

# Evolution of the Romanian Pharmaceutical System in the Period 1990-Present

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**Abstract:** In this study I present the evolution of the number of Pharmacies, Pharmacists, Pharmacy graduates, Pharmacy/Population ratio, Pharmacist/Population after 1990. If in 1990 there were 1948 pharmacies, in 2017 their number reached 7945. And the number of pharmacists increased in a fast pace, in 1990 were 6286 to a population of 23206720 inhabitants, in 2017 their number reached 17833 in a population of 19588146 inhabitants. In 2017 the Pharmacy/Population ratio is 2465 and the Pharmacist/Population ratio is 1098. This increase in the number of pharmacists was due to the establishment of new Pharmacy Faculties in different cities of the country after 1990. I also succinctly present the Legislation that has undergone a number of changes over time and has influenced the evolution of these indicators: Law No. 95 of 14 April 2006 on Health Reform, Order of the Minister of Health No. 2234 of 1994, Order of Health Minister No. 201 of 1999, Order of the Minister of Health and Family No. 626 of 2001, Order of Health Minister No. 1199 of 2004, Order of Health Minister No. 962/2009, Law No. 266 of 2008 of the Pharmacy, Law No. 266 of 2008 of the Pharmacy, Reprocessed, Law No. 46 of 21 January 2003 on Patients' Rights.

**Keywords:** Pharmaceutical System, Pharmacies, Pharmacists, Pharmaceutical Indicators

## 1. Introduction

When we speak of the Romanian pharmaceutical system, of course we all think about its efficiency, the costs of providing the medicine to the population, the quality of the pharmaceutical act and, last but not least, to the beneficiary for whom this system is organized: the patient.

The transition to the market economy also meant a permanent debate on the criteria and conditions for the establishment and functioning of the pharmacy [1].

Pharmacists are considered an integral part of the health services system, because from these patients can obtain accessible information in a relaxed environment without needing programming. Law No. 95 of 2006 on Health Reform, establishes the activities which the holder of the official title of pharmacist carries out, including the provision of information and advice on medicinal products, cooperation with the physician for the establishment and monitoring of patient therapy [2].

## 2. Objective

Evolution of human and materials resources from the Romanian Pharmaceutical System and Pharmaceutical Legislation after 1990.

## 3. Materials and Method

For the realization of this article I studied Statistical Yearbook, Literature, Legislation, I used the statistic method. The statistical method is based on the collection, processing and valorisation of data on the elements taken in the study. In order to achieve the proposed objective, we have studied the following elements: human and materials resources (pharmacists, pharmacist graduates, pharmacies).

## 4. Results and Discussions

In social aspect, Romania's population decreased due to the steady decline in birth and massive exodus abroad.

If the census of 1990 Romanian population counted 23206720 inhabitants, in 2017 their number reached 19588146.

The number of pharmacies has steadily increased, changing the existing property type. In Table 1 I regive the number of pharmacies in the period 1990-2017 [3].

**Table 1.** Number of pharmacies in the period 1990-2017.

Year	Pharmacies	Year	Pharmacies	Year	Pharmacies
1990	1948	2000	4267	2010	6686
1991	1748	2001	4268	2011	6975
1992	1226	2002	4285	2012	7226
1993	3058	2003	4428	2013	7560
1994	3028	2004	4772	2014	7825
1995	3332	2005	5071	2015	7758
1996	3603	2006	5347	2016	7802
1997	3757	2007	5902	2017	7945
1998	3969	2008	6127	-	-
1999	4052	2009	6502	-	-

Source: Statistical Yearbook of Romania 1991-2018

If in 1990 there were 1948 pharmacies, in 2012 their number reached 7226 (increase of 3.71 times), and in 2017 they reach 7945 (increase of 4.07 times).

In Table 2 we extracted from the Yearbook the number of pharmacists in the period 1990-2017:

**Table 2.** Number of pharmacists in the period 1990-2017.

Year	Pharmacists	Year	Pharmacists	Year	Pharmacists
1990	6286	2000	7189	2010	13624
1991	5080	2001	7298	2011	14575
1992	3817	2002	7328	2012	15435
1993	2790	2003	7793	2013	16301
1994	2814	2004	8763	2014	17099
1995	2646	2005	9283	2015	17135
1996	2578	2006	9.932	2016	17180
1997	5955	2007	11108	2017	17833
1998	6209	2008	11704	-	-
1999	6610	2009	11996	-	-

Source: Statistical Yearbook of Romania 1991-2018

And the number of pharmacists increased: if in the year 1990 there were 6286 pharmacists, in 2012 their number reached 15435 (increase of 2.45 times), and in 2017 to 17833 (increase of 2.84 times). This is also the consequence of the establishment of Pharmacy Faculties in different cities of the country after 1990. It is observed from the table a decrease in the number of pharmacists after 1992 due to pensioners in the system and also an increase in their number after 1996.

