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Chapter 8
Cardiovascular diseases

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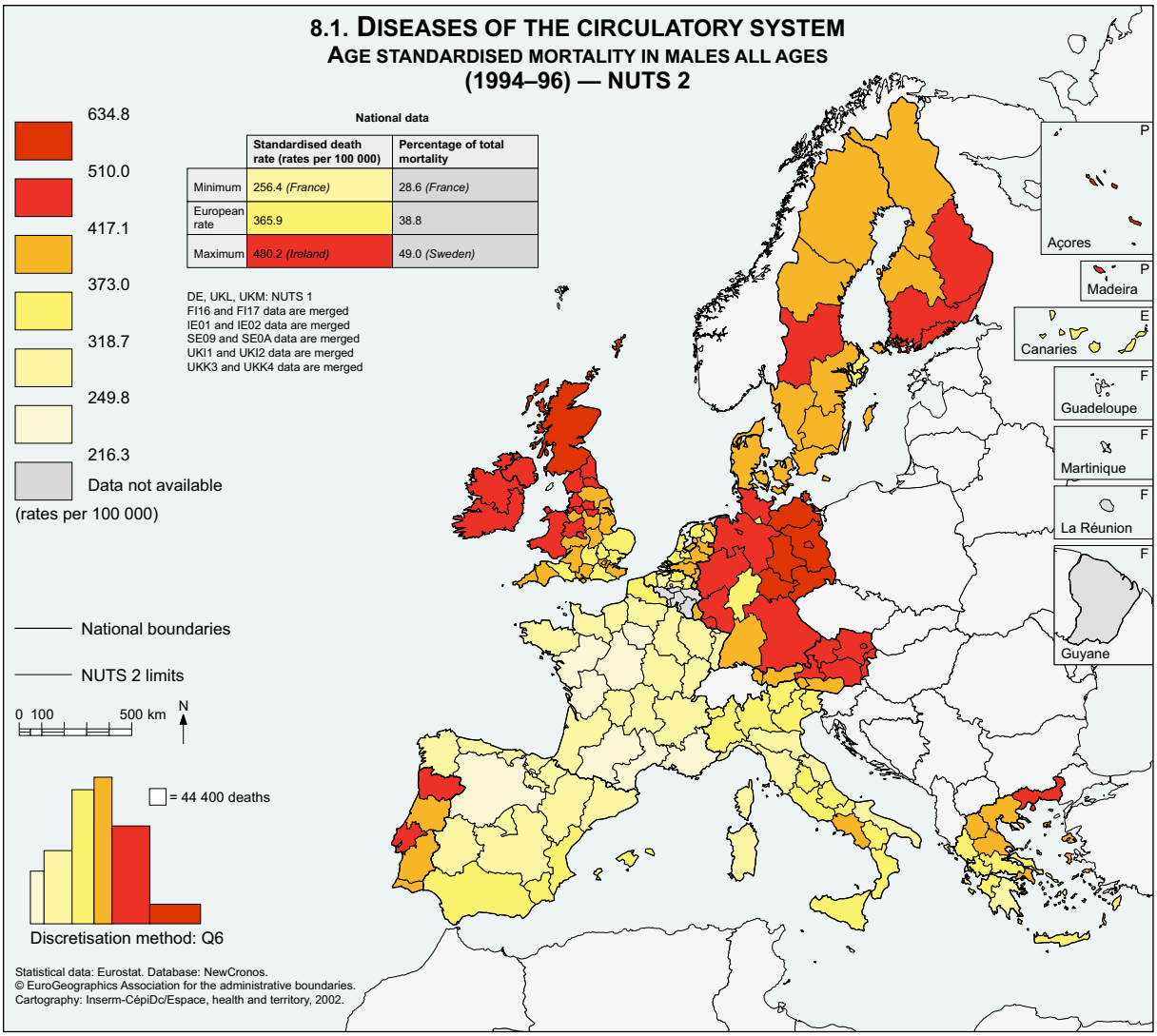
ATLAS — Contents



