

# The Congress of Local and Regional Authorities



## Chamber of Regions

**14<sup>th</sup> PLENARY SESSION**  
**CPR(14)4REP**  
17 April 2007

### Balanced distribution of healthcare in rural regions

Natalia Evdokimova, Russian Federation, (R, NR)  
Patrizia Muratore, Italy, (R, NR)

Explanatory Memorandum  
Committee on Sustainable Development

#### Summary:

Many of Europe's regions are currently confronted by an uneven distribution of health care characterised by health provision concentrated in the large urban centres to the detriment of the rest of the region's territory, particularly rural areas.

This phenomenon is not only making it harder for the entire regional population to access health care, it is also making working conditions particularly difficult for health professionals, who are overworked and professionally isolated, find it difficult to exchange information or ideas with other doctors or access in-service medical training, have low incomes and are obliged to provide constant care cover.

In its report the Congress' Chamber of the Regions shows that it is vital that national authorities recognise the problem and that regional authorities implement measures at their level to combat this phenomenon which is undermining the present social cohesion of their territories and will become more serious in the future given the growing health care needs linked to the ageing of the population and the decline in the number of practitioners.

R : Chamber of Regions / L : Chamber of Local Authorities  
ILDG : Independent and Liberal Democrat Group of the Congress  
EPP/CD : Group European People's Party – Christian Democrats of the Congress  
SOC : Socialist Group of the Congress  
NR : Member not belonging to a Political Group of the Congress



## Preamble

The subject of this report<sup>1</sup> is geographic access to healthcare and the role that regional authorities can play in this field. Before discussing these questions, a number of fundamental principles of public health should be recalled and, in particular, health determinants.

A population's health is a function of a great many determinants. Various classifications are used to analyse these factors, including the one most commonly used in the French literature, which considers four main determinants:

- biological factors, such as genetic capital and age,
- the environment, both physical (ecology, housing, occupation(s)) and familial, social, economic, educational, cultural and political,
- behaviours and lifestyles that include, in particular, the use of tobacco, alcohol and illegal drugs, nutrition and physical activity,
- the health system, which includes the provision of curative care and the provision of preventive care (screening, vaccination), and how it is organised.

The respective roles of these various determinants in the improvement or deterioration of a population's health, which interact in complex and constantly changing ways, have been the subject of a very large number of studies. While there is no consensus as to the weight of each determinant, it is generally agreed that medical progress and access to high quality health services have not had a more important role in improving the population's health than the improvement of the physical environment or of individual behaviours. In its *European health report 2005*, the World Health Organization (WHO) stressed that "*just seven risk factors are responsible for most of the burden of disease from non-communicable diseases in the WHO European Region: high blood pressure, tobacco use, harmful and hazardous alcohol use, high cholesterol, being overweight, low fruit and vegetable intake, and physical inactivity*". The health care system cannot by itself have an effect on all these determinants and, with respect to some of them, becomes involved only at the end of the line, once a health problem has become established.

Recent trends in health indicators in the Russian Federation are a good illustration of the relative weight of the healthcare system in changes in the population's health. In that country, life expectancy stood at 70 years in 1987, but fell by six years over the following eight years. Although there was a slight improvement in this indicator between 1994 and 1998, life expectancy has since fallen again, to stand at 65.4 years in 2004, i.e. 13 years lower than the average in the European Union, while the gap had been only five years in 1987. Despite this, between 1987 and 2004, the number of doctors per capita increased by 5%, while the number of hospital beds fell, it is true (- 25%), but significantly less rapidly than in the European Union (-30%). The deterioration in the health of the Russian population, which especially concerns men, is explained by the deterioration in social conditions and the economic recessions to which the country has been subject, while an analysis of causes of death shows the dominant role played by increased consumption of alcohol in the country. Nonetheless, while the health system is not the only health determinant, its role clearly remains dominant in the treatment and prevention of diseases, and a quantitative and qualitative insufficiency has a significant impact on the population's health.

When all is said and done, actions aimed at ensuring that healthcare is geographically well-distributed are only one of a very large number of aspects of a policy to improve the population's health. It is only one of the facets of a policy of access to healthcare, which is a function of very varying factors: proximity to health services is certainly one of them, but so are the cost of healthcare, social cover and income level, patients' behaviour with regard to the health system and particularly the ability to have appropriate and early access to healthcare when the need arises. The geographical distribution of health services is of constant concern to health players, but also and more generally to politicians throughout the world, whatever their level of involvement (international, national, regional or local).

---

<sup>1</sup> The Secretariat of the Congress wishes to thank the expert, Mr Frédéric Imbert, Director, Alsace Regional Health Observatory – ORSAL, Strasbourg, for preparing this report.

Working for satisfactory geographical access by the population to high quality health services will not solve all health problems but will go some way towards doing so. Ignoring the issue can have major consequences in terms of public health and more generally on social cohesion and regional planning. Nevertheless, an absolutely egalitarian geographical distribution of healthcare is not realistic and is probably undesirable. Specialised treatment requiring specialised medical equipment and facilities using advanced technology will inevitably be concentrated in major hospitals and it is perhaps essential that it should be. This report will essentially deal with primary healthcare and, more particularly, with the means by which a satisfactory distribution of health personnel, whether working with outpatients or in hospitals, can be ensured. Arriving at a satisfactory distribution of health workers is of course a fundamental objective if the aim is to ensure that the population has satisfactory access to them. It is also an objective that is particularly difficult to achieve. This report will not discuss the distribution of health facilities and in particular of hospitals. Distribution of such facilities is usually determined through planning policies on which regions are able to have a direct impact, where they are responsible for them, or an indirect one, by approaches to the institutions responsible for those policies.

## **The present situation in Europe and the world**

### ***Unequal distribution of health services***

The question of well-distributed healthcare provision arises in most countries, regardless of development level; healthcare provision is unequally apportioned between countries, as well as between regions of the same country and areas of a region.

