

# ZDRAVSTVENI KADROVI I REFORMA PRIMARNE ZDRAVSTVENE ZAŠTITE U CRNOJ GORI

ORIGINALNI RAD

ORIGINAL ARTICLE

## HEALTH PERSONNEL AND THE REFORM OF PRIMARY HEALTH CARE IN MONTENEGRO

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### SAŽETAK

**Uvod:** Reformske aktivnosti upravljanja univerzalnom zdravstvenom pokrivenošću u primarnoj zdravstvenoj zaštiti u Crnoj Gori sprovedene su u periodu između 2004. i 2012. godine, sa ciljem da se unapredi efikasnost zdravstvenog sistema kroz obezbeđivanje racionalnog korišćenja i dostupnosti resursa.

**Cilj:** Svrha ove studije je da opiše zdravstvene radnike tokom i nakon reformskih aktivnosti u Crnoj Gori.

**Materijali i metode:** Korišćen je prilagođeni četvorodimenzionalni okvir Svetske zdravstvene organizacije za ispitivanje dostupnosti, pristupačnosti, prihvatljivosti i kvaliteta zdravstvenog kadra u javnim ustanovama primarne zdravstvene zaštite u Crnoj Gori, u periodu reforme i nakon nje. Dostupnost, pristupačnost, prihvatljivost i kvalitet zdravstvenih radnika su ispitivani korišćenjem definisanog seta posrednih mera (engl. proxy). Pored toga, predstavljeni su najnoviji dostupni podaci o stopi obezbeđenosti doktorima medicine, stomatolozima, farmaceutima, izabranim doktorima i medicinskim sestrama, u javnim domovima primarne zdravstvene zaštite, kako bi se ispitala održivost sprovedenih reformi. Korišćeni su podaci informacionog sistema primarne zdravstvene zaštite, objavljeni podaci Instituta za javno zdravlje Crne Gore, kao i podaci iz niza zvaničnih i stručnih izveštaja relevantnih eksperata i institucija.

**Rezultati:** Tokom reforme, ukupan broj doktora zaposlenih u primarnoj zdravstvenoj zaštiti smanjen je za 5%, dok se broj medicinskih sestara smanjio za 35%. Istovremeno, povećao se broj doktora opšte prakse (izabranih doktora za odrasle) što je poboljšalo njihovu dostupnost (54,4 u 2015. godini u odnosu na 36,3 u 2004. godini, na 100.000). Ispitivanje pristupačnosti je pokazalo velike varijacije među opštinama. Korišćenje zdravstvenih usluga se, na nivou zemlje, povećalo za 25%, u službi za odrasle. Broj medicinskih sestara je smanjen i prilagođen normativima u službama za odrasle, žene i decu. Sa aspekta prihvatljivosti i kvaliteta, reformske aktivnosti su unapredile profesionalne kompetencije timova u primarnoj zdravstvenoj zaštiti.

**Zaključak:** Reforma primarne zdravstvene zaštite poboljšala je dostupnost i pristupačnost zdravstvenih kadrova, te sprovedla aktivnosti koje su unapredile njihovu prihvatljivost i kvalitet. Preporučuje se uspostavljanje tela koje će kontinuirano pratiti promene u primarnoj zdravstvenoj zaštiti, kao i njeno funkcionisanje, kako bi se održali postignuti rezultati reforme i ostvario dalji napredak.

**Ključne reči:** primarna zdravstvena zaštita, zdravstveni kadrovi, univerzalna zdravstvena pokrivenost

### ABSTRACT

**Introduction:** Universal health coverage reform activities in primary health care in Montenegro were conducted in the period between 2004 and 2012, with the aim of increasing the efficiency of the health care system by ensuring rational use and availability of resources.

**Aim:** The purpose of this study is to describe the health personnel during and after the reform activities in Montenegro.

**Materials and methods:** We adapted the four-dimensional World Health Organization framework to examine availability, accessibility, acceptability and quality of the health personnel in public primary health care facilities, in Montenegro, during and after the reform. Availability, accessibility, acceptability and quality of health personnel were examined using a defined set of proxies. In addition, the latest available data on density rates of health personnel were presented, in order to examine the sustainability of the implemented reforms. The data used included primary health care information system data, data published by the Institute of Public Health of Montenegro, as well as data from a number of official and expert reports by relevant experts and institutions.

**Results:** The total number of physicians employed in primary health care was reduced during the reform by 5%, while the number of nurses was decreased by 35%. At the same time, the number of GPs (chosen doctors for adults) increased, which improved their availability (54.4 in 2015 vs. 36.3 in 2004, per 100,000). Accessibility showed great variations among municipalities. The utilization of health care services, at the national level, increased by 25% in adult health care services. The reduction of the number of nurses was tailored to meet set norms in health care services for adults, women, and children. Reform activities improved the professional competencies of primary health care teams.

**Conclusion:** Primary health care reform improved the availability and accessibility of health personnel and implemented activities that improved their acceptability and quality. It is recommended to establish a permanent body which would continuously monitor the functioning of the primary health care (PHC) system, as well as the changes that occur in PHC, thus ensuring that reform results are maintained and further improved.

**Keywords:** primary health care, health personnel, universal health coverage

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## UVOD

Ocene reformi zdravstvene zaštite, koje su sprovedene širom Evrope u periodu nakon osamdesetih i devedesetih godina prošlog veka, iznele su na svetlo složenost reformskih procesa, dostignuća ostvarena tokom reformi, kao i izazove sa kojima su se evropske zemlje suočavale tokom sprovođenja reformi [1–3]. Razvoj, raspoređivanje i učinak zdravstvene radne snage predstavljaju osetljiva pitanja koja nisu bila laka za rešavanje tokom zdravstvenih reformi. Kada je u pitanju univerzalna zdravstvena pokrivenost, AAAQ okvir (engl. *availability, accessibility, acceptability and quality framework*) Svetske zdravstvene organizacije za upravljanje dostupnošću, pristupačnošću, prihvatljivošću i kvalitetom zdravstvenog kadra, dobija sve više na značaju, i na globalnom i na nacionalnom nivou [4–7]. Reforma primarne zdravstvene zaštite je u mnogim zemljama prethodila pandemiji KOVID-19 oboljenja, te je dovedena u pitanje korist od racionalizacije zdravstvenog kadra u smislu održivosti primarne zdravstvene zaštite u kontekstu kriznih situacija [8–10].

Crna Gora je jedna od zemalja Jugoistočne Evrope koja je na početku 21. veka uložila značajne napore u jačanje primarne zdravstvene zaštite (PZZ) [11,12]. Zdravstveni sistem Crne Gore je bio suočen sa problemima održivosti, prevashodno zbog širokih prava na usluge zdravstvene zaštite kao i zbog velikog broja zdravstvenih radnika. Uz to, nije davan prioritet efikasnosti u korišćenju i upravljanju resursima [13]. Povećanje efikasnosti zdravstvenog sistema u okviru reformisanog modela organizacije primarne zdravstvene zaštite iziskivalo je adekvatno znanje i veštine od strane izabranih doktora (ID), kako bi se zadovoljila većina potreba pacijenata na nivou PZZ-a.

Usvojeni zakonski okvir [14] propisao je da usluge primarne zdravstvene zaštite pružaju izabrani doktori (i izabrani stomatolozi). U novom organizacionom okviru primarne zdravstvene zaštite, izabrani doktori obezbeđuju zdravstvene usluge kao lekari opšte prakse za odraslu populaciju (što uključuje specijaliste opšte medicine, urgentne medicine, interne medicine, medicine rada, kao i porodične medicine), kao izabrani ginekolozi za žene, i kao izabrani pedijatri za decu.

Ova studija daje kratak pregled reformskog procesa u primarnoj zdravstvenoj zaštiti u Crnoj Gori, opisuje promene u zdravstvenom kadru tokom i nakon reforme, te daje zaključak u vezi sa tim da li je reforma unapredila sprovođenje primarne zdravstvene zaštite, u smislu dostupnosti, pristupačnosti, prihvatljivosti i kvaliteta zdravstvenog kadra, gledano srednjoročno i dugoročno.

## MATERIJALI I METODE

Izveštaj koji su objavile Globalna alijansa zdravstvenih radnika (engl. *Global Health Workforce Alliance – GHWA*)

## INTRODUCTION

The evaluations of the health care reforms conducted across Europe, in the period after the 1980s and the 1990s, have highlighted the complexity of reform processes, the achievements, and the challenges which countries have faced during the implementation of reforms [1–3]. The health workforce development, deployment, and performance are sensitive issues which were not easily solved with the health care reforms. With regard to universal health coverage, the World Health Organization AAAQ framework for governance of health personnel availability, accessibility, acceptability and quality is gaining significance globally and nationally [4–7]. Primary health care reform preceded the COVID-19 pandemic in many countries, calling into question the benefits of health staff rationalization in relation to the sustainability of primary health care, in the context of crisis [8–10].

