

Health

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Introduction

Health is a top priority for Europeans, who expect to be protected against illness and disease — at home, at work and when travelling. The issue cuts across a range of topics from consumer protection (food safety) to safety at work and environmental and social policies.

Establishment of comparable EU-wide data on public health and the factors determining it is closely linked to one of the priorities of the Community action programme in the field of public health for 2008–13, namely to generate and disseminate information and knowledge on health.

This enables Eurostat to contribute to achieving other objectives of the action programme, by collecting and disseminating statistics and health indicators which help policymakers to identify health risks, improve public health security and promote health, including reducing health inequalities.

Causes of death

Mortality patterns differ significantly, depending on age and gender, but also between countries and regions. Three types of factor determine mortality patterns: intrinsic factors, such as age and gender; extrinsic factors, such as biological or collective social factors, living or working conditions; and individual factors, such as lifestyle, smoking, alcohol consumption, driving and sexual behaviour.

As a general rule, the mortality rate is higher among men than among women in all age groups. Although there are signs that the mortality gap is narrowing in some Member States, there are still significant differences between genders.

Variations in mortality patterns reveal significant differences in causes of death, depending on the age group of the population. Since nowadays people tend to live longer, diseases of the circulatory system are the main cause of death in the European Union. Malignant neoplasms follow as the second most frequent cause, affecting mainly the middle-aged or elderly. In the younger age groups, however, the largest share of deaths is down to external causes (including transport accidents). The distribution of causes of death also depends on geographical location. For example, most of the

new Member States have high death rates due to diseases of the circulatory system, with the Baltic States also recording above-average mortality from external causes.

These are all good reasons to take a closer look at mortality rates at both national and regional levels, distinguishing between men and women and between different age groups.

Respiratory diseases

Respiratory diseases include infectious acute respiratory diseases (influenza and pneumonia) and chronic obstructive diseases. They are the third most frequent cause of death in the European Union, accounting for 8 % of all deaths. Respiratory diseases mainly affect older people: nine out of 10 deaths from them occur after the age of 65.

There are considerable differences in the patterns of deaths from respiratory diseases within Europe. The rates vary between 82 deaths per 100 000 men and 69 deaths per 100 000 women, of all ages in both cases.

Looking at people over 65, the mortality rates from respiratory diseases are higher for men in almost every region, except for four regions in the United Kingdom (Lincolnshire, East Anglia, Kent, and Cornwall and Isles of Scilly) and in Iceland, where more female deaths were recorded (437.4 per 100 000 inhabitants compared with 385.2). For other regions within the EU-27 the variation can be quite high, ranging from a male/female ratio of 1 in Berkshire, Buckinghamshire and Oxfordshire (UK) to more than 3.0 in Pohjois-Suomi (Finland), Estonia, Lubelskie (Poland) and as much as 4.1 in Lithuania.

The regional pattern for mortality from respiratory diseases emerges very clearly. In the regions of Spain, Norway, the United Kingdom and Portugal, high mortality can be observed. The highest crude death rates for citizens over 65 years old are reported in Região Autónoma da Madeira (Portugal — 1 653.3 deaths per 100 000 males and 940.1 deaths per 100 000 females), Merseyside (UK — 945.6 for males and 819.3 for females), Greater Manchester (UK — 942.5 for males and 902.1 for females) and Lancashire (UK — 918.4 for males and 867.1 for females). The national values of these two countries are 37 % (for Portugal) and 70 % (for the UK) higher than the EU-27 average and account for 24 % of all deaths of Europeans



over 65 years old from respiratory diseases. At the other end of the scale, the regions with the lowest rates differ, depending on gender, except for Latvia. For males, these regions are Guadeloupe in France (193.8), Sachsen-Anhalt in Germany (234.8) and Latvia (240.5), whereas for females the regions with the lowest rates are Latvia (66.2) and Estonia (76.8).

Chronic lower respiratory diseases

Chronic lower respiratory diseases (chronic pulmonary diseases, emphysema and asthma) are the main group of respiratory diseases and account for 3.9 % of male deaths and 2.6 % of female deaths in the EU-27. Of these, chronic obstructive pulmonary diseases (COPD) are the most common, accounting for 31 % of deaths from respiratory diseases. Most of these deaths occur after the age of 65 but even so, just as in the case of respiratory diseases as a whole, the national and regional distributions of deaths due to chronic lower respiratory diseases differ.

For chronic lower respiratory diseases the highest national crude death rates per 100 000 inhabitants for males aged 65 and over are found in Hungary (382.4), Belgium (373.1), Denmark (314.0) and Lithuania (341.4).

Female mortality rates, on the other hand, are high in Denmark (314.2), Iceland (254.3), Ireland (253.5) and the United Kingdom (237.3).

The lowest national values for males are in France (116.4) and Greece (131.2). For females Latvia (28.9) and Malta (49.1) are at the bottom of the table.