There are very marked disparities in healthcare provision among the member states of the Council of Europe. Doctor density in Italy (6.2 doctors per thousand) is five times what it is in Albania (1.2), while hospital bed density is 4.6 times higher in the Russian Federation (10.7 beds per 100,000) than in Turkey (2.3) (cf. Appendices 1 and 2). Contrary to what might be imagined, there is no systematic link between the economic development of a country and the development of the quantitative provision of healthcare. Taking into account doctor and hospital bed densities, it has to be admitted that the countries belonging to the former soviet bloc often, if not systematically, have more beds and doctors than many West European countries. In the Russian Federation in particular, although the number of hospital beds is falling steadily, the provision of healthcare is, for historical reasons, still very high and significantly better than the European Union average. Conversely, the number of doctors and hospital beds is particularly low in a country such as the United Kingdom. Care is, however, required when comparing countries' healthcare provision indicators. While, in relation to the population, there are 2.7 more hospital beds in the Russian Federation than the United Kingdom, this does not mean that access to high quality care is significantly worse in the latter country. To begin with, while there is high provision of healthcare in Russia, the country suffers from a lack of primary healthcare services, with very few general practitioners and nurses, while the number of specialists is high. Furthermore, generally speaking, the definitions used to count doctors or hospital beds may vary greatly in different countries and the statistics do not take into account the technical equipment available to staff or the maintenance of hospital premises.

While there are disparities in healthcare provision in different countries, these are still more marked at regional level<sup>2</sup>. In the European Union (no regional data are available for countries outside this area), medical density varies by a factor of three between countries and a factor of five between regions<sup>3 4</sup>. In all countries there are very significant differences between the regions of which they are composed.

These disparities are not specific to Europe but may be observed throughout the world. In the *World health report 2006*, the World Health Organization (WHO) examined the problem of the shortage of health workers across the world. According to this report, there are now 59.2 million health workers in the world, of whom about two-thirds are "providers" of health services and one-third administrative staff. The WHO, which divides the world into six regions<sup>5</sup>, makes the same observation at global level

---

<sup>2</sup> The NUTS 2 (Nomenclature of Territorial Units for Statistics) regions have been compared here. In order to present statistics on infra-national levels in European Union member countries, Eurostat developed a common classification called NUTS. This hierarchical classification includes three levels, Level 3 being the smallest unit.

<sup>3</sup> Netherlands, Flevoland: 155 doctors per 100,000

<sup>4</sup> Italy, Lazio: 782 doctors per 100,000.

<sup>5</sup> Africa, Eastern Mediterranean, South-East Asia, Western Pacific, Europe and the Americas.

as can be made in Europe. Worker density varies considerably between these regions. In Africa, Eastern Mediterranean, South-East Asia and Western Pacific, there are between 2.3 and 5.8 workers per 1000, as compared with 18.9 and 24.8 workers per 1000 in Europe and the Americas respectively.

These differences between countries are the result of a great many factors: training policies or capacity to train new workers, retirements and cessations of work, ability to employ and pay health workers. They are also the consequence of migratory phenomena, each country's ability to keep in its territory the workers it has trained or, conversely, a country's attractiveness.

### ***Proven problems of access to healthcare***

While great disparity in healthcare provision has been observed for many years at international, national, regional and local levels, most studies have simply presented these inequalities. They have only rarely passed judgement on the question of a satisfactory balance between healthcare provision and needs. The answer to this question is indeed hampered by a major methodological problem: the lack of a universally recognised standard that would enable the level of healthcare necessary to satisfy a population's health needs to be determined. In its latest report (2006), the WHO has nonetheless tried to identify the countries facing an acute shortage of doctors, nurses and midwives. In order to do this, a density of health workers (doctors, nurses and midwives)<sup>6</sup> below which "*high coverage of essential interventions, including those necessary to meet the health-related Millennium Development Goals (MDGs), is very unlikely*" was determined. According to this criterion, there is at present a shortfall of 2.4 million health workers in the world. The shortfall is particularly acute in Africa, where the number of workers needs to be increased by 139%, Western Pacific (+119%) and Eastern Mediterranean (+98%). Conversely, this acute shortfall, which affects 57 countries, is not found in any of the countries of the WHO's Europe region and therefore not in any of the member states of the Council of Europe<sup>7</sup>.

This observation does not mean that shortage of healthcare provision is not a problem locally in the Europe region, but none of these countries in its entirety faces such a situation. Two recent studies<sup>8 9</sup> conducted in France sought to identify the areas where there were problems of access to primary care, and more precisely to general practitioners, and to do so at very precise geographic levels<sup>10</sup>. These studies take into consideration not only doctor density, but also other factors such as their workload, the ageing of the population, the ages of doctors, etc. Both studies reached very similar conclusions. The first study estimated that 0.6% of the population of metropolitan France, i.e. 400.000 people, live in "areas in difficulty" and 3.5% in "vulnerable areas". According to the second study, 1.6% of the population currently live in an area in difficulty from the point of view of healthcare provision. It can be seen that, even in a country like France, there is medical desertification or even a shortage of health provision, although only in very limited areas.

These studies also showed that, as has been observed for the planet as a whole, healthcare provision, even primary, is concentrated in major urban centres where there are university hospitals and the population's income is high, at the expense of rural areas. According to the WHO, 45% of the world's population live in rural areas, while less than 25% of doctors and less than 40% of nurses work in such areas.

Such inequalities of access to healthcare are not limited to rural areas alone, but are even to be observed in urban centres, with lower healthcare provision in deprived urban areas.

---

<sup>6</sup> To achieve a global assessment of shortfall, the Joint Learning Initiative (JLI), a network of global health leaders, launched by the Rockefeller Foundation, suggested that, on average, countries with fewer than 2.5 health care workers (counting only doctors, nurses and midwives) per 1000 population failed to achieve an 80% coverage rate for deliveries by skilled birth attendants or for measles immunisation. The WHO updated this study on the basis of its own data and obtained a threshold of around 2.28 health workers per 1000, the threshold used in the *World health report 2006*.

<sup>7</sup> WHO's Europe region includes all the member states of the Council of Europe as well as a few other countries (Belarus, Israel, Kazakhstan, Kirghizstan, Montenegro, Tajikistan, Turkmenistan, Uzbekistan).

<sup>8</sup> P. Cunéo, C. Cases, S. Bessière, D. Bauer. *Démographie régionale de 5 professions de santé de premier recours*. 2004 report of l'Observatoire National des Professions de Santé (ONDPS), Volume 4.

<sup>9</sup> CNAMTS- Point de conjoncture n°35-36 avril 2005.

<sup>10</sup> The ONDPS report analyses the situation of the country's 3,263 cantons, the CNAM study that of the 7,442 "health districts" (*zones de recours (aux soins de proximité)*) or general practitioner catchment areas.

### **Medical desertification: the risks for social cohesion**

An unequal distribution of healthcare has many consequences both on access to healthcare (late recourse to care, delayed treatment) and on the population's health, as well as on regional planning (lack of nearby healthcare provision is a factor accentuating the desertification of an area). Therefore a policy that aims to ensure that the whole population has satisfactory access is not only a public health issue, but one that more generally concerns regional planning and social cohesion.

