

Human Resource Management in the European Health System-A Comparative Approach

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Abstract. This paper was done to highlight the trends in human resource management in health care system. In this paper we analyze human resources management in health system in several European countries, we also analyze the trends in Human Resources management in the health system in European Union. Based on this analysis we have built an extrapolation in European level, in perspective of standardization and improvement of social systems in different European countries. This paper aims to support HRM strategies in health sector and to assist the decisions of preparation, training and specialization of doctors.

Keywords: human resources management(HRM); health system, comparative approach of human resources; human resources development;(HR development), trends in the health system.

1. Introduction

Capitalist society is based on the profit orientation and the technological progress which entails a continuous focus on the balance that must exist in public and private sector. This balance is based on the individual, as a social being and as a human resource in public or private organizations

Health System is designed, through the activities they undertake, to ensure the highest level of population health. This role is achieved through preventive and corrective actions and is essential for the good of society.

In the current economic and social context is required special attention to the area of human resources management in all systems and organizations, but especially in the health system. Human resource management in the health system gains a role more and more important for the following reasons:

- Human resources in the health system require a lot of time for training, development and specialization;
- Health system interacts directly with people with health problems, problems that affect them directly;
- The increasing number of diseases that occurs periodically due to new viruses or old resistant viruses.

2. Literature Review

2.1 Definition of Human Resources Management in the Healthcare System

In the literature there are a number of definitions of human resource management, some of which are quite developed and contributing to a better understanding of the content of human resource management.

We can state that currently there is no generally accepted definition of human resource management (HRM). From the diversity of definitions of human resource management, the most important are described below.

According to Burloiu Petre(1997) : "human resource management is a complex of measures used in recruitment, selection, integration, material and moral stimulation, until the cessation of employment." This

definition corresponds to the system man-demand, in which man occupies the central place, being forced to respond to the demands of all factors such as : technical conditions of work, work motivation, team work relationships, work environment and personal preoccupations.

Robert L. Mathis and his collaborators (1998) define human resource management as:

- staff recruitment and employment;
- development of adequate training programs to achieve organizational objectives;
- preparation of plans of stimulation through payroll, designed to encourage effective achievements at low cost;
- development of non-financial incentive schemes;
- rapid integration of new employees;
- career development programs.

Human resource management is defined by DA Constantinescu and his colleagues (cited by Manolescu, A. Human Resources Management, RAI Publishing, Bucharest, 1998) as "an area that includes all management decisions and practices that influence or directly affect people" There are other definitions of the human resource management (HRM) in the literature of our country :

- All major decisions that affect the relation between social partners - employer and employees
- To ensure increased productivity and efficiency of economic activity;
- human factor oriented activities aiming to the conception, design, optimal use , maintenance and HR development;
- All activities related to ensuring optimum use of the human resources for the benefit of the organization, of each individual and of the community in general;.
- Complex oriented activities and effective use of human capital in order to achieve organizational objectives

Examining the definitions of human resource management we can draw some conclusions that reflect the state of development and consolidation of management theory and practice in this field. We can see also that these definitions do not contain contradictory elements, but they complement each other.

The definitions cover issues such as

- Planning, recruitment and retention of staff;
- Motivating employees;
- Obtaining and maintaining an effective workforce;
- Using employees to achieve individual and organizational goals.

The content of management of human resources is given by the multiplicity and diversity of activities which must be undertaken, linked and harmonized in the field of human resources, activities that are more or less linked together and have a great impact on the efficiency of health care system.

The American Society for Training and Development identifies eight (8) main areas of activity of the human resource management:

- Training and development;
- Organization and development;
- Organization / job design;
- The human resource planning;
- Selection and staffing;
- Providing rewards / benefits
- Advice on personal problems of employees;
- syndicate / labor relations.

De Cenzo, one of the great specialists in the field, together with his colleagues (cited by Manolescu, A. Human Resources Management, RAI Publishing, Bucharest, 1998) suggests that, in fact, human resources

Management(HRM) is a process composed of four functions: acquisition, development, motivation and retention of human resources.

