

## 31. HEALTH RESOURCES: NUMBER OF PHYSICIANS

Density of physicians is frequently used as an indicator of health-care provision. An adequate number of qualified practising physicians, located according to need, helps to ensure the delivery of safe, high-quality medical services.

However, it is hard to estimate the minimum number of physicians required to guarantee adequate provision. As well as the number of physicians, the hours they work and the presence of complementary and substitute health professionals (nurses, for instance) also determine actual levels of provision. However, the density of physicians is seldom expressed in full-time equivalents.

Furthermore, the density indicator does not specify whether the physicians actually practise, nor does it reflect features specific to the region. The mix of private/hospital practice may carry a risk of double counting, depending on how the data are collected (*e.g.* by professional organisations). Another area not covered by the indicator is cross-border health-care provision.

### Access to physicians varies widely among countries...

In 2004, there was an average of three practising physicians per 1 000 population in the OECD area as a whole. There were wide variations among OECD countries, ranging from over 4 per 1 000 in Italy and Greece, or 1.3 times the OECD

average, to fewer than 2 per 1 000 in Turkey, Mexico and Korea, or 0.5 times the OECD average (Figure 31.1). The number of practising physicians was also relatively low in Japan, Canada, the United Kingdom and New Zealand.

### ... and even more among regions

The 26 OECD countries with information available at regional level have an average of 3.2 physicians per 1 000 population. The largest disparities are found in the United States and in Turkey, where the regions with the highest densities may have up to 2.5 and 2.2 times the national average, respectively (Figure 31.2). In the regions with the highest density, the numbers may be almost twice the national average. Generally, the regions with the lowest density do not have above half of the national average. Consequently, regional disparities within countries are greater than disparities among countries.

### Urban areas are better provided

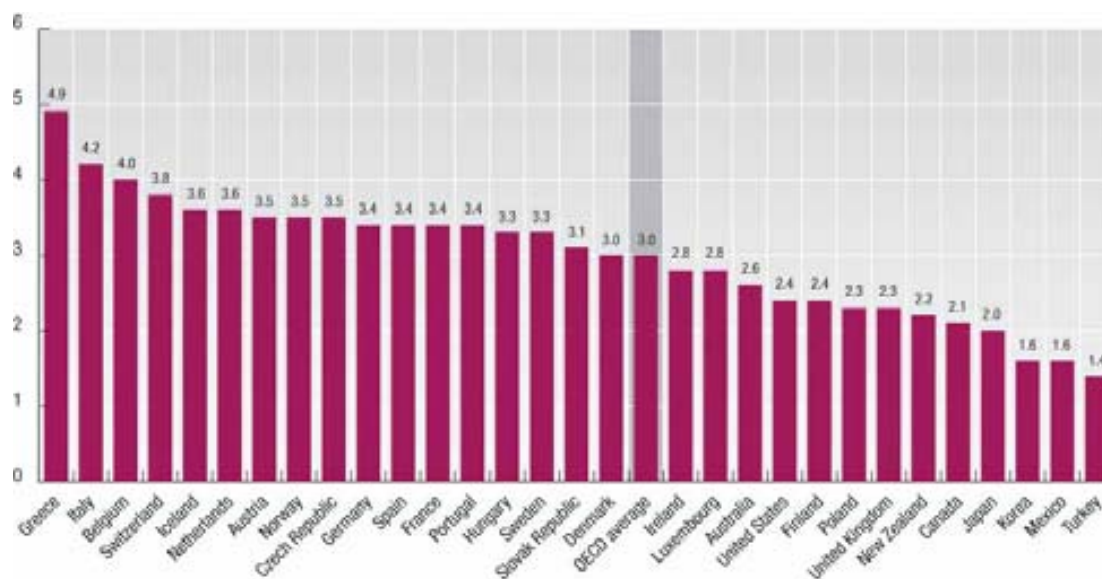
By and large, density of physicians is greater in regions where the population lives predominantly in urban areas. In 17 countries, it is positively correlated with the share of the regional population living in urban regions (Figure 31.3). The correlation is particularly strong in the Czech Republic, Greece, Hungary and Portugal.

#### Definition

The number of physicians, general practitioners and specialists, actively practising medicine in a region during the year, in both public and private institutions.

