EU Healthcare System - Facts and Figures

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Abstract. The following paper presents the determinants of the health profile of the EU population, focusing on the health financing policy goals and the comparative study of the financing methods used by the healthcare systems. The background is based upon the population growth rates between the years 1960 and 2005 and upon the age-structure-development of the population. The paper also presents a breakdown of the contribution mechanisms by country, further focusing on the case of the Romanian healthcare system, analyzing and modeling its healthcare expenses function of its GDP and a population variable. The materials focus the different health financing policy goals of the EU healthcare systems. A special significance is given to the Romanian financing-development of the healthcare sector since 1989. The used method of this paper is the regression analysis. The results zoom in on the main still present problem regarding the financial sustainability of the healthcare domain for the analyzed period: the fact that most resources are still used by the hospital sector. Concluding we can emphasize two main ideas: The first is that the competence for the organization and delivery of health services and healthcare is largely held by the Member States, although the EU has the responsibility to give added value. The second idea is that Romania’s healthcare system has been characterized by centralism and limited options up to 1989 and a few years after. The declared Romanian goals of the reform process have been just relatively applied in practice up to the present day.

Keywords: healthcare system, financing healthcare policies, regression analysis

INTRODUCTION

The paper starts from the basic idea that the biggest asset one may have in life is health (Virgil, classical Roman poet). Health has been defined as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO, 1946). Furthermore, the main determinants to be considered by authorities for improving the population’s health may be synthesized as follows:

So, the full health potential doesn’t depend only on the healthcare providing system, but on many other factors, so individuals, groups, public and private institutions have to play their role in the general effort of increasing the health status of a nation.

Considering some key figures in the EU (European Union) on population and social conditions, statistics say that the world population is approaching 7 billion people. Although the world population increased significantly from 1960, each successive decade registered a progressively slower growth rate, with different patterns across the six continents. As Figure no 2 presents, Europe had by far the lowest growth rates.
The study of EU population by age class points out that the impact of demographic change within the EU is likely to be of major significance in the coming decades. Consistently low birth rates and higher life expectancies will transform the shape of the EU age pyramid, so we have a marked transition towards a much older population. Fertility rates in the EU have generally been below this natural replacement level across most member states for a couple of decades and they continue to decline over this period. Moreover, the share of older persons in the total EU population will increase significantly from 2010 onwards, as the post war baby-boom generation reaches retirement, leading to economic and social consequences.

### Population growth rates

<table>
<thead>
<tr>
<th>Region</th>
<th>2005 (million)</th>
<th>Share of 2005 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>731.1</td>
<td>82.8</td>
</tr>
<tr>
<td>Africa</td>
<td>922.0</td>
<td>30.6</td>
</tr>
<tr>
<td>Asia</td>
<td>3938.0</td>
<td>43.3</td>
</tr>
<tr>
<td>Latin America &amp; The Caribbean</td>
<td>558.0</td>
<td>39.5</td>
</tr>
<tr>
<td>Northern America</td>
<td>332.2</td>
<td>61.4</td>
</tr>
<tr>
<td>Oceania</td>
<td>33.4</td>
<td>47.5</td>
</tr>
</tbody>
</table>

Source: Euromonitor Databases

### Population by age class, 2007 (% of total population)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>EU-27</th>
<th>Euro area</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
<td>15.8</td>
<td>15.5</td>
</tr>
<tr>
<td>15-24</td>
<td>12.6</td>
<td>11.7</td>
</tr>
<tr>
<td>25-49</td>
<td>36.3</td>
<td>36.7</td>
</tr>
<tr>
<td>50-64</td>
<td>18.3</td>
<td>18.1</td>
</tr>
<tr>
<td>65-79</td>
<td>12.6</td>
<td>13.3</td>
</tr>
<tr>
<td>80+</td>
<td>4.3</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Source: Euromonitor Databases
Considering the determinants of the health profile of the Romanian population (Vlădescu, 2008), the most important demographic Romanian phenomena of the last decade were the high decrease of female fertility, the persistence of high mortality rates and a significant decrease of marriage ratio. The consequences of these negative dynamics phenomena were:

1) The dramatic decrease of the number of inhabitants, as a consequence of the negative natural growth of the Romanian population. It has started in 1992 and still continues, as a result of two opposite trends: the declining of the birth rates and the increasing mortality rates;

2) The modification of the population’s structure within its age groups: the increased old age population led to negative medical-social consequences;

3) The constant low level life expectancy at birth and on age groups, aspect which is more emphasized for the male population.

