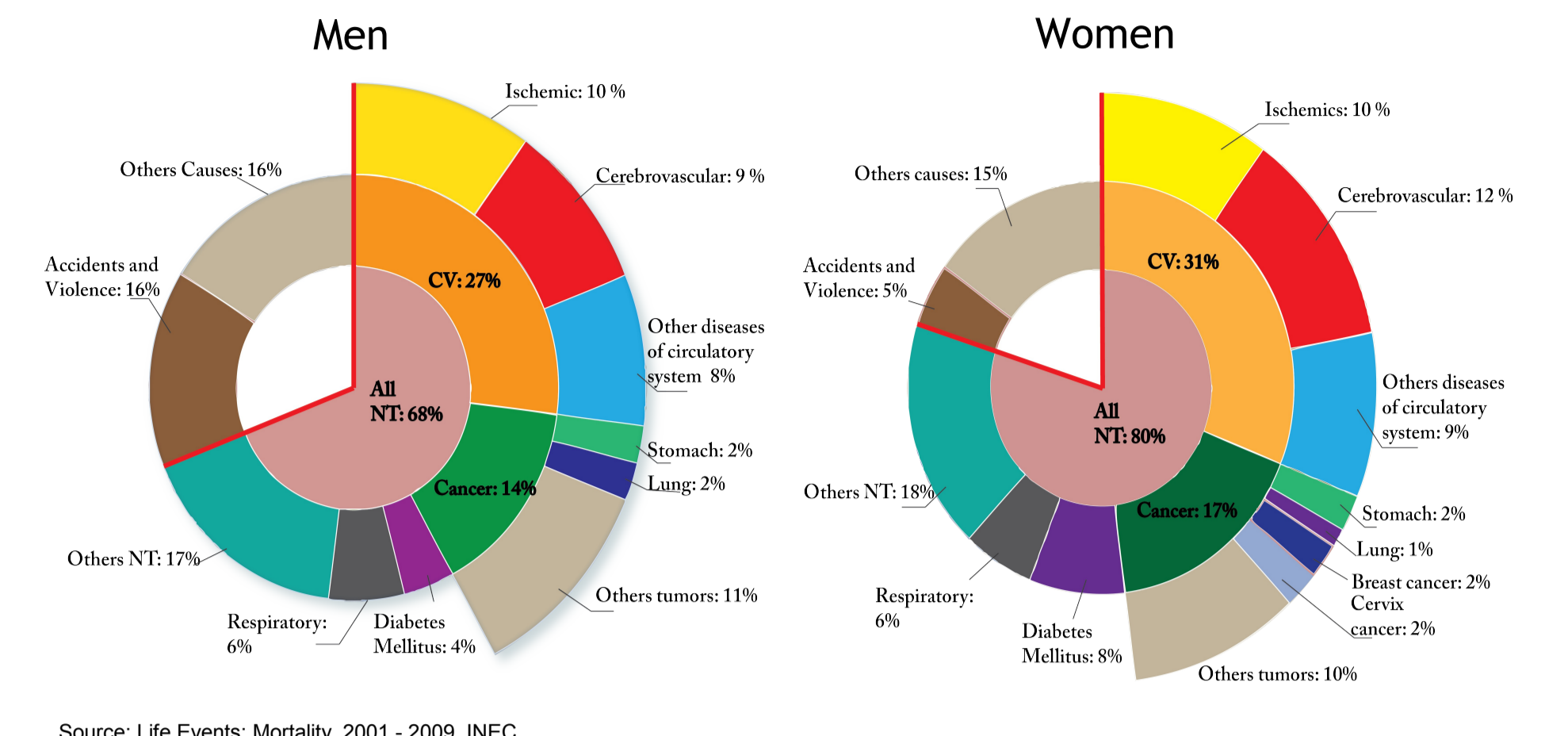
CONCLUSIONS

Our preliminary data suggests there is a tendency towards decreasing rates of hospital admissions of AMI cases in patients 20 years and older. It also appears that AMI hospital admissions cases have a seasonal pattern. The process of registering cases is still ongoing and the current results probably do not reflect the trends that may appear in the final analysis. Study limitations at this point include insufficient cases, primarily due to inadequate medical information systems in Panama's public hospitals.