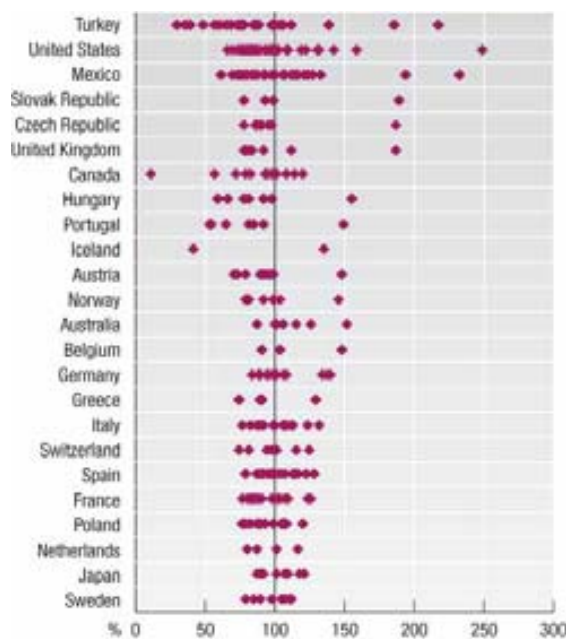
## 31. HEALTH RESOURCES: NUMBER OF PHYSICIANS

### 31.1. Practising physicians, density per 1 000 population, 2004



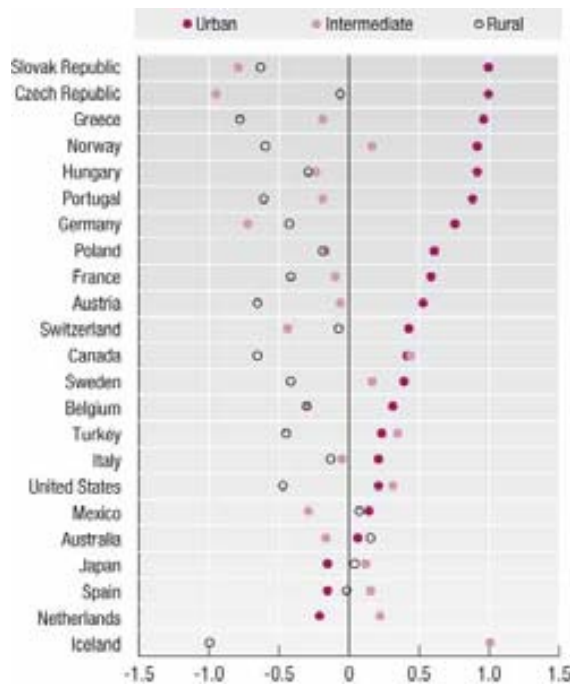
### 31.2. Regional variations in physician density


Percentage of national average, 2004 (TL2)



### 31.3. Correlation between physician density and distribution of population by type of regions

Spearman correlation coefficient, 2004 (TL2)