8. Cardiovascular diseases

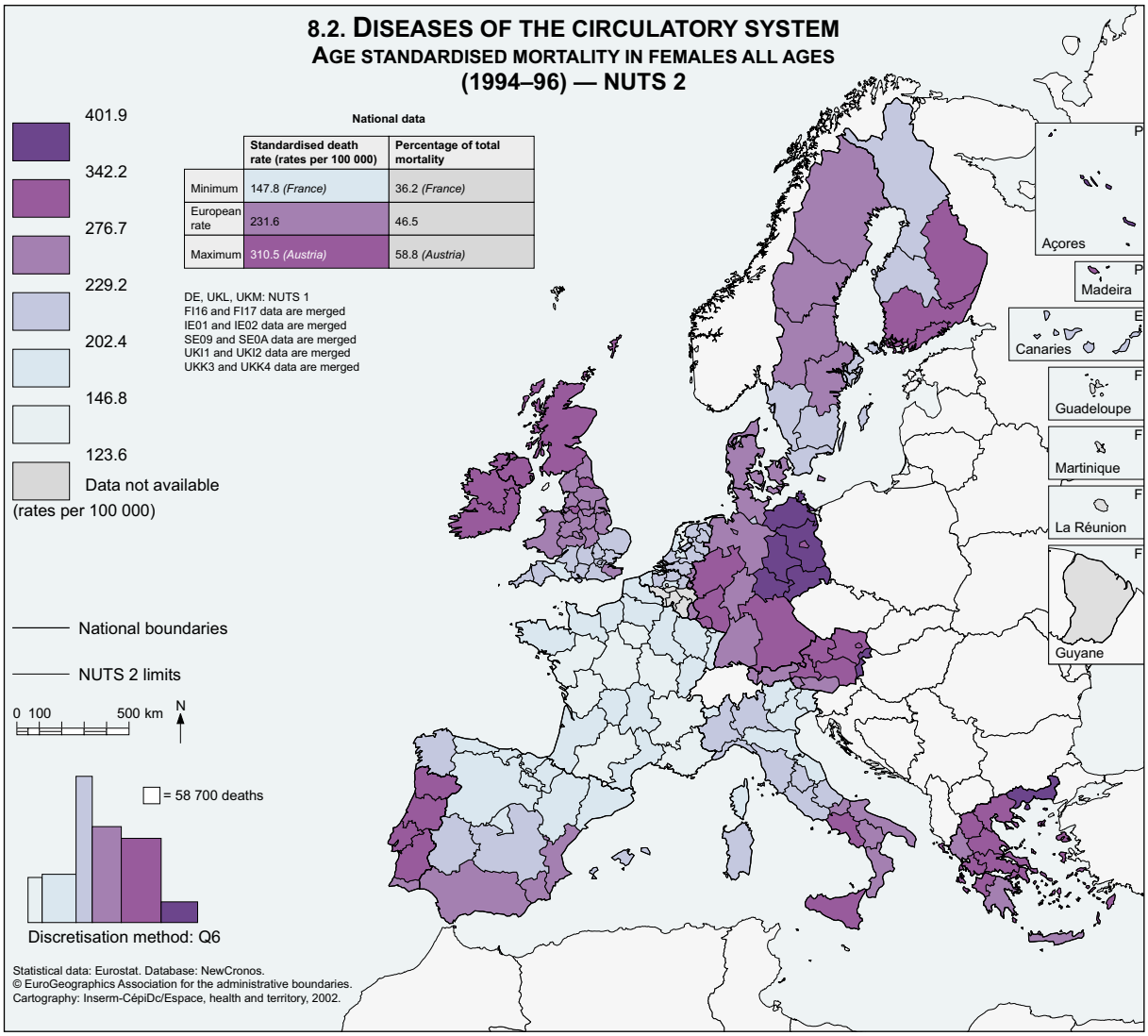
Cardiovascular diseases are the main cause of mortality in the European Union. They account for approximately 40 % of deaths in both the male and female populations. These pathologies affect the population at advanced ages: over nine out of 10 deaths occur after 65 years.

Although excess male mortality remains high for these pathologies, the differences in mortality between the sexes are less pronounced than for other causes of death. The highest regional ratio of excess male mortality does not exceed 1.8, whereas it is, for example, over 20 in some European regions for mortality from respiratory cancers.

