

ANALYSIS ON THE CAPACITIES AND EFFICIENCY OF THE WORKFORCE IN PRIMARY PHARMACEUTICAL CARE

Merita DAUTI^{1*}, Arlinda HAXHIU-ZAJMI¹, Edita ALILI-IDRIZI¹, Sihana AHMETI- LIKA¹,
Lulzime BALLAZHI¹, Drita HAVZIU¹, Gjylai ALIJA¹, Arijeta SHABANI¹

¹Department of Pharmacy, Faculty of Medical Sciences, University of Tetova,
*Corresponding Author: e-mail: merita.dauti@unite.edu.mk

Abstract

Background: The workforce (health workers) is one of the main components in building a quality health system. In the pharmaceutical sector and especially at the primary care level, the health worker, is the main and decisive link for a better adherence to therapy. Completing the capacities for human resources in the pharmaceutical sector, especially in primary care, is one of the most efficient policies which results in increased health care performance.

Purpose: This study aims to make a detailed analysis on the recent developments of workforce capacities and efficiency at the primary level of the pharmaceutical care.

Methods: A combination between the descriptive and analytical methods using qualitative data from the relevant institutions with which concrete assessments on the studied phenomenon have been reached. Data on the number of graduate pharmacists and employed pharmacists on primary care were studied. Sources of information have taken from WHO, World Bank, Eurostat, FIP and national annual reports from relevant institutions.

Results: In the data of recent years, it appears that in the EU in 2020 there were over 410,000 pharmacists employed. Of this total number, about 55% of pharmacists worked in community pharmacies. Number of practicing pharmacists results from 75 to 125 per 100.000 inhabitants. In terms of the number of graduate pharmacists in European countries for which data are available, with some exceptions, it turns out to be between 2.3 and 6.5 per 100,000 inhabitants

Conclusion: From the data analysis we can conclude that it is observed that the largest number of workforce capacities in pharmaceutical care appears in the most developed countries. In general, there is a lack of precise data, especially in recent years, and there is also no concrete data on the migration of pharmacists to developed countries.

Keywords: workforce, primary pharmaceutical care, pharmacists, health policies, public health protection

Introduction

Changes in the health care system, especially the growth of managed care and integrated health systems, have stimulated the adoption of primary care as a way of meeting basic health care needs and especially managing access to services. Integrated health systems aim to provide care with all practical parameters through the appropriate use of health professionals, be they individuals or teams. The compilation of efficient policies and compliance with protocols approved by competent bodies can lead to the improvement of public health in each country in particular and this can then generate a better performance in global health protection. With this, it is possible to fulfill the goal of globalization of legal criteria and international policies to protect the health of the population around the world. "Health for all" is a goal of the World Health Organization (WHO), which dates back to the 1970s and which envisages ensuring the health and well-being of people around the world. Considering the workforce in the pharmaceutical sector as very important in improving access and rational use of medicines, WHO has set as its main objective a more serious commitment to more accurate data on the health care workforce.

A health system consists of all the organizations, institutions, resources and people whose primary goal is to improve health. This includes all efforts to influence the determinants of health as well as activities that directly affect the improvement of health. The health system, through efficient actions and health care

components, aims to prevent, promote, cure and rehabilitate public health. All the activity of the health system should be based on high principles such as accountability and fair funding, treating people with respect. A health system needs staff, funding, information, supplies, transportation, communications, and general guidance and direction to function. Strengthening the health system means serious commitment and maximum effort in each of these areas

The workforce (health workers) constitutes one of the essential components of the health system. Pharmaceutical workforce refers to the whole of the pharmacy related workforce (e.g. registered pharmacist practitioners, pharmaceutical scientists, pharmacy technicians and other pharmacy support workforce cadres, preservice students/trainees) working in a diversity of settings (e.g. community, hospital, research and development, industry, military, regulatory, academia and other sectors) with a diversity of scope of practice (FIP,2018[1]).