Other authors - C.D. Fischer, L.F. Schoenfeldt, J.B. Shaw (cited by Manolescu, A. Human Resources Management, RAI Publishing, Bucharest, 1998) have tried to circumscribe more precisely the content of the human resource management:

- Strategic management of the human resources;
- Equal employment opportunities;
- International or multinational management of human resources;
- Career planning;
- Organizational behavior;
- Collective bargaining;
- program of work;
- Discipline and control;
- Evaluation of human resources functions.

- According to Wayne F. Cascio's (cited by Manolescu, A. Human Resources Management, RAI Publishing, Bucharest, 1998), human resource management requires the development, implementation and evaluation at least four new areas:

- humanization of work;
- Performance-related rewards;
- Flexible working;
- Career planning.

In French literature, Jean Marie Paretti, in "Ressource humaines" (1996) shows that in the concept of human resource management, staff function involves the following ten aspects:

- The current administration;
- Human resource management;
- Training;
- Social development;
- Management of staff costs;
- Information and communication;
- Environmental and working conditions;
- Social relations;
- Hierarchical counseling and management personnel;
- External relations.

Michael Armstrong, in one of his papers , Personnel Management Practice (1996), analyze the complex process of human resources management. The author also highlights the high degree of interdependence of HR activities, so some changes in an HR activity lead to changes inherent in other HR activities, which will influence the final organizational effectiveness.

2.1 HRM Approaches in the Health System

HR management in the health system takes into account human resources management in the context of the specific domain , determined by the evolution of human , technical, economic, and biological factors.

2.2 Priorities of HRM in the Health Care System

The main priority of HRM in the health system is to ensure the adequate human resources according to the demand of the society. It has in view a long-term approach because human resources in health system are characterized by a long preparation and training.

However, changes in the health system environment obliges HRM to make short-term forecasts in order to predict the environmental variables that will influence health care in the future.

3. Research Methodology

3.1 The Information Basis

The study is based on statistical information collected from public documents developed by the European and national institutions. Statistical Table is one of the most appropriate ways of presenting statistical data in tabular form and is used in all stages of research.

Table 1 presents the evolution of Europe's population. This information is necessary in the proposed study due to the influence of population size on the health system and by default on the need for human resources in health sector. The growth in population signal a need for more doctors, nurses and other medical staff.

Table 1. The evolution of the population in European countries (Eurostat,2011)

Country	2005	2006	2007	2008	2009	2010
EU (27 countries)	491134938	493210397	495291925	497686132	499705399p	501125880p
Belgium	10445852	10511382	10584534	10666866	10753080	10839905
Bulgaria	7761049	7718750	7679290	7640238	7606551	7563710
Czech Republic	10220577	10251079	10287189	10381130	10467542	10506813
Denmark	5411405	5427459	5447084	5475791	5511451	5534738
Germany	82500849	82437995	82314906	82217837	82002356	81802257
Estonia	1347510	1344684	1342409	1340935	1340415	1340127
Ireland	4111672	4208156	4312526	4401335	4450030	4467854
Greece	11082751	11125179	11171740	11213785	11260402	11305118
Spain	43038035	43758250	44474631	45283259	45828172	45989016
France	62772870	63229635	63645065	64007193	64369050p	64716213p
Italy	58462375	58751711	59131287	59619290	60045068	60340328
Cyprus	749175	766414	778684	789269	796875	803147
Latvia	2306434	2294590	2281305	2270894	2261294	2248374
Lithuania	3425324	3403284	3384879	3366357	3349872	3329039
Luxembourg	461230	469086	476187	483799	493500	502066
Hungary	10097549	10076581	10066158	10045401	10030975	10014324
Malta	402668	405006	407810	410290	413609	414372
Netherlands	16305526	16334210	16357992	16405399	16485787	16574989
Austria	8201359	8254298	8282984	8318592	8355260	8375290
Poland	38173835	38157055	38125479	38115641	38135876	38167329
Portugal	10529255	10569592	10599095	10617575	10627250	10637713
Romania	21658528	21610213	21565119	21528627	21498616	21462186
Slovenia	1997590	2003358	2010377	2010269b	2032362	2046976
Slovakia	5384822	5389180	5393637	5400998	5412254	5424925
Finland	5236611	5255580	5276955	5300484	5326314	5351427
Sweden	9011392	9047752	9113257	9182927	9256347	9340682
United Kingdom	60038695p	60409918	60781346	61191951	61595091	62026962
Iceland	293577	299891	307672	315459	319368	317630
Liechtenstein	34600	34905	35168	35356	35589	35894
Norway	4606363	4640219	4681134	4737171	4799252	4858199
Switzerland	7415102	7459128	7508739	7593494	7701856	7785806

