

INEQUALITIES IN THE DISTRIBUTION OF PRIMARY HEALTH CARE PHYSICIANS AND NURSES IN ALBANIA

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INTRODUCTION

Primary health care (PHC) services are persuasively considered as the most important level of health care in most of developed countries [1]. As a matter of fact, the quantity and quality of health care services in general and PHC services in particular have been consistently related to different health outcomes in many studies conducted especially in industrialized societies [2,3]. Therefore, based on the current evidence, PHC professionals including physicians and nurses are aware of patients' demands for high-quality health care services. These demands from the population at large coupled with the gate-keeping function of PHC services, impose the pressing need for continuous improvement of the quality of PHC services in both developed and developing countries worldwide.

Human resources in the health care sector display a dynamic nature which is in a continuous change and the standard documentation of the distribution of health professionals is a constant policy concern in most of the countries [4-6]. From this point of view, it is important to describe the available human resources in PHC services and identify possible inequalities regarding the distribution of both physicians and nurses operating in this vital sector of the health care system. This is especially important for developing and transitional societies including Albania, a country which is undergoing a difficult period of political and socioeconomic transition associated with a process of intensive internal and external migration [7], which has also affected the distribution of the health workforce throughout the country.

Currently, there is considerable evidence linking the distribution of PHC workforce with the health outcomes of the respective populations served and their epidemiological characteristics [8-10]. We have previously reported on the number of PHC visits in the Albanian population [11] and have also described the distribution of PHC physicians in urban and rural areas of Albania in the past decade [12]. In this article we report on the inequalities in the distribution

CONTEXT: BACKGROUND: The aim of this study was to assess the possible inequalities in the distribution of primary health care (PHC) physicians and nurses in Albania, a transitional country in Southeast Europe.

METHODS: Based on the available information from the Albanian Health Insurance Fund, we examined the distribution of PHC physicians in each of the 36 districts of Albania for the period 2000-2011, whereas for the nurses for the period 2007-2011. The inequalities in the distribution of PHC physicians and nurses were assessed by plotting the Lorenz curves.

RESULTS: There was evidence of an increasing trend in the inequality of distribution of both PHC physicians and nurses in Albania. The increasing trend was more obvious in the distribution of physicians than in the distribution of nurses.

Conclusion: Policymakers in the health care sector should be aware of the need for reallocation strategies for PHC physicians and nurses in Albania as an effective means for reducing inequalities of the health care workforce.

Keywords: family physicians, inequalities, Lorenz curves, nurses, primary health care.

METHODS

The current analysis employed information about the number of PHC physicians and nurses and the population of each of the 36 districts of Albania. For PHC physicians, the analysis was conducted for the years 2000 and 2011, whereas for PHC nurses it included the years 2007 and 2011. No reliable and valid information was available for the distribution of nurses before the year 2007.

The information on the number of PHC physicians and nurses, as well as the population size in each district of Albania for the period under study was collected from the official documents of the Albanian Health Insurance Fund.

Lorenz curves were used to assess the inequalities in the distribution of PHC physicians in Albania for the years 2000 and 2011, and for the primary health care nurses for the years 2007 and 2011. The Lorenz curves compare the distribution of a certain health characteristic with the uniform distribution that represents equality [13-15]. This equality distribution is represented by a diagonal line, which implies that, the greater the deviation of the Lorenz curve from this line, the greater the inequality. We plotted the cumulative proportion of the population on the X axis, and the cumulative proportion of PHC physicians and nurses on the Y axis. This means that, the greater the distance from the diagonal line, the greater the inequality in the distribution of PHC physicians and nurses, respectively.

RESULTS

There was evidence of a significant variation in the distribution of PHC physicians in Albania for the

years 2000 and 2011. Similarly, there was a significant variation in the distribution of PHC nurses for the years 2007 and 2011. It should be noted that there was no valid information available for the distribution of nurses before the year 2007 –the year in which an important reform in the PHC sector in Albania was initiated [12].

Figures 1-2 present the Lorenz curves of the distribution of PHC physicians in Albania for the years 2000 and 2011, respectively. The curve corresponding to the year 2000 is closer to the diagonal (Figure 1), compared to the curve representing the year 2011 (Figure 2) – indicating a greater inequality over time in the distribution of PHC physicians in Albania.