Pharmacists who work in primary pharmaceutical care undoubtedly have a very important role in improving public health. The role of the pharmacist is key for the reason that the profession of the pharmacist is a constant confrontation in their daily work with patients who present their concerns and problems to the pharmacist. Based on the norms of Good Pharmaceutical Practice, which as a whole means a philosophy for health care, pharmacists can engage in some key links of the health system that can make a very valuable contribution to a more efficient and with an excellent performance in all evaluation parameters (WHO,2022 [9]).

The role of the community pharmacist has changed in recent years. In addition to dispensing medications, pharmacists are increasingly providing direct care to patients (such as vaccinations, medicine adherence and chronic disease management support, and home medication review), both in community pharmacies and as part of integrated health care provider teams. In countries such as Belgium, Finland, Italy, Switzerland and the United Kingdom, pharmacists also play an enhanced role in health promotion and disease prevention, including in rural areas (OECD, 2020[2]).

Currently, the pharmacy profession itself is undergoing a dynamic change with a greater focus on patient care, clinical decision-making for medication use, and interprofessional collaboration. As pharmacists are trusted and accessible healthcare professionals, it is important to monitor how the pharmacy workforce is changing. These changes will affect the planning of the delivery of healthcare services. There is an imperative to understand the current trends in the global pharmacy workforce and the implications of these trends on the future supply of pharmacists. Only then can it be decided how and what measures are required in order to balance the demand versus supply of pharmacists to help improve the global healthcare workforce. (Bates et al.,2016[12])

Methods

This study is conceived as an analytical study where the facts are used and the available information is analyzed to make a critical assessment of the phenomenon that is being analyzed using the statistics and reports of the relevant institutions, for the changes that the workforce has undergone in the pharmaceutical sector in recent years. Using the descriptive and analytical method, we have reached qualitative data for a more qualitative assessment and more accurate conclusion. This common approach of data collection methods serves to support a group of findings from one method with another method different from the first but aimed at solving the same phenomenon (Pagare S, R, 2014[3], Witkin B.Ret al. [4])

For data collection in this study, data from reports to the WHO, the World Bank and statistical data from Eurostat were used. All reports from FIP and national reports of relevant institutions were also taken into consideration.

Results

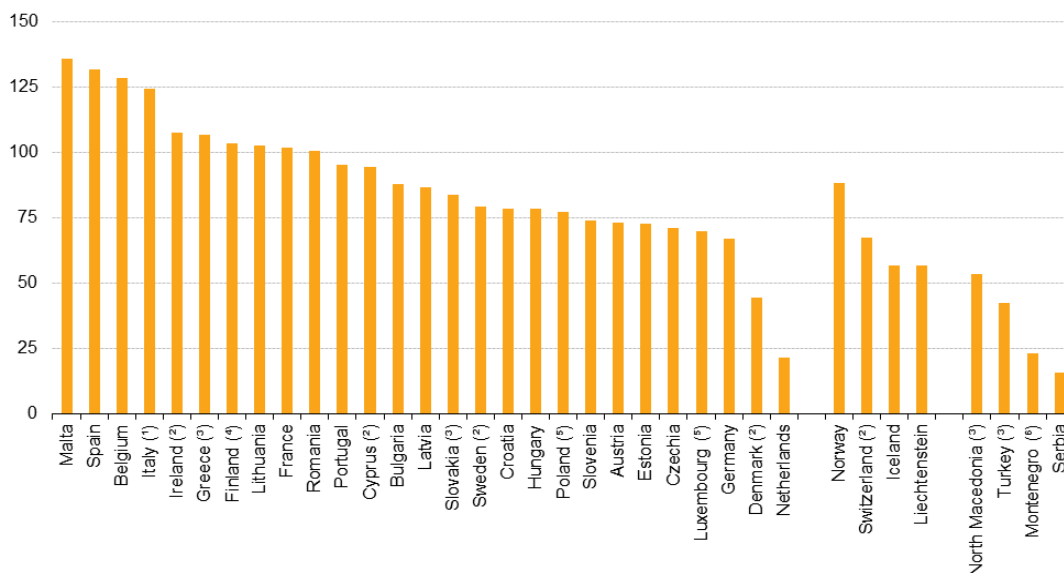
The pharmaceutical service in EU countries is regulated by Directive 2001/83/EC on the Community Code regarding medicinal products for human use. The intervention that was undertaken in the case of open network pharmacies was about liberalization or deregulation, thinking of this as a mechanism that would increase competition and this would bring about lower costs for patients and, on the other hand, easier access to better quality services. The new regulations implemented in the pharmaceutical sector include the opening of new pharmacies (based on the needs of patients) or the creation of a chain of pharmacies. (Retail Pharmacy Report, Fitzgerald Power’s 2014[5]). In some EU member states, the new rules on liberalization have started to be applied earlier, while in most of the member states, liberalization started after 2000. (Sabine Vogler et al. 2014 [6])