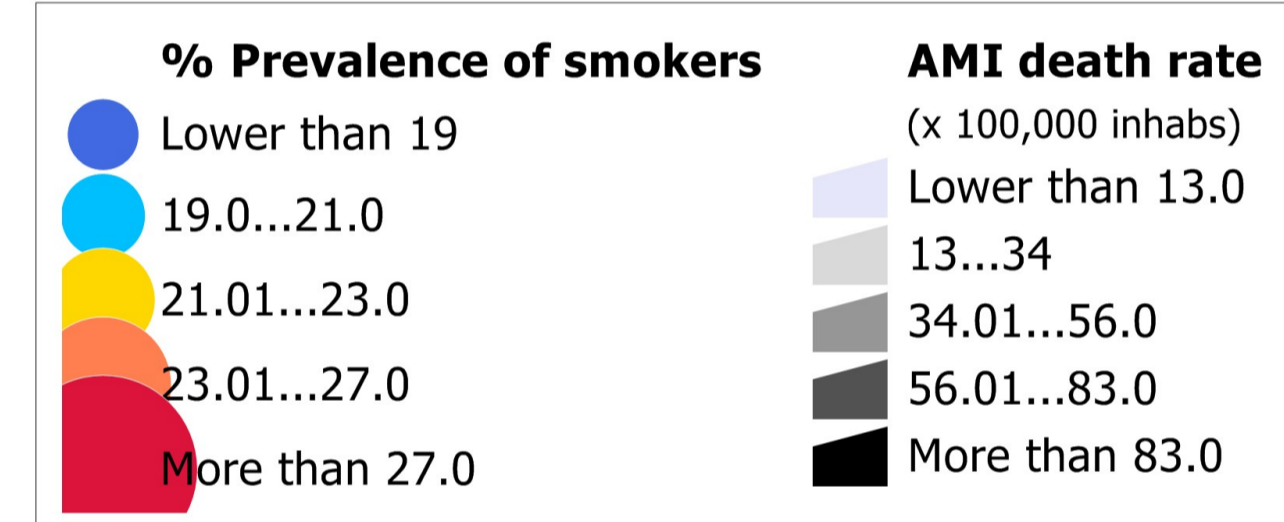
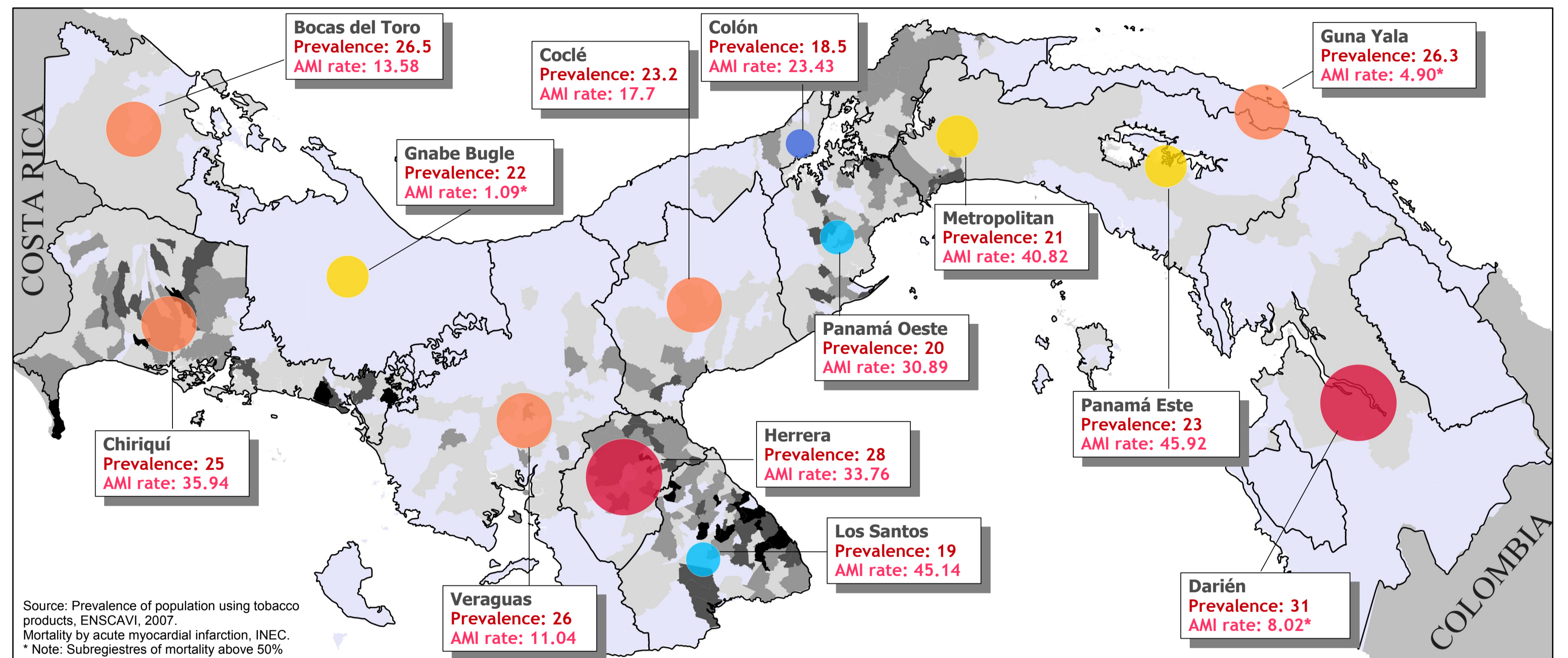
Economic, Social and Health Indicators of Republic of Panama. 2010.