Turkey	71610009	72519974	69689256b	70586256	71517100	72561312
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Apart from the growth of population, other factors with important influence on health care are as follows : 1.the geographical structure, and 2. the economic and social development, but the main factor is the growth of population. Figure 2 shows the evolution of Europe's population in the last three years and as can be seen, it was a slight increase in the population throughout Europe.

Figure 1. Evolution of the population in European countries

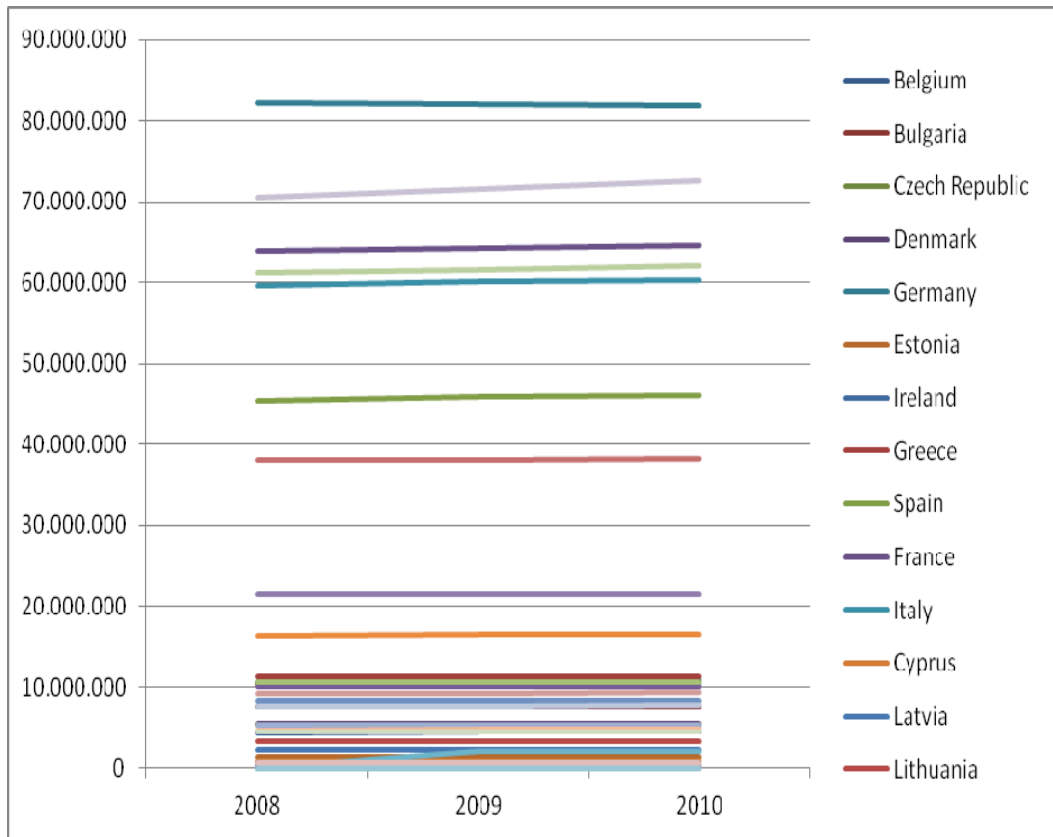


Figure 2 shows an evolution of the number of doctors(per 100.000 inhabitants), of hospital beds and cases treated over a period of 10 years of analysis for European countries.

Figure 2. The evolution of the number of doctors(per 100.000 inhabitants), of hospital beds and cases treated (Eurostat,2011).