The data reveal marked differences between the lowest values for males and females.

Comparing regional values, the highest crude death rates for males aged 65 and over are reported in Észak-Magyarország (Hungary) with 531.6 and Principado de Asturias (Spain) with 504.0 and the lowest in Guadeloupe (France) with 29.4 and Kentriki Makedonia (Greece) with 92.7.

For females, Merseyside (UK) with 341.1 and Oslo og Akershus (Norway) with 268.9 report the highest regional rates. Just as for males, Guadeloupe (France) shows the lowest mortality rate for women (16.2), followed by Yugoiztochen (Bulgaria) with 38.4.

Hospital discharges

Hospitalisation statistics give a broad picture of healthcare treatment of the population and also of general public health. Around 16 760 persons per 100 000 were discharged from hospitals in the EU-27 in 2007. However, even between countries, there is a wide range for this indicator, from fewer than 7 500 in Cyprus and Malta to over 27 000 in Austria. These differences possibly partly reflect differences in the organisation of healthcare services.

Regional data on hospital discharges of inpatients were not available until quite recently and not all countries are yet in a position to provide data on this subject at subnational level. Amongst the countries with subnational data, the Czech Republic, Germany and France show the greatest variation within the country for the number of hospital discharges per 100 000 inhabitants aged 65 and over after a respiratory disease, the same category as analysed above for causes of death. In France, around four times as many people over 65 are discharged from hospitals after a respiratory disease in Réunion as in Guadeloupe. In metropolitan France, this spread falls to 1.7. In Germany and the Czech Republic hospital discharges within the country vary by a factor of around 1.5.

Looking at the gender gap, Iceland shows almost perfect equality for hospital discharges (3 389.4 males over 65 discharged after a respiratory disease per 100 000 and 3 333.9 females). The biggest differences are found in Spain: in Asturias 2.5 times more males were discharged than females in 2007 and in Ciudad Autónoma de Melilla 2.6 times more.

