

Distribution of primary health care physicians in urban and rural areas of Albania during the period 2000-2012

Albana Adhami¹, Dritan Çela², Llukan Rrumbullaku³, Enver Roshi⁴

¹Health Insurance Fund, Tirana, Albania;

²University Hospital Center of Traumatology, Tirana, Albania;

³Faculty of Medicine, University of Medicine, Tirana, Albania;

⁴Faculty of Public Health, University of Medicine, Tirana, Albania.

Corresponding author: Albana Adhami, MD

Address: Institute of Health Insurance, Rr. "Sami Frashëri", L. 8, Tirana, Albania;

Telephone: +355692059202; E-mail: albana.adhami@gmail.com

Abstract

Aim: The aim of this study was to describe the distribution of primary health care (PHC) physicians in urban and rural areas of Albania in the past decade.

Methods: We reviewed the number of PHC physicians (per 10,000 population) in each of the 36 districts of Albania separately for urban areas and rural areas for the period 2000-2012. The information on the number of PHC physicians and the population size in each district for the period under study was collected from the files of the Health Insurance Fund. Mann-Kendall test was used to test for linear trend in the variation of the number of PHC physicians in both urban and rural areas of Albania.

Results: In urban areas, there was evidence of an overall decrease in the number of PHC physicians (per 10,000 population) from 4.4 (in 2000) to 3.9 (in 2012) [linear trend: $P=0.02$]. Conversely, in rural areas, there was evidence of a slight increase from 3.5 (in 2000) to 3.7 (in 2012), with no evidence of a significant linear trend ($P>0.05$). In 2000, the excess number of PHC physicians in urban areas compared with the rural areas was 9 per 100,000 population, whereas in 2012 this difference was only 2 per 100,000 population.

Conclusion: Regarding the distribution of PHC physicians in Albania, the current analysis indicates a significant decrease in urban areas, but only a slight non-significant increase in rural areas of the country. It would be interesting to assess in future analyses the link between the distribution of PHC personnel and health outcomes in urban areas compared to rural areas of transitional Albania.

Keywords: family physicians, general practitioners, primary health care, rural areas, urban areas.

Introduction

The quality of health care services has been convincingly linked to health outcomes in different studies reported in the international literature (1,2). This is particularly the case for primary health care (PHC) services which are considered as the most important level of health care in many developed countries (3). For this very reason, health care professionals operating at the PHC level are very cautious about PHC users' demands, a process which is related to the need for continuous improvement of the quality of PHC services. In addition, the "gate-keeping" function of PHC services implicitly requires a reasonable degree of users' satisfaction.

There is a substantial amount of literature linking the number of PHC professionals (per 100,000 population) with the health outcomes of the served populations and their respective epidemiological profiles (4-6). However, other things being equal, the distribution of PHC professionals is also contingent on the demographic profile (age, sex and place of residence) and socioeconomic characteristics of the respective populations (4,7).

The issues related to PHC services are especially important and relevant for the former communist countries of the Western Balkans including Albania, a country which is currently undergoing profound reforms in the health sector moving from hospital-based system to the primary health care model (8). Nevertheless, as reported elsewhere, the current health care reforms in Albania face enormous challenges with regard to the effectiveness of the "gate-keeping" system (8).

We have recently reported on the number of PHC visits in the Albanian population for the period 2005-2012 (8). In this article we describe the distribution of PHC physicians in urban and rural areas of Albania in the past decade.

Methods

In this analysis, we reviewed the number of PHC

physicians (per 10,000 population) in each of the 36 districts of Albania separately for urban areas and rural areas for the period 2000-2012. The information on the number of PHC physicians and the population size in each district for the period under study was collected from the files of the Health Insurance Fund.

Mann-Kendall test was used to test for linear trend in the variation of the number of PHC physicians in both urban and rural areas of Albania for the period under investigation. Statistical Package for Social Sciences (SPSS, version, 19.0) was used for the data analysis.

Results

It should be noted that there was no information available for the years 2001 and 2002. The number of PHC physicians per 10,000 population in urban areas and rural areas for each district of Albania is presented in Table 1 (for the year 2000) and in Table 2 (for the year 2012). At the start of the analysis (year 2000), the highest number of PHC physicians (per 10,000 population) in urban areas was evident in Durrës (5.5), Korça (5.4), Has and Tirana (5.2 for both). Conversely, the lowest number of PHC physicians in urban areas was in the districts of Kolonja (no physicians at all), Tropoja and Bulqiza (1.8 for both) followed by Delvina (2.2). As for the rural areas, the highest number of physicians was evident in Tirana and Durrës (5.1 in both), whereas the lowest number was in Delvina (1.3), Peqin (1.7) and Bulqiza (1.8).

On the other hand, at the end of the period under investigation (year 2012), the highest number of physicians (per 10,000 population) operating in urban areas was evident in Skrapar (4.6) followed by Berat (4.5), whereas the lowest number was in Delvina (1.5) and Bulqiza (2.4). In rural areas, the highest number of physicians was noted in Përmet (5.1) followed by Kolonja (5.0), whereas the lowest number was in Bulqiza (2.3) and in Peqin (2.4).

