# ANALYZING HUMAN RESOURCES IN THE HEALTHCARE SYSTEM – A COMPARATIVE STUDY

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### Abstract

Human resources in the healthcare system of Romania are inadequate, observing as how comparatively to other European countries the number of doctors and medical staff in Romania is inferior to the averages registered elsewhere. The decisional factors within the system are confronted with major problems addressing two important pillars: on one side we have the total number of employees in the system and on the other side the distribution of said personnel to different specialties or medical domains.

Key words: human resources, healthcare, comparative study

### **INTRODUCTION**

Not only the comparisons of healthcare indicators are unfavorable, but also those which refer to the access to basic healthcare services, where Romania presents some of the lowest values in aspects such as number of doctors, nurses, pharmacists or dentists reported to the entire population (Bratton J, Gold J., 2000). Besides the uneven territorial distribution of medical personnel we can also encounter specialty personnel insufficiency particularly for preventive, medico-social, public health or healthcare management sectors, coupled with an inadequate prevalence of auxiliary personnel and concentrating medical staff in urban areas and hospitals (Abrudan D., 2010). This study comparatively analyzes the number of human resources in the healthcare system in Romania and countries of the European region in order to properly identify problems which could present with the highest priority in applying measures, actions, policies or specific strategies.

## MATERIAL AND METHOD

In the observational study, both retrospective and descriptive, in the period between 1990 and 2012, information regarding the population was harvested, in essence the number of doctors, nurses and pharmacists in European countries. The information source was the World Health Organization, through data presented on the online European Health for All Database, WHO Regional Office for Europe, Eurostat, 2014.

### **RESULTS AND DISSCUSIONS**

At a European level there is no uniform distribution of the number of doctors. Reported to 100000 citizens, Greece has the most doctors available with  $614.47\%_{000}$ , followed by Austria with  $484.4\%_{000}$ . The average in the European region in 2011 was  $333.78\%_{000}$ . Countries with a low number of doctors were, in 2011, Albania –  $111.3\%_{000}$  and Romania –  $238.53\%_{000}$ .

Table 1

The evolution in the number of doctors to 100000 citizens between 1990 and 2012 in European countries.

Phisicians per 100.000											
ŢĂRI	1990	1995	2000	2005	2010	2011	2012				
1 Albania	137.41	130.63	138.89		113.61	111.3	114.54				
2 Austria	300.83	351.31	385.33	431.82	479.66	484.4					
3 Belgium	326.53	354.32	282.88	287.07	293.5	291.4					
4 Bulgaria	316.96	345.81	336.91	364.01	371.14	386.26					
5 Cyprus	206.94	246.96	259.44	266.01	290.61	298.23					
6 Czech Republic	270.55	299.51	336.86	355.49	358.09	363.65					
7 Denmark	249.54	268.49	291.17	331.09							
8 Estonia	350.38	319.15	319.16	316.54	322.27	326.29					
9 France						316.08	315.64				
10 Germany		306.53	326.04	341.13	373.17	382.36					
11 Greece	337.94	387.42	432.8	500.33	612.55	614.47					
12 Hungary	294.22	300.36	268.24	278.13	286.86	295.84					
13 Italy						418.87					
14 Latvia	354.43	282.81	287.36	288.11	291.07	313.44					
15 Netherlands			244.28	270.75	296.36						
16 Norway		295.26	339.6	361.95	406.81	371.77					
17 Poland	214.18	231.74	222.27	213.83	216.01	218.61					
18 Portugal	274.17	284.33	307.72	336.48	384.67	398.33					
19 Republic of Moldova	355.02	351.3	244.52	279.07	279.67	282.59	282.62				
20 Romania		•••	192.72	217.22	236.93	238.53					
21 Spain	204.32	250.19	330.82	376.74	377.88	398.91	369.57				
22 Sweden	259.17										
23 Ukraine			300.44	301.59	349.08	349.14	349.42				
24 United Kingdom	161.75	175.45	195.83	239.32	271.76	277.74	278.95				
25 European Region	280.29	286.09	302.5	315.76	329.94	333.78					

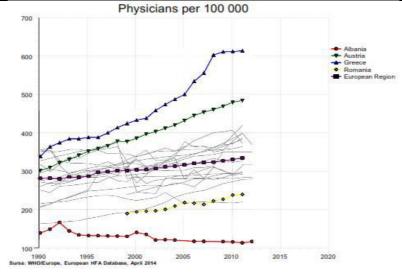


Fig. 1. The evolution in the number of doctors to 100000 citizens between 1990 and 2012 in Romania compared to other European countries.