	Practising physicians (1)		Hospital beds		Hospital discharges of inpatients (excluding healthy new born babies)	
	1998 (2)	2008 (3)	1998	2008 (4)	2000 (5)	2008 (6)
	EU-27	:	:	666.3	561.9	:
Belgium	373.1	293.2	787.5	660.1	16 252	15 741
Bulgaria	346.0	361.3	843.5	690.8	:	21 665
Czech Republic	303.1	352.7	793.7	715.8	16 799	20 624
Denmark	286.2	341.0	454.8	357.8	16 316	16 498
Germany	317.5	356.2	929.3	820.3	19 586	22 692
Estonia	322.9	335.0	761.9	571.5	:	:
Ireland	217.1	309.3	642.6	519.9	13 805	13 501
Greece	412.0	599.8	485.7	478.4	:	:
Spain	287.3	354.8	378.4	324.5	11 243	10 567
France	327.1	332.3	832.5	684.8	18 397	16 075
Italy	416.3	414.0	555.1	371.4	:	13 887
Cyprus	252.0	285.6	455.9	377.2	6 795	7 900
Latvia	275.2	298.6	965.5	638.3	:	20 290
Lithuania	373.5	370.6	910.1	685.3	9 088	21 686
Luxembourg	242.7	282.1	:	562.4	18 075	13 887
Hungary	308.6	309.3	809.7	705.0	:	19 486
Malta	:	303.9	559.8	481.9	:	9 512
Netherlands	292.5	369.4	512.3	436.3	9 088	10 953
Austria	377.2	468.2	819.0	769.2	:	27 539
Poland	233.0	216.1	:	662.1	:	13 965
Portugal	306.3	377.3	387.5	336.8	:	:
Romania	188.2	221.5	731.6	657.4	:	22 495
Slovenia	219.1	238.8	559.1	476.9	:	16 154
Slovakia	:	300.0	803.7	655.0	19 876	18 174
Finland	231.8	271.4	778.2	653.8	9 088	18 821
Sweden	297.5	356.6	:	:	15 272	14 910
United Kingdom	190.0	270.2	:	336.7	9 088	12 248
Iceland	329.7	372.0	:	585.7	17 085	15 018
Norway	272.2	398.1	392.8	354.0	15 409	17 214
Switzerland	:	385.4	664.0	524.9	9 088	16 217
Croatia	227.5	266.1	601.5	547.3	12 710	16 259
FYR of Macedonia	219.3	253.5	516.0	516.0	:	9 876
Turkey	102.9	158.2	:	243.9	:	:

(1) Greece, France, Italy, the former Yugoslav Republic of Macedonia and Turkey, professionally active physicians; Ireland, Netherlands and Portugal, licensed physicians.
(2) Romania, 1999.
(3) Spain, Latvia, Malta, Austria, Portugal, the United Kingdom and Switzerland, 2009; Denmark, Luxembourg, the Netherlands and Slovakia, 2007; Sweden and the former Yugoslav Republic of Macedonia, 2006.
(4) Latvia and Malta, 2009; Ireland and Iceland, 2007; the former Yugoslav Republic of Macedonia, 2006.
(5) The Czech Republic, the Netherlands, Finland, the United Kingdom and Switzerland, 2002; Lithuania, 2001
(6) Belgium, the Czech Republic, Denmark, Italy, Cyprus, Luxembourg, Poland and the United Kingdom, 2007; Sweden, Iceland and the former Yugoslav Republic of Macedonia, 2006.
Source: Eurostat (hlth_rs_prs, tps00046 and hlth_co_disch2)

3.2 Instruments

The main statistical instruments are as follows: 1. time series analysis, and 2. extrapolation. They are used in many cases such as: 1. the estimation of the population in future periods, 2. The estimation of the number of doctors and the 3. estimation of the cases of disease.

A time series is a sequence of data points, measured typically at successive times spaced at uniform time intervals. Models for time series data can have many forms and represent different stochastic processes. When modeling variations in the level of a process, three broad classes of practical importance are the *autoregressive* (AR) models, the *integrated* (I) models, and the *moving average* (MA) models (Brezinski and M. Redivo Zaglia, North-Holland, 1991.)