Disparities within Europe are considerable for all deaths from cardiovascular diseases, with rates varying at a ratio of 1 to 3 depending on the region. The relatively similar distribution of death rates for men and women reveals a clear-cut gradient dividing the north and the south of the EU.

In the north of the EU, the UK, the Scandinavian countries, Germany, Austria and Luxembourg have the highest rates, with particularly marked excess mortality in certain regions (the eastern German *Länder* and Scotland). There are clear-cut contrasts: a north/south divide in Great Britain and Finland and an east/west divide in Germany and Austria.

There is a clear dividing line between this group of countries and the south of the EU, which has below-average mortality, particularly France, Belgium, Italy and Spain. However, the southernmost regions — Portugal and Greece and, for women, southern Spain and southern Italy — have rates similar to those of the northern countries.

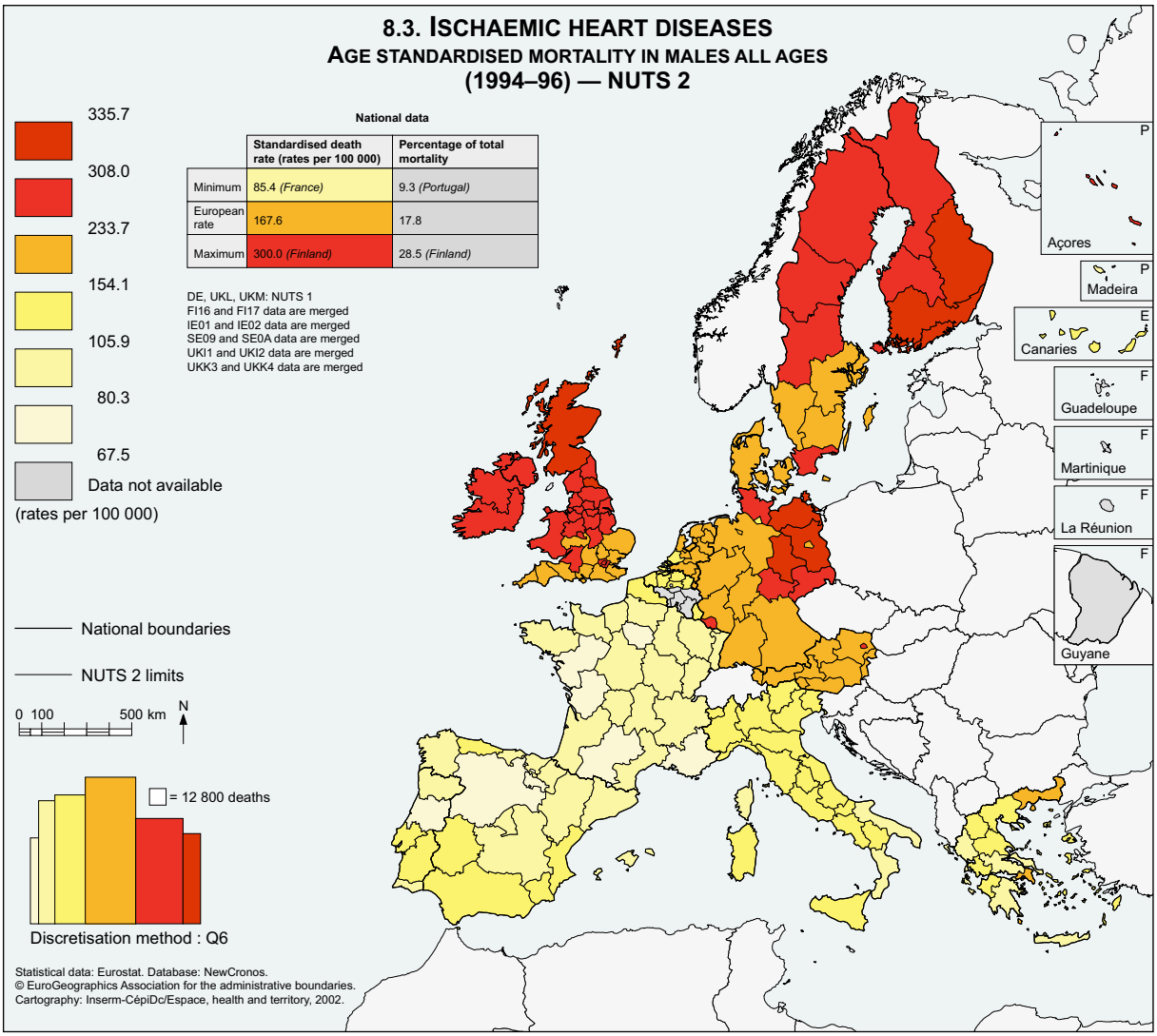