Tackling this problem is particularly complex. Studies of the subject show that the choice criteria involved when a young doctor chooses a place in which to settle essentially concern personal factors: possibility of employment for the spouse, availability of schools for the children, satisfactory cultural and shopping facilities, etc. It is therefore the most urbanised areas, already very well provided with healthcare, that are the most attractive. Moreover, in areas distant from urban centres, health personnel are professionally isolated and overworked, factors which may lead them to "give up" and opt to move to a town. Finally, lack of medical provision makes an area unattractive to the general population and may further aggravate rural depopulation and the desertification of the most remote areas.

A study conducted in Baden-Wurtemberg (Germany) has shown that in an increasing number of small municipalities, but also in some urban neighbourhoods, the supplying of foodstuffs and other necessities is unsatisfactory. People who do not have their own vehicle, in particular the elderly, people with disabilities, large, poor families and the unemployed are particularly affected by this phenomenon. The study also shows that when the provision of everyday items deteriorates, other neighbourhood services, such as the doctor's surgery and the pharmacy, are also threatened and that this has led some people, particularly the elderly, to move to urban areas. In order to combat these trends, the Land has set up a rural development programme (*Entwicklungsprogramm Ländlicher Raum*).

It can be seen that healthcare distribution, social cohesion and regional planning are intimately linked. A policy to improve geographic access to healthcare contributes to social cohesion and regional planning policies and is, at the same time, dependent on them.

Finally, we should emphasise that in many countries the problem is likely to be exacerbated by the expected growth in healthcare needs linked with the increase in and ageing of the population, the technologisation of healthcare, the increased medicalisation of certain problems and the regulatory requirements in terms of safety. In addition, some countries may at the same time be confronted with a reduction in the number of doctors working as a result of the retirement of the generations born during the baby boom and policies restricting the number of doctors trained during the 1980s. In Germany, for example, the average age of doctors rose sharply between 1993 (46.6 years) and 2004 (50.6 years). Some Länder, particularly those situated in the east of the country, are already facing problems of a shortage of healthcare provision and, according to some projections, their situation is likely to worsen. Between now and 2010 there will be a shortfall of 147 general practitioners in Mecklenburg-Vorpommern to provide minimum medical cover<sup>11</sup>. The same phenomena are to be feared in France, the Ministry of Health (Drees) forecasting a 9% fall in the number of doctors between 2002 and 2025, at a time when the population will increase and age.

### **Role of regional and local authorities**

According to Dominique Polton's work, the question of the distribution of responsibilities among the institutions involved at different levels is one that arises in every area of economic and social action and therefore in the field of health services. Three major fields likely to be subject to a considerable degree of decentralisation (deconcentration, devolution, delegation and privatisation) can be identified with respect to health: the organisation of care (definition of the rules organising the system, regulation and planning), funding (distribution of sources of funding, collection of local resources and/or national (re-)distribution) and the management of services (decisions on the production of services, the recruitment and remuneration of health workers).

At European level, it can be said that a general trend towards decentralisation has been under way since the late 1990s, but with respect to the levels and areas described above, this takes many different shapes and forms. For example, in the United Kingdom, the planning and organisation of services is done at national level, which then delegates this function through deconcentration to the

---

<sup>11</sup> RKI (2006), Gesundheit in Deutschland.

health regions, then to districts and even, with respect to the management and production of services, to networks of local health workers (Primary Care Groups). Examples of devolution to locally elected representatives are the Scandinavians and to a lesser extent now the southern countries (Spain and Italy), where the regional and local levels have great autonomy in the organisation and management of the health system, while the central level retains only the setting of priorities and the power to supervise and sanction in the event of failures by the regions. In Germany, on the other hand, the management and regulation of out-patient care is delegated to institutional agents that are neither administrative structures nor elected representatives nor producers of care, but collective agents (associations of health insurance funds and doctors' associations). Regulation of health workers' training nonetheless takes place at federal level and hospital planning at regional level (Land).

However, while the degree of decentralisation certainly plays a part in this area, since the major concern is cost control and the efficiency or territorial fairness of national health systems, it has to be remembered that the organisation of the healthcare system, in other words, its operating principles and regulation, seem to be equally, if not more, important.

Whatever the mode of decentralisation of health systems chosen, however, it can be said that the general trend to varying degrees to transfer powers from national level to community institutions, regions or other local authorities (the concept of "region" varying in different countries) often gives them a pivotal role. Indeed, they facilitate taking local realities into account, adapting healthcare provision to needs, greater participation and assumption of greater responsibility by the population with respect to health policy choices and a greater capacity of emulation between territories and of innovation within them. This process, which is a fundamental element of the reforms of recent years in many European countries, thus gives regional institutions increasing room for initiative and management of the system, which can also sometimes go as far as including, in the more local territory concerned, delegation of management to local care producers (concept of technical and professional decentralisation). Nevertheless, even in highly centralised countries, where the health system is still mainly managed, planned, regulated and governed at central level, the regions can be actively involved in a policy of distribution of healthcare provision through the various measures presented below.

## **Measures available to regions**

### ***Factors influencing the attraction and retention of health workers in poorly served areas***

In order to put in place actions likely to improve the distribution of healthcare provision, it is essential to understand the factors that have a positive or negative influence on the settlement of health workers in poorly served areas (attraction), but also keep them there over time (retention).

While many studies have examined these questions, they principally concern doctors and most have unfortunately been conducted in non-European countries, particularly the United States, Canada and Australia, where the questions of geographic access to healthcare are particularly acute because those countries include vast, sparsely populated territories. Although great care should be taken when transposing the findings of studies conducted in countries where the organisation and funding of the health system is very different from what obtains in many European countries, the conclusions of these investigations are worth recording here. The elements listed below are a synthesis of various reviews of the literature published in recent years. The factors studied were individual characteristics (sex, age, geographic origin), content of training and financial assistance during training.

The strongest studies from a methodological point of view were based on large numbers of students and used multivariable analytical methods. Such methods are useful when different factors likely to influence the settlement or retention of doctors in rural areas interact with one another. They make it possible to determine which of these factors actually have an impact on settlement and retention.