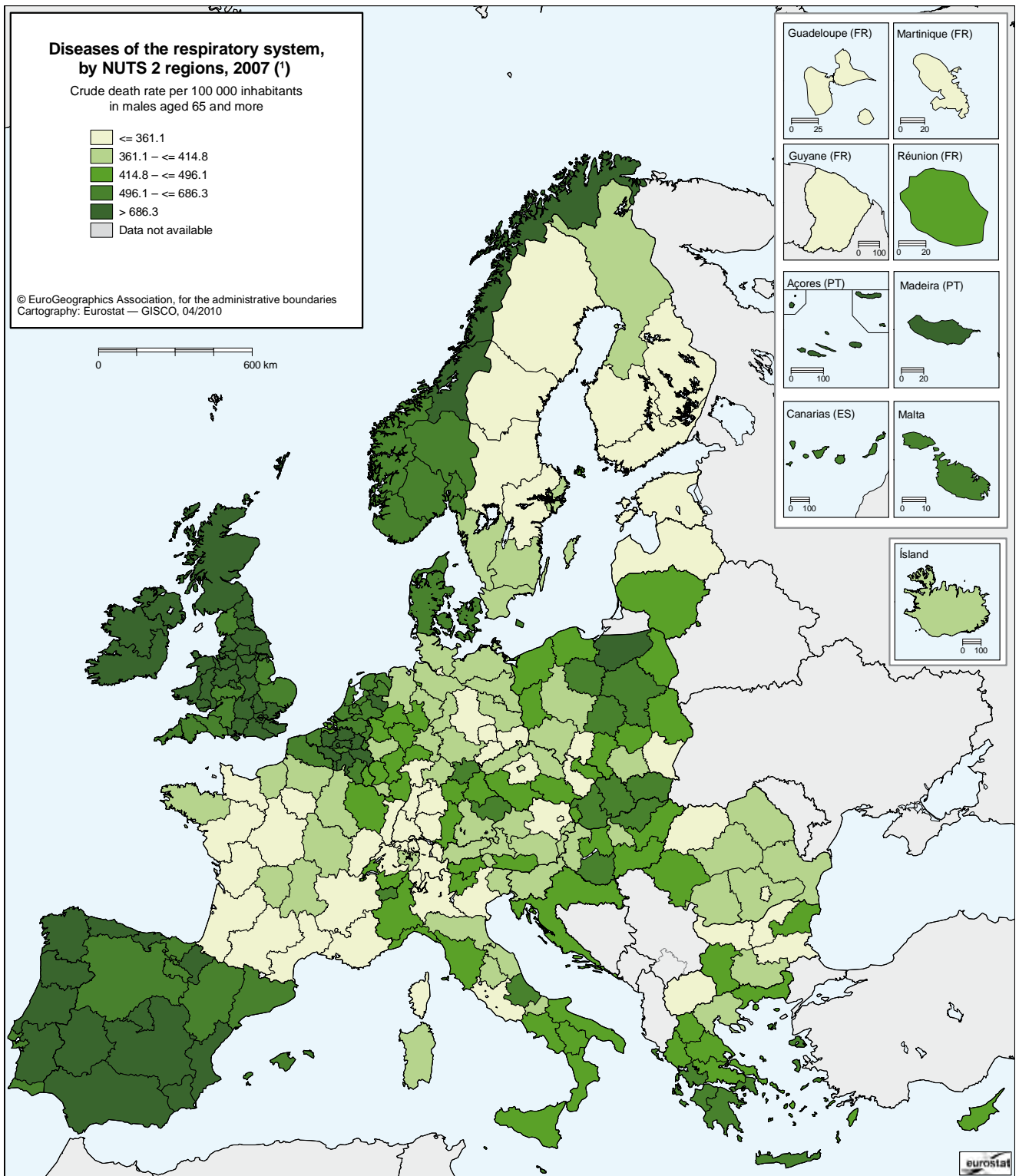
Nurses and midwives

Regional data on healthcare staff give a broad picture of the human resources available to provide healthcare for the population. Eurostat's information on healthcare staff is largely based on administrative sources. The definitions used possibly vary from one country to another and, to a large degree, reflect countries' specific ways of organising healthcare, so the data collected are not always completely comparable.

The data presented on human resources available to provide healthcare services take no account of the sector of employment (i.e. whether the staff are independent or are employed by a hospital or



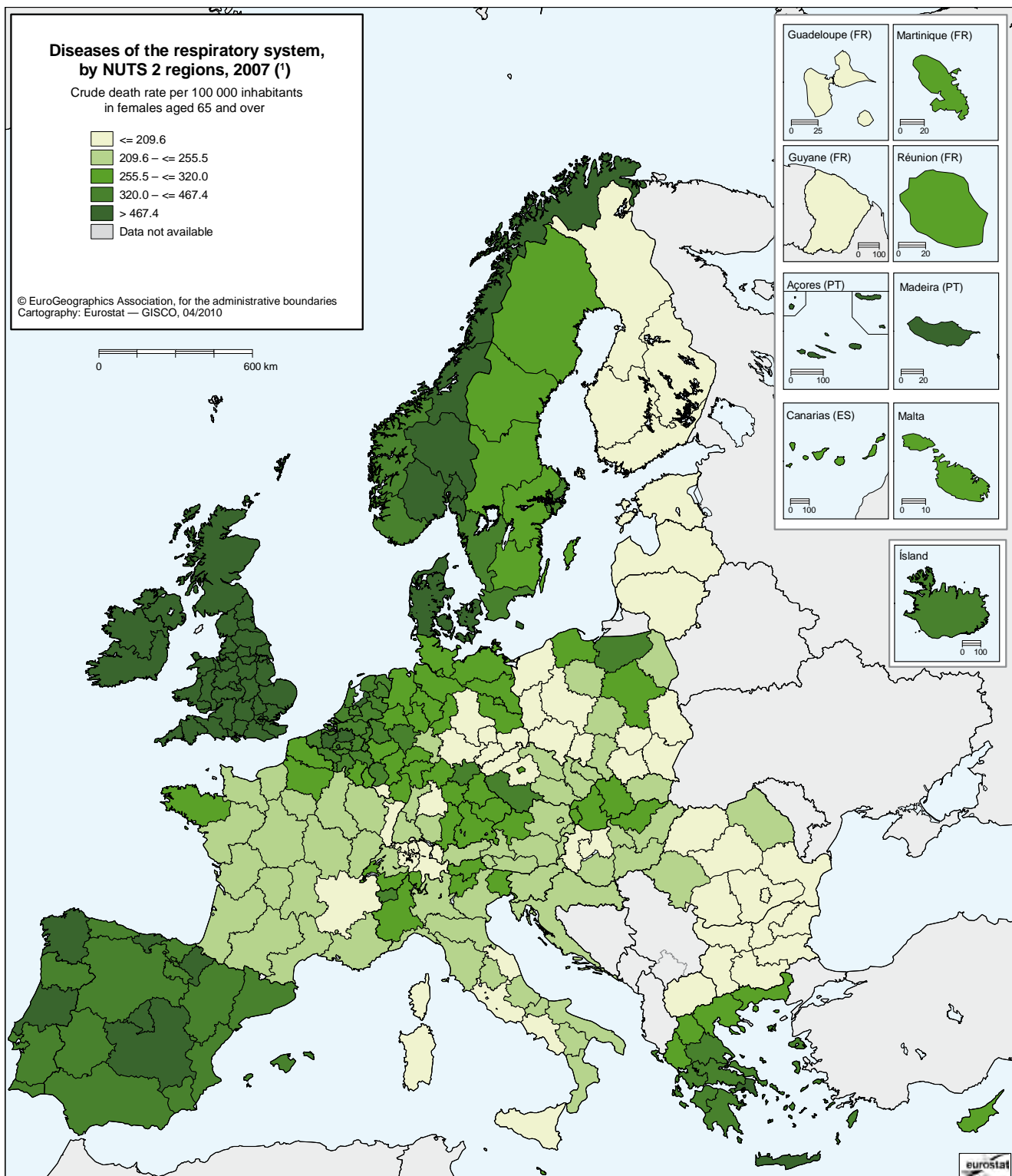
Map 12.1: Diseases of the respiratory system, by NUTS 2 regions, 2007 ⁽¹⁾
(crude death rate per 100 000 inhabitants for males aged 65 and over)