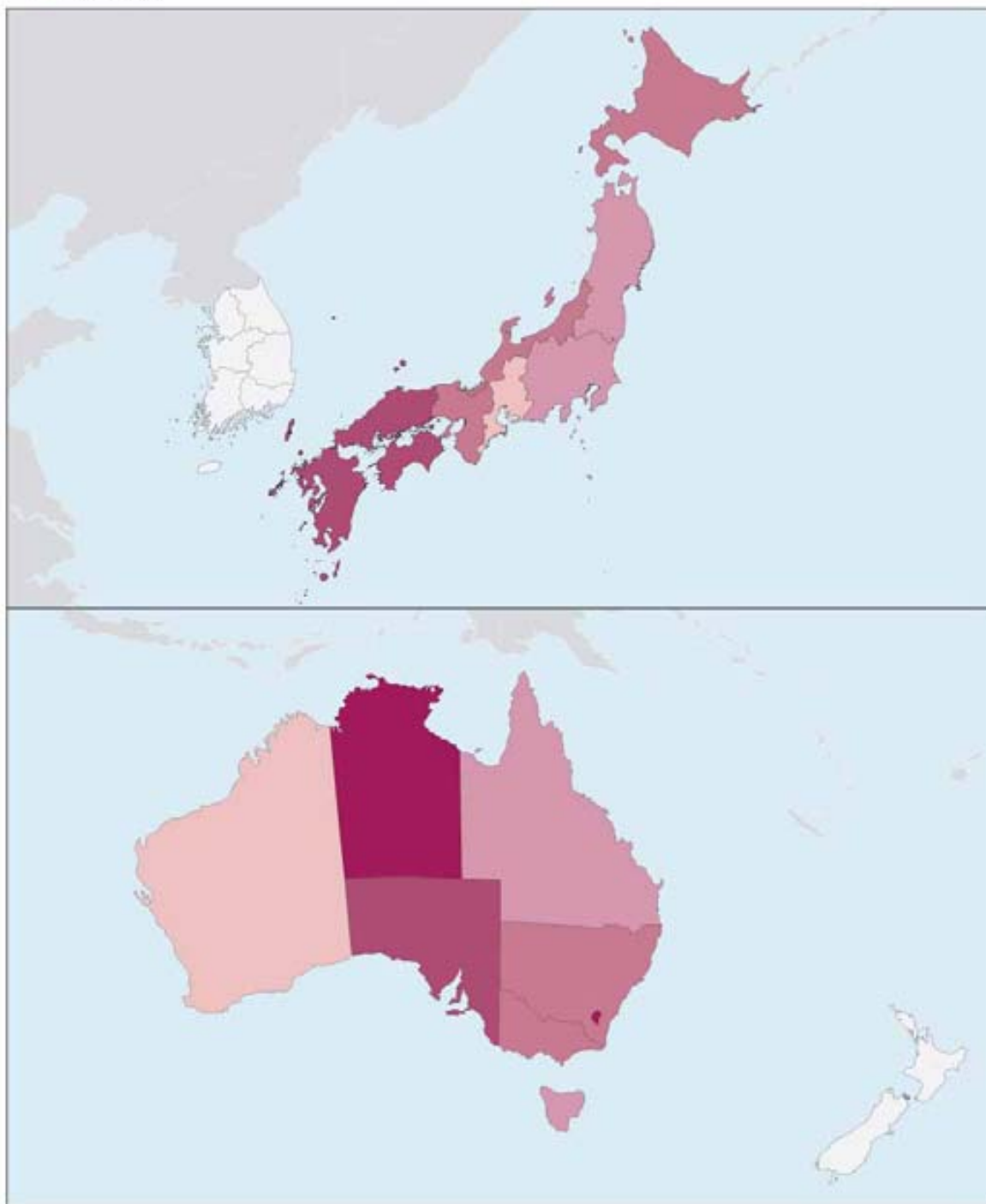



StatLink  <http://dx.doi.org/10.1787/684847570781>

31.4. Density of physicians: Asia and Oceania

Percentage of national average, 2004