The method is based on analysis of past trends and the extrapolation in the period studied, based on the following assumptions:

- Trends manifested in the past will maintain in the future;
- A variable fluctuations are reproduced at regular intervals.

Depending on the number of terms, chronological series are small, medium or large. Statistical analysis of time series requires to choose a basis for comparison (y_0) or reference level. In the case of economic variables it is necessary to use:

- a fixed base - a reference level unchanged for the entire period analyzed;
- a basis in chain - a mobile reference level, . As a rule, is used the period immediately preceding (y_t compared to y_{t-1}).

Series underlying social and economic phenomena on different time periods, but are used in forecasting and extrapolation calculations.

Extrapolation is a Statistical technique of inferring unknown from the known. It attempts to predict future data by relying on historical data, such as estimating the size of a population a few years from now on the basis of current population size and its rate of growth. Extrapolation may be valid where the present circumstances do not indicate any interruption in the long-established past trends. However, a straight line extrapolation is fraught with risk because some unforeseeable factors almost always intervene.

4. Findings and Discussion

4.1 Results Obtained

Based on these methods the following results were obtained. Table 2 presents the main trends in the evolution of population, which as it can be observed, would be higher in the future.

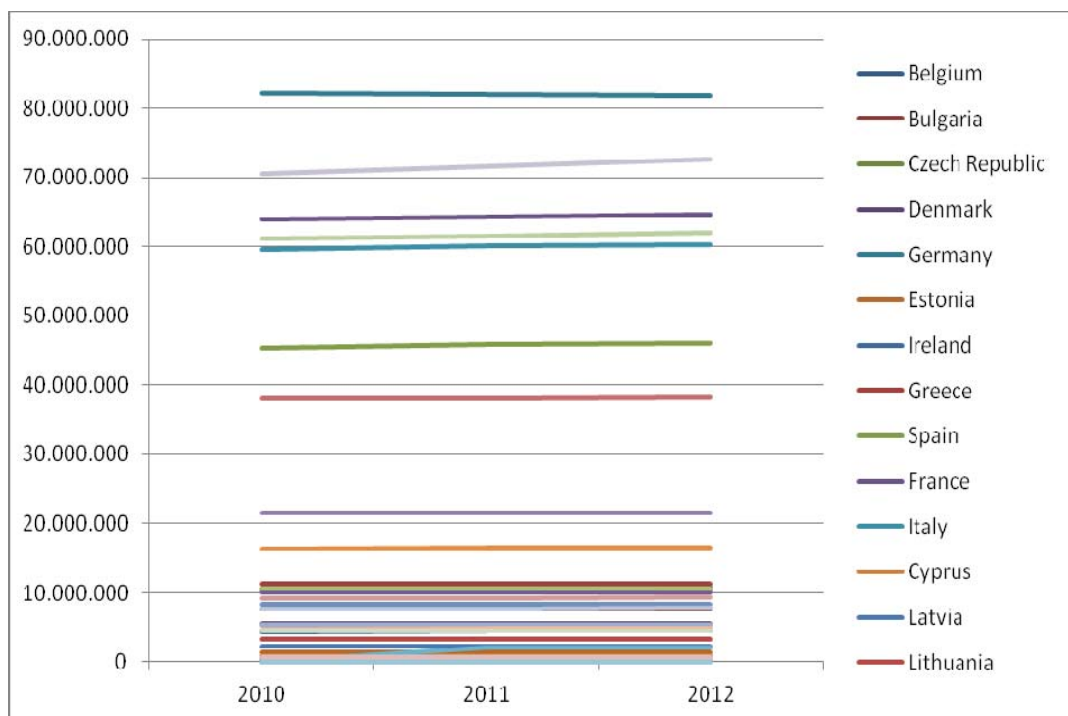
Table 2. Trends in the evolution of Europe's population