⁽¹⁾ Denmark, Luxembourg, England and Wales, Norway, 2006; Belgium, Scotland, Northern Ireland, 2004; Denmark, Slovenia, Croatia, national level; Scotland, NUTS 1 level.

Source: Eurostat ([hlth_cd_acdr](#)).

Map 12.2: Diseases of the respiratory system, by NUTS 2 regions, 2007 ⁽¹⁾
(crude death rate per 100 000 inhabitants for females aged 65 and over)

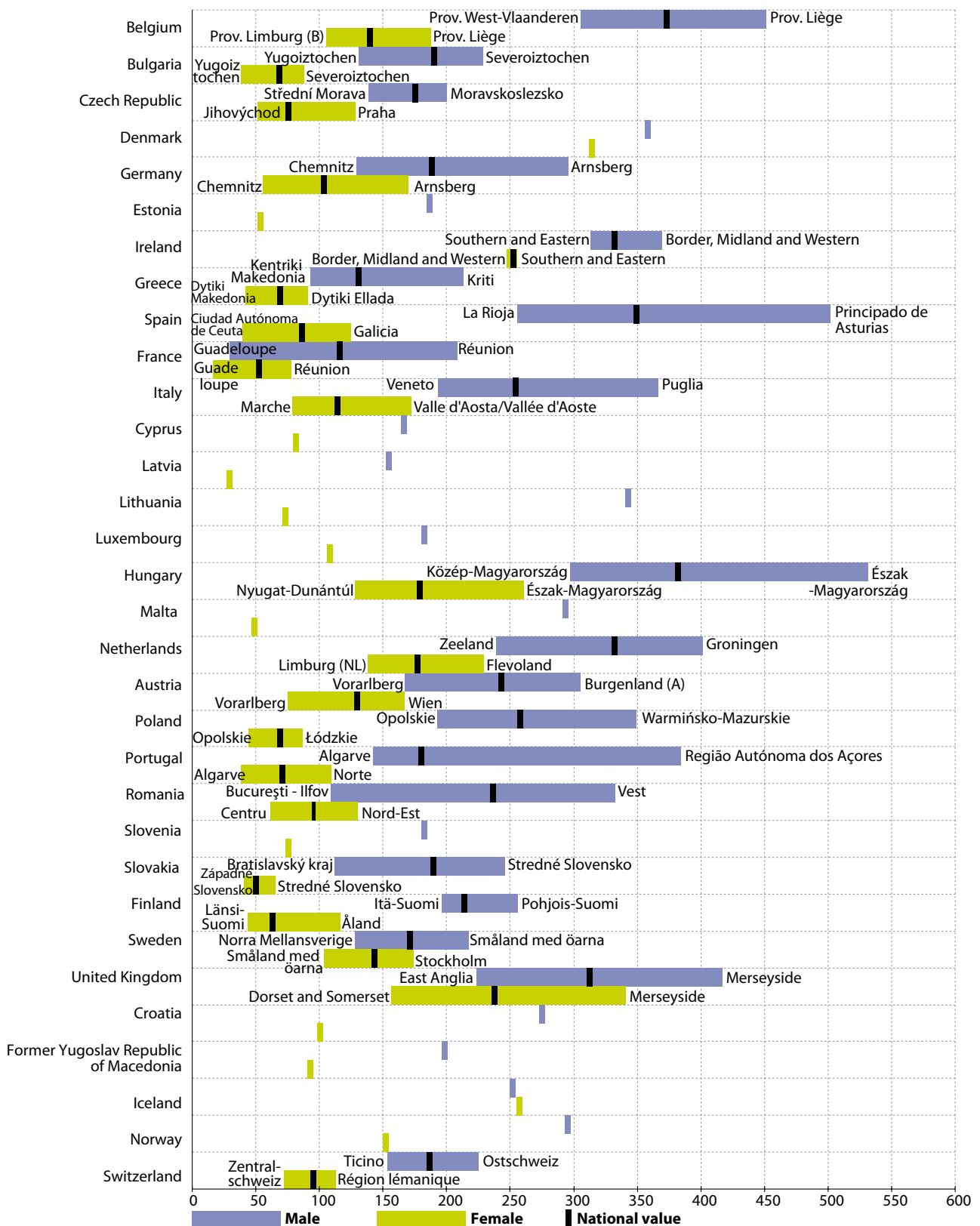


⁽¹⁾ Denmark, Luxembourg, England and Wales, Norway, 2006; Belgium, Scotland, Northern Ireland, 2004; Denmark, Slovenia, Croatia, national level; Scotland, NUTS 1 level.