Figures 3-4 present the Lorenz curves of the distribution of PHC nurses in Albania for the years 2007 and 2011, respectively. The curve corresponding to the year 2007 is somehow closer to the diagonal (Figure 3), compared to the curve representing the year 2011 (Figure 4) – indicating a slightly greater inequality over time in the distribution of PHC nurses in Albania. However, the increasing trend in the inequality of distribution of PHC nurses in Albania was less marked than the increasing trend in the inequality of distribution of PHC physicians.

Figure 1 - Lorenz curves of the distribution of primary health care physicians in Albania in 2000

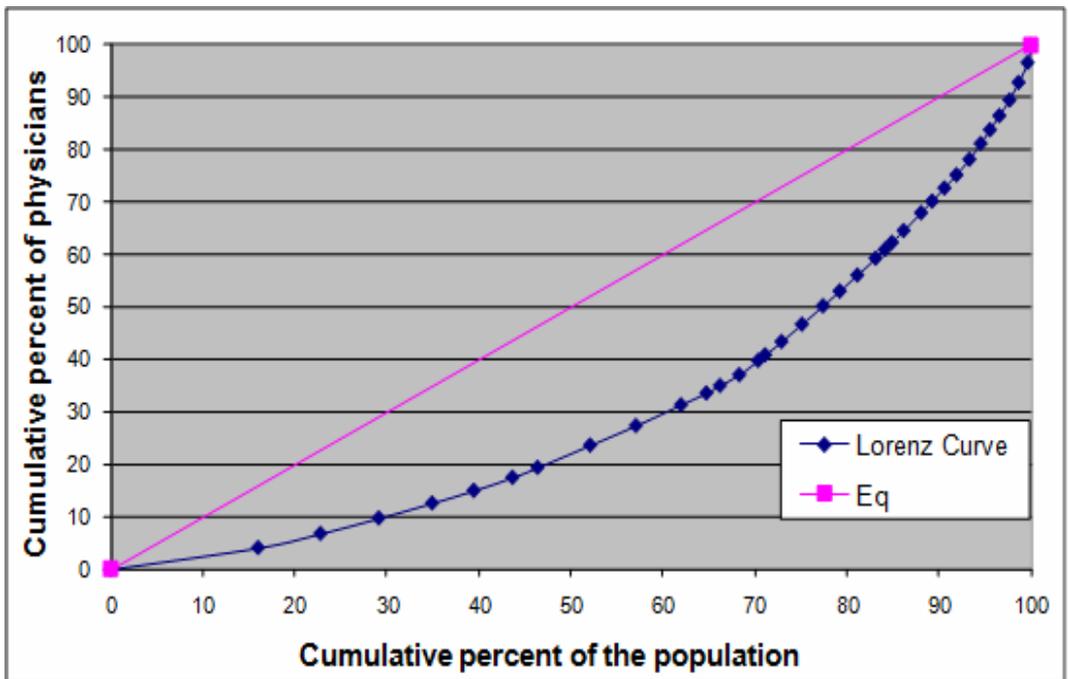
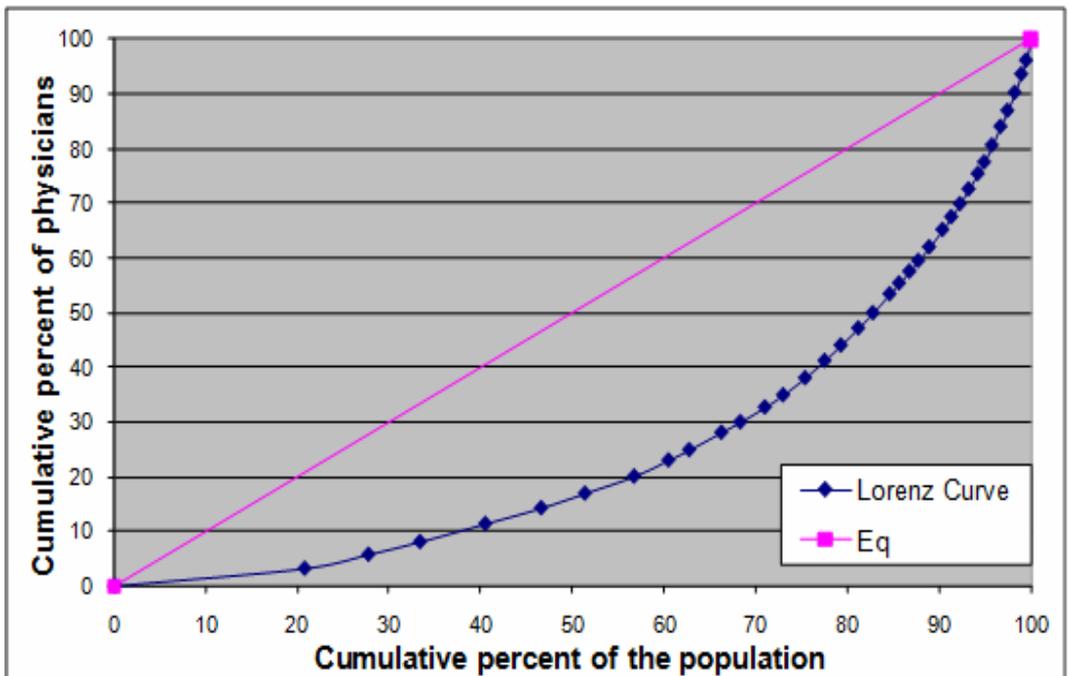