### **Individual characteristics**

Of all the individual characteristics taken into account, having spent one's childhood in a rural area is the factor that is generally accepted as being most strongly linked to the probability of working in such an area. Thus, young doctors with a rural background are four times more likely than doctors with urban backgrounds to work in a rural area. Certain other factors associated with a rural background further increase the probability that a doctor will settle in a rural area: having a partner who has also lived in a rural area or relatives in a rural area, having expressed the wish to be a family doctor at the

beginning of training. Nonetheless, contrary to what one might think, according to some studies, coming from a rural background does not increase retention (the length of time worked in a rural area).

Of the other individual characteristics (sex, ethnic origin, age), only sex and age are also factors, older men being more likely than women to settle in a rural area. It should be emphasised, however, that this is not a unanimous finding and is not found in all the studies.

### **Factors connected with training and the social or working environment**

Some studies also looked at the factors that have a negative influence on attraction and retention. These are factors connected with:

- training: lack of preparation to practise medicine in a rural area connected with the lack of training specific to such practice and the lack of traineeships during training that put students in contact with such practice;
- personal and social life: lack of schools, particularly secondary schools, for children, lack of employment opportunities for the spouse, social isolation, lack of cultural activities, commercial and recreational services;
- working life: heavy workload, professional isolation and difficulty of discussing clinical cases with other general practitioners or specialists, the need to be constantly available to provide healthcare, difficult access to continuing medical training, remuneration considered too low, or settling in an economically deprived area is even seen as a risk.

### **Main categories of possible measures**

A great many policies have been put in place to tackle the problems of distribution of healthcare in European countries and elsewhere (United States, Canada, Australia) for which a great deal of literature is available. In France, a national observatory of health professions has been set up, the president of which, Professor Berland, has been asked by the Minister for Health to analyse the mechanisms likely to improve the territorial distribution of health workers. Similar studies had previously been carried out in many countries, including the United States, Canada and Australia. All these studies are based on analysis of the literature, some of the conclusions of which were set out in the previous paragraph, and more particularly on an analysis of the measures put in place for which documentation was available. These reviews of the literature have recently been updated and supplemented by surveys in the provinces of Canada<sup>12</sup> and the French regions<sup>13</sup>. The elements that follow are essentially derived from these studies.

Each measure listed can be considered according to various criteria. The measures can therefore be classified:

- according to their principal objective:
  - measures aimed at improving attraction (workers' settlement in poorly served areas);
  - measures aimed at improving retention (keeping workers in poorly served areas);
  - measures that have both these objectives.
- according to the point in a health worker's life at which they come into play:
  - measures coming into play upstream of the training period (recruitment of future students);
  - measures coming into play during students' training period (training content, traineeships, financial assistance in return for commitment to settle in a poorly served area, information on settlement assistance);

---

<sup>12</sup> Bilodeau H. Leduc N., and van Schendel N. (2006), *Analyse des facteurs d'attraction, d'installation et de maintien de la pratique médicale dans les régions éloignées du Québec*. Groupe de recherche interdisciplinaire en santé. University of Montreal.

<sup>13</sup> Bourgueil Y., Mousquès J., Tajahmadi A. (2006), *Comment améliorer la répartition géographique des professionnels de santé? Les enseignements de la littérature internationale et des mesures adoptées en France*. Institut de recherche et documentation en économie de la santé.

- measures coming into play at the time of setting up in practice (financial assistance, material assistance, information about the conditions of practice in poorly served areas);
  - measures coming into play after workers have set up and that seek to improve conditions of practice (mode of remuneration, locums, organisation of on-call periods, continuing medical training, tackling professional isolation, improving the social and cultural environment, etc.).
- according to their possible application at regional level:
    - regulatory or legislative measures that can be essentially taken at national level (limitation of conditions relating to setting up practice, increase in the number of workers trained, migration policy) or at regional level in countries where health policy management is highly decentralised. Although such measures fall outside the scope of this study, they will nonetheless be outlined briefly;
    - other measures that may be adopted at national, but also at regional or local, level.

There are also more crosscutting actions that do not directly aim to improve attraction or retention but play a part in the success of a policy to combat medical desertification. These include, in particular:

- studies and surveys to identify the territories where the problem of insufficient healthcare provision is acute, territories that should be priorities for the measures implemented;
- evaluations of measures implemented, which are as yet inadequate and should eventually enable the policies implemented to be more effective;
- seeing that the action taken is coherent;
- co-ordinating healthcare provision policies with other policies, such as regional planning policies.

### ***Detailed presentation of actions***

We shall first present regulatory or legislative measures. Although in most countries they cannot be implemented at regional or local level, such measures are worth examining, if only because regional authorities are always able to approach the national authorities in order to argue that such measures should be put in place. Other measures will then be presented, most of which can be put in place at regional level. Lastly, the measures that do not directly aim to influence the distribution of healthcare but that contribute to the success of policies will be presented.

### **National measures**

Some of these measures can only be taken at national level or at regional level where health policy management is very decentralised. They are essentially regulatory measures.

#### ***Increasing the number of health workers trained***

Increasing the number of workers trained may in theory result in saturation of provision in the best served territories and gradually lead doctors and other health workers to settle in poorly served rural areas. This strategy does not, however, bring about the expected results. Between 1985 and 2002 doctor density increased by 119% in the WHO's Europe region and by 130% in the European Union (cf. Appendix 3). While this rapid upward trend in medical density has been observed in all the member states of the Council of Europe for which data are available, it has to be admitted that inequalities in the geographic distribution of medical provision remain. The same observation has been made in other countries, in particular the United States, where the increase in healthcare provision was even accompanied by increased geographic disparities: between 1991 and 2001, doctor density rose by 23% in metropolitan areas but by only 10% in non-metropolitan areas.



### **Regulating where health workers set up practice**

Measures limiting or prohibiting doctors from setting up practice in territories already over- provided for have been introduced in Germany and the United Kingdom. In Germany, there is planning for out-patient care. Since 1955 (Act on “associations” of doctors in private practice), doctors linked to the state health scheme may only open a surgery on condition that a doctor density threshold (number of surgeries in relation to number of inhabitants) is not exceeded. The thresholds are determined by doctors’ professional associations and the federation of public health funds at regional (“Land”) level, taking into account a number of aspects of regional planning. This rule has resulted in a more even distribution of doctors’ surgeries, but has not solved the problem. Density is still significantly higher in urban than in rural areas, and the Länder of the former East Germany suffer from a significantly lower number of doctors than the west of the country. This situation, which forces them to implement measures aimed at limiting the emigration of their doctors to the western Länder, demonstrates the limitations of a policy uniquely based on this type of coercive measure.