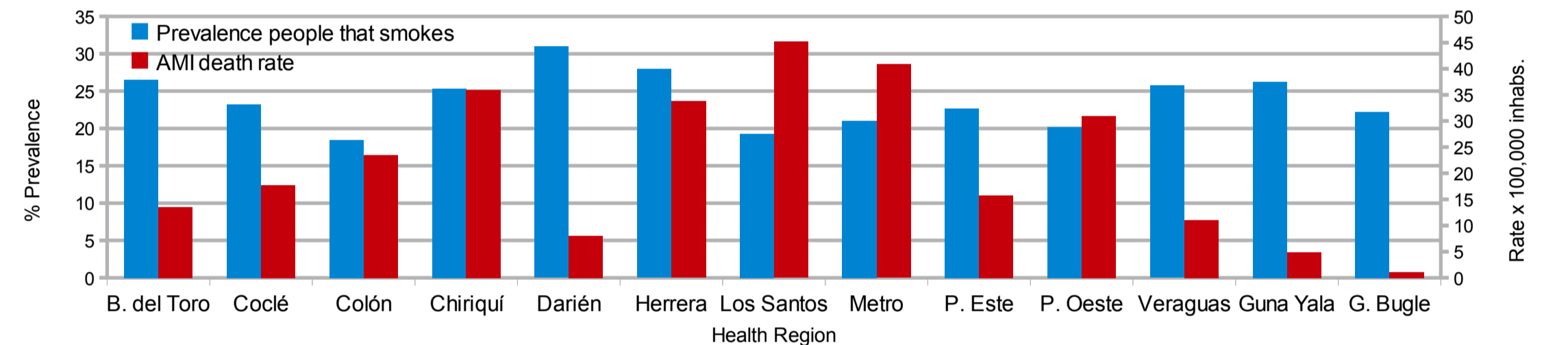
Estimated proportional mortality by major causes of death in Panama according to gender, 2001-2009.