Source: Eurostat ([hlth_cd_acdr](#)).



Figure 12.1: Chronic lower respiratory diseases, by NUTS 2 regions, 2007 ⁽¹⁾
(crude death rate per 100 000 inhabitants aged 65 and more)

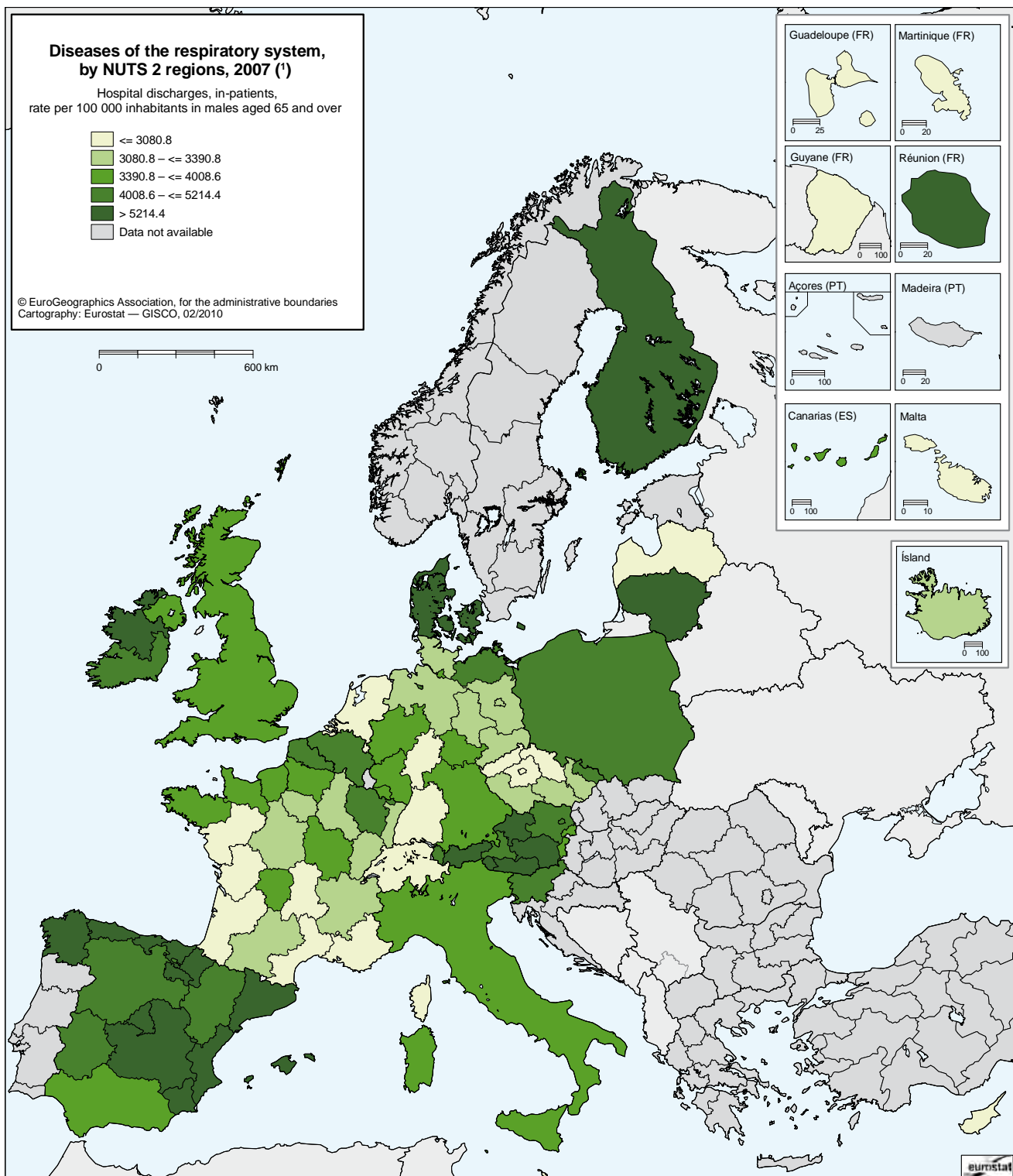


⁽¹⁾ Denmark, Luxembourg, England and Wales, 2006 ; Belgium, Scotland, Northern Ireland, 2004; Denmark, Slovenia, Croatia, national level.

Source: Eurostat (hlth_cd_acdr).