Figure 2 - Lorenz curves of the distribution of primary health care physicians in Albania in 2011



DISCUSSION

The main finding of our analysis includes an increasing trend in the inequality of distribution of PHC physicians in Albania for the period 2000-2011. Similar to physicians, there was also an increasing trend in PHC nurses, albeit less strong compared with the trend observed among physicians.

Our findings are compatible with a prior report from Albania which assessed the distribution of general practitioners for the years 2000 and 2004 and concluded that there was an inequitable distribution of PHC physicians in this Western Balkans country [16]. Only for the year 2000, according to this prior report [16], in order to achieve an equal distribution of general practitioners in all districts of Albania by redistributing the existing human resources,

Figure 3 - Lorenz curves of the distribution of primary health care nurses in Albania in 2007

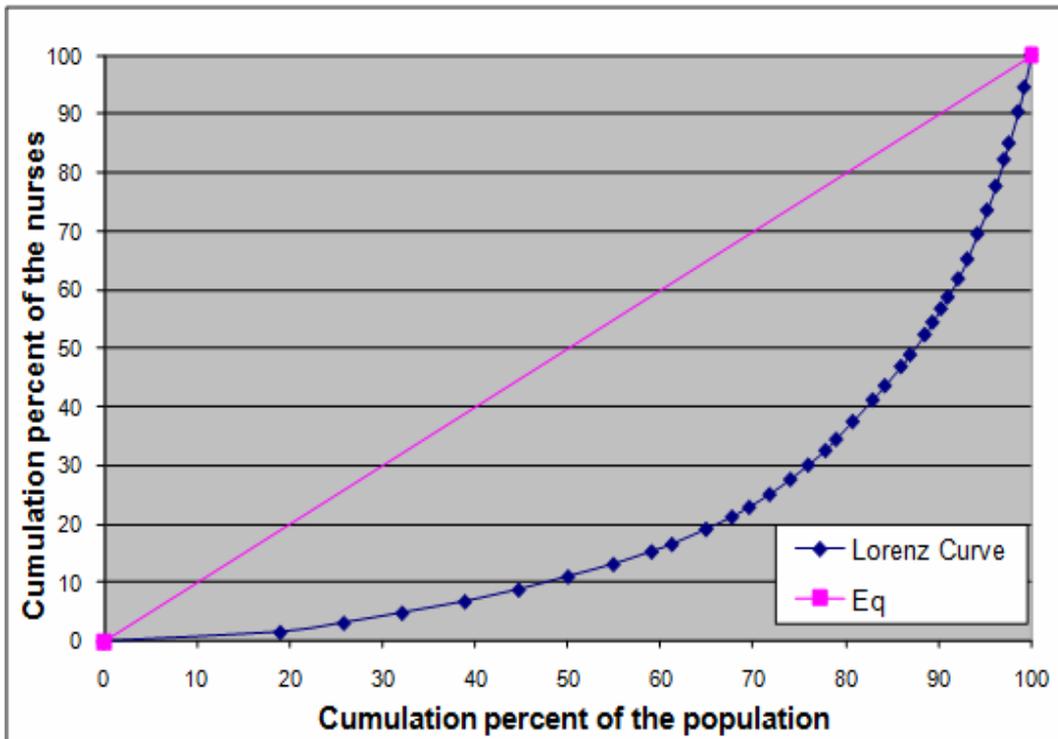
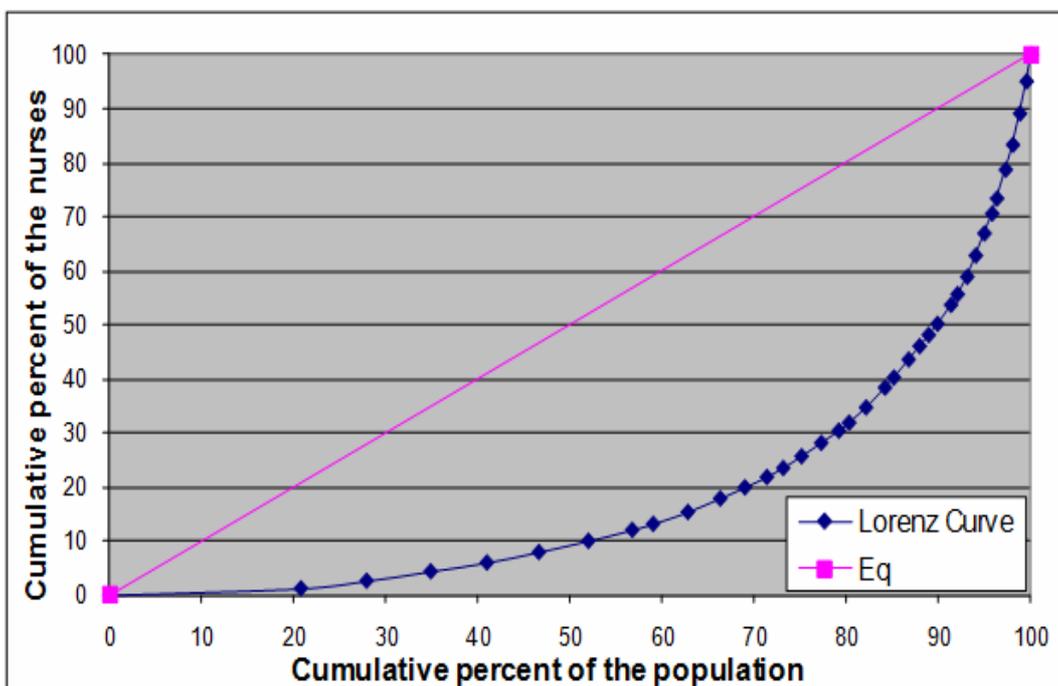


Figure 4 - Lorenz curves of the distribution of primary health care nurses in Albania in 2011



more than one in 10 general practitioners should have been relocated from the relatively over-served to the relatively underserved districts of Albania [16]. This prior report, however, did not include distribution of nurses. On the other hand, our analysis provides an updated overview on

the distribution of both physicians and nurses operating at the PHC services in Albania for the year 2011.

Yet, it would be appealing to explore in future studies the association between the distribution of PHC physicians and nurses with health outcomes of the population in various districts of transitional Albania. Furthermore, as argued earlier [12], it is important to conduct a specific analysis by different demographic factors and socio-economic characteristics of the Albanian population in order to assess the possible link between the distribution of PHC workforce and demographic factors and socioeconomic characteristics of the served populations in different regions of Albania.

In addition, future analyses from Albania should also calculate the Gini coefficient, which is derived from the Lorenz curves and constitutes one of the most commonly used indicators of inequality [13]. The Gini coefficient is calculated as the ratio of the area between the Lorenz curve and the 45° line, to the whole area below the 45° line [13].

In conclusion, our analysis indicates a significant increasing trend in the inequality of distribution of PHC physicians and, to a lesser degree, PHC nurses in transitional Albania. Policymakers in the health care sector should be aware

of the need for reallocation strategies for PHC physicians and nurses in Albania as an effective means for reducing inequalities of the health care workforce.



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