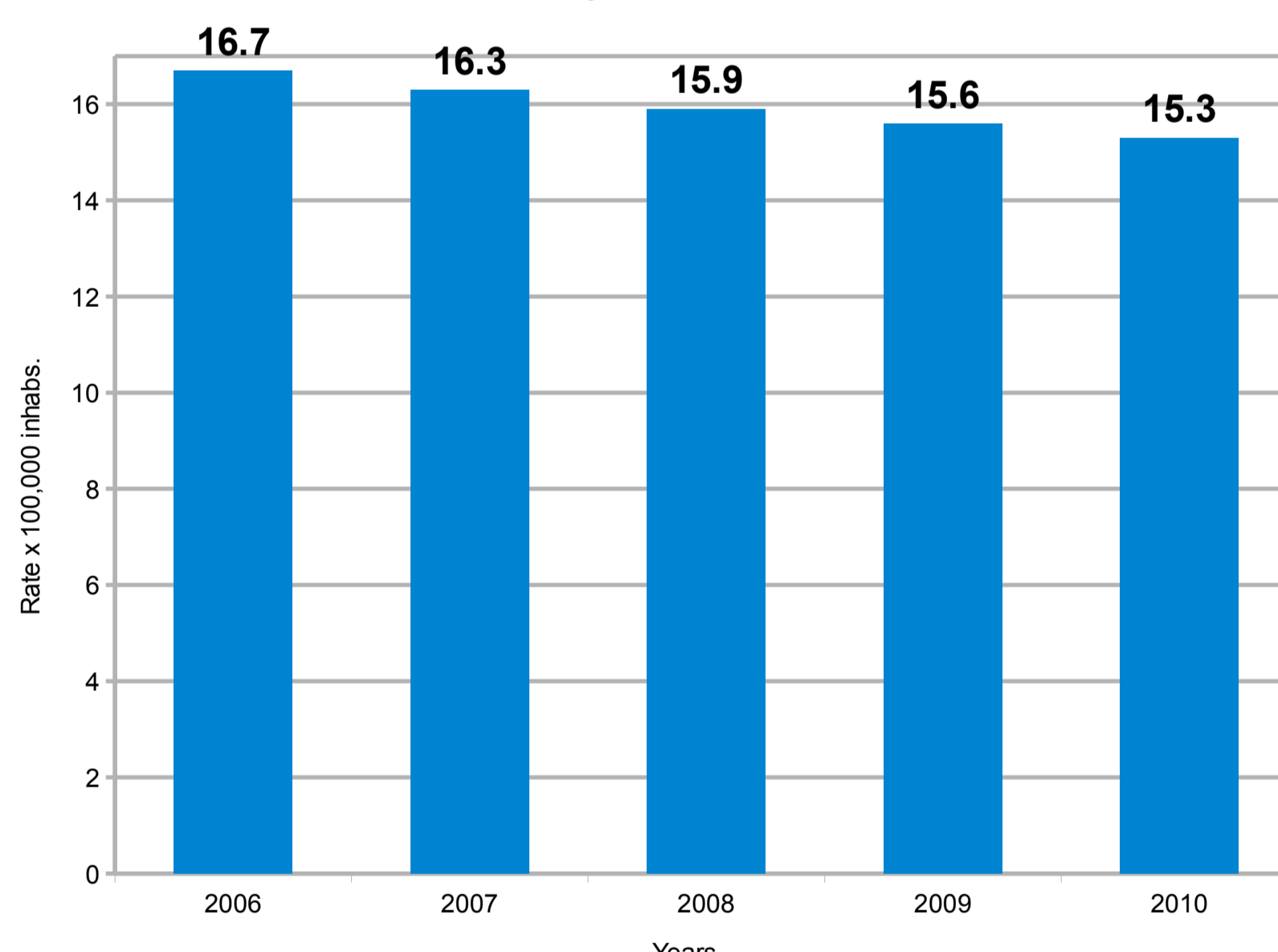
Life prevalence in population (%) used products of tobacco (2007) and Mortality crude rate by acute myocardial infarction (ICD 10: I21) in health regions and counties respectively. Panama. 2001- 2009



Life prevalence of people using tobacco products and mortality by acute myocardial infarction (ICD 10: I21) by health regions. Panama. 2001- 2010