### **Policies specific to foreign doctors**

There are no data that make it possible to establish health workers’ migratory flows at global level. Some data, available in particular in the countries of the Organisation for Economic Cooperation and Development (OECD), show that a number of health systems make significant use of foreign workers, however. This is true of New Zealand, where one-third of doctors (34%) were trained abroad, but also Australia (21%), the United States (27%) and Canada (23%). The phenomenon is widespread in Europe, where the United Kingdom stands out with 33% of doctors trained abroad, while the percentage is significantly lower in the other European countries for which data are available: Finland (9%), Germany (6%), France (6%) and Portugal (4%).

Some countries have put in place policies specific to foreign doctors. These may involve migratory measures aimed at attracting foreign students or doctors to their territory (recruitment campaigns, amendments to immigration legislation, language courses, etc.) or measures forcing such doctors to settle in poorly served areas. A policy aimed at ensuring territorially well-distributed healthcare provision may consequently be based in part on a migratory policy. As the OECD emphasises, while such policies may have positive outcomes, at least in the short term, they nonetheless raise ethical questions, particularly when the foreign doctors come from less developed countries with great health problems and a shortage of health workers. In 2003, in order to limit the negative impact on such countries, the Commonwealth countries adopted the *International Code of Practice for the International Recruitment of Health Workers*. The code requires compliance with a number of principles with respect to the migration of health workers:

- principle of transparency, that would normally involve an agreement between recruiting countries and the source countries;
- principle of fairness, that requires that persons who have outstanding obligations to their own country (for example, contract of service agreed to as a condition of training) are not recruited and providing potential migrants with full and accurate information on immigration, working conditions and their rights;
- principle of mutuality of benefits, which may involve technical assistance, technology transfer, training programmes, financial aid, facilitating migrants’ return to their own countries, etc.

### **New distribution of roles among health workers**

Measures aimed at changing the distribution of competences among health professions may help to reduce territorial inequalities in healthcare provision and the effects of the shortage of doctors. This may involve transferring tasks between doctors and nurses or general practitioners and specialists. Such measures have been implemented in the United States, Canada, New Zealand and the United Kingdom.

Professor Berland’s report, “*Coopération des professions de santé: le transfert de tâches et de compétences*”, takes stock of the experiments made in the field and of the possibilities of putting them in place in France. According to this report, delegation is possible in a great many areas: delegation of primary healthcare tasks to nurses, following up chronic pathologies, involvement in technical medical interventions (imaging, ultrasound, digestive endoscopy, echocardiography), taking charge of sight problems, taking charge of disability, dietary consultations etc.

The report lists the guiding principles:

- need to adapt workers' training or even create new types of training and professions;
- setting up close collaboration between doctors and paramedics, the doctor retaining responsibility for prescription and interventions;
- setting up continuing training for the paramedical professions comparable to continuing medical training, which is compulsory for doctors;
- clear definition of the field of competence of the various professions;
- increasing intellectual investment.

### **Regional and local measures**

Apart from these exceptions, most of the measures identified can be put in place at regional or even local level by territorial authorities in co-operation with the authorities responsible for managing health and health worker training policies and regional planning policies.

These measures may have an effect on both of the principal objectives of a policy, attraction and retention.

### ***Student recruitment***

As was mentioned earlier, students from rural areas are those most inclined to practise medicine in such areas. This observation has led some countries and regions to encourage people from rural backgrounds to go to medical school, particularly in the United States and Australia. This may involve action to provide health information and promote health among such people or providing financial support (cf. below).

Some countries, including Norway and Sweden, but also the United States and Australia, have set up faculties of medicine in rural areas in order to attract young people from such areas to medicine (cf. below) and to improve their training in medical practice in rural areas. Such faculties may also obviate the risk of students "getting a taste" for city life.

### ***Changes in medical training***

Many faculties of medicine, notably in the United States, the United Kingdom and Canada, have included in medical training programmes aimed at better preparing doctors for practising medicine in rural or poorly served areas. This may involve specific training or putting students in contact with the practice of rural medicine through pre- or post doctoral traineeships. In Australia, a rural faculty of medicine has even been set up which awards a diploma in general rural medicine at the end of four years' training.

The findings of studies of students who have taken part in such programmes are sometimes contradictory. It is true that including such programmes increases the probability of practice in a rural area, as well as retention of workers who set up practice in such an area. However, the studies do not always take into account the characteristics of the students concerned or of their prior intention to work in a rural area. In the United States, for example, the *Physician Shortage Area Program* (PSAP) aims to recruit and train medical students who have grown up or spent a substantial part of their lives in rural areas or small towns and who intend to practise in such areas. Such students receive appropriate training and financial assistance during their studies. Evaluations show that this programme has had encouraging results. Students who have participated in the PSAP are eight times more likely than those who have not to settle in a rural area. Of all the students who have graduated from one of the seven faculties of medicine in the State of Pennsylvania, those who were part of the PSAP programme (1% of graduates) account for 21% of doctors settled in rural areas. Of those, 87% are still practising in rural areas after five to ten years of practice. While it has been demonstrated that students who have taken part in PSAP are more likely than others to choose rural medicine, after other factors are taken into account, such as interest in practising rural medicine or the students' rural background, participation in the PSAP programme no longer seems decisive. For the most part it is students who are predisposed to rural practice who choose such programmes.

Because these conclusions vary so widely, recommendations on including specific programmes in medical studies may vary. Nevertheless, most of the recommendations made suggest combining strategies to recruit students from rural backgrounds, teaching medical practice in rural areas and putting students in contact with such practice through traineeships.

### ***Financial support during training***

Financial support for training may be offered in exchange for a commitment to work in a rural or poorly served area. Such support brings results, but ones that are only partly satisfactory. It is true that they enable the numbers of doctors settling in rural areas to be increased, but retention levels are poor. They therefore have only a relatively short-term effect. As an example, after ten years, only 15% of doctors who received support in the framework of the National Health Service Corps in the United States still practice in the place where they originally settled.

### ***Financial measures concerning the setting up in practice and retention of doctors***

Various financial measures are aimed at increasing the number of doctors who set up practice and remain in rural areas. They may involve setting-up grants, in the form of funding investments, for example (buildings, medical and computer equipment, etc.), tax exemptions and higher remuneration in rural areas. This last measure may be coupled with a reduction or upper limit on remuneration in areas with high medical density. In Quebec, whose remuneration policy is among those offering the most incentives, rates are increased by 15% for young practitioners working in remote areas (20% for specialists) and reduced by 30% in university areas, this latter measure having been discontinued in 2003. The success of such measures is debated, as is their advantage compared with policies to reform training and regulate places where medical workers may set up practice.