The legislative rules which brought a form of liberalization in the criteria for opening pharmacies influenced the increase in the number of pharmacies in most European countries (Sabine Vogler et al.[7])

These policies undertaken to increase the quality of services in primary pharmaceutical care consequently increase the demand for increased workforce capacities. Parallel to the increase in the number of pharmacies in the entire EU area, there has also been an ever-increasing trend in the number of pharmacists.

In 2011, the number of pharmacists employed in 25 EU countries reached a total of 419,353 pharmacists. Of these, 81% were employed in retail pharmacies, 5% in hospital pharmacies, 7% in the pharmaceutical industry and 10% in other professions (Atkinson J et al. [8]). In recent years' data from Eurostat, it appears that in the EU in 2020 the number of employed pharmacists was over 410,000. Of this total number, approximately 55% of pharmacists worked in community pharmacies, 18% in hospitals, 10% in industry, 5% in research and academia, and 5% in regulation (Eurostat, Healthcare personnel statistics - dentists, pharmacists and physiotherapists, 2020 [10])

The figure below shows the number of practicing pharmacists in EU countries and countries outside of it (North Macedonia, Turkey, Montenegro, Serbia). The concept of ‘practising’ health care professionals means in other words, health care professionals providing services directly to patients. For some EU Member States, data are not available for this concept and therefore data are presented for one of the alternative concepts instead: footnotes indicate these exceptions in figure. (1-estimate, 2-2019, 3-professionally active, 4-2018, 5-2017, 6- professionally active, public sector only)



Source: Eurostat- Health in the European Union – facts and figures, 2020

Figure 1. Practicing pharmacists per 100,000 inhabitants in European countries for 2020

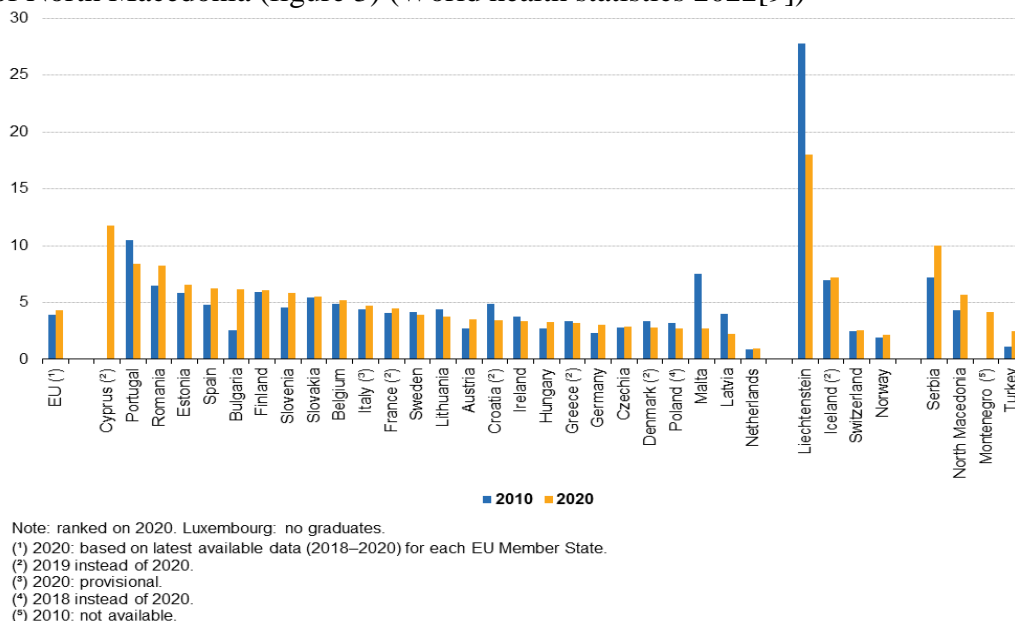
In terms of the number of graduated pharmacists, the highest numbers of pharmacy graduates were recorded in France (3 000; 2019 data) and Spain (2 900), while Italy (2 800) also recorded more pharmacy graduates than Germany (2 600); there were also in excess of 1 000 pharmacy graduates in Romania and Poland (2018 data).