MATERIALS AND METHODS

Healthcare has been defined as the prevention, treatment and management of illness and the preservation of mental and physical well being through the services offered by the medical, nursing and allied health professions. Because health is an important priority for Europeans, many of today’s European healthcare policies include not only cures but also prevention and detection. A new health strategy “Together for Health: A Strategic Approach for the EU 2008-2013” was adopted in 2007, putting in place a framework to improve health in the EU through a value-driven approach, recognizing the links between health and economic prosperity, integrating health in all policies, and strengthening the EU’s voice in global health. The White Paper sets out a coherent framework, a health strategy, to give direction to community activities in health, establishing fundamental principles for action on health, strategic objectives and the methods of implementing the strategy.

The health financing policy goals of the EU healthcare systems are:

- financial protection aims to ensure that people do not become poor as a result of using health care;
- equity in finance requires richer people to pay more for health care, as a proportion of their income, than poorer people;
- equity of access to healthcare based on need rather than ability to pay;
- improving the transparency and accountability of the system, addressing the issue of informal payments where relevant,
- rewarding good quality care and providing incentives for efficiency in service organization and delivery;
- promoting administrative efficiency by minimizing duplication of responsibility for administering the health financing system and minimizing costs that do not contribute to achieving the goals.

Nevertheless, the healthcare systems typology according to the contribution mechanisms/methods of financing healthcare is as follows:

1. National Health Systems (Beveridge type), financed through global taxes;
2. Social Health Insurance Systems (Bismarck type), based on compulsory social contributions related to the income;
3. Private Health Insurance System, based on voluntary insurance premiums.
Still, the methods of financing healthcare don’t necessarily exist in the above presented pure forms; they’re generally adjusted to the specific conditions of each member state and combined through the healthcare system, in order to attain its goals. A close-up tendency of these system types may be noticed, trying to combine their advantages and to reduce the disadvantages. e.g. NHS – introducing competition mechanisms: internal competition for attracting potential clients;

Insurance based systems – fiscal regulating mechanisms on behalf of the government authorities. In the context of the development of a coverage plan, an evaluation should be undertaken, that identifies mechanisms suiting best with regard to raising sufficient and sustainable revenues in an equitable manner for the provision of adequate benefit packages and financial protection of the whole population.

The Member States of the EU-27 fall into three distinct groups, as follows:

1. The largest group is made up of those that finance healthcare mainly through social insurance contributions (Austria, Belgium, the Czech Republic, Estonia, France, Germany, Hungary, Lithuania, Luxembourg, the Netherlands, Poland, Romania, Slovakia and Slovenia).

2. The second group consists of those that finance healthcare mainly through taxation (Denmark, Finland, Ireland, Italy, Malta, Portugal, Spain, Sweden and the United Kingdom).

3. The third group consists of those that still rely most heavily on out of pocket payments (Bulgaria, Cyprus, Greece and Latvia).

OOP payments take three broad forms: direct payments for services not covered by the statutory benefits package; cost sharing (user charges, co-payments) for services covered by the benefits package; and informal payments.

A major change since 1996 has been the shift from tax to social insurance as the dominant contribution mechanism in Bulgaria, Lithuania, Poland and Romania. SSC stands for Social insurance contribution, PHI for Private health insurance and OOP for Out-of-pocket (payments), as presented by Figure 2:

Fig. 2. Breakdown of contribution mechanisms by country, 1996 vs 2005
For Romania, the events that took place at the end of 1989 and during the following successive political changes imposed a new strategy for acting upon the socio-economical life, and even upon Romania’s healthcare sector.

