

REVIEW OF INEQUITIES IN PROVISION OF MEDICINES AND PHARMACEUTICAL CARE IN BULGARIA

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Summary. This article reviews provision of medicines and pharmaceutical care in Bulgaria. Analysis of public available data bases from the National Statistical Institute, Register of pharmacists (Bulgarian Pharmaceutical Union), Register of pharmacies (Bulgarian Drug Agency), Register of pharmacies contracted agreements with NHIF (National Health Insurance Fund) accessed 17.02.2014 has shown that pharmacists and pharmacies in Bulgaria are spread uneven and are concentrated mostly in urban territories. Fifty four point eighty percent (54,80 %) of all pharmacists work in four districts – Sofia capital (32,21%), Plovdiv (9,96%), Varna (6,58%) and Burgas (6,05%). The patients in certain areas do not have access to pharmacies, especially to those which are selling reimbursable drugs. About a half of the pharmacies in Bulgaria do not have a contract with NHIF even for main group of reimbursement products. The patients do not have access to insulin in approximately 20 % of all Bulgarian municipalities and to supporting hormone therapy in 24 % of the latter.

Keywords: pharmacy, pharmacist, rural area

Introduction: Delivery of medical, nursing, and other health-related services in remote and rural areas is challenging.¹

There are inequities in health system performance between rural and urban areas. Although varying greatly from country to country, rural-urban differences may be seen in areas including, but not limited to, the following:

- presence of qualified health care workers;
- distance to major hospitals;
- access to specialized services;
- access to health promotion and prevention activities;
- availability of pharmacies and essential medicines;

- financial barriers to health services, as incomes and the number of insured people can be lower in rural areas and additional costs are presented (such as travel and lodging costs associated with seeking care for oneself or a family member);
- effectiveness of emergency care services;
- quality of the infrastructure, including equipment conditions in hospitals; and
- demands on health workers.²

There are an ongoing discussion on importance and problems according provision on pharmaceutical care and medicines in the rural region all over the world. In USA and Canada retail pharmacies provide essential services, optimal pharmacotherapy, manage patients with chronic conditions and improve the delivery of care rural areas.^{3 4}

Todd et al.(2013) note that losing the only retail pharmacy may affect access to prescription and over-the-counter drugs and, in some cases, leave the community without proximate access to any clinical provider.⁴

Recently, however, access to pharmacy services in rural areas in USA has begun to receive more attention, as a result of increased utilization of prescription medications, the rising costs of drugs, and pharmacy closures and pharmacist shortages in some rural areas.⁵

There is evidence from some European countries - Romania, Georgia, Armenia, Estonia, that pharmacies, essential medicines and specialized services can be more difficult to access in rural areas.²

The maldistribution of health workers between urban and rural or remote areas is a concern in virtually all countries.⁶

Moreover the low availability of pharmacists in many developing countries is exacerbated by geographical distribution disparity between the rural and urban areas.⁷

Medicines in Bulgaria are provided to patients in four main ways: direct state provision of free drugs for defined categories of patients and diseases; supply of in-patient medicines by hospitals; reimbursement, in whole or in part, of out-patient

prescription drugs by the NHIF(National Health Insurance Fund); and private sales, whether of formally registered or grey-market pharmaceuticals.⁸

Inequalities in obtaining medicines and pharmaceutical care in Bulgaria widely is discussed topic.^{9 10 11}

There is no commonly accepted definition of rural areas in Bulgaria. According Territorial Administration of the Republic of Bulgaria Act Territorial administration units are the regions and the municipalities. And composite territorial administration units in the municipalities are the mayoralties and quarters. Territorial units are the settlements and the settlement formations. As a settlement is a historically and functionally differentiated territory, defined by a permanently residing population, development limits or land-use area and development limits and the required social and engineering infrastructure. Settlements are specified as towns and villages.¹²

In Bulgaria there are 264 municipalities, 28 districts and 6 statistical regions.