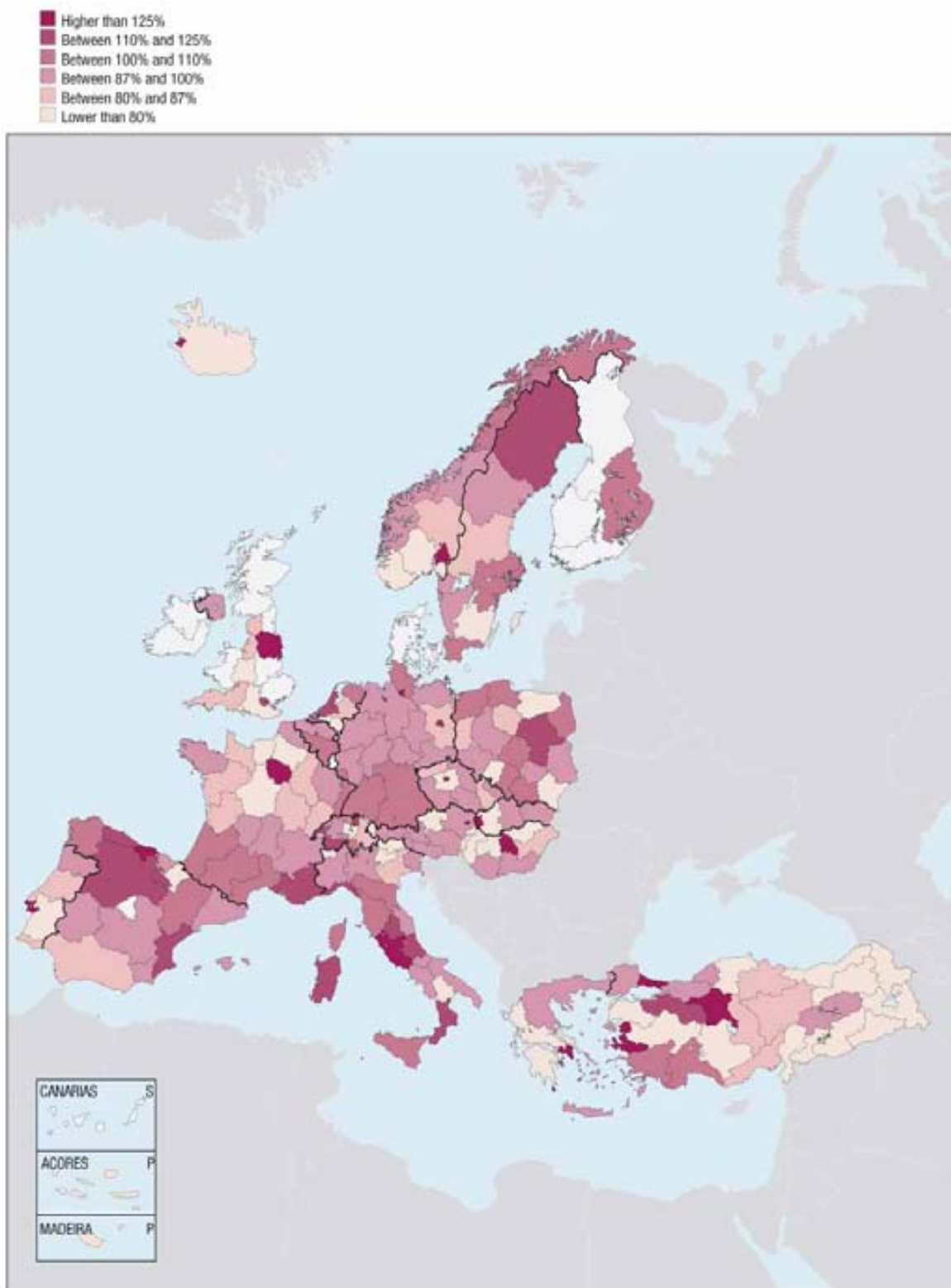
- Higher than 125%
- Between 110% and 125%
- Between 100% and 110%
- Between 87% and 100%
- Between 80% and 87%
- Lower than 80%