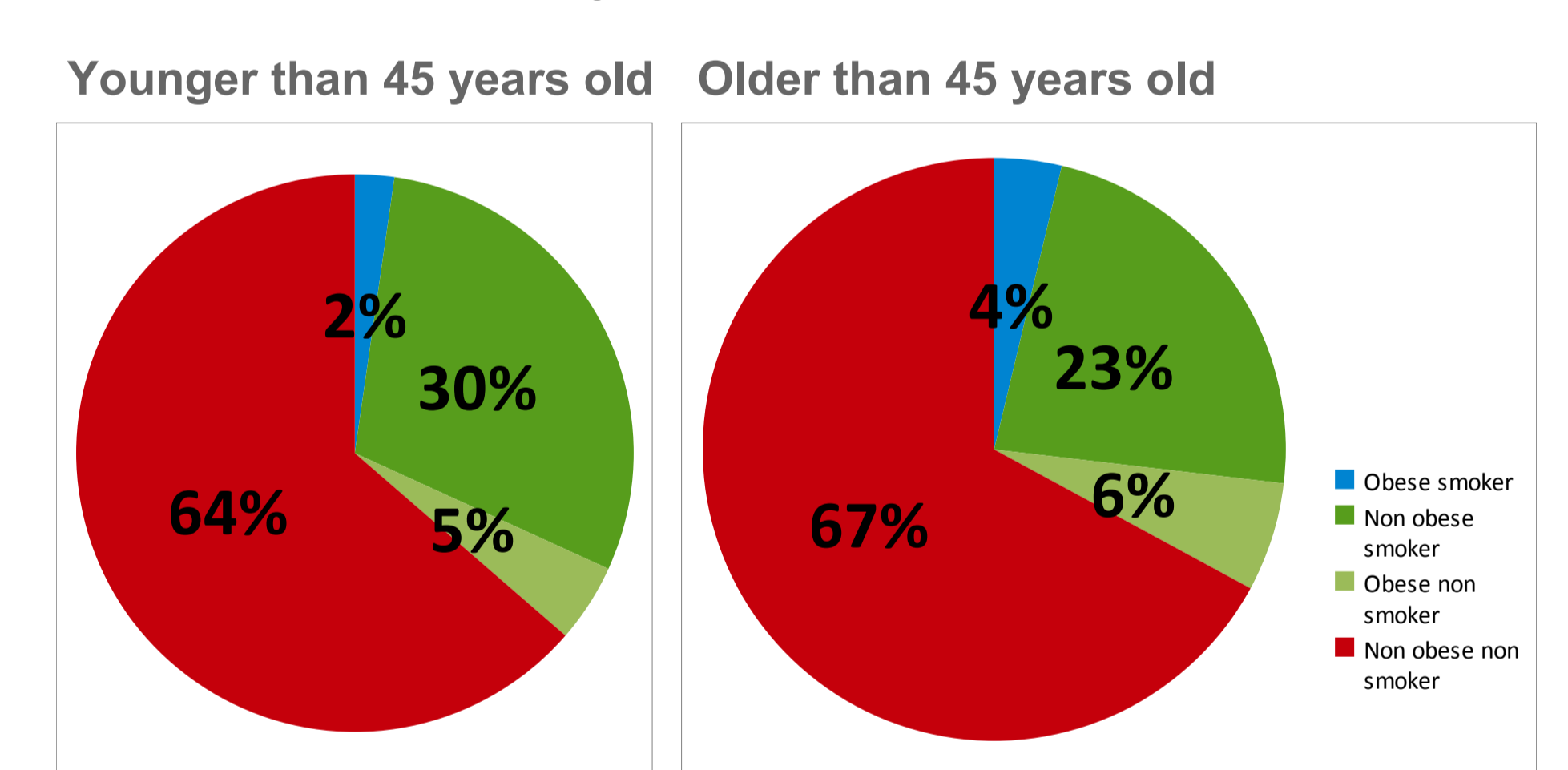


Hospital admissions of patients of 20 years and older with acute myocardial infarction (ICD/10: I21) treated at the public health system. Panama. 2006 - 2010