Regarding the financing of the healthcare sector, from the early 90s and up to the 1998 reform (Law No. 145/1997 the Law of Social Health Insurance and Emergency Ordinance No.150/2002 on organization and functioning of the social health insurance system and Law no. 95 from April 14th 2006 on health care reform, published within M.O. no. 372 from April 28th 2006), the figures show that Romania was situated at the end of the top as percentage of GDP given to health assistance. Basically, there did not exist a social health insurance system, so the sums needed by the healthcare system were paid from the state budget that allotted just a few percentages of its GDP for healthcare, which also led to a decrease of the health status of the Romanian population, as compared to its neighboring countries. Furthermore, the decision factors considered that the expenses on healthcare were insufficient to cover the population’s needs, so the 1998 healthcare reform introduced the social health insurance system to change that situation.

After 1998, the percentage of healthcare expenses in the GDP increased, so the contributions paid by both the employers and employees have become the main financing source of the system. Nevertheless, the increase hasn’t been significant (of appreciatively only 1% of GDP) and unfortunately this increase hasn’t influenced the qualitative evolution of the healthcare system.

RESULTS AND DISCUSSION

The main still present problem regarding the financial sustainability of the healthcare domain for the analyzed period is the fact that most resources are used by the hospital sector. Moreover, in 1997, the hospitals used 67% of the total incomes, this tendency reducing itself gradually up to 46% in 2007.

For the period between 1990 and 2008 we’ve modeled the increase rate of real healthcare expenses, as compared to the previous year (ReS), at first as related to the increase rate of real GDP, as compared to the previous year (RePIB) (Data structured and computed based on the available information from the Ministry of Public Health). The simple linear regression obtained using the least squares method upon the database, in Matlab, is the following:

\[ ReS = 11.164572 + 2.292749 \times RePIB \]

Figure. 3 determines the correlation between the variation rate of real GDP from one year to another and the variation of healthcare expenses, a chain index as well. The correlation in rather medium, of approximatively 38%, GDP’s increase by 1% determining an increase of the healthcare expenses of 2.29%.
By introducing a new variable in the model, i.e. the variation rate of population aged 65 and above in the total population of Romania (Di Matteo, 1998 and 2005), the chain index computed for the same period, the following multifactor linear model is obtained:

\[
\text{ReS} = 9.413874 + 2.364114 \times \text{ReSI} + 0.797555 \times \text{ReP}
\]

\(R^2\) correlation coefficient becomes 0.380248 and the equation defines a regression plane represented in Figure no. 5. Furthermore, the field lines of the variation rate of Romanian public healthcare expenses are marked by Figure 4, as percentages.

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Fig. 3. GDP – Public Healthcare Expenses Correlation, Romania, 1990-2008

Fig. 4. Field lines of ReS [% of previous year] function of RePIB and ReP

Fig. 5. Regression plane of ReS function of RePIB and ReP
CONCLUSIONS

To conclude with, we may say that Romania’s healthcare system has been characterized by centralism and limited options up to 1989 and a few years after. The declared goals of the reform process wanted to improve the health status of the population, an increased efficiency of resource usage, a better doctor-patient relationship and more satisfaction on behalf of the patients and medical services suppliers. Twelve years after that process started, we think that the initial goals have just partially been attained. Regarding the fundamental principles of the new social health insurance system, i.e. equitable access to healthcare services, universal coverage of market segments with these services, national solidarity in financing medical activities, stimulating efficient services, they’ve been just relatively applied in practice up to the present day.

Still, the competence for the organization and delivery of health services and healthcare is largely held by the Member States, although the EU has the responsibility to give added value. And although we’ve previously shown that population health depends on the combined effects of several factors, certainly if health sector performance improved, it would help to improve population health, ideally in conjunction with other favorable changes.

REFERENCES

7. ***Law No. 145/1997 the Law of Social Health Insurance and Emergency Ordinance No.150/2002 on organization and functioning of the social health insurance system and Law no. 95 from April 14th 2006 on health care reform, published within M.O. no. 372 from April 28th 2006.