The pattern of these maps should be compared with the two most common types of disease among pathologies of the circulatory system.

Ischaemic heart diseases (sudden death, death after myocardial infarction, etc.) account for almost 20 % of all deaths in the male population and 15 % in the female population.

Cerebrovascular diseases (deaths from cerebrovascular accident of ischaemic, haemorrhagic etc. origin) account for 9 % of male deaths and 13 % of female deaths.

These two groups of pathologies form very different geographical patterns within the EU.



A clear-cut geographical pattern for ischaemic heart diseases and a more diffuse geographical pattern for cerebrovascular diseases

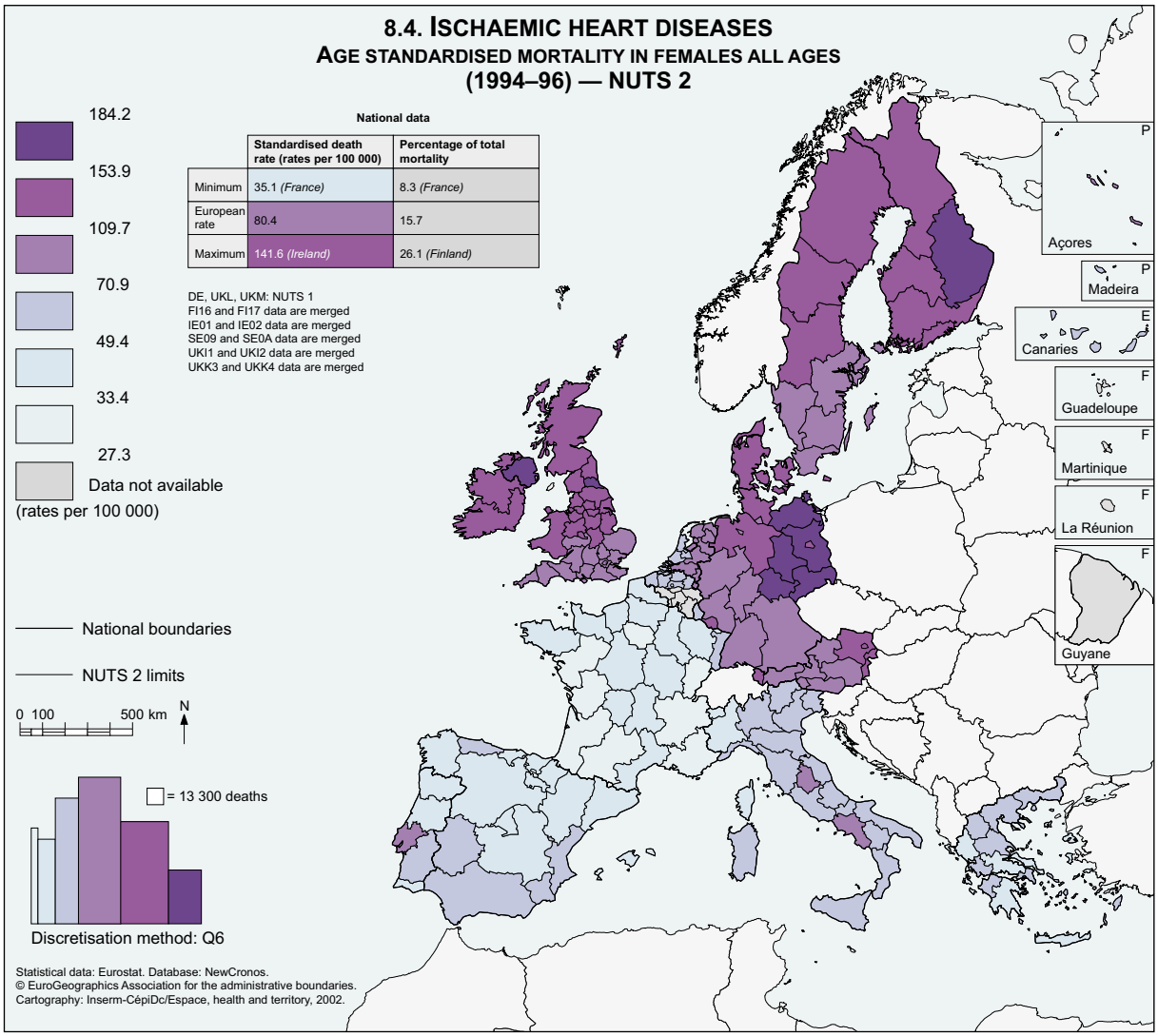
The north/south divide in the European Union, particularly in terms of mortality associated with circulatory diseases as a whole, is largely determined by the geographical pattern of ischaemic heart diseases, which is similar for both sexes and at the same time very specific.