Figure 1 presents the overall distribution of PHC physicians in urban areas and rural areas of Albania for the period 2000-2012. In urban areas, there was

Table 1. Number of PHC physicians in urban areas and rural areas of Albania in 2000 by district

District	Urban areas			Rural areas		
	Population	No. physicians	No. physicians per 10000 population	Population	No. physicians	No. physicians per 10000 population
Berat	73422	30	4.1	86957	21	2.4
Kuçovë	28375	12	4.2	18429	6	3.3
Skrapar	20979	6	2.9	25281	7	2.8
Peshkopi	19695	5	2.5	84307	20	2.4
Bulqizë	17096	3	1.8	38550	7	1.8
Burrel	30641	14	4.6	45527	17	3.7
Durrës	154936	85	5.5	62914	32	5.1
Krujë	38249	14	3.7	34415	14	4.1
Kavajë	44166	12	2.7	61091	18	2.9
Elbasan	134834	51	3.8	123303	38	3.1
Peqin	9014	3	3.3	28719	5	1.7
Librazhd	15509	7	4.5	68024	28	4.1
Gramsh	12850	4	3.1	24818	12	4.8
Fier	106150	46	4.3	135892	44	3.2
Lushnjë	55591	17	3.1	117091	35	3.0
Mallakastër	12978	5	3.9	37618	11	2.9
Gjirokastër	33922	15	4.4	37797	16	4.2
Tepelenë	18700	8	4.3	31600	8	2.5
Përmet	12446	6	4.8	25175	12	4.8
Korçë	85670	46	5.4	101668	48	4.7
Kolonjë	13057	0	0.0	16364	4	2.4
Devoll	8154	3	3.7	34173	13	3.8
Pogradec	34620	15	4.3	53093	24	4.5
Kukës	20072	10	5.0	49645	15	3.0
Has	5800	3	5.2	8209	3	3.7
Tropojë	11403	2	1.8	26867	11	4.1
Lezhë	15781	8	5.1	62253	19	3.1
Mirditë	24075	9	3.7	24844	5	2.0
Laç	51286	16	3.1	17087	6	3.5
Shkodër	99128	45	4.5	122299	36	2.9
M. Madhe	8614	4	4.6	44892	16	3.6
Pukë	12842	6	4.7	26172	7	2.7
Vlorë	122348	59	4.8	67266	31	4.6
Sarandë	34640	11	3.2	45896	10	2.2
Delvinë	13578	3	2.2	15731	2	1.3
Tiranë	449554	234	5.2	163059	83	5.1
Totali	1,850,175	817	4.4	1,967,026	684	3.5

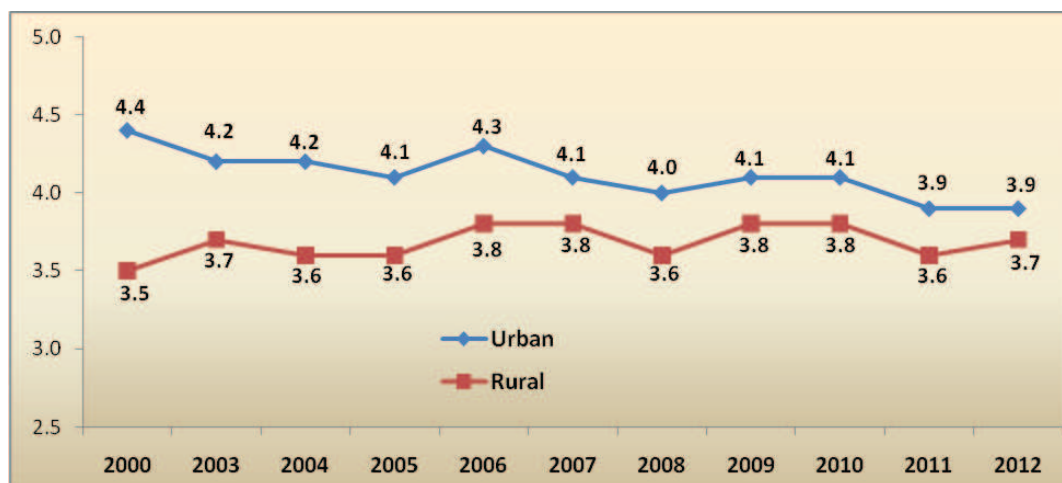
Table 2. Number of PHC physicians in urban areas and rural areas of Albania in 2012 by district