Montenegro is one of the countries in Southeast Europe investing considerable efforts into strengthening primary health care (PHC), at the beginning of the 21<sup>st</sup> century [11,12]. The Montenegrin health system was facing sustainability issues, mostly due to broad rights to health care services and a large number of health care personnel. In addition, efficiency in the use and management of resources was not prioritized [13]. Improvement of health system efficiency in the reformed model of PHC organization required the appropriate knowledge and skills of the chosen doctors (CDs), in order to fulfil the majority of patient needs at the level of PHC.

The adopted legislative framework [14] defined that PHC services are provided by chosen doctors (and chosen dentists). In the new organizational framework of PHC, chosen doctors provide health care services as GPs for the adult population (including specialists in the fields of general medicine, emergency medicine, internal medicine, occupational medicine, as well as family medicine), chosen gynecologists for women, and chosen pediatricians for children.

This study provides a brief overview of the primary health care reform process in Montenegro, describes changes of health personnel during and after the reform, and concludes whether the reform has improved the delivery of PHC, in terms of the availability, accessibility, acceptability and quality dimensions of health personnel, in the mid- and long-term period.

## MATERIALS AND METHODS

A report issued by the Global Health Workforce Alliance (GHWA) and the World Health Organization (WHO) [4] was used to explore health personnel governance in

i Svetska zdravstvena organizacija (engl. *World Health Organization – WHO*) [4] korišćen je kako bi se ispitalo upravljanje zdravstvenim kadrom u Crnoj Gori, u reformskom periodu između 2004. i 2012. godine, kao i u godinama nakon reforme, do 2015. godine.

Primenom AAAQ okvira, zdravstveni kadar u Crnoj Gori je opisan pomoću 18 indikatora, i upoređivane su njihove vrednosti za 2004. godinu, za 2015. godinu, kao i vrednosti dobijene iz najnovijih dostupnih podataka. Ovih 18 indikatora su: ukupna populacija Crne Gore; populacija mlađa od 15 godina kao procenat ukupne populacije; populacija stara 65 godina i starija kao procenat ukupne populacije; populacija naseljena u urbanim oblastima; godišnja stopa promene populacije; bruto domaći proizvod po glavi stanovnika; populacija koja živi od manje od jednog dolara dnevno; ukupni troškovi za zdravstvenu zaštitu kao procenat BDP-a; zdravstvena potrošnja Vlade kao procenat ukupnih troškova zdravstvene zaštite; eksterni izvori finansiranja zdravstvene zaštite kao procenat ukupnih troškova zdravstvene zaštite; očekivano trajanje života na rođenju, po polovima i ukupno; ukupna stopa fertiliteta (po ženi); stopa ranog neonatalnog mortaliteta (na 1,000 živorođenih); stopa mortaliteta novorođenčadi (na 1,000 živorođenih); stopa smrtnosti dece ispod 5 godina (na 1,000 živorođenih); koeficijent smrtnosti majki na 100,000 živorođenih (procena); porođaji obavljeni u prisustvu kvalifikovanih zdravstvenih radnika; pokrivenost prenatalnom negom, sa najmanje jednom posetom.

Indikator dostupnosti zdravstvenog kadra bila je stopa zdravstvenih radnika na 100.000 stanovnika opštine. Pokazatelji varijacija u pristupačnosti zdravstvenog kadra po opštinama bile su najviše i najniže stope obezbeđenosti zdravstvenim radnicima poređene sa nacionalnim prosekom, kao i korišćenje zdravstvenih usluga u okviru primarne zdravstvene zaštite (broj poseta odraslih pacijenata po izabranom doktoru). Indikator prihvatljivosti zdravstvenog kadra bio je odnos broja medicinskih sestara naspram broja doktora, s obzirom da ova proporcija ističe zastupljenost veština i znanja, kao faktor prihvatljivosti, što utiče na odluku korisnika o tome da li kapaciteti zdravstvenih radnika mogu da ispunje njihova očekivanja [4]. Kvalitet zdravstvenog kadra u Crnoj Gori opisan je pomoću podataka koji dokazuju primenu nacionalnih mehanizama za akreditovanje obrazovnih institucija, regulisanje zdravstvenih struka, kao i licenciranje zdravstvenih profesionalaca [4].

Takođe, predstavili smo najnovije dostupne podatke koji se tiču indikatora dostupnosti: stope obezbeđenosti (na 100.000) doktorima medicine, stomatolozima, farmaceutima, izabranim doktorima i medicinskim sestrama, u javnim domovima primarne zdravstvene zaštite, kako bi analizirali održivost primenjenih reformi.

Montenegro, during the reform period (2004 – 2012), as well as in the years after the reform, until 2015.

Using the AAAQ framework, the health personnel in Montenegro was described with 18 indicators, and their values were compared for 2004, 2015, and the latest available. The 18 indicators are: total population of Montenegro; population under 15 years as a percentage of the total population; population aged 65 years and above as a percentage of the total population; population living in urban areas; annual rate of population changes; gross national income per capita; population living on less than \$1 a day; total health expenditure as a percentage of GDP; Government health spending as a percentage of health spending; external resources for health as a percentage of total health expenditure; life expectancy at birth, per sex and in total; total fertility rate (per woman); early neonatal mortality rate (per 1,000 live births); infant mortality rate (per 1,000 live births); under-five mortality rate (per 1,000 live births); maternal mortality ratio per 100,000 live births (estimate); births attended by skilled health personnel; antenatal care coverage, with at least one visit.

The indicator of health personnel availability was the rate of health workers per 100,000 municipality inhabitants. Variations of health personnel accessibility across municipalities were indicated by the ratio of the highest and the lowest municipal densities of health workforce and compared to the national average and the utilization of health services in PHC (number of visits of adults per general practitioner). The indicator of health personnel acceptability was the ratio of nurses to physicians, given that it highlights the skill mix as a factor of acceptability, which influences the users' decision regarding whether the capacity of the health workforce can meet their expectations [4]. The quality of the health personnel in Montenegro was described through evidence on implemented national mechanisms of accrediting educational institutions, regulating health professions, and licensing health professionals [4].

In addition, we have presented the latest available data regarding availability indicators: density rates (per 100,000) of medical doctors, dentists, pharmacists, chosen doctors and nurses, in public primary health care centers, in order to examine the sustainability of the implemented reforms.

The data holder was the Institute of Public Health of Montenegro, including the primary health care database and published official statistics data, as well as a number of official and expert reports from relevant institutions (the World Bank, the Government of Montenegro, Health Insurance Fund of Montenegro, the Ministry of Health of Montenegro, and other ministries).

Podaci su dobijeni od Instituta za javno zdravlje Crne Gore, uključujući tu i bazu podataka primarne zdravstvene zaštite i objavljene zvanične statističke podatke, kao i zvanične i stručne izveštaje relevantnih institucija (Svetska banka, Vlada Crne Gore, Fond za zdravstveno osiguranje Crne Gore, Ministarstvo zdravlja Crne Gore, te druga ministarstva).

## REZULTATI

Aktuelna dinamika populacije Crne Gore odražava trendove starenja i migracije ka urbanim oblastima (Tabela 1). Stanovništvo mlađe od 15 godina se smanjilo za 2%, dok je procenat starih lica porastao za 1% [15]. Porast broja stanovnika je bio ograničen nižim stepenom fertiliteta i produženim životnim vekom [16,17]. Stopa ranog neonatalnog mortaliteta, stopa mortaliteta novorođenčadi, stopa smrtnosti dece ispod 5 godina, kao i procenjeni koeficijent smrtnosti majki, opali su u posmatranom periodu [18–21]. Pokrivenost prenatalnom negom se povećala, kao i broj porođaja obavljenih u prisustvu kvalifikovanih zdravstvenih radnika. Bruto domaći proizvod po glavi stanovnika u Crnoj Gori se povećao [22], uz smanjenje populacije koja živi u domaćinstvima sa

## RESULTS

The ongoing population dynamics in Montenegro reflects the trends of aging and migrating towards urban areas (Table 1). The population under 15 years of age decreased by 2%, while the percentage of the elderly rose by 1% [15]. The rise in population numbers was limited by lower fertility levels and extended longevity [16,17]. The early neonatal mortality rate, infant mortality rate, under-five mortality rate, as well as the estimated maternal mortality ratio, decreased in the observed period [18–21]. Antenatal care coverage rose, as well as the number of births attended by skilled health personnel. The gross national income per capita in Montenegro increased [22], with a decrease of population living in households whose income is below the international poverty line [23]. However, the total expenditure on health as a percentage of gross domestic product remained at the same level as estimated in 2004 [24,25], while Government spending as a share in health spending decreased. Cardiovascular diseases were the leading cause of morbidity in Montenegro [28]. Ischemic heart disease, stroke, cardiomyopathy and lung cancer were the leading causes of prema-