Other measures may be cited, such as funding on-call periods or locums during holiday periods.

### ***Implementation of measures to foster collaboration among workers and limit their isolation***

Various measures aimed at fostering collaboration among doctors and between doctors and other health workers, thus limiting their isolation, may contribute to the objective of well-distributed healthcare provision. These include, in particular:

- *telemedicine*, often cited as a new technology capable of improving the working conditions of doctors practising in rural areas. It can increase the attraction of rural areas for doctors wishing to set up practice in them, limit the effects of doctors' isolation, foster continuing training and enable patients to access distant services. The effectiveness of telemedicine remains unproven, however, and it is still expensive. It raises the most varied issues, including personal data protection. In 2006, Italy adopted and approved an Electronic Health Plan which enables distant medical services to be provided. Through the Internet, patients can directly (or through their doctor) ask for an appointment, check waiting-lists and receive a prescription. The results of this plan are said to be a fall in hospitalisations and a reduction in transport costs for patients;
- setting up group practices or health centres that bring together various primary health workers (doctors, nurses, physiotherapists);
- concluding shared medical time agreements that involve large, better staffed hospitals making available to peripheral hospitals with recruitment problems the medical resources they need in order to function. For example, for a few days a week an anaesthetist working in a university hospital may be on duty and ensuring continuity of care in a smaller hospital. Similarly, for out-patient treatment, there are secondary surgeries where health workers may occasionally be on duty to provide care.
- developing health networks, with the particular aim of improving co-ordination between health workers, improving the quality of treatment, combating health workers' isolation or, again, avoiding unnecessary medical examinations. Such networks have proliferated greatly in France in recent years, thanks to specific funding. In Italy the hospital's role as treatment centre for specific illnesses is currently being redefined, while at the same time a territorial basic health assistance and early diagnosis network is to be established.

## **Crosscutting measures**

Various other measures that do not directly concern training, setting up in practice and retention of doctors are worth mentioning.

### ***Complementarity of healthcare provision and regional planning policies***

Apart from working conditions, living conditions are also an important factor in health workers' decisions to set up in practice and remain in poorly served areas. Elements such as housing, spouse's employment, cultural and commercial services and schooling possibilities for children may be cited. They are more a matter of regional planning than of health policy. Although not evaluated, the involvement of regional and local authorities in improving doctors' reception and living conditions may be a factor fostering their settlement in rural areas. Co-ordination of health policies and regional planning policies is also needed.

### ***Development of prevention***

Prevention, health education and therapeutic education can play a major role in improving the population's health and limiting healthcare needs in the medium and long terms. They may therefore help – indirectly and not immediately, it is true – to reduce resort to healthcare and thus in part alleviate the problems arising locally as a result of the shortage of health workers.

As an example, in Germany, preventive visits have been established for elderly people living in rural areas. The ultimate objective is to reduce the future consumption of care by delaying the onset of dependency for as long as possible. On the basis of a multidimensional analysis of the situation of the elderly, qualified persons give personalised advice in order, in particular, to prevent falls and cerebral vascular accidents. The cost of these visits is borne not by the social security system but by certain Länder where population density is low and healthcare provision inadequate.

### ***Improving the dissemination of information about existing measures***

Informing young doctors about existing types of aid, workload and remuneration according to area of settlement is an essential addition to any measures that might be implemented. As an example, in France, Health Insurance (*Assurance maladie*) has set up *c@rtoSanté*, an on-line facility that allows very easy access to statistical and cartographic data on healthcare provision, the consumption of healthcare and the average workload of general practitioners at very precise geographic levels (cantons and communes). *Inst@lsanté* supplements the *c@rtoSanté* facility and is a veritable diagnostic tool and decision-making aid for doctors as regards setting up practice in that it provides information on the various types of support for medical practice, as well as all kinds of information about the future working environment – areas lacking in healthcare provision (giving entitlement to aid), hospital organisation, healthcare bodies and the organisation of out-patient healthcare duty periods – and even includes links with sites presenting the areas concerned from the cultural, tourist and economic points of view (knowledge of territories).

### ***Monitoring healthcare provision***

Ongoing monitoring of the disparities in healthcare provision is essential in order to direct policies to combat medical desertification as well as possible. It should enable territories that are vulnerable or becoming vulnerable to be identified. In addition to the traditional density indicators (number of workers in relation to population), many indicators may be studied in order to compare territories with one another:

- distance of access or, still better, the distance people actually travel in order to access healthcare;
- ageing, health and social situation of the population – indirect indicators of healthcare needs;
- population's consumption of healthcare, if possible taking into account the age and health structure of that population, a low level of consumption being perhaps an indicator of poor healthcare provision;
- health workers' workload, which may be an indicator of the inadequacy of provision but also of the risk of workers practising in the area becoming exhausted and ceasing to work;

- ageing of workers, which makes it possible to forecast the number of retirements and anticipate a fall in healthcare provision.