Country	2011-2012
EU (27 countries)	502519978
Belgium	10951665
Bulgaria	7504868
Czech Republic	10532770
Denmark	5560628
Germany	81751602
Estonia	1340194
Ireland	4480858
Greece	11325897
Spain	46152926
France	65075373
Italy	60626442
Cyprus	804435
Latvia	2229641
Lithuania	3244601
Luxembourg	511840
Hungary	9985722
Malta	417617
Netherlands	16655799

Austria	8404252
Poland	38200037
Portugal	10636979
Romania	21413815
Slovenia	2050189
Slovakia	5435273
Finland	5375276
Sweden	9415570
United Kingdom	62435709
Iceland	318452
Liechtenstein	36149
Norway	4920305
Switzerland	7866500
Turkey	618197

Figure 4. shows the evolution of Europe's population in coming years(based on the extrapolation) and as it can be observed, it is estimated a slight increase of population throughout Europe.

Figure 4. Trends in the evolution of Europe's population



In the following tables(3,4) is presented an extrapolation of the number of doctors, hospital beds for the next period for the countries of Europe.

Table 3. Trends in the evolution of the number of doctors in European countries

Country	1998	2008	2018
Belgium	373	293	287

Bulgaria	346	361	362
Czech Republic	303	352	353
Denmark	286	341	356
Germany	317	356	375
Estonia	322	335	338
Ireland	217	309	342
Greece	412	599	729
Spain	287	354	412
France	327	332	335
Italy	416	414	413
Cyprus	252	285	311
Latvia	275	298	298
Lithuania	373	370	369
Luxembourg	242	282	303
Hungary	308	309	310
Malta	0	303	392
Netherlands	292	369	380
Austria	377	468	480
Poland	233	216	208
Portugal	306	377	440
Romania	188	221	225
Slovenia	219	238	257
Slovakia	0	300	495
Finland	231	271	309
Sweden	297	356	379
United Kingdom	190	270	291
Iceland	329	372	372
Norway	272	398	506
Switzerland	0	385	627
Croatia	219	266	274
Turkey	102	158	211

Table 4. Trends in the evolution of the number of hospital beds in European countries

Country	1998	2008	2018
Belgium	787	660	555
Bulgaria	843	690	652
Czech Republic	793	719	687
Denmark	454	357	341
Germany	929	820	747
Estonia	761	571	513
Ireland	642	519	495
Greece	485	478	475
Spain	378	324	289
France	832	684	653
Italy	555	371	299
Cyprus	455	377	321
Latvia	965	638	338
Lithuania	910	685	481
Luxembourg	0	562	622
Hungary	809	705	656

Malta	559	481	437
Netherlands	512	426	420
Austria	819	769	730
Poland	0	662	831
Portugal	387	336	301
Romania	731	657	583
Slovenia	559	476	408
Slovakia	803	655	549
Finland	778	653	552
Sweden	0	0	0
United Kingdom	0	336	423
Iceland	0	585	587
Norway	392	354	334
Switzerland	664	524	401
Croatia	601	547	545
Turkey	0	243	308

4.2 Interpretations

As can be seen in the previous tables, there is a tendency of population to increase in each country of Europe. For this reason human resource management should attract a high number of doctors in the system. The trend of reducing the average number of beds obliges human resource management to provide and cover posts in the system with doctors and nurses, that aim to reduce the hospitalization time.

In this case medical training should be extremely accurate and the organization system should be very rigorous, aiming to reduce intervention(action) times on patients (analysis, diagnosis, treatment).

In addition to these goals comes the objective of optimizing the organizational system in order to increase the efficiency of healthcare system.

4.3 Discussion

It is possible even a higher division of work in health care system. Here we can compare with the IT system, where a programmer 20 years ago could know almost all programming languages, now has to be limited to one, maximum two languages of programming. Similarly, human resource in the health system will have to face challenges resulting from the emergence of new diseases due to new viruses or old resistant viruses.

5 Concluding Remarks

. In conclusion we can say that the demand for human resource in the health system is becoming higher and at the same time increased efforts are required for the preparation of human resources.

There are also threats due to the fact that other components of the state organization requires a large amount of resources (i.e economic, human) and often states have taken decisions to channel Recourses in other directions. So the health system is also in competition with other systems in order to ensure the necessary human and material resources that set the basis of a robust health care system.

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