StatLink  <http://dx.doi.org/10.1787/075731856241>

31.5. Density of physicians: Europe

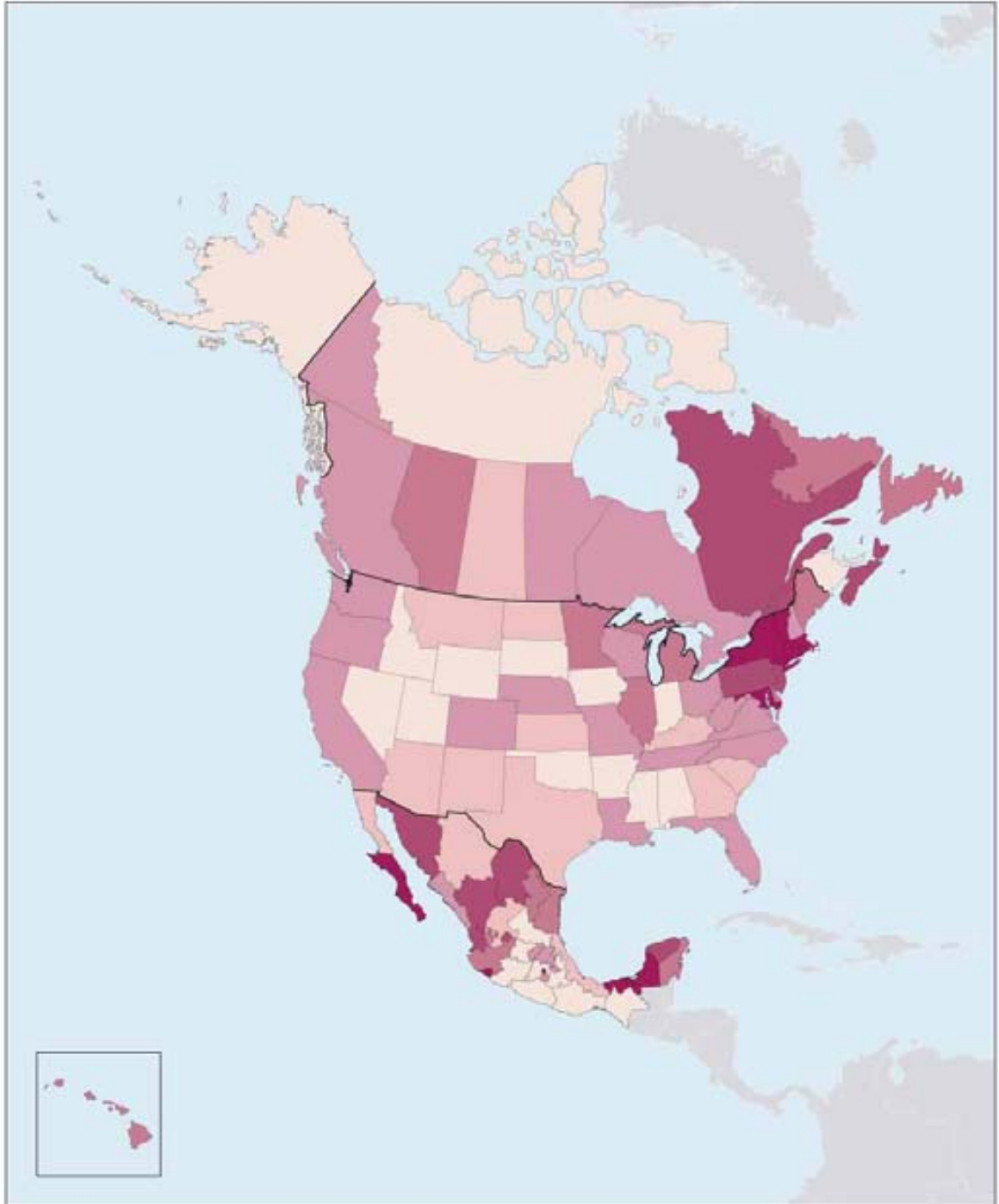
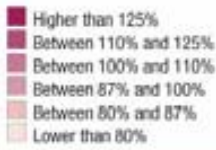
Percentage of national average, 2004