Cyprus recorded the highest ratio of pharmacy graduates in relation to its total population, at 11.8 graduates per 100 000 inhabitants in 2019. The next highest ratios in 2020 were recorded in Portugal (8.4 graduates per 100 000 inhabitants) and Romania (8.2 graduates per 100 000 inhabitants). The majority of the other Member States for which data are available had between 2.3 and 6.5 pharmacy graduates per 100 000 inhabitants, with relatively few pharmacy graduates in the Netherlands (1.0 graduates per 100 000 inhabitants); note that there were no graduates from degree courses in pharmacy in Luxembourg. (Eurostat, Healthcare personnel statistics - dentists, pharmacists and physiotherapists, 2020 [10])

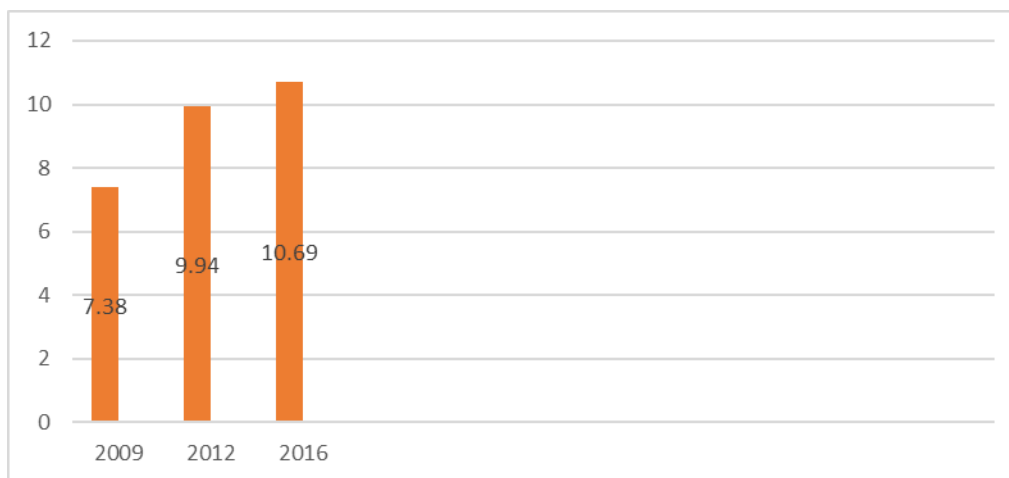
Similar and comparable data are also presented in the annual reports of the OECD (Organisation for Economic Co-operation and Development). These data speak of an increase in the number of pharmacists in almost all OECD countries. Between 2000 and 2019, the number of pharmacists per capita increased in all OECD countries for which time series are available by almost 40% on average, to 86 pharmacists per 100 000 inhabitants. However, the density of pharmacists varied widely across OECD countries, ranging from a low of 21 per 100 000 in the Netherlands to 190 in Japan. The largest increases in pharmacist density between 2000 and 2019 were observed in Japan, Portugal, Spain and Norway. In Japan, the increase is largely attributable to government efforts to separate drug prescribing by doctors from drug dispensing by pharmacists more clearly. (OECD, Health at a Glance 2021 [2])

An ever-increasing trend can also be found for countries outside the eurozone, including the Republic of North Macedonia. From the figure below, it can be seen that the number of pharmacists graduated per 100,000 inhabitants in the Republic of North Macedonia is higher compared to countries in the region such as Montenegro and Turkey and also higher than in most other countries of the EU. From the available data of the World Bank, it seems that there is an ever-increasing trend in the number of pharmacists graduated per 100,000 inhabitants in the Republic of North Macedonia.