CEET(2008) notes that for implementation of the SAPARD programme, the National Agriculture and Rural Development Plan 2000-2006 adopted a “working definition” of rural areas which defined rural areas as “municipalities in which no settlement has a population over 30 000 people and the population density is below 150 people per km²”. And Rural Development Programme 2007-2013 modified slightly definition -“municipalities in which no settlement has a population over 30 000 people”.¹³

According to Patarchanova et al. which evaluated the approaches, the methods and the corresponding classifications of the rural region, it is impossible to specify an universal and absolutely objective criterion for the classification of an administrative unit such as the rural area. Each method requires a choice of thresholds that is subjective to a certain degree. A good method should be flexible, so that a potential user can easily apply thresholds for the user’s specific needs. The concept of “rural area” is connected also with several socioeconomic aspects, such as structure of the employment, population age structure.¹⁴

However according to OECD (2000) village-town division gives little insight into the degree of urbanization and planning development of rural areas¹⁵, We use legal classification of territorial administration units for purpose of this study.

The aim of this study is to explore the trends of concentration of pharmacists and pharmacies in urban region of Bulgaria.

Materials and Methods: Analysis of public available data bases from the National Statistical Institute, Register of pharmacists (Bulgarian Pharmaceutical Union - BPhU), Register of pharmacies (Bulgarian Drug Agency - BDA), Register of pharmacies contracted agreements with NHIF (National Health Insurance Fund) accessed 17.02.2014.

Result and Discussion:

Pharmacist

The total population in Bulgaria was last recorded at 31.12.2012 as 7 284 552. As 51,30% are female and 48,70 male.¹⁶

The number of pharmacists registered by Bulgarian Pharmaceutical Union is 5563, of which 82% are female and 18% male. About a 90 % of all registered pharmacists are working in the community pharmacy sector.

About a one third of all pharmacists are practicing in Sofia. Fifty four point eighty percent (54,80%) of all pharmacists are working in four districts – Sofia (32,21%), Plovdiv (9,96%), Varna (6,58%) and Burgas(6,05%).¹⁷ Table 1

The census in 2011 has shown 17, 5% of the Bulgarian population was registered in Sofia, 9,3% in Plovdiv, 6,5% in Varna and 5,6% in Burgas.¹⁶

Table 1 - Pharmacists in the districts of Bulgaria

District	% of registered pharmacists	District	% of registered pharmacists
Blagoevgrad	2.49%	Pleven	2.49%
Burgas	6.05%	Plovdiv	9.96%
Varna	6.58%	Razgrad	0.89%
Veliko Tarnovo	2.67%	Ruse	3.20%
Vidin	1.07%	Silistra	0.89%
Vratsa	2.31%	Sliven	1.60%

Gabrovo	1.42%	Smolyan	1.78%
Dobrich	1.78%	Sofia distr.	3.02%
Kardzhali	1.07%	Sofia cap.	32.21%
Kyustendil	1.78%	Stara Zagora	3.56%
Lovech	1.25%	Targovishte	1.07%
Montana	1.42%	Haskovo	2.49%
Pazardzhik	2.49%	Shumen	1.78%
Pernik	1.78%	Yambol	0.89%

Source: Bulgarian Pharmaceutical Union, www.bphu.eu

Last year more than 350 new pharmacists graduated from the two Pharmaceutical Faculties located in Sofia and Plovdiv, which are both publicly funded. There is a trend of increasing of the number of pharmacist qualified in other countries. In Bulgaria, the number of newly graduated pharmacists is expected to increase in the future with the establishment of the two new Faculties of Pharmacy at the University of Sofia and in the Medical University of Varna. Therefore there is a risk of overproduction of new pharmacists.

Pharmacies

Pharmaceuticals in Bulgaria are distributed to the public through hospital pharmacies, community pharmacies, drug stores and registered internet pharmacies. The e-commerce of pharmaceuticals is legal only for OTC products. Hospital pharmacies only provide pharmaceuticals for hospital use. In specific conditions doctors are also allowed to distribute pharmaceuticals.

The Bulgarian Drug Agency is responsible for issuing the certificates for registration of the pharmacies. Therefore we analyzed the BDA Register of pharmacies and found the following results.

The total number of licensed pharmacies is 4183, of which 195 are hospital pharmacies and 3988 community pharmacies. 43 pharmacies are owned by State/Publicly-owned chains.¹⁸

The pharmacies are unequal spread across Bulgaria and the majority appears to be concentrated in the bigger cities of the country.