**Tabela 1.** Sociodemografski i indikatori zdravstvenog stanja populacije, u Crnoj Gori, u 2004, 2015. i 2021. godini (ili poslednji dostupni podaci)

**Table 1.** Socio-demographic and health status indicators of the population, in Montenegro, in 2004, 2015 and 2021 (or latest available data)

| Indikatori / Indicators                                                                                                          | 2004        | 2015        | 2021        |
|----------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
| Ukupna populacija Crne Gore / Total population of Montenegro                                                                     | 613,035     | 622,016     | 620,173     |
| Populacija mlađa od 15 godina (% ukupne populacije) / Population under the age of 15 years (% of the total population)           | 20          | 18          | 18          |
| Populacija stara 65 godina i starija (% ukupne populacije) / Population aged 65 years and above (% of the total population)      | 13          | 14          | 16          |
| Populacija naseljena u urbanim oblastima (%) / Population living in urban areas (%)                                              | 55          | 66          | 68          |
| Godišnja stopa promene populacije (%) / Annual rate of population changes (%)                                                    | 0.2         | 0.1         | -0.2        |
| Bruto domaći proizvod (PKM int \$) / Gross national income per capita (PPP int. \$)                                              | 8,240       | 16,700      | 23,280      |
| Populacija koja živi od < \$1 (PKM int \$) na dan (%) / Population living on < \$1 (PPP int. \$) a day (%)                       | 0.1 (2005)  | 0.0 (2014)  | /           |
| Ukupni troškovi za zdravstvenu zaštitu (UTZZ) kao % BDP-a / Total health expenditure (THE) as a % of GDP                         | 8.4         | 6.4         | 8.3 (2019)  |
| Zdravstvena potrošnja Vlade kao % ukupne zdravstvene potrošnje / Government health spending as a % of health spending            | 75.7        | 67.1        | 61.0 (2019) |
| Eksterni izvori finansiranja zdravstvene zaštite kao % UTZZ-a / External resources for health as a % of THE                      | 1.2 (2005)  | /           | /           |
| Očekivano trajanje života na rođenju (god.) [ukupno; ž.; m.] / Life expectancy at birth (years) [all; f.; m.]                    | 73; 76; 71  | 76; 79; 74  | /           |
| Ukupna stopa fertiliteta (po ženi) / Total fertility rate (per woman)                                                            | 1.8         | 1.7         |             |
| Stopa ranog neonatalnog mortaliteta (na 1,000 živorođenih) / Early neonatal mortality rate (per 1,000 live births)               | 7           | 2           | 1 (2020)    |
| Stopa mortaliteta novorođenčadi (na 1,000 živorođenih) / Infant mortality rate (per 1,000 live births)                           | 10          | 3           | 2 (2020)    |
| Stopa smrtnosti dece ispod 5 godina (na 1,000 živorođenih) / Under-five mortality rate (per 1,000 live births)                   | 11          | 4           | 2 (2020)    |
| Koeficijent smrtnosti majki na 100,000 živorođenih (procena) / Maternal mortality ratio per 100,000 live births (estimate)       | 10          | 6           | 6 (2017)    |
| Porođaji obavljeni u prisustvu kvalifikovanih zdravstvenih radnika (%) / Births attended by skilled health personnel (%)         | 98          | 100 (2009)  | /           |
| Pokrivenost prenatalnom negom, sa najmanje jednom posetom (%), MICS / Antenatal care coverage, with at least one visit (%), MICS | 96.4 (2006) | 91.7 (2013) | 98.8 (2018) |

Izvori: [15 – 27 / Sources: [15 – 27]

prihodima koji su ispod međunarodne granice siromaštva [23]. Međutim, ukupni troškovi za zdravstvenu zaštitu kao procenat BDP-a ostali su na istom nivou kao što je bila i njihova procenjena vrednost 2004. godine [24,25], dok je zdravstvena potrošnja Vlade kao procenat ukupnih troškova zdravstvene zaštite opala. Kardiovaskularna oboljenja su bila vodeći uzrok oboljevanja u Crnoj Gori [28]. Ishemijska bolest srca, šlog, kardiomiopatija i rak pluća, bili su vodeći uzroci prevremene smrti u 2010. godini [28]. Hospitalizacije muškaraca zbog raka pluća porasle su za 18% (2005 – 2015), dok su hospitalizacije žena zbog dijabetesa porasle sa 1% na 1,9% (na 1,000), u istom periodu [29].

### Dostupnost, pristupačnost, prihvatljivost i kvalitet zdravstvenog kadra u javnim ustanovama primarne zdravstvene zaštite u Crnoj Gori

Ukupan broj lekara zaposlenih u ustanovama primarne zdravstvene zaštite u javnom sektoru (uključujući i jedinice/oddeljenja urgentne medicine) opao je za oko 5% tokom perioda reformi (2004 – 2012), a najveći pad je zabeležen 2009. i 2010. godine. U prvim godinama nakon reforme, stopa obezbeđenosti lekarima (na 100.000) ostala je relativno stabilna, sa porastom 2019. godine (Tabela 2.a).

Od 2008. godine, stomatolozi su u potpunosti izmešteni iz primarne zdravstvene zaštite u javnom sektoru. Broj farmaceuta je bio zanemarljiv u posmatranom periodu (0,2 na 100.000, 2015. godine).

Ukupan broj izabranih doktora povećao se za 28 %, tokom perioda reforme (2004 – 2012), i nastavio je da

ture death in 2010 [28]. Lung cancer hospitalizations of men rose by 18% (2005 – 2015), while diabetes related hospitalizations of women increased from 1% to 1.9% (per 1,000), in the same period [29].

### Availability, accessibility, acceptability and quality of health personnel in public primary health care centers in Montenegro

The total number of physicians employed in public sector primary health care (including emergency units) decreased by approximately 5% during the reform period (2004 – 2012), and the decrease was the greatest in years 2009 and 2010. In the first years after the reform, the density rate of physician per 100,000 remained relatively stable, with an increase in 2019 (Table 2.a).

As of 2008, dentists were completely removed from public PHC. The number of pharmacists was negligible in the observed period (0.2 per 100,000, in 2015).

The total number of chosen doctors increased by 28 %, during the reform period (2004 – 2012), and continued to rise in subsequent years (Table 2.b). The density rate of CDs per 100,000, in the 2004 – 2015 period, increased from 48.6 to 64.8, while the density of CDs working as GPs for the adult population rose from 36.3 to 54.4 (per 100,000). The total number of nurses in PHC decreased by 35%, in the observed period.

The availability of health workers in PHC varied by municipalities and reached the highest density in the Mojkovac Municipality (62.63 per 10,000), in 2015. The largest municipalities, Nikšić and Podgorica, had the lowest density at the PHC level (20.43 and 22.32 per 10,000).

**Tabela 2.a.** Medical doctors, dentists and pharmacists (rates per 100,000) in public PHC centers, in Montenegro, 2004 – 2015 and 2019

**Table 2.a.** Lekari, stomatolozi i farmaceuti (stope na 100.000 stanovnika) u javnim ustanovama PZZ-a, u Crnoj Gori, 2004 – 2015. i 2019. godina