The following figures show the changes that have occurred in the number of pharmacists graduated per 100,000 inhabitants from 2010 to 2020 (figure 2) as well as the growing trend of pharmacists graduated in the Republic of North Macedonia (figure 3) (World health statistics 2022[9])



Source: Eurostat - Health in the European Union – facts and figures, 2020
Figure 2. Graduated pharmacists per 100.000 inhabitants in 2010 and 2020



Source: World Health Statistics SDG Target 3.c | Health workforce

Figure 3. Increasing trend in the number of pharmacists graduated per 10,000 inhabitants in the Republic of North Macedonia

Discussion and conclusion

From the statistical data from the relevant institutions, it can be concluded that there is a variability in the number of pharmacists engaged in primary pharmaceutical care. The number of graduated pharmacists and employed pharmacists are generally higher in countries with high populations.

Although there is a slight upward trend in the labor force in all eurozone countries, the lack of capacities in less developed countries remains to be examined as a phenomenon. This is due to the fact that all statistical data lack clear data on the migration of pharmacists from developing countries to more developed countries. It is possible that the increase in the number of pharmacists in developed countries will occur precisely from this movement of pharmacists.

In countries outside the EU, the shortage of manpower in primary pharmaceutical care is discussed more and more every day. In the Republic of North Macedonia, precisely the lack of capacities caused the implementation of legal acts according to which a pharmacy must employ at least two licensed pharmacists, to be postponed for almost two years. What contradicts the perceived situation can happen from the gaps that exist during the collection of data related to the conception and categorization of concepts. This is precisely observed in the latest data in Eurostat where the data from the countries participating in the study are different precisely from the different acceptance on the term and categorization of “practicing pharmacist”.

According to data from the World Bank, a higher number of labor force is observed in countries with a higher level of income. This further reinforces the opinion that the migration of pharmacists takes place in these countries for earning offered their profession offers them in these countries. The lack of data in recent years and especially the lack of data on the number of pharmacists who migrate requires a more detailed investigation in the following studies for a more concrete assessment of the capacities of the workforce in primary pharmaceutical care.

References

- [1]. International Pharmaceutical Federation (FIP). Pharmacy Workforce Intelligence: Global Trends Report. The Hague: International Pharmaceutical Federation; 2018. www.fip.org/educationreports
- [2]. OECD (2021), Health at a Glance 2021: OECD Indicators, OECD Publishing, Paris, <https://doi.org/10.1787/ae3016b9-en>
- [3]. Pagare S.R “Quantitative and Qualitative Data Collection Methods”-Edubeau Multidisciplinary-Online Research Journal. Vol.IX,ISSUE-1, November,2014 ISSN.2320-6314 13.

- [4]. Witkin B.R, Altschuld J.W “Planing and Conducting Needs Assessments”-A Practical Guide. Sage Publications (1995) ISBN.0-8039-5809-9, p. 46-53
- [5]. Retail Pharmacy Report, Fitzgerald Power’s 2014 report on the Irish retail pharmacy sector.
- [6]. Sabine Vogler Competition Issues In The Distribution Of Pharmaceuticals Global Forum on Competition DAF/COMP/GF(2014)6
- [7]. Sabine Vogler, Danielle Arts, Katharina Sandberger”Impact of pharmacy deregulation and regulation in European countries”. Summary Report .Vienna, March 2012
- [8]. Atkinson J, Rombaut B. The 2011 PHARMINE report on pharmacy and pharmacy education in the European Union. Pharmacy Practice (Internet) 2011 Oct-Dec;9(4):169-187.
- [9]. World health statistics 2022: monitoring health for the SDGs, sustainable development goals. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO.
- [10]. Eurostat, Healthcare personnel statistics - dentists, pharmacists and physiotherapists-online publication. Available at: https://ec.europa.eu/eurostat/statisticsexplained/index.php?title=Healthcare_personnel_statistics_-_dentists,_pharmacists_and_physiotherapists
- [11]. SDG Target 3.c | Health workforce: Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States. Appears in: World Health Statistics
- [12]. Bates et al. Human Resources for Health (2016) 14:61 DOI 10.1186/s12960-016-0158-z