StatLink  <http://dx.doi.org/10.1787/075731856241>

31.6. Density of physicians: North America

Percentage of national average, 2004



StatLink  <http://dx.doi.org/10.1787/075731856241>



## Density of physicians across the country: general practitioners and specialists

The term physician covers both general practitioners and specialists. General practitioners provide primary or first-line healthcare, which is usually the first point of contact with the health system for patients in need of care or advice. It serves to co-ordinate access to other health services and consists in basic preventative and curative care, including diagnosis, simple treatment and referral of complex cases to the appropriate specialised establishments. Specialists provide secondary and tertiary care. Secondary care is specialised care requiring more complex diagnosis and treatment than that provided at primary care level (e.g. orthopaedics, surgery), while tertiary care is highly specialised care including diagnostic examinations and treatment such as kidney dialysis and magnetic resonance imaging (MRI). The distinction between general practitioners and specialists serves as a partial measure of access to primary care, on the one hand, and to secondary and tertiary care, on the other.

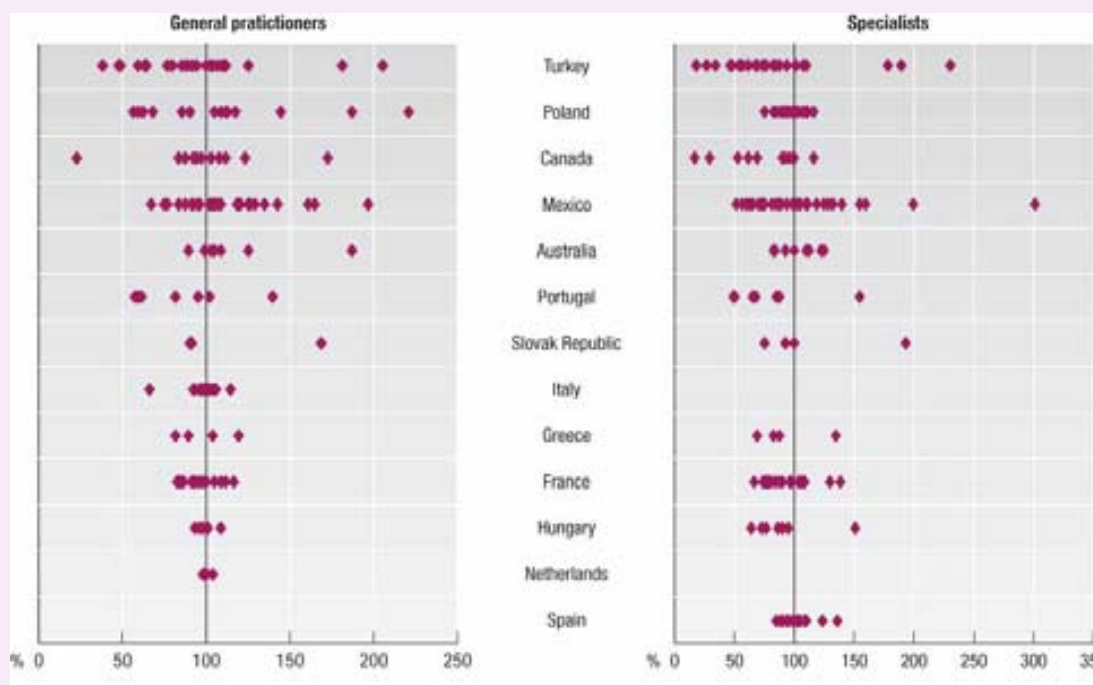
There are disparities in the density of physicians, particularly with regard to specialists (Figure 31.7). This is the case in Mexico, where the number of specialists per inhabitant is as high as three times the national average in one region (Distrito Federal) and about half the average in other regions (Mexico, Oaxaca). In this country, the distribution of general practitioners among regions is also very variable. In Turkey, regional disparities are large for both professions.

In general, an unbalanced distribution of specialists per inhabitant among regions is coupled with large disparities in the number of general practitioners per inhabitant. Poland, where the regional distribution of specialists is very balanced but that of general practitioners is not, it is the only exception.

In the Netherlands and Hungary, regional disparities among general practitioners are very small. They are larger for specialists in Hungary but do not exceed the OECD average.

### 31.7. Regional variations in physician density by category of physician

Percentage of the national average, 2004 (TL2)



StatLink <http://dx.doi.org/10.1787/684847570781>

## Symbols and Abbreviations

<b>OECD (25) average</b>	Unweighted average of 25 OECD countries.
<b>OECD (25) total</b>	Sum over all regions of 25 OECD countries.
<b>OECD (25)</b>	Range of variation over all regions of 25 OECD countries.
<b>TL2</b>	Territorial Level 2.
<b>TL3</b>	Territorial Level 3
<b>NOG</b>	Non Official Grid
<b>*</b>	Differences in the definition of data or regions. Please check the “Sources and Methodology” section.
<b>PU</b>	Predominantly Urban
<b>IN</b>	Intermediate
<b>PR</b>	Predominantly Rural
<b>PPP</b>	Purchasing Power Parity
<b>USD</b>	United States Dollar







## **I. REGIONS AS ACTORS OF NATIONAL GROWTH**

1. GEOGRAPHIC CONCENTRATION OF POPULATION
2. GEOGRAPHIC CONCENTRATION OF THE ELDERLY POPULATION
3. GEOGRAPHIC CONCENTRATION OF GDP
4. REGIONAL CONTRIBUTIONS TO GROWTH IN NATIONAL GDP
5. GEOGRAPHIC CONCENTRATION OF INDUSTRIES
6. REGIONAL CONTRIBUTIONS TO CHANGES IN EMPLOYMENT
7. GEOGRAPHIC CONCENTRATION OF PATENTS