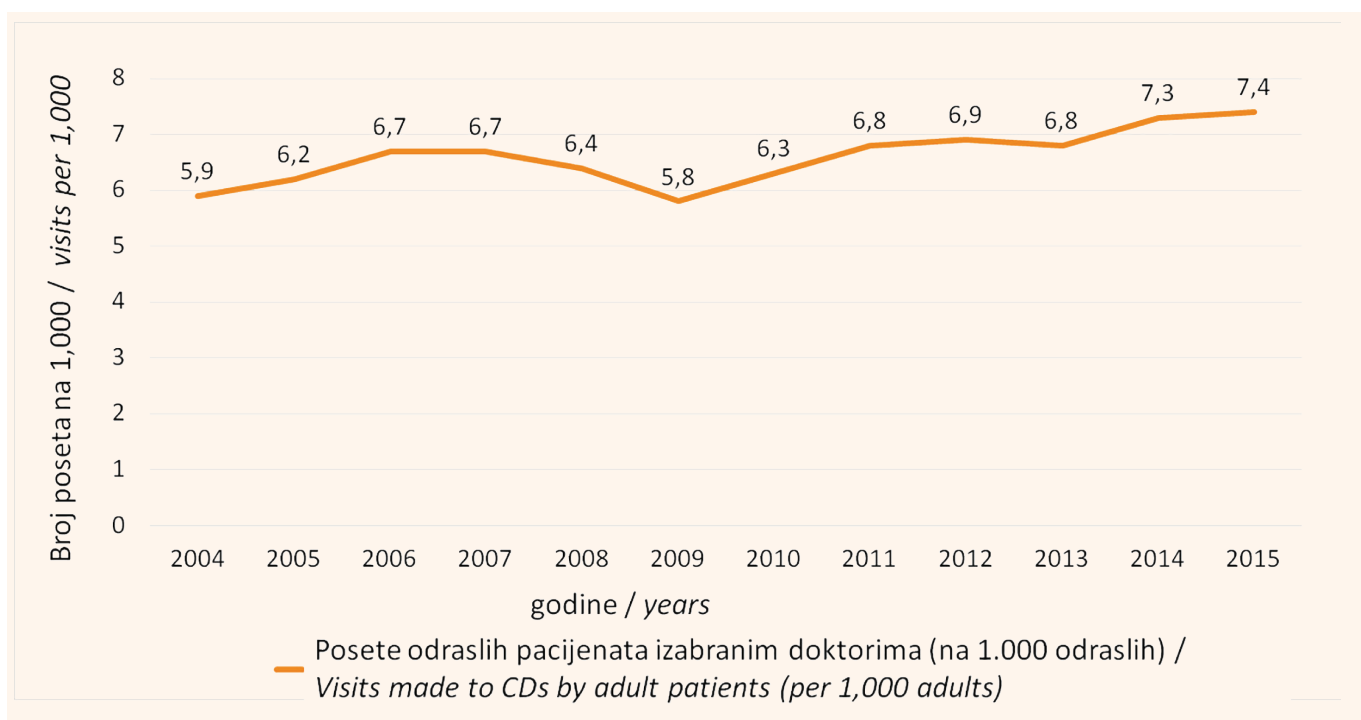
| Godina/<br>Year | Lekari /<br>Medical doctors |      | Stomatolozi /<br>Dentists |    | Farmaceuti /<br>Pharmacists |     | Broj lekara na 100.000<br>stanovnika / Medical<br>doctors per 100,000 | Broj stomatologa na<br>100.000 stanovnika /<br>Dentists per 100,000 | Broj farmaceuta na<br>100.000 stanovnika /<br>Pharmacists per 100,000 |
|-----------------|-----------------------------|------|---------------------------|----|-----------------------------|-----|-----------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------|
|                 | n                           | %    | n                         | %  | n                           | %   |                                                                       |                                                                     |                                                                       |
| 2004            | 564                         | 22.4 | 249                       | 10 | 2                           | 0.1 | 92.0                                                                  | 40.6                                                                | 0.3                                                                   |
| 2005            | 563                         | 21.9 | 238                       | 9  | 3                           | 0.1 | 91.7                                                                  | 38.7                                                                | 0.5                                                                   |
| 2006            | 556                         | 21.9 | 229                       | 9  | 3                           | 0.1 | 90.4                                                                  | 37.2                                                                | 0.5                                                                   |
| 2007            | 569                         | 22.6 | 213                       | 9  | 3                           | 0.1 | 92.4                                                                  | 34.6                                                                | 0.5                                                                   |
| 2008            | 611                         | 27.9 | 13                        | 1  | 1                           | 0.1 | 99.0                                                                  | 2.1                                                                 | 0.2                                                                   |
| 2009            | 590                         | 27.7 | 7                         | 0  | 2                           | 0.1 | 95.4                                                                  | 1.1                                                                 | 0.3                                                                   |
| 2010            | 560                         | 30.1 | 2                         | 0  | 1                           | 0.1 | 90.4                                                                  | 0.3                                                                 | 0.2                                                                   |
| 2011            | 537                         | 30.6 | 0                         | 0  | 1                           | 0.1 | 86.6                                                                  | 0.0                                                                 | 0.2                                                                   |
| 2012            | 530                         | 31.8 | 1                         | 0  | 1                           | 0.1 | 85.4                                                                  | 0.2                                                                 | 0.2                                                                   |
| 2013            | 535                         | 31.9 | 0                         | 0  | 1                           | 0.1 | 86.1                                                                  | 0.0                                                                 | 0.2                                                                   |
| 2014            | 519                         | 30.6 | 0                         | 0  | 1                           | 0.0 | 83.5                                                                  | 0.0                                                                 | 0.2                                                                   |
| 2015            | 528                         | 31.0 | 0                         | 0  | 1                           | 0.0 | 84.9                                                                  | 0.0                                                                 | 0.2                                                                   |
| 2019            | 585                         | 32.9 | 1                         | 0  | 0                           | 0.0 | 94.0                                                                  | 0.0                                                                 | 0.0                                                                   |

**Tabela 2.b.** Broj izabranih doktora i medicinskih sestara i stope obezbeđenosti izabranim doktorima i medicinskim sestrama (na 100.000) u javnim ustanovama PZZ-a, u Crnoj Gori, u periodu 2004 – 2015.

**Table 2.b.** Number and density rates (per 100,000) of chosen doctors and nurses in public PHC centers, in Montenegro, 2004 – 2015

| Godina / Year | Broj izabranih doktora / Number of CDs | Broj medicinskih sestara / Number of nurses | Izabrani doktori za odrasle, decu i žene (stopa na 100.000 stanovnika) / CDs for adults, children, women (rate per 100,000) | Izabrani doktori za odrasle (stopa na 100.000 stanovnika) / CDs for adults (rate per 100,000) | Medicinske sestre (stopa na 100.000 stanovnika) / Nurses (rate per 100,000) |
|---------------|----------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 2004          | 298                                    | 1,693                                       | 48.6                                                                                                                        | 36.3                                                                                          | 276.0                                                                       |
| 2005          | 312                                    | 1,747                                       | 50.8                                                                                                                        | 40.0                                                                                          | 284.4                                                                       |
| 2006          | 307                                    | 1,740                                       | 49.9                                                                                                                        | 40.2                                                                                          | 282.9                                                                       |
| 2007          | 316                                    | 1,713                                       | 51.3                                                                                                                        | 42.2                                                                                          | 278.1                                                                       |
| 2008          | 379                                    | 1,542                                       | 61.4                                                                                                                        | 52.1                                                                                          | 249.9                                                                       |
| 2009          | 383                                    | 1,508                                       | 61.9                                                                                                                        | 50.1                                                                                          | 243.9                                                                       |
| 2010          | 384                                    | 1,279                                       | 62.0                                                                                                                        | 52.8                                                                                          | 206.5                                                                       |
| 2011          | 400                                    | 1,193                                       | 64.5                                                                                                                        | 53.5                                                                                          | 192.4                                                                       |
| 2012          | 381                                    | 1,102                                       | 61.4                                                                                                                        | 50.7                                                                                          | 177.6                                                                       |
| 2013          | 395                                    | 1,151                                       | 63.6                                                                                                                        | 53.3                                                                                          | 185.3                                                                       |
| 2014          | 392                                    | 1,102                                       | 63.0                                                                                                                        | 52.9                                                                                          | 177.2                                                                       |
| 2015          | 403                                    | 1,084                                       | 64.8                                                                                                                        | 54.4                                                                                          | 174.2                                                                       |
| 2019          | 437                                    | 1,242                                       | 70.3                                                                                                                        | 62.3                                                                                          | 199.7                                                                       |

\*CD – chosen doctor



**Grafikon 1.** Posete odraslih pacijenata izabranim doktorima (na 1.000), Crna Gora, 2004 – 2015.

Izvor: Institut za javno zdravlje Crne Gore

**Figure 1.** Visits made to GPs by adult patients (per 1,000), Montenegro, 2004 – 2015

Source: Institute of Public Health of Montenegro

raste u narednim godinama (Tabela 2.b). Stopa obezbeđenosti izabranim doktorima na 100.000, tokom perioda reforme (2004 – 2015), povećala se sa 48,6 na 64,8, dok je stopa obezbeđenosti izabranim doktorima

Municipal accessibility of health personnel (per 100,000) was lower in 2015 (35.18) than in 2004 (46.74). Compared to the national average, in 2015, accessibility ranged from -42% to +78% (Table 3).