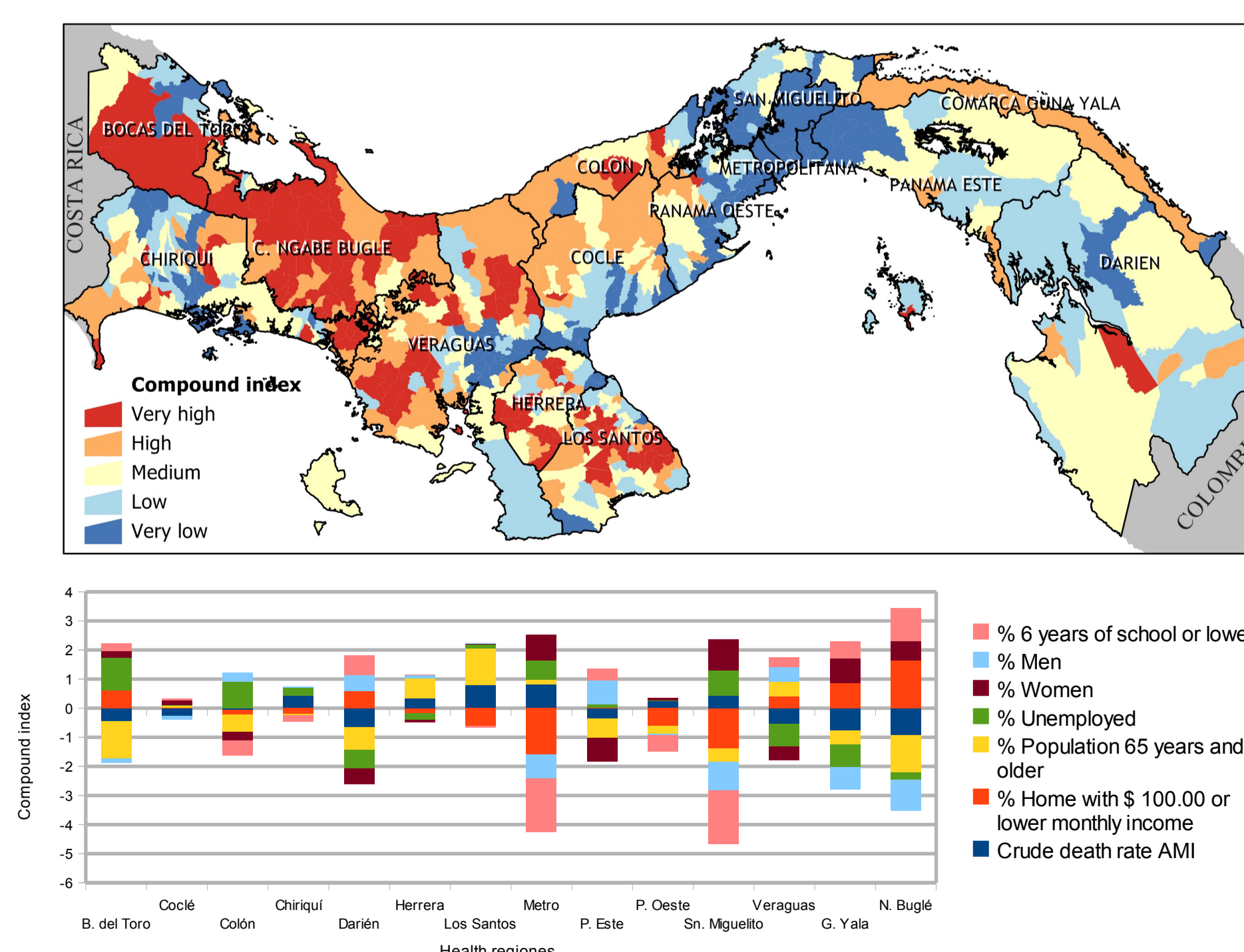
Preliminary data appears to show a slight decrease in the rate of hospital admissions of AMI cases in patients of 20 and more years (Analysis with 42.7% of the sample).

Patients with acute myocardial infarction (ICD/10: I21) by age group according to some use of tobacco products and obesity. Panama. 2006 - 2010