2556 community pharmacies (64.09 % of all community pharmacies) are established in cities, which are administrative center of the districts.

There are seven towns in Bulgaria, with a population above 100,000 habitants and 34 % of the country population lives there. Our study found out that in those seven towns are established approximately 47 % of the community pharmacies in Bulgaria. As 1100 (27,58 %) community pharmacies are located in the capital city and 230 in Plovdiv, 186 in Varna, 126 in Burgas, 92 in Ruse, 81 in Stara Zagora and 64 in Pleven.

In same time only 451 or 11,31 % of all community pharmacies are established in village.

In fact according to National Statistical Institute there are 5 021 villages in Bulgaria, as in 21.4% of all settlements the population number is between 1 and 49 persons. But in villages live 27.1% of the total country population.

Moreover we found that in some villages are established two or more pharmacies. For example in Ravda there are four pharmacies. The reason for this might be found in the fact that Ravda is a village situated on the Black sea coast and is visited by thousands of tourists each year.

Such concentration of pharmacies was observed in the Sunny Beach Resort where currently are established 40 pharmacies. For comparison in the towns - administrative center of the half of the 28 Bulgarian districts are established less pharmacies.

We found out that on the site of the Bulgarian Drug Agency there are 18 registered Internet retailers (both pharmacies and drug stores).

These data demonstrate that pharmacies are concentrated mainly in commercially more attractive areas.

This structure has been formed as a result of 24 years period of transition of the Bulgarian society and economy. It is significantly influenced by the processes of de-monopolization followed by the liberalization of the criteria for establishment and ownership of the pharmacies.

Until 1990, the production and distribution of pharmaceuticals was highly centralized and under the remit of the State-owned Pharmaceutical Company, which covered all functions related to the pharmaceutical sector. The State-owned Pharmaceutical Company was also in charge of a network of pharmacies and sanitary

supply shops, specialist warehouses and depots, importers and distributors of medicinal drugs and sanitary suppliers.¹⁹

A decentralization policies allow private health care services; medical associations were re-established; and responsibility for many health care services was devolved to the municipalities. Far more radical reforms were initiated toward the end of the 1990s, involving the introduction of a system of social health insurance, development of primary health care based on a model of general practice, and rationalization of the health care delivery network.²⁰

According to law in a present moment a natural or legal person registered as trader under the Bulgarian legislation or under the legislation of a Member State, who has signed a labour contract or a contract for management of a pharmacy with a master of pharmacy, and in the cases provided under the law - with an assistant pharmacist, shall be entitled to retail medicinal products, whereby one person may open not more than 4 pharmacies on the territory of the Republic of Bulgaria.²¹

This regulation replaces the requirement only master pharmacists have the right to open one pharmacy and de facto permits unlimited horizontal integration of pharmacies.

The process of liberalization with combination of an absence of establishment rules leads to more pharmacies, but the new openings take place, for the most part, in attractive places, mainly city centers.

Such situation may have negative impact both for the economic viability of the pharmacies and for the public health. With the focus on uncontrolled urban clustering, sparsely populated rural areas may be neglected.²²

Pharmacies contracted agreements with National Health Insurance Fund (NHIF)

The National Health Insurance Fund administers the health insurance system in Bulgaria and is carried out by its territorial divisions – the 28 Regional Health Insurance Funds. NHIF-provided social insurance plays the lead role in financing of healthcare provision – including pharmaceuticals.

The availability of state provided healthcare varies in Bulgaria. Although bigger cities and towns provide access to clinics, doctors and hospitals, provision in the more rural areas is restricted.²³

According to OECD(2014) The National Health Insurance Fund is paying for 35-50% of the drugs (as volume of sales), making the reimbursement market significant factor for all distribution levels. However retail trade with reimbursable drugs is not very attractive for significant part of pharmacies and the patients, especially in small cities and villages and distant and mountain areas do not have direct and easy access to pharmacies, selling reimbursable drugs.²⁴

Previous study (BPHU 2012) has shown that about half of pharmacies had contractual relations with a health insurance fund. Thirty nine (39) Bulgarian municipalities did not have a pharmacy, which possesses with permission to sell drugs that are included in the compensation scheme of NHIF.