## Table of Contents

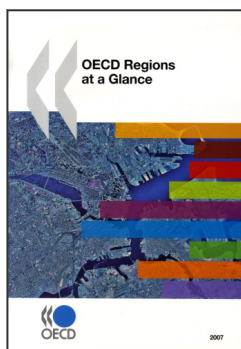
<b>Executive Summary</b> .....	7
<b>Symbols and abbreviations</b> .....	11
<b>I. Regions as Actors of National Growth</b>	
1. <b>Geographic concentration of population</b> .....	14
2. <b>Geographic concentration of the elderly population</b> .....	20
3. <b>Geographic concentration of GDP</b> .....	26
4. <b>Regional contributions to growth in national GDP</b> .....	32
5. <b>Geographic concentration of industries</b> .....	38
6. <b>Regional contributions to changes in employment</b> .....	44
7. <b>Geographic concentration of patents</b> .....	50
<b>II. Making the Best of Local Assets</b>	
8. <b>Regional disparities in GDP per capita</b> .....	58
9. <b>Regional disparities in labour productivity</b> .....	64
10. <b>Regional disparities in specialisation</b> .....	70
11. <b>Regional disparities in tertiary education attainment</b> .....	76
12. <b>Regional disparities in unemployment rates</b> .....	82
13. <b>Regional disparities in participation rates</b> .....	88
<b>The Key Drivers of Regional Growth</b>	
14. <b>The factors behind regional performance</b> .....	96
15. <b>Regional growth in the OECD</b> .....	98
16. <b>National factors and regional performances</b> .....	102
17. <b>Regional factors: GDP per capita and population</b> .....	106
18. <b>Regional factors: productivity and specialisation</b> .....	110
19. <b>Regional factors: employment, participation and ageing</b> .....	114
<b>III. Competing on the Basis of Regional Well-being</b>	
20. <b>Accessibility: distance from the closest urban centre</b> .....	120
21. <b>Education: student enrolments in tertiary education</b> .....	124
22. <b>Voter turnout in national elections</b> .....	128
23. <b>Safety: reported crimes against property</b> .....	132
24. <b>Safety: reported murders</b> .....	136
25. <b>Home ownership</b> .....	140
26. <b>Environment: private vehicle ownership</b> .....	144
27. <b>Environment: municipal waste</b> .....	148

## IV. Regional Focus on Health

28. Health: age-adjusted mortality rate .....	154
29. Health status: premature mortality .....	160
30. Health status: incidence of cancer .....	166
31. Health resources: number of physicians .....	172
32. Health resources: density of practising nurses .....	178
33. Health resources: hospital beds .....	182
34. Health resources: medical technology .....	188
35. Non-medical determinants of health: prevalence of smoking .....	194
36. Non-medical determinants of health: prevalence of obesity .....	198

## Source and Methodology

<b>Territorial Grids and Regional Typology</b> .....	205
Regional grids .....	205
Regional typology .....	205
Population – Chapters: 1, 8, 17, 21, 23, 24, 26, 27, 30, 31, 32, 33, 34, 35, 36 .....	214
Population by age and sex – Chapters: 2, 11, 13, 19, 28 .....	215
Gross domestic product – Chapters: 3, 4, 8, 9, 15, 16, 17, 18, 19 .....	217
Employment by industry – Chapters: 5, 10, 18 .....	219
Labour force, employment, unemployment and long-term unemployment – Chapters: 6, 9, 12, 13, 18, 19 .....	220
Employment at place of work – Chapter 9 .....	222
Patent applications – Chapter 7 .....	223
Educational attainments – Chapter 11 .....	224
Time distance from the closest urban centre – Chapter 20 .....	226
Student enrolment in tertiary education – Chapter 21 .....	228
Voter turnout in national elections – Chapter 22 .....	229
Crimes against property – Chapter 23 .....	230
Number of murders – Chapter 24 .....	232
Number of dwellings inhabited by the owner; total number of occupied dwellings – Chapter 25 .....	234
Number of private vehicles – Chapter 26 .....	235
Volume of produced waste – Chapter 27 .....	236
Death by age and sex: Chapters 28, 29 .....	237
Number of new cases of cancer – Chapter 30 .....	239
Number of physicians – Chapter 31 .....	240
Number of nurses – Chapter 32 .....	242
Number of hospital beds – Chapter 33 .....	244
Number of CT scanners and MRI units – Chapter 34 .....	246
Number of smokers aged 15 and over – Chapter 35 .....	247
Number of people suffering from obesity – Chapter 36 .....	248
<b>Indexes and Formulas</b> .....	249
The drivers of regional growth .....	251



**From:**  
**OECD Regions at a Glance 2007**

**Access the complete publication at:**  
[https://doi.org/10.1787/reg\\_glance-2007-en](https://doi.org/10.1787/reg_glance-2007-en)

**Please cite this chapter as:**

OECD (2008), "Health resources: number of physicians", in *OECD Regions at a Glance 2007*, OECD Publishing, Paris.

DOI: [https://doi.org/10.1787/reg\\_glance-2007-33-en](https://doi.org/10.1787/reg_glance-2007-33-en)

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to [rights@oecd.org](mailto:rights@oecd.org). Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at [info@copyright.com](mailto:info@copyright.com) or the Centre français d'exploitation du droit de copie (CFC) at [contact@cfcopies.com](mailto:contact@cfcopies.com).