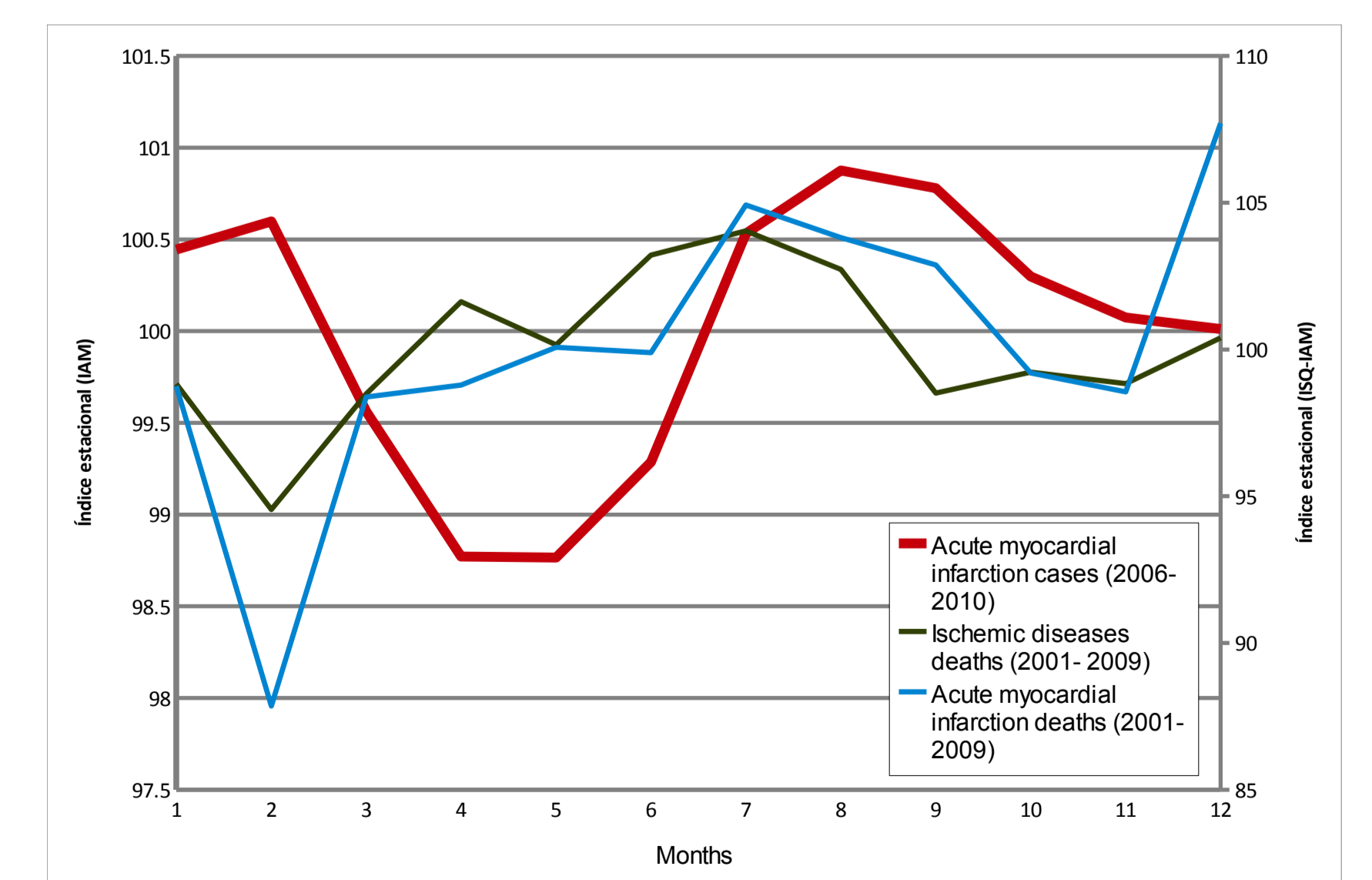


There was no statistical difference ($p=0.26$, Chi²) test between smokers and non smokers, in patients under 45 years, and 45 years and older.

Composite index of socioeconomic determinants and mortality for acute myocardial infarction (ICD/10: I21) as counties. Panama. 2001 to 2009.



Cases of acute myocardial infarction (ICD/10: I21) in patients 20 years and older, and deaths from ischemic heart disease (ICD/10: I20-I25) as a seasonal index. Panama



AMI hospital admissions in the 2006 – 2010 period have a seasonal pattern; April and March have the lowest index values, and the index values peak in August and September. This seasonal pattern is similar to the one observed in AMI and IHD in the period of 2001-2009.