There are two groups of countries with different patterns, one with marked excess mortality comprising the UK, the Scandinavian countries, the Netherlands, Germany and Austria, and the other with below-average mortality comprising Luxembourg, Belgium and the Mediterranean countries, including France. There are very great contrasts between these two groups, since the rates vary at a ratio of 1 to 5 for men and 1 to 7 for women.

In the south, France, northern Spain and northern Portugal have the most favourable rates in Europe. In the north, the northernmost regions, the *Länder* of eastern Germany, Saarland and Wien are particularly affected.

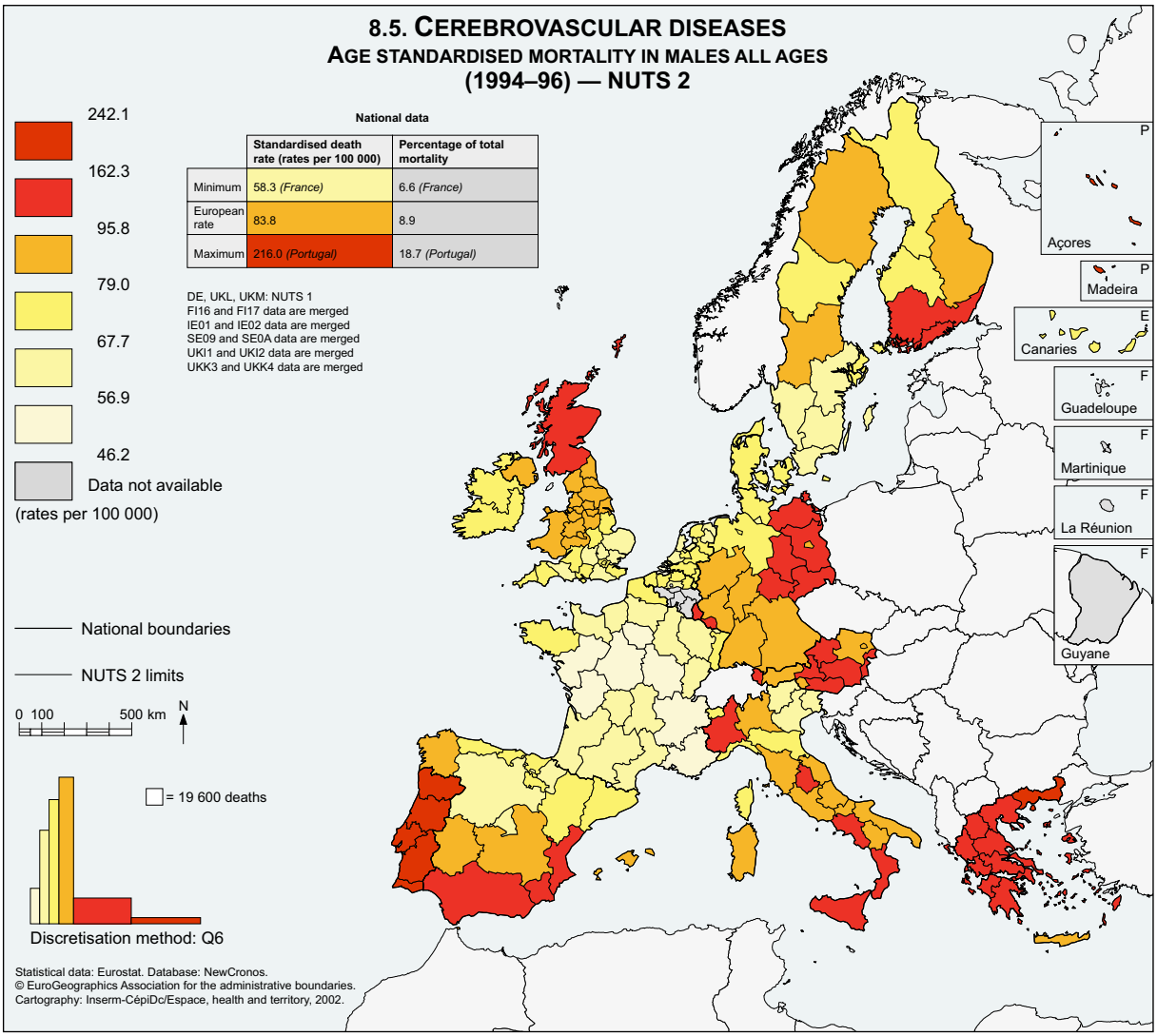
The contrasts in mortality from cerebrovascular diseases are similar in scale, but the geographical pattern is very different. At sub-national level, there are much greater discontinuities and differences.