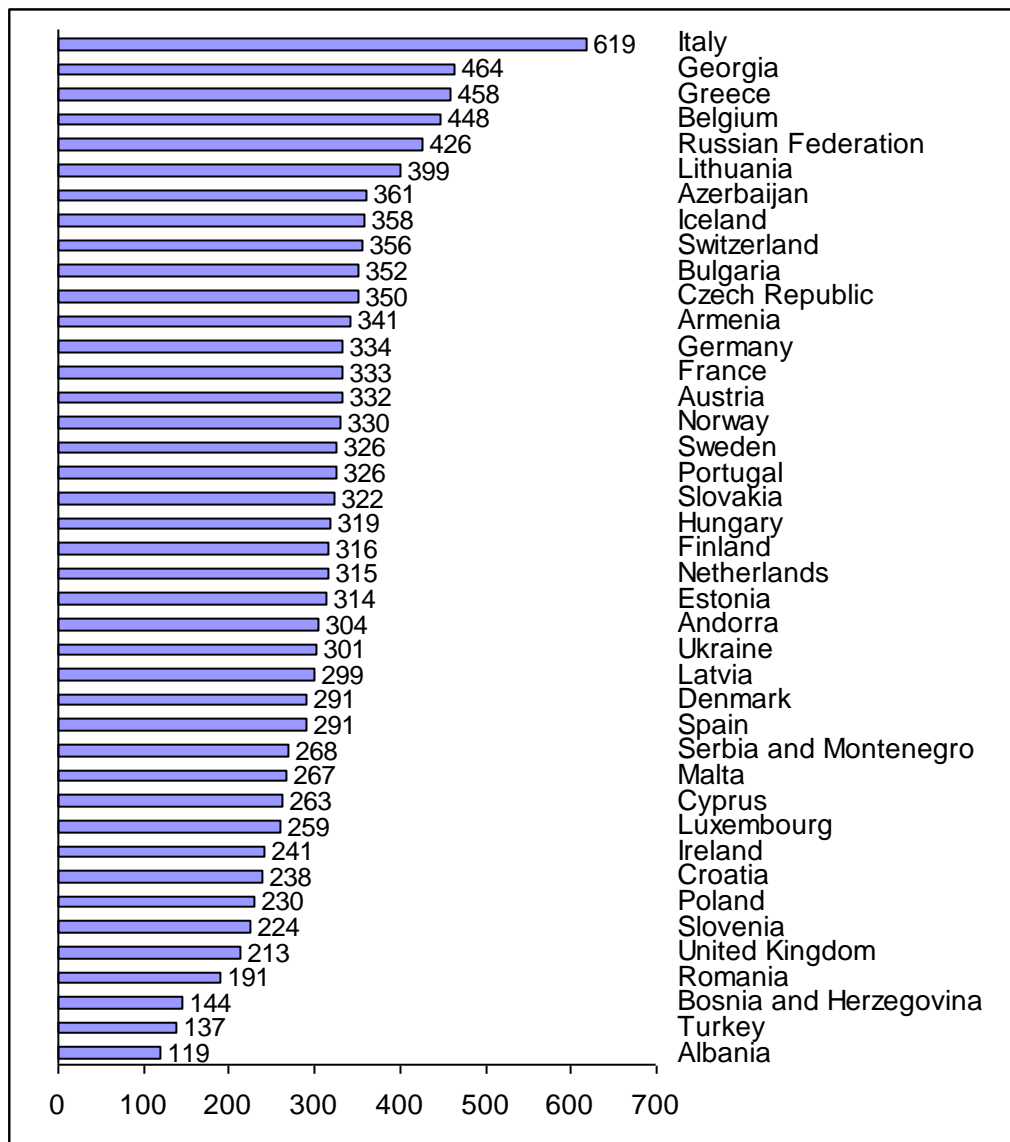
It is difficult to compare the healthcare provision indicators of different countries because of the differences in the ways health systems are organised and “incompatibility” of the statistical systems (gathering methods, definitions). On the other hand, in order to analyse local situations in a single country, it is altogether desirable and possible to use the same diagnostic methods over the whole territory. France, for example, has established a National Observatory of Health Professionals (ONDPS), linked at local level with regional observatories whose knowledge of local situations enables them to supplement and refine the work conducted at national level.

### ***Policy evaluation***

Evaluation of policies implemented, too rarely carried out, should be fostered in order better to determine in future what methods are worth developing because of their effectiveness and what measures should be abandoned or re-examined.

**APPENDIX 1: Doctor density in the WHO's Europe region**

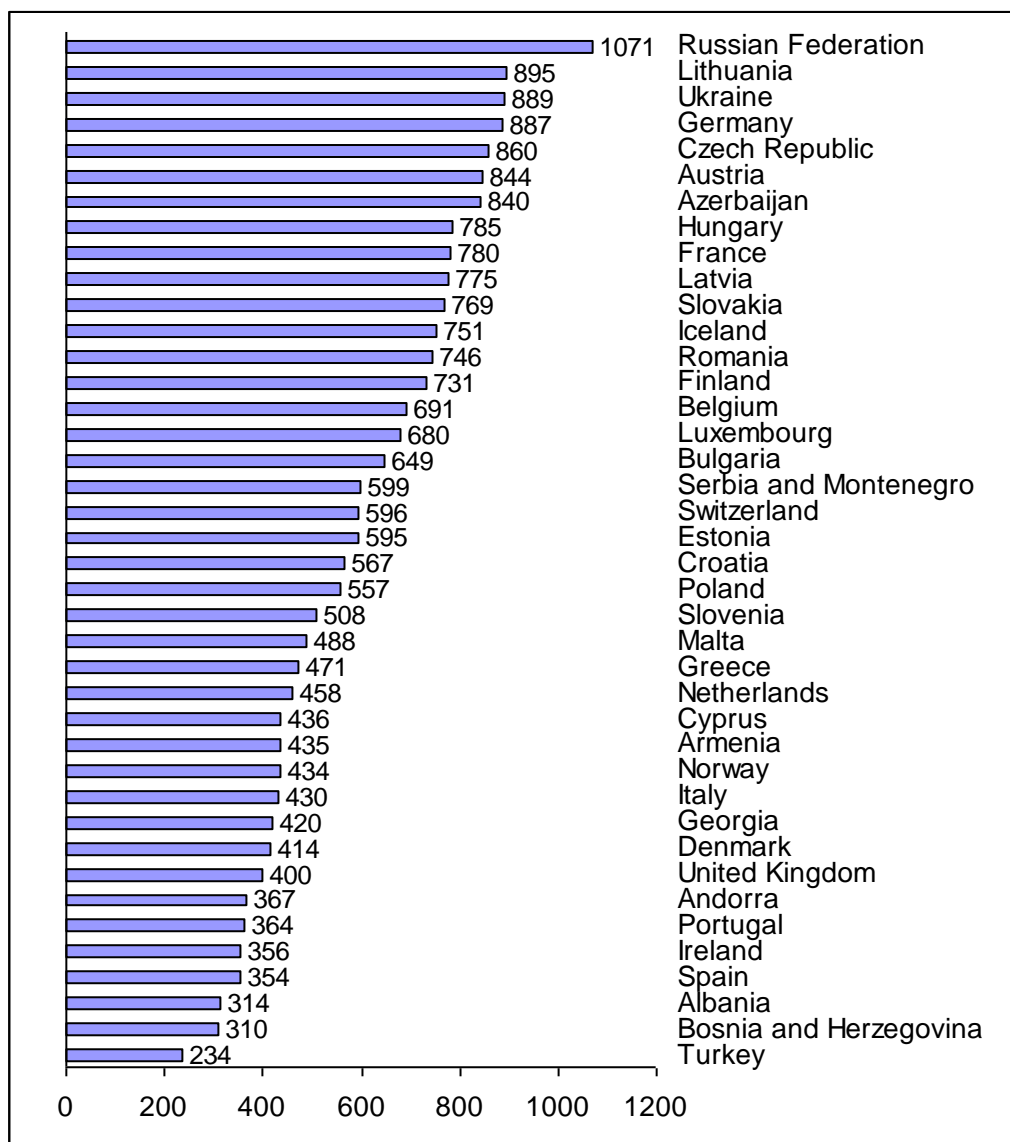
**Number of doctors per 100,000 inhabitants in the member states of the Council of Europe in 2002**