Map 12.3: Diseases of the respiratory system, by NUTS 2 regions, 2007 ⁽¹⁾
(hospital discharges, in-patients, rate per 100 000 inhabitants for males aged 65 and over)

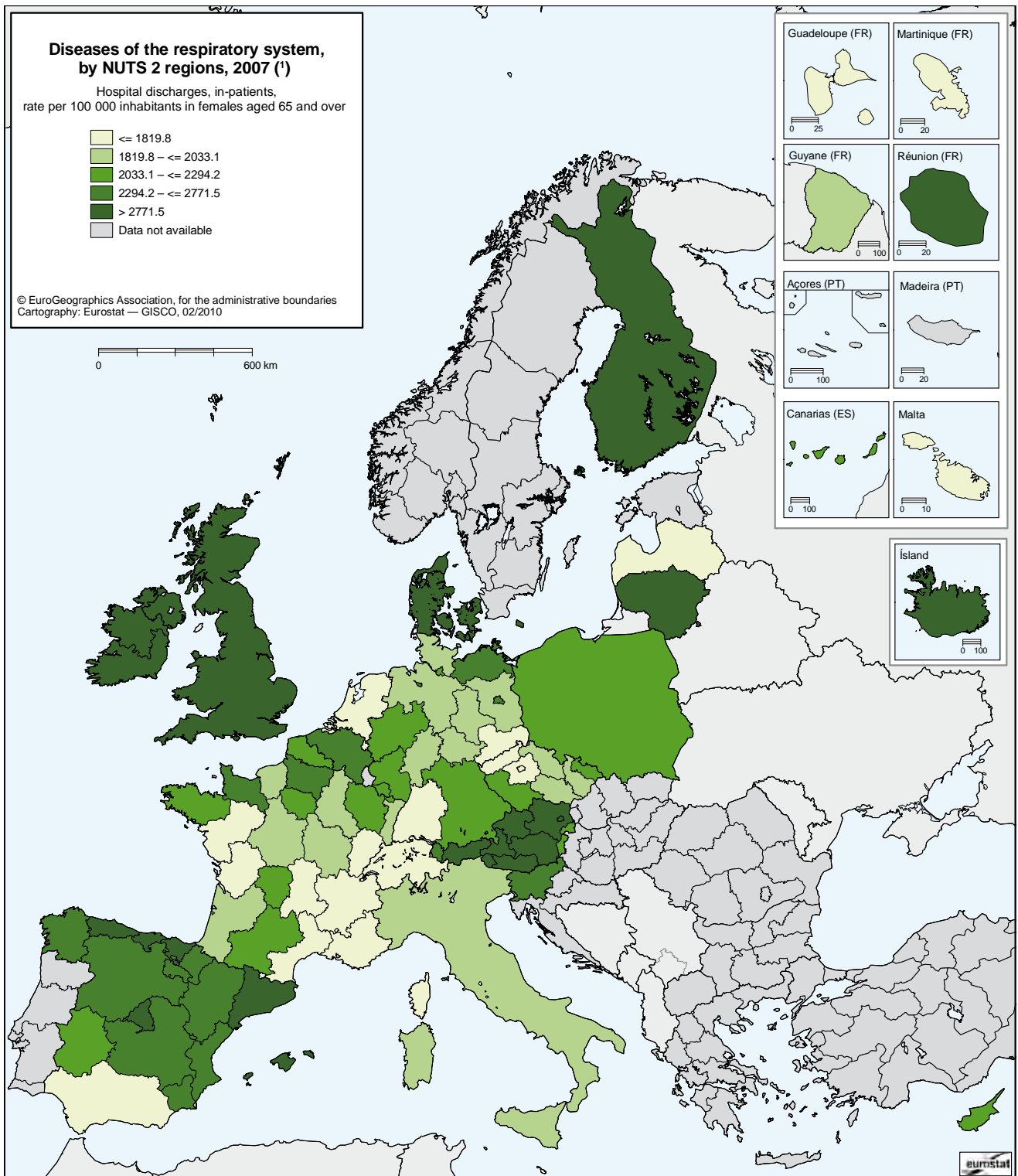


⁽¹⁾ Latvia, Malta, 2008; Finland, 2006; Italy, 2004; Denmark, Iceland, 2003; Belgium, Denmark, Italy, Netherlands, Poland, Slovenia, Finland, United Kingdom, Switzerland, national level; Germany, NUTS 1 level.

Source: Eurostat ([hlth_co_disch1](#)).



Map 12.4: Diseases of the respiratory system, by NUTS 2 regions, 2007 ⁽¹⁾
(hospital discharges, in-patients, rate per 100 000 inhabitants for females aged 65 and over)



⁽¹⁾ Latvia, Malta, 2008; Finland, 2006; Italy, 2004; Denmark, Iceland, 2003; Belgium, Denmark, Italy, Netherlands, Poland, Slovenia, Finland, United Kingdom, Switzerland, national level; Germany, NUTS 1 level.