The Mediterranean countries (except France) have below-average mortality for ischaemic heart diseases but excess mortality for cerebrovascular diseases. Portugal in particular has the highest male and female rates in the EU. In Spain, there is a clear-cut north/south divide, since the situation in the northern provinces is closer to that in the neigh-



bouring French regions. In contrast, in the other Member States, a number of regions have below-average mortality for cerebrovascular diseases and high rates for ischaemic heart diseases: Denmark, north-west Germany, Ireland, southern Sweden, and northern Finland for men.

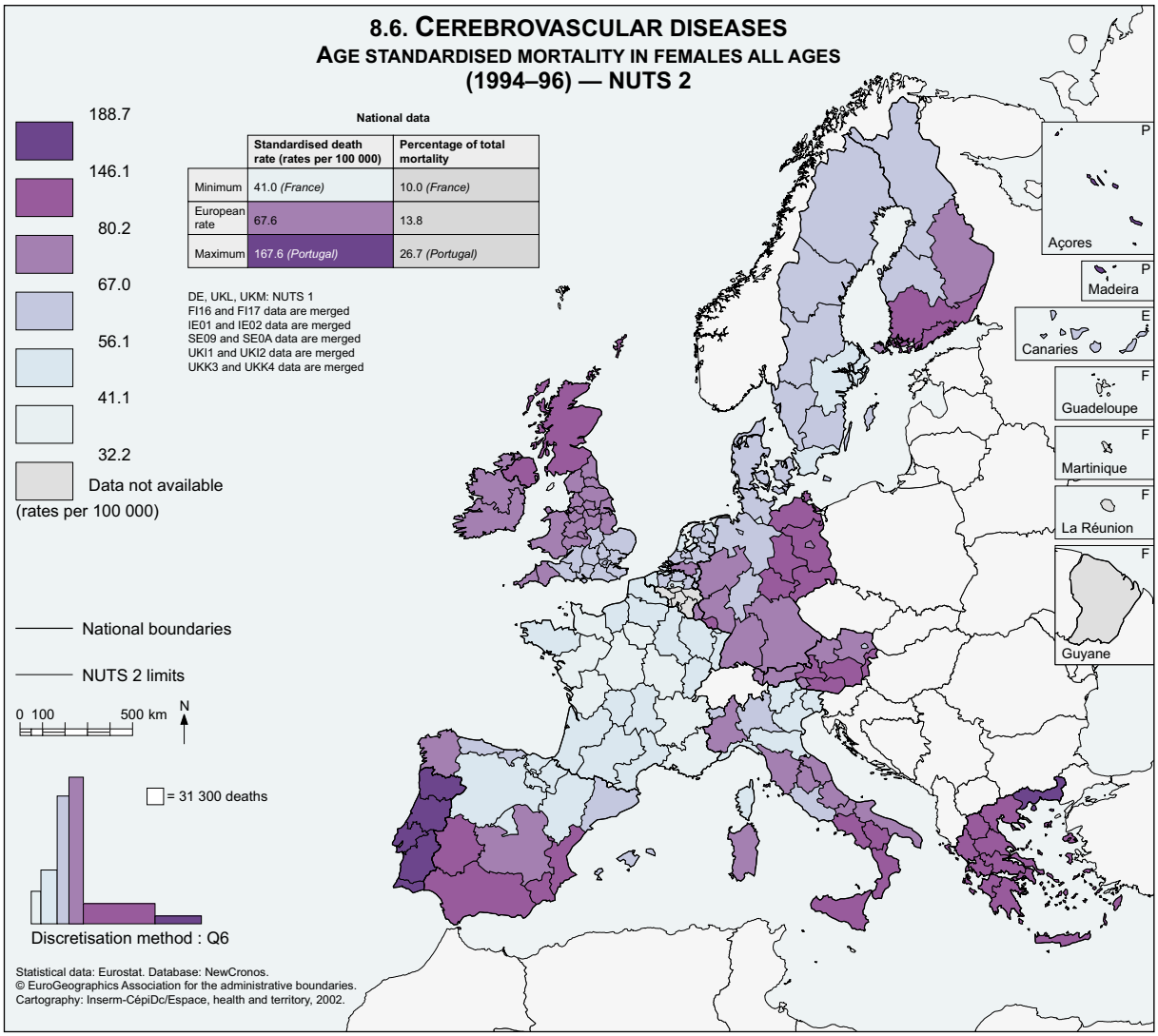
Some regions have high rates for both types of pathologies: Scotland, southern Finland, Saarland and the *Länder* of eastern Germany. Their situation contrasts with the overall favourable situation of France, Belgium and northern Spain.



The disparities in Europe can be explained by eating habits

Before interpreting these disparities in terms of risk factors or the features of the healthcare systems, we need to look at the comparability of certification practices. For example, a proportion of sudden deaths of cardiac origin may be recorded, depending on the certification practices, as ill-defined causes of death or as infarctions. However, a comparative study recently carried out between France and the United Kingdom showed that, if the data were adjusted on the basis of strong hypotheses, the death rates remained considerably lower in France.