Table 2

European countries. Nurses per 100000												
	1990	1995	2000	2005	2010	2011	2012					
1 Albania												
2 Austria			729.45	732.68	785.76	793.77						
3 Belgium					1566.23							
4 Bulgaria	682.41	686.25	435.85	448.2	464.98	474.64						
5 Cyprus	427.68	433.53	422.46									
6 Czech Republic	775.5	789.5	805.25	851.6	848.44	846.05						
7 Denmark		957.92	1261.36	1464.26								
8 Estonia	880.08	692.45	632.34	662.28	636.04	646.6						
9 France						928.2	963.16					
10 Germany			978.25	1044.09	1139.96	1154.33						
11 Greece			292.82	352.79								
12 Hungary	544.61	558.09	548.27	614.58	639.09	638.41						
13 Italy						673.36						
14 Latvia			477.21	506.67	487.81	515.17						
15 Netherlands				832.98								
16 Norway				1413.21	1490.49	1332.24						
17 Poland	608.05	611.71	553.19	563.96	579.97	580.3						
18 Portugal				458.47	590.49	633.26						
19 Republic of Moldova	1107.56	1041.42	557.49	653.37	647.91	646.77	641.86					
20 Romania			530.03	570.63	545.56	550.84						
21 Spain	283.94	313.12	373.48	434.06	504.38	548.1						
22 Sweden												
23 Ukraine			654.07	663.59	748.86	748.66	752					
24 United Kingdom					1012.49	897.24	882.5					
25 European Region			722.69	735.35	769.31	765.87						

The evolution in the number of nurses to 100000 citizens between 1990 and 2012 in European countries.

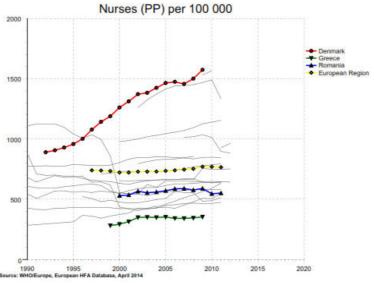


Fig. 2. The evolution in the number of nurses to 100000 citizens between 1990 and 2012 in Romania compared to other European countries.

Despite the fact that in the past 25 years there were many education and training institutions for nurses organized in Romania, there has been no notable increase in the number of nurses which are active in the national healthcare system. Romania is confronted with problems in the quantity of human resources in the healthcare sector while the quality is high, allowing professionals to obtain work contracts anywhere in the European Union. Romania is under the average of the European region regarding the number of healthcare staff (doctors, nurses, pharmacists) reported to the number of inhabitants. Studies which have been undertaken (Presidential Commission Report for the analysis and elaboration of healthcare policies in Romania, 2008) show that the medical professional density in our country is lower than the European average, and thus Romania is placed 31<sup>st</sup> out of 33 countries (Albania and Bosnia being the last two).

The migration of medical personnel from Romania is mainly influenced by motivation. Motivation of medical staff is effectively given through salary/income, proper workplace environment, facilities offered by the medical unit in order to assure comfort, etc. The salary or income is the main cause of medical personnel migration from Romania.

### CONCLUSIONS

The average of doctors in the European Region in 2011 was of  $333.78\%_{000}$ . The most doctors can be found in Greece with  $614.47\%_{000}$  and Austria with  $484.4\%_{000}$ . In Romania we can only find  $238.53\%_{000}$  values regarding doctors. Concurrently, the number of nurses and pharmacists are under the average of the European Region.

We can thus appreciate the fact that medical personnel, which is the most important resource of any healthcare system, is confronted with problems tied to the total number of employees within the system and the distribution of personnel to specialties or medical domains. Another problem pertains to the personnel deficit on a national scale, caused mainly by the free circulation of the workforce in the EU community space.

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