We found an increase of the number of pharmacies that were in contract agreement with the NHIF. Compared to 2012 when those pharmacies were 2076, in the middle of 2013 they were already 2153 and in February 2014 - 2180.

In the same time we observed an increase of the number of municipalities, which do not, possessed with a pharmacy contracted with NHIF. In the middle of 2013 the population of 44 Bulgarian municipalities has not access to pharmacies, selling reimbursable drugs.²⁵

Table 2 - Pharmacies with contracts with NHIF in the districts of Bulgaria

District	Number of settlent with contracted pfarmacies	Number of settlent without contracted pfarmacies	Number of municipalities with contracted pfarmacies	Number of municipalities without contracted pfarmacies	Number of contracted pfarmacies in the administrative center	Number of contracted pfarmacies in the other tows	Number of contracted pfarmacies in the vilages
Blagoevgrad	25	253	13	1	22	39	15
Burgas	21	233	12	1	85	37	6
Varna	18	141	12	0	114	16	8
Veliko Tarnovo	15	321	9	1	28	27	4
Vidin	6	136	4	7	24	3	2
Vratsa	13	110	9	1	30	20	5
Gabrovo	5	351	4	0	25	16	0
Dobrich	7	208	6	2	23	8	0
Kardzhali	6	464	6	1	17	9	2

Kyustendil	6	176	6	3	17	24	0
Lovech	11	117	7	1	11	16	4
Montana	8	122	8	3	13	14	2
Pazardzhik	22	95	11	0	48	35	10
Pernik	7	164	4	2	30	5	2
Pleven	21	102	11	0	45	23	7
Plovdiv	48	167	17	1	147	60	42
Razgrad	8	95	7	0	16	9	2
Ruse	5	78	4	5	60	4	1
Silistra	6	112	5	2	14	6	1
Sliven	7	104	4	0	35	12	1
Smolyan	12	230	10	2	11	11	4
Sofia cap.	7	31	-	-	502	0	5
Sofia distr.	31	252	19	3	0	62	14
Stara Zagora	14	192	9	2	52	28	7
Targovishte	6	190	5	1	13	10	1
Haskovo	11	250	9	2	22	30	2
Shumen	8	143	8	2	29	9	2
Yambol	5	104	4	1	28	8	2

Source: National Health Insurance Fund, www.nhif.bg

Analysis of the Register of pharmacies with contracted agreements with NHIF accessed by 17.02.2014 has shown that the number of the Bulgarian municipalities without contracted pharmacies was 39.

Vidin and Ruse were the districts with the highest number of municipalities without contracted pharmacies. In Vidin district in only 4 from 11 municipalities there were pharmacies possessing a contract with NHIF.

Medicines covered by national reimbursement scheme are divided in different groups. Pharmacies contracted with NHIF assume an obligation to sale the main group of medicines.

Signing contracts with NHIF/RHIF for either dispensing of medicines, medical devices or dietary foods for special medical purposes for home treatment allows pharmacies to choose to sell a certain groups of products. A significant number of pharmacies do not provide the full range of pharmaceutical services covered by NHIF. Therefore, the number of municipalities without pharmacy which is selling specific group of medicines is higher.

The patients do not have access to insulin in approximately 20 % of all Bulgarian municipalities, in 24% to supporting hormone therapy and in 34 % to medicines for rare diseases.

One of the main reasons leading to this situation is the absence of economic stimulus for pharmacies. Generally those products are 100% reimbursable and pharmacies are paid only 2 BGR (~1 Euro) per prescription from NHIF for the sale of those drugs. Each prescription for could contain up to three different medicines.

Conclusion: There are inequities in provision on pharmaceutical care and medicines in the rural region all over the world.

Pharmacists and pharmacies are uneven spread in Bulgaria and are concentrated in urban territories. This concentration is clearly noticeable in capital and towns - administrative centers of districts where the pharmacy network is overdeveloped.

Patients in small cities, villages and distant and mountain areas, do not have direct and easy access to pharmacies, especially selling reimbursable drugs.

About a half of pharmacies in Bulgaria do not have a contract with NHIF even for the main group of reimbursement products.