In the following Table we calculated the Pharmacy/Population ratio in the period 1990-2017:

**Table 3.** Pharmacy/Population ratio in the period 1990-2017.

Year	Pharmacy/Population	Year	Pharmacy/Population	Year	Pharmacy/Population
1990	11913	2000	5258	2010	3205
1991	13021	2001	5250	2011	3062
1992	18588	2002	5086	2012	2781
1993	7441	2003	4908	2013	2643
1994	7507	2004	4542	2014	2544
1995	6807	2005	4264	2015	2555
1996	6275	2006	4037	2016	2525
1997	6001	2007	3649	2017	2465
1998	5669	2008	3510	-	-
1999	5542	2009	3302	-	-

Source: Statistical Yearbook of Romania 1991-2018

If in the year 1990 a pharmacy returned to 11913 inhabitants, in 2012 their number decreased to 2781 inhabitants, and in 2017 to 2465 inhabitants.

In Table 4 I calculated the Pharmacist/Population ratio in the period 1990-present.

**Table 4.** Pharmacist/Population ratio in the period 1990-present.

Year	Pharmacist/Population	Year	Pharmacist/Population	Year	Pharmacist/Population
1990	3692	2000	3121	2010	1573
1991	4480	2001	3070	2011	1465
1992	5970	2002	2974	2012	1302
1993	8156	2003	2789	2013	1226
1994	8078	2004	2473	2014	1164
1995	8572	2005	2329	2015	1157
1996	8769	2006	2173	2016	1147
1997	3786	2007	1939	2017	1098
1998	3624	2008	1837	-	-
1999	3398	2009	1790	-	-

Source: Statistical Yearbook of Romania 1991-2018

Regarding the Pharmacist/Population ratio it decreased from 3692 to 1990 to 1302 in 2012 and 1098 in 2017.

Pharmacy Faculties constitute the primary source of scientific and professional knowledge of the pharmacist, the skills necessary to practice, values, attitudes and behaviours, related to the social and cultural norms required of the profession. These educational institutions are the major source of specialised workforce and as such they play a

critical role in determining the quality and quantity of the profession members [4].

It is therefore compulsory to have a good correlation between the needs of the society on pharmaceutical knowledge, the aspirations of the profession in general, the possibilities of Pharmacy Faculties and the number of pharmacists.

**Table 5.** Number of pharmacy graduates in the period 1990-2014.

Year	Graduates	Year	Graduates	Year	Graduates
1990	128	2000	519	2010	1371
1991	125	2001	586	2011	1611
1992	117	2002	569	2012	1961
1993	133	2003	804	2013	1816
1994	337	2004	842	2014	1669
1995	321	2005	882	2015	-
1996	364	2006	730	2016	-
1997	582	2007	823	2017	-
1998	572	2008	842	-	-
1999	491	2009	1019	-	-

Source Statistical Yearbook of Romania 1991-2015

*Indication: The number of pharmacy graduates appears in the yearbook until the Yearbook of 2014, after this year appears cumulated-Health and social assistance*

In the table we can see that the number of graduates of Pharmacy Faculties from 1990 to 2012 increased 13 times, after which followed a decrease in the number of pharmacy graduates in 2013 and 2014.

And Legislation in the pharmaceutical field has undergone several modifications.

In summary: If from 1990 to 1998 pharmacy owner was the pharmacist, from 1998 to today pharmacy owner can be anyone, hiring a chief pharmacist; on the demographic criterion, from 1991 to 1999, a pharmacy could be established at 7000 inhabitants, from 1999 to 2004 a pharmacy to 5000 inhabitants, from 2004 to 2009 a pharmacy to 3000 inhabitants in Bucharest, a pharmacy to 3500 inhabitants in the cities of county residence, a pharmacy at 4000 inhabitants in other cities. The rural environment being disadvantaged, local distribution officins could be established where there are no pharmacies, including in the villages of cities; if by 1994 the geographical criterion was not specified in the rules, from 1994 to 1999 a pharmacy could be established at 500 m from another pharmacy, and from 1999 to 2001 a pharmacy at 250 m from another pharmacy. From 2001 the geographical criterion is eliminated [5-9].

It should be said that in most European countries pharmacies operate according to the ethical model.

The health policy in Romania is reflected in the Law No. 95 of 2006 on Health Reform, as amended. By its magnitude, the law is a real public health code where pharmaceutical

assistance is naturally addressed. The law harmonises many aspects of the health system with existing European legislation and is in a continuous update, interventions and amendments to the content over the years being countless.

Pharmacy Law No. 266 of 2008, in its original form, contained contradictory and inapplicable provisions. It was found that the institutions and professional associations involved in the process of authorisation, endorsement, inspection, control and sanctioning of pharmaceutical units belonged to different administrative areas and lacked competence and capacity administrative burden to carry out the activities assigned to them by the law of pharmacy or are in conflict of interest [10].

Law No. 236 of 2009 is the Legislative Act amending and supplementing Law No. 266 of 2008 known as the Law 266 republish [11].

Law No. 46 of 2003 on the rights of the patient comprising the component elements of the realization of this projection, the foundation necessary for the elaboration of health legislation. The law states that "patients are entitled to the highest quality medical care that the company has, in accordance with human, financial and material resources" (article 2) [12]. For the pharmaceutical sector this means a high training of specialist staff, adequate patient counselling, flawless services in an appropriate ambient environment [13-15].