**Tabela 3.** Varijacije u dostupnosti zdravstvenog kadra (stopa na 100.000 stanovnika) po opštinama, u Crnoj Gori, u 2004. i 2014. godini, i odstupanja od nacionalnog proseka

**Table 3.** Variations of health personnel accessibility (rate per 100,000) across municipalities, in Montenegro, in 2004 and 2015, and deviations from the national average

| Ustanove primarne zdravstvene zaštite po opštinama<br>/ PHC centers in municipalities | Broj zdravstvenih radnika na 100.000 stanovnika / Health personnel per 100,000 (2004) | Broj zdravstvenih radnika na 100.000 stanovnika / Health personnel per 100,000 (2015) | Odstupanje od nacionalnog proseka / Deviation from the national average |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Andrijevica                                                                           | 57.52                                                                                 | 53.24                                                                                 | 51.34                                                                   |
| Bar                                                                                   | 50.62                                                                                 | 26.87                                                                                 | -23.61                                                                  |
| Berane                                                                                | 52.26                                                                                 | 28.85                                                                                 | -18.00                                                                  |
| Bijelo Polje                                                                          | 39.04                                                                                 | 25.84                                                                                 | -26.55                                                                  |
| Budva                                                                                 | 45.73                                                                                 | 32.78                                                                                 | -6.82                                                                   |
| Danilovgrad                                                                           | 50.05                                                                                 | 29.23                                                                                 | -16.90                                                                  |
| Kolašin                                                                               | 55.67                                                                                 | 41.77                                                                                 | 18.72                                                                   |
| Kotor                                                                                 | 38.44                                                                                 | 24.34                                                                                 | -30.83                                                                  |
| Mojkovac                                                                              | 61.04                                                                                 | 62.63                                                                                 | 78.03                                                                   |
| Nikšić                                                                                | 36.51                                                                                 | 20.43                                                                                 | -41.93                                                                  |
| Plav                                                                                  | 60.81                                                                                 | 45.77                                                                                 | 30.11                                                                   |
| Pljevlja                                                                              | 32.33                                                                                 | 28.91                                                                                 | -17.83                                                                  |
| Podgorica                                                                             | 31.65                                                                                 | 22.32                                                                                 | -36.56                                                                  |
| Rožaje                                                                                | 47.52                                                                                 | 39.19                                                                                 | 11.40                                                                   |
| Tivat                                                                                 | 44.24                                                                                 | 34.21                                                                                 | -2.76                                                                   |
| Ulcinj                                                                                | 43.88                                                                                 | 31.62                                                                                 | -10.11                                                                  |
| Herceg Novi                                                                           | 40.53                                                                                 | 28.51                                                                                 | -18.95                                                                  |
| Cetinje                                                                               | 49.11                                                                                 | 35.42                                                                                 | 0.68                                                                    |
| Žabljak*                                                                              | 54.93                                                                                 | 25.22                                                                                 | -28.32                                                                  |
| Plužine*                                                                              | 42.16                                                                                 | 30.64                                                                                 | -12.91                                                                  |
| Šavnik*                                                                               | 47.55                                                                                 | 43.48                                                                                 | 23.59                                                                   |
| <b>Average</b>                                                                        | <b>46.74</b>                                                                          | <b>35.18</b>                                                                          |                                                                         |

\*primary health care units, not primary health care centers

u službi izabranog doktora za odrasle porasla sa 36,3 na 54,4 (na 100.000). Ukupan broj medicinskih sestara u primarnoj zdravstvenoj zaštiti opao je za 35%, u posmatranom periodu.

Dostupnost zdravstvenih radnika u primarnoj zdravstvenoj zaštiti varirala je po opštinama, a dostigla je najveću obezbeđenost zdravstvenim radnicima u Opštini Mojkovac (62,63 na 10.000), 2015. godine. Najveće opštine, Nikšić i Podgorica, imale su najnižu obezbeđenost zdravstvenim radnicima na nivou primarne zdravstvene zaštite (20,43 i 22,32 na 10.000).

Pristupačnost zdravstvenih radnika na nivou opštine (na 100.000) bila je niža 2015. godine (35,18) nego 2004. godine (46,74). U poređenju sa nacionalnim prosekom, 2015. godine, pristupačnost zdravstvenog kadra kretala se od -42% do +78% (Tabela 3).

Korišćenje zdravstvenih usluga primarne zdravstvene zaštite, mereno stopom poseta odraslih pacije-

Utilization of health services in PHC, measured by the rate of visits of adults to GPs (per 1,000), increased by 25% (7.4 in 2015, as compared to 5.9 in 2004).

The proxy measure of health personnel acceptability, measured by the national average ratio of nurses to physicians in PHC, decreased in the observed period, from 5.7 in 2004 to 2.7 in 2015. The reduction of the number of nurses was the most radical in the primary health care services for adults, where the number of nurses per CD was 1.1 in 2015. The ratio of nurses per CD for children declined to 1.5, while the ratio of nurses per CD for women was stable during the reform period – 1.3 nurses per CD (Graph 2).

Reform activities strongly influenced health personnel development. In the 20<sup>th</sup> century, primary health care in Montenegro was based on the ideas of community oriented primary care, and as such, primary health care centers remained the predominant

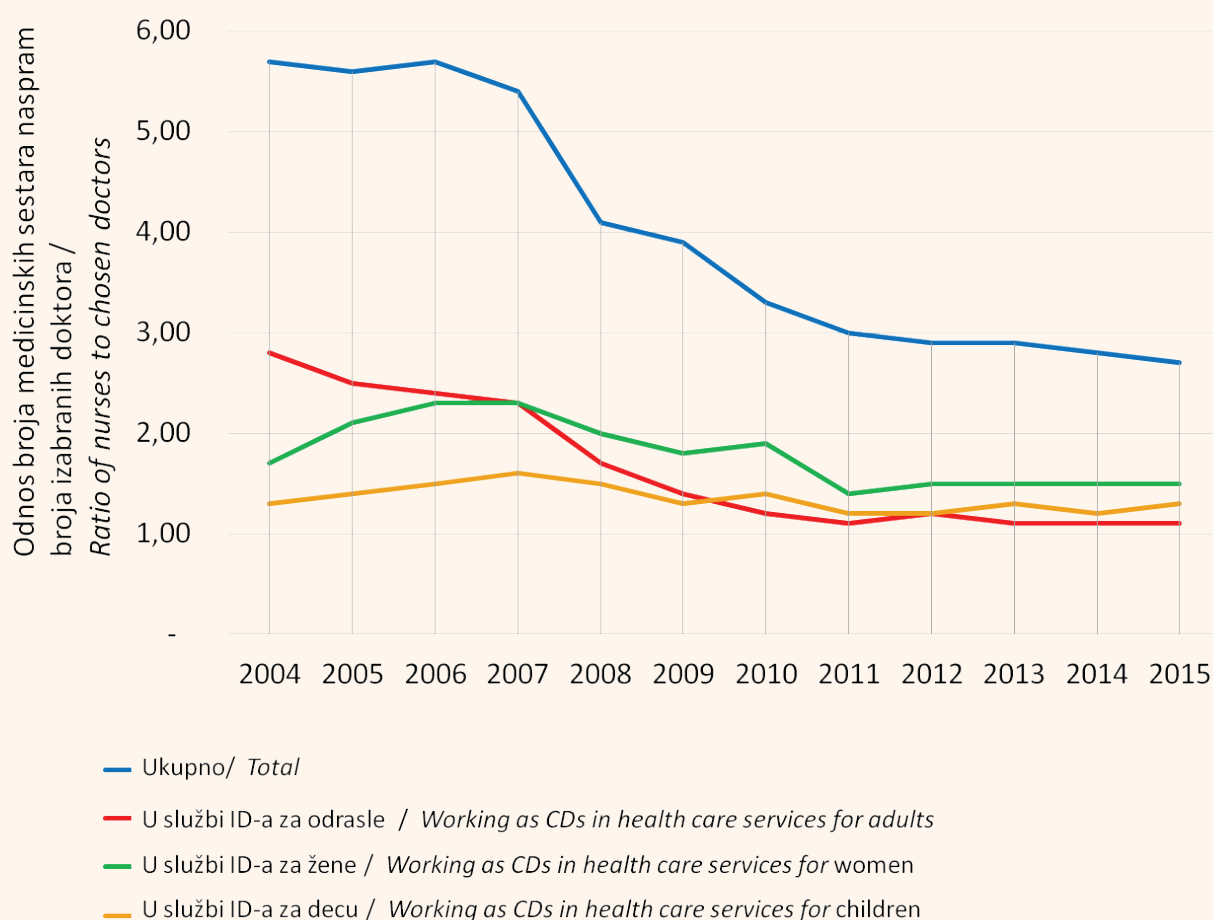
nata izabranom doktoru (na 1.000), povećalo se za 25% (7,4 u 2015. godini, u poređenju sa 5,9 u 2004. godini).