Source: Eurostat ([hlth_co_disch1](#)).



any other provider). For the purpose of comparing healthcare services across Member States, Eurostat prefers the concept of 'practising professionals', as this gives the best picture of the availability of healthcare resources (although this was not always possible to achieve).

At EU level, Europe can roughly be divided into two distinct areas by drawing a line from Finland to Italy. West of this line, healthcare systems can generally count on between 667 and 1 096 nursing professionals per 100 000 inhabitants, with the notable exception of Portugal, whereas regions in the east often have an indicator of below 667 per 100 000 inhabitants, with some even below 554.

In 2007 the average number of nurses and midwives per 100 000 inhabitants was around 882 for the EU-27. The highest concentration of practising nurses and midwives per 100 000 inhabitants was reported by Luxembourg (1 571.5), followed by the Netherlands (1 500.7), Switzerland (1 485.7), Iceland (1 460.1) and Denmark (1 459.3), whereas in Bulgaria the figure of 466.4 was around 53 % lower than the EU average.

In other words, considerable variations can be observed at regional level.

Across all regions the density ranges from fewer than 300 in several regions of Portugal (Algarve, Alentejo and Norte) to higher than 1 600 in the Netherlands (Gelderland, Zeeland, Groningen, Friesland and Drenthe). Not surprisingly, in most countries the highest concentration is often found in the capital region, for example Praha (Prague) or Bucureşti - Ilfov (Bucharest). However, in a number of countries non-capital regions also have a high proportion of nurses and midwives,

for example, Limousin in France, Prov. West-Vlaanderen in Belgium or Comunidad Foral de Navarra and Aragón in Spain.

When interpreting the map, special attention has to be paid to the fact that the regional data for France, Italy, Slovakia and the former Yugoslav Republic of Macedonia are for 'professionally active' nurses and midwives (which include practising and other (non-practising) midwives and nurses for whom their training is a prerequisite for the job), and could therefore be overestimated.

Conclusion

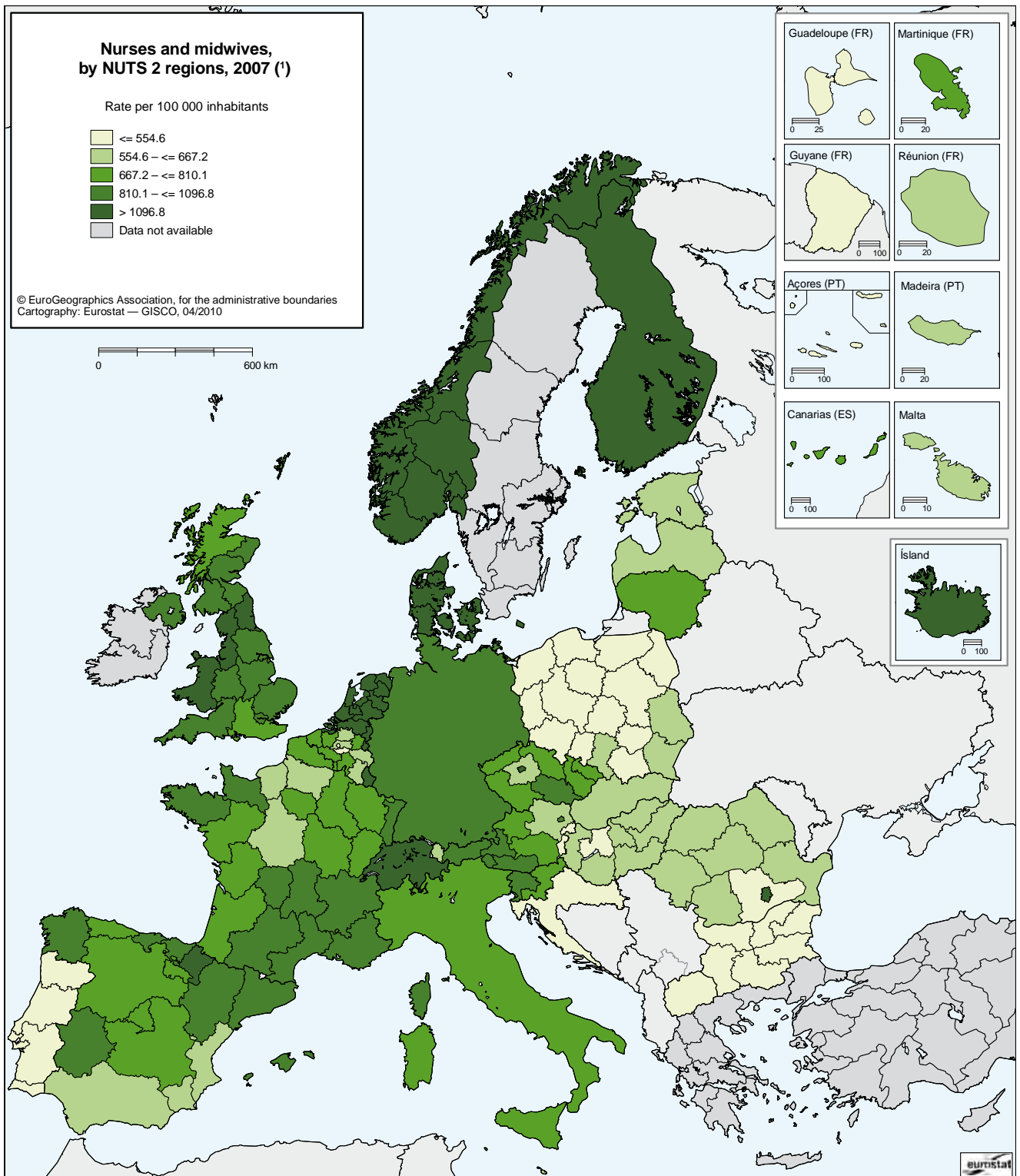
Information about healthcare systems and, ultimately, about the health of a population is a prerequisite for monitoring the performance of health policy.