Source: WHO Europe – Health for all database

**APPENDIX 2: Hospital beds in the WHO's Europe region**

**Number of hospital beds per 100,000 inhabitants in the member states of the Council of Europe in 2002**



Source: WHO Europe – Health for all database

**APPENDIX 3: Trends in doctor density per 100,000 inhabitants between 1985 and 2002  
in the member states of the Council of Europe**

	1985	2002	Evolution entre 1985 et 2002		1985	2002	Evolution entre 1985 et 2002
Albania	141	119	84%	Lithuania	372	399	107%
Andorra	ND	304	ND	Luxembourg	181	259	143%
Armenia	358	341	95%	Malta	ND	267	ND
Austria	188	332	177%	Monaco	ND	ND	ND
Azerbaijan	380	361	95%	Netherlands	222	315	142%
Belgium	302	448	148%	Norway	221	330	150%
Bosnia and Herzegovina	136	144	106%	Poland	197	230	117%
Bulgaria	286	352	123%	Portugal	244	326	134%
Croatia	194	238	123%	Romania	176	191	108%
Cyprus	156	263	168%	Russian Federation	387	426	110%
Czech Republic	258	350	136%	San Marino	229	ND	ND
Denmark	230	291	127%	Serbia and Montenegro	ND	268	ND
Estonia	335	314	94%	Slovakia	281	322	114%
Finland	208	316	152%	Slovenia	188	224	119%
France	266	333	125%	Spain	ND	291	ND
Georgia	461	464	101%	Sweden	262	326	124%
Germany	ND	334	ND	Switzerland	273	356	130%
Greece	293	458	156%	TFYR Macedonia	181	ND	ND
Hungary	289	319	110%	Turkey	73	137	188%
Iceland	259	358	138%	Ukraine	400	301	75%
Ireland	162	241	148%	United Kingdom	151	213	141%
Italy	377	619	164%	<b>European Region</b>	<b>295</b>	<b>351</b>	<b>119%</b>
Latvia	410	299	73%	<b>EU</b>	<b>265</b>	<b>344</b>	<b>130%</b>

Source OMS Europe – Health for all database



## Bibliography

Barer M.L., Stoddart G.L.(1999), Improving Access to Needed Medical Services in Rural and Remote Canadian Communities: Recruitment and Retention Revisited. Centre for Health Services and Policy Research. University of British Columbia.

Berland Y. (2003), Rapport de la mission Coopération des professions de santé : le transfert de tâches et de compétences. Rapport présenté au Ministre de la Santé, de la Famille et des Personnes handicapées.

Berland Y. (2005), Rapport de la Commission Démographie médicale, Rapport présenté au Ministre de la Santé et de la Protection Sociale.

Bilodeau H., Leduc N. et van Schendel N. (2006), Analyse des facteurs d'attraction, d'installation et de maintien de la pratique médicale dans les régions éloignées du Québec. Groupe de recherche interdisciplinaire en santé. Université de Montréal.

Bourgueil Y., Mousquès J., Tajahmadi A. (2006), Comment améliorer la répartition géographique des professionnels de santé ? Les enseignements de la littérature internationale et des mesures adoptées en France. Institut de recherche et documentation en économie de la santé.

Brooks R.G., Walsh M. et al (2002), The Roles of Nature and Nurture in the Recruitment and Retention of Primary Care Physicians in Rural Areas: A Review of the Literature. Academic Medicine, 77 (8) : 790-18.

Caisse Nationale d'Assurance Maladie des Travailleurs Salariés (2005), Démographie médicale : vers un ciblage des zones de fragilité en médecine libérale. Point de conjoncture n°35-36 : 9-51.

Cunéo P., Cases C. et al (2004), Démographie régionale de 5 professions de santé de premier recours. Rapport 2004 de l'Observatoire National des Professions de Santé, Tome 4.

Drees, La démographie médicale à l'horizon 2025 : une actualisation des projections au niveau national (2004). Etudes et résultats N° 352

Duriez M., Lequet-Slama D. (1999), Régionalisation et systèmes de santé en Europe. Actualités et Dossiers en Santé Publique, 29 : 29-4.

European Observatory on Health Care Systems (2003), HiT summary Russian Federation. World Health Organization. Regional Office for Europe.

Fédération nationale des Observatoires de la santé (2001), Indicateurs de santé dans les régions d'Europe, Projet ISARE 1. Fnors.

Grosse-Tebbe S., Figueras J. et al (2005), Snapshots of health systems. European Observatory on Health Care Systems, World Health Organization Regional Office for Europe.

Kraemer D. Imbert F. (2002), La santé dans la Vallée du Rhin Supérieur : Comparaisons transfrontalières. Landesgesundheitsamt Baden-Wurttemberg, Observatoire Régional de la Santé d'Alsace.

McDonald J., Bibby L., Carroll S. (2002), Recruiting and Retaining General Practitioners in Rural Areas: Improving Outcomes through Evidence-Based Research and Community Capacity-Building. Centre for Health Research and Practice. University of Ballarat.

Observatoire national des professions de santé, Rapport 2005 Synthèse générale (2005). ONDPS

Organisation Mondiale de la Santé (2006), Rapport sur la santé dans le monde : Travailler ensemble pour la santé. OMS. Genève.

Organisation mondiale de la santé Europe (2003) , Atlas of health in Europe

Polton D. (2004), Décentralisation des systèmes de santé : un éclairage international. Revue Française des Affaires Sociales, 4 : 267-32.

Rabinowitz H.K., Diamond J.J., Markham F.W. et al. (2005), Long-Term Retention of Graduates from a Program to increase the supply of Rural Family Physicians. Academic Medecine, 80 (8) : 728-32.

Rabinowitz H.K. et al. (1999), A program to increase the number of family physicians in rural and underserved areas : impact after 22 years. The Journal of the American Medical Association, 281 (3) : 255-60.

Rechel B., Dubois C-A., McKee M. (2006), The Health Care Workforce in Europe Learning from experience.

RKI (2006), Gesundheit in Deutschland

Simoens S., Hurst J. (2006), The Supply of Physician Services in OECD Countries. OECD Health working papers N° 21.

Vignerot E. et al (2002), Pour une approche territoriale de la santé. Datar.