District	Urban areas			Rural areas		
	Population	No. physicians	No. physicians per 10,000 population	Population	No. physicians	No. physicians per 10,000 population
Berat	65,008	29	4.5	77,999	30	3.8
Kuçovë	27,647	12	4.3	19,002	7	3.7
Skrapar	15,310	7	4.6	15,982	5	3.1
Peshkopi	19,187	5	2.6	65,418	17	2.6
Bulqizë	12,512	3	2.4	30,502	7	2.3
Burrel	29,446	12	4.1	36,645	15	4.1
Durrës	184,484	80	4.3	115,484	47	4.1
Krujë	42,336	17	4.0	37,327	15	4.0
Kavajë	47,647	16	3.4	63,718	25	3.9
Elbasan	158,912	60	3.8	129,842	43	3.3
Peqin	9,747	4	4.1	29,445	7	2.4
Librazhd	17,012	6	3.5	59,558	27	4.5
Gramsh	14,557	6	4.1	23,380	10	4.3
Fier	115,654	47	4.1	135,955	52	3.8
Lushnjë	57,961	24	4.1	112,202	36	3.2
Mallakastër	12,007	5	4.2	32,937	11	3.3
Gjirokastrë	37,122	11	3.0	43,384	14	3.2
Tepelenë	15,066	4	2.7	24,217	9	3.7
Përmet	13,227	5	3.8	19,523	10	5.1
Korçë	95,552	36	3.8	101,255	40	4.0
Kolonjë	9,876	5	5.1	12,017	6	5.0
Devoll	9,277	4	4.3	30,184	10	3.3
Pogradec	32,452	12	3.7	52,562	21	4.0
Kukës	21,698	9	4.1	39,227	14	3.6
Has	7,589	2	2.6	13,761	4	2.9
Tropojë	8,203	3	3.7	21,365	10	4.7
Lezhë	24,564	9	3.7	75,396	31	4.1
Mirditë	20,334	9	4.4	15,709	5	3.2
Laç	61,728	22	3.6	12,581	5	4.0
Shkodër	117,373	44	3.7	115,702	35	3.0
M. Madhe	7,642	2	2.6	41,525	16	3.9
Pukë	12,650	5	4.0	25,950	7	2.7
Vlorë	151,856	60	4.0	74,344	33	4.4
Sarandë	40,948	11	2.7	53,956	12	2.2
Delvinë	13,161	2	1.5	16,167	5	3.1
Tiranë	648,563	262	4.0	225,824	91	4.0
Totali	2,178,308	850	3.9	2,000,045	732	3.7

evidence of an overall decrease in the number of PHC physicians (per 10,000 population) from 4.4 (in 2000) to 3.9 (in 2012) [linear trend: $P=0.02$]. Conversely, in rural areas, there was evidence of a slight increase from 3.5 (in 2000) to 3.7 (in 2012), with no significant linear trend ($P>0.05$).

Overall, in 2000, the excess number of PHC physicians in urban areas compared with the rural areas of Albania was 9 per 100,000 population, whereas in 2012 this difference was only 2 per 100,000 population.

Figure 1. Overall number of PHC physicians (per 10,000 population) in urban areas and rural areas of Albania for the period 2000-2012



Discussion

Our analysis regarding the distribution of PHC physicians in Albania for the period 2000-2012 revealed a significant decrease in urban areas, but only a slight non-significant increase in the rural areas of the country. Essentially, there was a steady (albeit weak) decrease in urban areas in most of the districts of Albania, with no evidence of significant regional variations. In rural areas, the increase in the number of PHC physicians was quite small, with no significant regional variations for the period under investigation. However, the small increase in the number of PHC physicians in rural areas coupled with the decrease in the urban areas contributed to a steady reduction in the excess number of PHC physicians between urban areas (more privileged areas with a higher access to health care services) and rural areas (traditionally disadvantaged and underserved areas). Therefore, the current analysis supports the presence of a narrower gap in urban-rural disparities regarding the distribution of PHC personnel in Albania.

Several studies have reported a positive association between patient satisfaction and the number of PHC personnel (9). The patient satisfaction with the quality of PHC services has also been more directly linked to health outcomes (10,11). Furthermore, different studies have reported a positive relationship between the number of PHC professionals (per 100,000 population) and morbidity outcomes of the populations (4-6). Nonetheless, as stated earlier, the

distribution of PHC professionals, among other things, depends also on the demographic profile and socioeconomic characteristics of the respective populations (4,7).

From this point of view, it would be interesting to assess in future analyses the link between the distribution of PHC personnel and health outcomes in urban areas compared to rural areas of transitional Albania. Also, it is important to conduct a specific analysis by different demographic and socioeconomic characteristics of the Albanian population in both urban areas and rural areas. This would enable assessment of the putative link between the distribution of PHC physicians and demographic factors and socioeconomic characteristics of the served populations in different regions of Albania. Hence, a limitation of our analysis regards the lack of disaggregated data on the demographic and socioeconomic profile of urban areas and rural areas in each of the districts of Albania. From this perspective, future studies in Albania should explore in more depth the distribution of PHC professionals by specific demographic and socioeconomic characteristics of the population. Subsequently, the distribution of PHC physicians and other health personnel (nurses and midwives) should be linked to specific health outcomes of the population including a detailed list of mortality and morbidity indicators. In conclusion, our analysis indicates a significant decrease in the number of PHC physicians in urban

areas, but only a slight non-significant increase in the rural areas of Albania. Yet, the small increase in the number of PHC physicians in rural areas along with the decrease in the urban areas contributed to a steady reduction in the excess number of PHC

physicians between urban and rural areas. From this point of view, our findings provide evidence of a narrower gap in urban-rural disparities regarding the distribution of PHC personnel in Albania.

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