The regional indicators currently available for health provide an insight into similarities, particularities and contrasts across regions in Europe. As explained above, there can be big differences between regions in the same country, while regions in different countries may be very similar. Thorough analysis of trends and variations in health indicators at regional level is therefore indispensable for planning and monitoring action and programmes, formulating new policies, developing new strategies and, all in all, contributing to 'evidence-based health policy'.

Eurostat's work on health statistics is focusing mainly on further improvements in the quality, comparability and completeness of the data and further extension of the regional coverage.



Map 12.5: Nurses and midwives, by NUTS 2 region, 2007 ⁽¹⁾
(rate per 100 000 inhabitants)



⁽¹⁾ Czech Republic, Germany, Austria, Slovakia, former Yugoslav Republic of Macedonia, 2006; Finland, 2005; Portugal, 2003; Croatia, 2002; Germany, Switzerland, national level; England and Wales, NUTS 1 level.

Source: Eurostat ([hlth_cd_acdr](#)).



Methodological notes

Cause of death (COD) statistics are based on information from death certificates. COD statistics record the **underlying cause of death**, i.e. to quote the definition adopted by the World Health Assembly, ‘the disease or injury which initiated the train of morbid events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury’.

In addition to absolute numbers, crude death rates and standardised death rates for COD are provided at national and regional levels. Regional-level data are provided in the form of three-year averages, along with yearly crude death rates for some age groups. The **crude death rate** indicates mortality in relation to the total population. It is expressed per 100 000 inhabitants, i.e. calculated as the number of deaths recorded in the population over a given period divided by the population in the same period and then multiplied by 100 000. Crude death rates are calculated for five-year age groups. At this level of detail, comparisons between countries and regions are meaningful. The crude death rate for the total population (all ages) by gender and age, however, is a weighted average of the age-specific mortality rates. The weighting factor is the age distribution of the population whose mortality is being observed. Consequently, the population structure strongly influences this indicator for broad age groups. In a relatively ‘old’ population there will be more deaths than in a ‘young’ one because mortality is higher in older age groups. For comparisons, the age effect can be taken into account by using a standard population. The **standardised death rate (SDR)** is a weighted average of age-specific mortality rates. The weighting factor is the age distribution of a standard reference population. The ‘standard European population’ defined by the World Health Organisation (WHO) is used for this purpose. Standardised death rates are expressed per 100 000 inhabitants and calculated for the 0–64 age group (‘premature death’), 65+ and for all ages. Causes of death are classified into the 65 on the ‘**European shortlist**’, which is based on the international statistical classification of diseases and related health problems (ICD) developed and maintained by the WHO.

Eurostat collects regional-level statistics on healthcare staff (numbers of doctors, dentists, pharmacists, nursing professionals and physiotherapists), on hospital beds and on hospital discharges of inpatients. In addition to absolute numbers, density rates are used to indicate the availability of resources or the frequency of services rendered, expressed per 100 000 inhabitants. They are calculated by dividing the absolute number of healthcare resources available or services rendered in a given period by the population covered in the same period and then multiplying by 100 000.

Data on nurses and midwives should indicate those ‘immediately serving patients’, i.e. nurses and midwives who have direct contact with patients as consumers of healthcare services. In the context of comparing healthcare services across Member States, Eurostat considers that this is the concept which gives the best picture of the availability of healthcare resources. However, Member States use different concepts when they report the number of healthcare professionals — both for national purposes and for international comparisons. Therefore the data for some countries might refer to nurses and midwives who are ‘professionally active’ (i.e. including practising and other (non-practising) midwives and nurses for whom their education is a prerequisite for the execution of the job) or ‘licensed to practice’ (i.e. registered and entitled to practice as healthcare professionals, irrespective whether they see patients or not).