Posredna mera prihvatljivosti zdravstvenih radnika, merena nacionalnim prosekom odnosa broja medicinskih sestara naspram broja lekara u primarnoj zdravstvenoj zaštiti, opala je u posmatranom periodu, sa 5,7 u 2004. godini na 2,7 u 2015. godini. Smanjenje broja sestara bilo je najradikalnije u službama primarne zdravstvene zaštite za odrasle, gde je, 2015. godine, broj sestara na jednog izabranog doktora bio 1,1. Broj medicinskih sestara na jednog izabranog pedijatra opao je na 1,5, dok je broj medicinskih sestara na jednog izabranog doktora za žene bio stabilan tokom perioda reforme i iznosio je 1.3 (Grafikon 2).

Reformske aktivnosti su snažno uticale na razvoj zdravstvenog kadra. Tokom 20. veka, PZZ u Crnoj Gori je bila zasnovana na idejama primarne zdravstvene zaštite orijentisane na zajednicu, i kao takvi, domovi zdravlja su ostali dominantni pružaoci zdravstvenih usluga na nivou primarne zdravstvene zaštite [30]. Reforme su u novom milenijumu zadržale prethodnu

providers of health care services at the primary level [30]. Reforms in the new millennium kept the former orientation and “aimed to provide better quality health care at the local level, focused on family needs” [31]. The reform succeeded in developing an adapted and unique approach to the education of PHC health personnel, tailoring education to their specific needs [32]. One of the results was the inclusion of family medicine in the curriculum for undergraduate studies, the introduction of the specialization in family medicine, as well as a number of courses in this field. The specialization in family medicine was introduced at the Medical Faculty of the University of Montenegro in 2012, with 101 doctors enrolled in this specialization program [33]. A detailed description and evaluation of the program was published elsewhere [34,35]. In addition, PHC teams (274 teams) were retrained in the area of family medicine [33].

Currently, the Faculty of Medicine in Podgorica, which is a part of the state-owned University of Montenegro, provides tertiary education in the fields of



**Grafikon 2.** Odnos broja medicinskih sestara naspram broja doktora, na nacionalnom nivou, kao i odnos u službama za odrasle, decu i žene, kao posredna mera prihvatljivosti zdravstvenog kadra, u Crnoj Gori, u periodu 2004 – 2015.

**Figure 2.** National ratio of nurses to physicians and the ratio in the health care services for adults, children and women, as a proxy measure of health personnel acceptability, in Montenegro, in the period 2004 – 2015

orijentaciju i „imale su za cilj da obezbede bolji kvalitet zdravstvene zaštite na lokalnom nivou, usmerene na potrebe porodice“ [31]. Reforme su uspele da razviju prilagođen i jedinstven model edukacije zdravstvenog kadra u primarnoj zdravstvenoj zaštiti, usklađujući njihovo obrazovanje sa njihovim specifičnim potrebama [32]. Jedan od rezultata bilo je i uključivanje porodične medicine u nastavni plan i program osnovnih studija medicine, uvođenje specijalizacije porodične medicine, kao i niz kurseva/studijskih programa iz ove oblasti. Specijalizacija u oblasti porodične medicine je uvedena na Medicinski fakultet Univerziteta Crne Gore 2012. godine, sa 101 doktorom upisanim na ovaj specijalistički program [33]. Detaljni opis i ocena programa su objavljeni na drugom mestu [34,35]. Takođe, timovi primarne zdravstvene zaštite (274 tima) su prošli novu obuku u oblasti porodične medicine [33].

U ovom trenutku, Medicinski fakultet u Podgorici, koji pripada državnom Univerzitetu Crne Gore, pruža tercijarno obrazovanje u oblasti medicine, stomatologije, farmacije, primenjene fizioterapije i sestrinstva (studijski program Visoke medicinske škole), kao i doktorske studije u oblasti medicine i stomatologije, te specijalizacije iz oblasti radiologije i porodične medicine [36]. Srednje medicinsko obrazovanje u Crnoj Gori organizovano je u okviru sedam srednje stručnih medicinskih škola (četvorogodišnji program), koje upisuju oko 600 učenika svake godine [37]. Diplomirani zdravstveni radnici su u obavezi da obave staž i da polože stručni ispit pred komisijom koju imenuje Ministarstvo zdravlja [38]. Zdravstveni radnici koji su svoju diplomu stekli u oblasti medicine, stomatologije i farmacije, osim sticanja odgovarajućih kvalifikacija i položenog stručnog ispita, u obavezi su i da poseduju licencu za rad [38]. Nadležna komora izdaje licencu na period od sedam godina. Osim Ministarstva prosvete Crne Gore, Savet za visoko obrazovanje, koji imenuje Skupština Crne Gore, takođe igra važnu ulogu u razvoju visokoškolskog obrazovanja. U skladu sa zakonom, aktivnosti za obezbeđivanje kvaliteta u visokom obrazovanju sprovodi Agencija za kontrolu i obezbeđenje kvaliteta visokog obrazovanja Crne Gore [39]. Obezbeđivanje i unapređivanje kvaliteta visokog obrazovanja se ostvaruje kroz procese akreditacije, samovrednovanja i reakreditacije. Stručno usavršavanje zdravstvenih radnika, prema zakonu [38], uključuje specijalizacije, supspecijalizacije i kontinuiranu edukaciju.

## DISKUSIJA

Crna Gora je mala zemlja, čija populacija, kao i populacija većine zemalja Evropske unije, stari. U vreme reforme sistema primarne zdravstvene zaštite, ekonomska kriza

medicine, dentistry, pharmacy, applied physiotherapy and nursing. It also offers PhD studies in medicine and dentistry, as well as specializations in the area of radiology and family medicine [36]. Secondary medical education in Montenegro is organized at seven vocational high schools (4-year program) that enroll approximately 600 students every year [37]. Health workers who have completed their studies are obliged to complete an internship and pass the professional exam before the committee appointed by the Ministry of Health [38]. Health workers who have graduated in the fields of medicine, dentistry and pharmacy, in addition to attaining the appropriate qualification and passing the professional exam, are obliged to have a license to practice [38]. The competent professional chamber issues a license for a seven-year period. Apart from the Ministry of Education of Montenegro, the Council for Higher Education, appointed by the Parliament of Montenegro, also plays a very important role in tertiary education development. In keeping with the law, the quality assurance activities in tertiary education are performed by the Agency for Control and Quality Assurance of Higher Education of Montenegro [39]. Ensuring and improving the quality of higher education is achieved through the processes of accreditation, self-evaluation, and re-accreditation. The professional development of health workers, according to the law [38], includes specialization, sub-specialization and continuous education.

## DISCUSSION

Montenegro is a small country, whose population, just like in most EU countries, is aging. At the time of the PHC reform, the economic crisis (2008) influenced the reduction of health budgets in many EU countries, and they struggled to increase efficiency and the rational use of resources. At the time, the total expenditure on health as a percentage of gross domestic product was relatively low (as in the Czech Republic, Bulgaria, Cyprus) [25]. Maternal and child health indicators improved in the observed period reaching the levels of developed EU countries (Italy, Germany) [18–21]. Major causes of disability adjusted life years, as well as life expectancy, were mostly at the levels matching those in the region (Romania, Macedonia) [40].

A reduction of the number of PHC doctors and other health professionals in Montenegro occurred in the period after 2008, when a number of countries (Ireland, Portugal) introduced cost containment measures, including the reduction of the number of health professionals and recruitment moratoriums [6,8]. The experience of Greece in implementing ambitious health system strengthening reforms at the time

(2008) je uticala na redukciju budžeta za zdravstvenu zaštitu u mnogim zemljama Evropske unije, te su se one naprezale da unaprede efikasnost i racionalnu upotrebu resursa. U to vreme, ukupni troškovi za zdravstvenu zaštitu kao procenat BDP-a bili su relativno niski (nalik Češkoj Republici, Bugarskoj, Kipru) [25]. Indikatori zdravlja majki i dece su se poboljšali u posmatranom periodu dostigavši nivo kao i u razvijenim zemljama Evropske unije (Italija, Nemačka) [18–21]. Glavni uzroci za godine života korigovane u odnosu na nesposobnost (engl. *disability adjusted life years*), kao i očekivano trajanje života, bili su uglavnom na nivou onih koje su imale i zemlje u regionu (Rumunija, Makedonija) [40].