The patients do not have access to insulin in approximately 20 % of all Bulgarian municipalities and in 24% to supporting hormone therapy. For the past 24 years, there was not a governmental policy in order to develop provision of pharmaceutical care in the rural regions of Bulgaria.

At the present moment, the government is discussing the problem with Bulgarian Pharmaceutical Union and National Association of municipalities and other stakeholders.

Key policy issues that will affect future access to pharmacy services in rural areas include pharmacy staffing and relief coverage; financial viability of the pharmacies; NHIF policy of subsidizing the activities related to the provision of pharmaceutical care, government policies relating to the regulation of the pharmacies and the pharmacists.

The government and the stakeholders should outline as soon as possible a set of measures to ensure the most effective and equal pharmaceutical care in all regions, in order to fill the public expectations.

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- ¹ Godden DJ., Rural health care in the U.K.: a rapidly changing scene, *J Agric Saf Health*. 2005 May;11(2):205-10
- ² Rural poverty and health systems in the WHO European Region. Copenhagen, WHO Regional Office for Europe, 2010, ISBN 978 92 890 0219 6
- ³ The translator The role of pharmacists in rural practice Spring 2012, Volume 6, Issue 2
- ⁴ Todd K., Ullrich F., Mueller K., Rural Pharmacy Closures: Implications for Rural Communities, January 2013 www.public-health.uiowa.edu/rupri
- ⁵ Casey M., Klingner J., Moscovice I., Access to Rural Pharmacy Services In Minnesota, North Dakota, and South Dakota, University of Minnesota, July 2001, Working Paper #36
- ⁶ Buchan J., Couper I., Tangcharoensathien V., Thepannya K., Jaskiewicz W., Perfilievaf G., Doleag C., Early implementation of WHO recommendations for the retention of health workers in remote and rural areas, *Bull World Health Organ* 2013;91:834–8
- ⁷ Global Pharmacy Workforce and Migration Report, Part 1: Workforce description 11-16, International Pharmaceutical Federation (FIP) 2006, www.fip.org.
- ⁸ Meagher P., Azfar O., Rutherford D., Governance in bulgaria's pharmaceutical system, IRIS Center, University of Maryland, August 2005
- ⁹ <http://www.monitor.bg/article?id=419523>
- ¹⁰ <http://www.segabg.com/article.php?id=685717>
- ¹¹ <http://www.bia-bg.com/news/15995>
- ¹² Territorial Administration of the Republic of Bulgaria Act, Promulgated, SG No. 63/14.07.1995, last amended, SG 66/ 26.7.2013
- ¹³ Redman M, Mikk M, CEET (Centre for Ecological Engineering, Tartu, Estonia), Country profile on rural characteristics Bulgaria, 2008
- ¹⁴ Patarchanova E., Kastreva P., Kuleva G., Classifications of the Rural Areas in Bulgaria, *Journal of Settlements and Spatial Planning*, , Special Issue, vol. 1 (2012) 103-108
- ¹⁵ OECD, Review of Agricultural Policies: Bulgaria. Organisation for Economic Cooperation and Development, 2000, Paris
- ¹⁶ <http://www.nsi.bg/>
- ¹⁷ www.bphu.eu
- ¹⁸ www.bda.bg
- ¹⁹ Georgieva L, Salchev P, Dimitrova S, Dimova A, Avdeeva O. Bulgaria: Health system review. *Health Systems in Transition*, 2007; 9(1): 1–156
- ²⁰ Koulaksazov, S. et al. in Tragakes, E. (ed.) Health care systems in transition: Bulgaria. Copenhagen, European Observatory on Health Care Systems, 5(2) (2003)
- ²¹ Medicinal Products in Human Medicine Act, Promulgated, State Gazette No. 31/13.04.2007, effective 13.04.2007, last amended, SG No. 1/03.01.2014
- ²² Sabine Vogler S., Arts D., Habl C., Community pharmacy in Europe - Lessons from deregulation, Austrian Health Institute (ÖBIG)Vienna, February 2006
- ²³ <http://www.nhs.uk/NHSEngland/Healthcareabroad/countryguide/Pages/healthcareinBulgaria.aspx>.
- ²⁴ <http://www.oecd.org/competition/competition-distribution-pharmaceuticals.htm>
- ²⁵ www.nhif.bg