In addition to these potential methodological biases, disparities between Member States regarding mortality from ischaemic heart diseases can be explained by eating habits, for example rich or fatty foods in the northern Member States. Similarly, in the countries of southern Europe, the excess mortality from cerebrovascular diseases can be linked to high salt consumption. France's favourable position in terms of mortality from ischaemic heart diseases is in stark contrast to its poor situation in terms of premature mortality. This brings us to a consideration of the potential effect of 'competition' among causes of death. For example, a comparison between the premature mortality levels in France and the United Kingdom reveals substitution between the causes of death directly associated with alcohol (very common in France) and deaths from infraction (very common in the United Kingdom). One explanation could be that those who are most likely to indulge in risk behaviour (alcohol consumption in France) die prematurely and the remaining 'healthy' population is less likely to suffer from ischaemic heart diseases. Although this hypothesis can be put forward, it is not, however,



valid for Germany and Austria, where there is excess early mortality from pathologies associated with alcoholism and excess mortality from ischaemic heart diseases.

Lastly, with regard to ischaemic heart diseases, particularly infarctions, deaths occur rapidly, often before hospitalisation. The density of healthcare facilities and the quality and speed of treatment both at the time of the attack (emergency services) and upstream (hospital cardiology departments) should therefore be taken into account as explanatory factors, but this would need specific studies.