Smanjenje broja lekara i drugih zdravstvenih radnika u primarnoj zdravstvenoj zaštiti u Crnoj Gori odigralo se u periodu od 2008. godine, kada je izvestan broj zemalja (Irska, Portugal) uveo mere za kontrolu troškova, uključujući tu i smanjenje broja zdravstvenih radnika i moratorijume na zapošljavanje novih kadrova [6,8]. Iskustvo Grčke u sprovođenju ambicioznih reformi za jačanje zdravstvenog sistema u vreme ekonomske krize (2008) može poslužiti kao opomena, s obzirom da je kao rezultat imalo smanjenje pokrivenosti zdravstvenom zaštitom, što je ostavilo posledice na populaciju zemlje [10]. Očigledno je da Crna Gora u to vreme nije uvela moratorijum na zapošljavanje novih kadrova, s obzirom da je broj izabranih doktora konstantno rastao od 2008. na dalje. Porast obezbeđenosti izabranim doktorima unapredio je njihovu dostupnost, što se smatra preduslovom delotvorne pokrivenosti [4], ali, istovremeno, možda je oslabio koncept reforme: „učiniti više sa manje“ [46]. Međutim, očigledno je da je do vremena pandemije KOVID-19 oboljenja, 2020. godine, Crna Gora osnažila dostupnost zdravstvenog kadra, posebno izabranih doktora u službi za odrasle pacijente, što je verovatno unapredilo sveukupnu otpornost zdravstvenog sistema.

Crna Gora je, 2015. godine, prijavila stopu obezbeđenosti lekarima opšte prakse na 100.000 stanovnika, koja je bila među najnižim u Evropi [34]. Ova stopa odnosila se na lekare po specijalnostima (a ne po njihovim radnim mestima). Kao što je već navedeno, u Crnoj Gori, u reformskom modelu, lekari različitih medicinskih specijalnosti mogu da rade kao izabrani doktori za odraslu populaciju (kao što su lekari specijalisti urgentne medicine, interne medicine, medicine rada, porodične medicine, i slično). Stoga, ukoliko se posmatra prema radnom mestu, očekuje se da obezbeđenost izabranim doktorima u službi za odrasle u Crnoj Gori bude viša od prijavljene, čime se objašnjava stopa koja je dobijena u ovoj studiji.

Osim neadekvatne veličine radne snage, nejednakost u njenoj distribuciji je takođe identifikovana kao

of the economic crisis (2008) may serve as a warning, as it resulted in reduced coverage, which affected the country's population [10]. It is obvious that Montenegro did not introduce the recruitment moratorium at the time, as the number of CDs constantly grew, from 2008 onwards. The rise in the density of CDs improved their availability, which is considered to be a prerequisite of effective coverage [4], but, at the same time, it may have undermined the “do more with less” reform concept [46]. However, it is obvious that, by the time of the COVID-19 pandemic, in 2020, Montenegro had strengthened the availability of health personnel, especially CDs working as GPs for adults, which probably increased the overall health system resilience.

In Montenegro, in 2015, the reported density rate of GPs per 100,000 was among the lowest in Europe [34]. The rate referred to doctors by their medical specialty (and not by their place of work). As already pointed out, in Montenegro, in the reformed model, doctors of different medical specialties can work as CDs for the adult population (such as doctors specializing in emergency medicine, internal medicine, occupational medicine, family medicine, etc.). Therefore, if observed by the place of work, the density of CDs working as GPs for the adult population in Montenegro is expected to be higher than reported, which explains the rate obtained in this study.

Apart from an insufficient size of the workforce, inequity in its distribution has been identified as a barrier to achieving universal health coverage (UHC) [7]. The inequalities in the availability of health workers were the greatest in the biggest municipalities in the central region of Montenegro (Podgorica, Nikšić), which, among other factors, might have been influenced by internal migrations. Positive net migration is the highest in the central region, especially in the capital – Podgorica [35]. Furthermore, the reduction in the number of health personnel during the reform may have influenced additional geographical imbalances. Lately, internal migration has been observed from the public to the private sector [11], however, there is no data to support this observation or to get more detailed insight into the profile of health professionals leaving the public sector.

Municipal accessibility was not compromised by the reduction of health personnel during the reform period, however, there were great variations between municipalities. Unlike our results, other studies found that larger and wealthier urban areas had higher health personnel accessibility, as compared to rural areas [7,36]. The rural – urban accessibility issues, in terms of both providers and services, have been noted in other countries [7], with strong political commitment need-

prepreka ostvarivanju univerzalne zdravstvene pokrivenosti (UZP) [7]. Nejednakosti u dostupnosti zdravstvenih radnika bile su najveće u najvećim opštinama centralnog regiona Crne Gore (Podgorica, Nikšić), na šta su možda, između ostalog, uticale unutrašnje migracije. Pozitivna neto migracija je najveća u centralnom regionu, posebno u glavnom gradu, Podgorici [35]. Štaviše, smanjenje broja zdravstvenog kadra tokom reforme je možda uticalo na dodatne geografske nejednakosti. U poslednje vreme, uočena je unutrašnja migracija iz javnog u privatni sektor [11], međutim, nema podataka koji bi potkrepili ovu opservaciju ili obezbedili detaljniji uvid u profil zdravstvenih radnika koji napuštaju javni sektor.

Pristupačnost na nivou opština nije bila ugrožena smanjenjem zdravstvenog kadra tokom perioda reformi, ali su postojale velike razlike među opštinama. Za razliku od rezultata ove studije, druge studije su utvrdile da su veće i bogatije urbane oblasti imale veću pristupačnost zdravstvenih radnika, u poređenju sa ruralnim oblastima [7,36]. Pitanja pristupačnosti zdravstvene zaštite u ruralnim/urbanim oblastima i pružalaca zdravstvenih usluga, uočena su i u drugim zemljama [7], uz potrebu za snažnom političkom posvećenošću, koja je neophodna za promene (resursi, regulativa, i dr.). Na korišćenje zdravstvenih usluga odrazile su se promene zdravstvenog kadra i smanjenje broja zdravstvenih radnika, u 2008. godini (uglavnom farmaceuta i stomatologa), kao i u narednim godinama. Počevši od 2009. godine, korišćenje zdravstvenih usluga bilo je stabilno i u konstantnom porastu, pokazujući pozitivne promene u smislu pristupačnosti primarne zdravstvene zaštite, obezbeđivanja usluga i kontrole troškova. Povećano korišćenje zdravstvenih usluga se može delimično objasniti dobrobitima reforme u sledećim aspektima: novi model organizacije na nivou primarne zdravstvene zaštite, skraćeno vreme čekanja, obnovljena infrastruktura, uveden prošireni obim usluga primarne zdravstvene zaštite, i dr. Potrebna su dodatna istraživanja kako bi se utvrdilo da li je novi model generisao više kratkih poseta (recepti za hronične pacijente, doznake za bolovanje, i sl.), što je možda dodatno povećalo ukupno korišćenje zdravstvene zaštite.

Prihvatljivost zdravstvenog kadra je opala u periodu reforme, kao posledica smanjenja broja zdravstvenih radnika, a 2015. godine, dostigla je ustanovljenu normu u službama za odrasle i decu, dok je normativ u službama za žene bio donekle viši [33]. Usled oskudnih podataka, nije bilo moguće utvrditi da li je uspostavljena struktura kadrova prema stručnim kvalifikacijama (engl. *skill mix*) održavana i u periodu nakon 2015. godine.

Razvoj jedinstvenog modela edukacije zdravstvenih radnika u primarnoj zdravstvenoj zaštiti, prilago-

ed for changes (resources, legislation, etc.). Utilization of health services reflected the changes and the reduction in the number of health personnel in 2008 (mostly pharmacists and dentists), as well as in the following years. As of 2009, utilization of health services was stable and constantly rising, indicating positive changes in terms of PHC accessibility, provision of services, and cost containment. Increased utilization can partly be explained by the benefits of reform, in terms of the following: new model of organization at the PHC level, reduced waiting times, renewed facilities, an introduced wider scope of PHC services, etc. Additional research is needed to explore whether the new model generated more short visits (prescriptions for chronic patients, sick leave forms, etc.), which might have additionally increased the overall utilization.

Health personnel acceptability in the reform period decreased, as a result of health personnel reduction, and in 2015, it reached the set norm in the departments for adults and children, while the ratio for women was somewhat higher [33]. Due to scarce data, it was not possible to determine whether the set skill mix was maintained in the years after 2015.

The development of an adapted and unique approach to the education of PHC health workers, tailored to their specific needs, is one of the major accomplishments of the reform. Legislation changes in the early stage of the reform (eleven new laws were adopted or amended) supported the implementation of national mechanisms regarding the regulation of health professions, licensing mechanisms of health professionals, and quality. Consequently, "the project had particular impact on the quality and reliability of primary care" [5].