In Figure 1 I present the evolution of the Pharmacy/Population ratio and Pharmacist/Population ratio in the period 1990-2017:

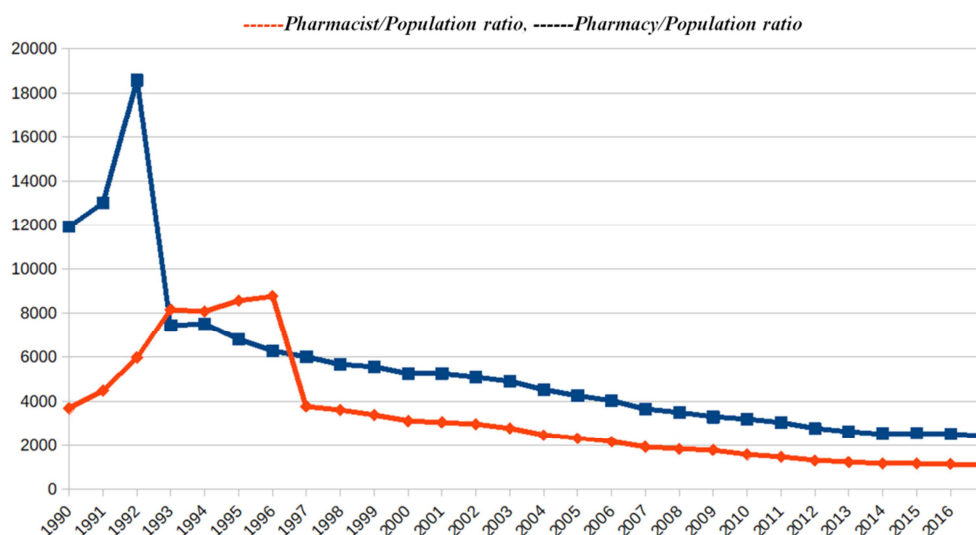


Figure 1. Evolution of the Pharmacy/Population and Pharmacist/Population ratio in the period 1990-2017.

In accordance with the legislation in continuous change (not necessarily for the better!), we observe from the graphic an increase in the Pharmacy/Population ratio after 1999 immediately, after which a steep decrease in 1993, then this indicator continues to decline.

And the Pharmacist/Population ratio has undergone changes over time, initially there was an increase after 1990, then a decrease in 1997 (due to the establishment of

Pharmacy Faculties after 1990, migration of the population), then follows its allure as in the case of the Pharmacy/Population ratio.

In Figure 2 I present the evolution of the number of Pharmacy Graduates, as observed in the two figures the increase in the number of Pharmacy Graduates after 1997 resulted in the decrease of the Pharmacist/Population ratio while decreasing the population [3].

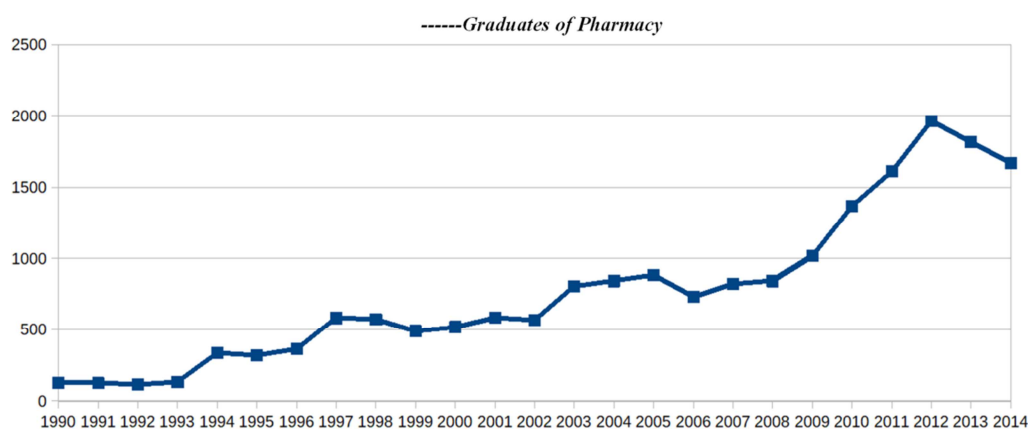


Figure 2. Evolution of the number of Pharmacy Graduates during the period 1990-2014.

## 5. Conclusions

With regard to the main synthetic pharmaceutical indicators we see profound changes, even if they have occurred amid a decrease in the number of inhabitants: if in 1990 a pharmacy returned to 11913 inhabitants, in 2017 it reaches 2465 inhabitants. The Pharmacist/Population report dropped from 3692 to 1990 to 1098 in 2017.

Pharmaceutical regulations during the period analysed were numerous. There were many Orders of the Minister who changed the conditions of organization and functioning of pharmaceutical units, and a Law of Pharmacy was adopted only in 2008 with numerous amendments from the

occurrence to date.

We have noticed over the years the increase in the number of Pharmacies, Pharmacists, Pharmacy Graduates and we ask ourselves whether this growth has also led to increased pharmaceutical act over time.

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