As for the sustainability of the reform, the model of providing PHC services founded on CDs at the PHC level remains in place, as well as the legal framework defining national staffing. While there was a reduction in the total number of doctors, between 2008 and 2012 (transfer of dentists from the public sector to the private, early retirement schemes, etc.), at the same time there was an increase in the number of CDs, so that the greatest part of health care needs could be met at the PHC level. Fluctuations of the density rates for both doctors and nurses, during the reform years and later, reflected the challenges in maintaining the total number of health care personnel (potentially: external migrations, inadequate planning of human resources, migrations from the public to the private sector). Bearing this in mind, in addition to the low density of GPs in Montenegro, human resources at the PHC level also require special attention of the health authorities, so that the provision of services at this level should not

đenog njihovim specifičnim potrebama, jeste jedan od velikih uspeha reforme. Promene u regulativi u ranoj fazi reforme (ukupno je usvojeno jedanaest zakona, od koji su neki bili novi, a u nekim slučajevima su donete izmene i dopune postojećih zakona) podržale su primenu nacionalnih mehanizama po pitanju regulacije zdravstvenih profesija, mehanizama licenciranja zdravstvenih radnika i kvaliteta. Kao posledica tih aktivnosti, „projekat je posebno doprineo kvalitetu i pouzdanosti primarne zdravstvene zaštite” [5].

Kada je u pitanju održivost reforme, model pružanja usluga primarne zdravstvene zaštite zasnovan na izabranom doktoru na primarnom nivou zdravstvene zaštite, i dalje je važeći, kao i zakonski okvir koji definiše potrebni kadar na nacionalnom nivou. Dok se smanjivao ukupan broj lekara, u periodu između 2008. i 2012. godine (prelazak stomatologa iz javnog u privatni sektor, programi ranog penzionisanja, i dr.), istovremeno je rastao broj izabranih doktora, kako bi se najveći deo potreba za zdravstvenom zaštitom mogao zadovoljiti na nivou primarne zdravstvene zaštite. Fluktuacije stope obezbeđenosti i lekarima i medicinskim sestrama, tokom reformskih godina i kasnije, odražavale su izazove u održavanju ukupnog broja zdravstvenih radnika (moguće zbog: eksterne migracije, neadekvatno planiranje ljudskih resursa, migracije iz javnog u privatni sektor). Imajući ovo u vidu, osim niske obezbeđenosti lekarima opšte prakse u Crnoj Gori, i ljudski resursi na nivou primarne zdravstvene zaštite takođe iziskuju posebnu pažnju zdravstvenih vlasti, kako pružanje usluga na ovom nivou ne bi bilo ugroženo. Kada su u pitanju novi dostupni podaci, možemo videti da je u postreformskom periodu rastuća obezbeđenost zdravstvenim radnicima (i izabranim doktorima i medicinskim sestrama) konstantno povećavala njihovu dostupnost i, verovatno, njihovu prihvatljivost. Iskustvo nedavne zdravstvene krize ističe potrebu za obezbeđivanjem dovoljnog broja ljudskih resursa, koji bi mogli da deluju i obezbede brzi odgovor u kriznim situacijama [10]. Međutim, mogli bismo se zapitati da li će zdravstveni radnici biti na visini zadatka da odgovore na sve veće potrebe populacije koja stari. Bile bi neophodne određene promene, u smislu organizacije primarne zdravstvene zaštite i daljeg unapređenja kvaliteta zdravstvenog kadra, kao što su preraspodela radnih zadataka, redefinisanje uloge medicinskih sestara [11], kontinuirana medicinska edukacija, i drugo.

Ova studija je razmotrila četiri dimenzije zdravstvenog kadra, samo u ustanovama primarne zdravstvene zaštite; mada je privatni sektor bio relativno nerazvijen u to vreme. Pretpostavlja se da su zdravstveni radnici u javnom sektoru radili puno radno vreme na svom mestu zaposlenja, a nije bilo podataka o radu na više rad-

be compromised. With regard to the newly available data, we can see that, in the post-reform period, the growing density of health personnel (both CDs and nurses) has constantly increased their availability and, probably, their acceptability. The experience of the recent health crisis points out the need for providing sufficient human resources that would be able to act and ensure rapid response in crisis situations [10]. However, we could ask the difficult question as to whether the health workforce will be “fit for purpose”, i.e., capable of meeting the rising needs of an aging population. Certain changes, in terms of PHC organization and further quality improvement of the health personnel, would be necessary, such as task shifting, redefining of the role of nurses [11], continuous medical education, etc.

This study examined four dimensions of health personnel, only in PHC facilities, although the private sector was relatively undeveloped at the time. It is assumed that health professionals in the public sector were working full time at their place of employment, with no data on being multi-employed. The examination of the health workforce at the national level did not capture all the health personnel structures. In addition, the Registry of Human Resources for Health in Montenegro has not been established, which has made research more demanding. Data sets and reporting have not been modified after the reform, in keeping with the new organizational model. Additional research is needed to further examine changes in the availability of doctors in PHC departments for children and for women, in the context of coverage of the most vulnerable groups. The study would benefit from further research exploring the real experiences of users of health care services during the reform process and after the reform was completed.

## CONCLUSION

Reform of the PHC in Montenegro radically changed health care staffing, organization and competencies. The reform responded to uncontrolled employment of health personnel from the previous period and introduced national staffing norms in new organizational units. New organization and the introduction of the CD model resulted, among other things, in a rise in the availability of GPs and in higher utilization of health services for adults, in upgraded professional competencies of CDs, as well as in maintaining the PHC as the dominant provider of health services at the primary level of health care. The reform resulted in strengthened availability of health personnel before the COVID-19 pandemic, in 2020, which most probably increased the overall health system resilience in Montenegro. Inequalities in accessibility are evident across

nih mesta. Analiza zdravstvene radne snage, na nacionalnom nivou, nije sagledala sve strukture zdravstvenog kadra. Uz to, Registar ljudskih resursa u zdravstvu još nije uspostavljen u Crnoj Gori, što je učinilo istraživanje još zahtevnijim. Setovi podataka i izveštavanje nisu modifikovani posle reforme, u skladu sa novim organizacionim modelom. Dodatno istraživanje je potrebno kako bi se dalje ispitala promene u dostupnosti doktora u službama primarne zdravstvene zaštite za decu i žene, u kontekstu pokrivenosti najosetljivijih grupa. Studija bi imala koristi od daljih istraživanja koja bi analizirala stvarna iskustva korisnika usluga zdravstvene zaštite, tokom reformskih procesa i nakon što je reforma okončana.

## ZAKLJUČAK

Reforma primarne zdravstvene zaštite u Crnoj Gori je radikalno izmenila kadriranje, organizaciju i kompetencije u zdravstvu. Reforma je predstavljala odgovor na nekontrolisano zapošljavanje zdravstvenog kadra, koje je postojalo u prethodnom periodu, i uvela je nacionalne norme zapošljavanja u novim organizacionim jedinicama. Nova organizacija i uvođenje modela izabranog doktora imali su za posledicu, između ostalog, i sledeće: porast dostupnosti izabranih doktora i veće korišćenje zdravstvenih usluga za odrasle, unapređene stručne kompetencije izabranih doktora, kao i zadržavanje PZZ-a kao dominantnog pružaoca zdravstvenih usluga na primarnom nivou zdravstvene zaštite. Reforma je za rezultat imala ojačanu dostupnost zdravstvenog kadra pre pandemije KOVID-19 oboljenja, 2020. godine, što je najverovatnije i povećalo sveukupnu otpornost i čvrstinu zdravstvenog sistema Crne Gore. Nejednakosti u pristupačnosti među opštinama su evidentne i zahtevaju konstantno praćenje usled značajnih migracionih kretanja populacije unutar zemlje i ka inostranstvu. Imajući u vidu sve veće potrebe populacije koja stari, bile bi neophodne promene u pogledu organizacije primarne zdravstvene zaštite, kao i dalje unapređivanje kvaliteta zdravstvenog kadra. Ljudski resursi na nivou primarne zdravstvene zaštite iziskuju posebnu pažnju zdravstvenih vlasti, kako pružanje usluga na ovom nivou ne bi bilo ugroženo. Preporuka je da se oformi stalno telo koje bi u kontinuitetu nadziralo funkcionisanje primarne zdravstvene zaštite, kao i promene koje se u njoj odigravaju.

**Sukob interesa:** Nije prijavljen.

municipalities and demand constant monitoring due to strong migratory movements of the population, within the country and abroad. Bearing in mind the rising needs of the aging population, changes in terms of the organization of PHC, as well as further quality improvement of health personnel, would be necessary. Human resources at the PHC level require special attention of the health authorities, so that provision of services at this level should not be compromised. It is recommended that a permanent body should be established to continuously monitor the functioning of primary health care, as well as the changes occurring within the PHC.

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