The article was received on June 04, 2021, and accepted for publishing on November 28, 2021.

ORIGINAL ARTICLE

The importance of Greek primary healthcare reconstruction during the COVID-19 outbreak

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Abstract: *Family doctors and general practitioners have long been those who were to be the first to deal with family's health problems. After primary care systems administration, general practitioners acquired a special role in the operation and efficiency of these systems. Their existence as institution contributes to the most complete and better prevention and treatment of health issues, as well as to the resources saving for the insurance systems. In Greece, since the formation of the Greek National Health System in 1983, numerous interventions have been legislated, most of them referring to the institution of family doctor. However, factors related to political will, financial interests, administrative and educational inadequacies, financial problems and geographical particularities did not allow the establishment of a strong primary healthcare. COVID-19 outbreak has exposed the weaknesses of all types of health systems. However, health systems based on primary care seem to better cope with the pandemic, as well as the continuity of care and quality of health services have been secured. In order, that Greek primary healthcare be organized from now on, many actions are required such as the establishment of electronic health records, the creation of properly staffed and equipped health centers, as well as more governmental financing programs about the modernization of primary care. Last but not least, pressure should also be exerted on governments to pass more groundbreaking bills and implement some of the older provisions.*

Keywords: *family doctor, general practitioner, Greek primary healthcare, COVID-19, legislative interventions*

INTRODUCTION

Primary Care (PC) is the first point of contact between people and the health system [1]. According to the Alma-Ata declaration, PC bases its operation on a group of health workers that has direct contact with patients, so that they respond appropriately to their needs [2]. Therefore, family doctor (FD)/general practitioner (GP) plays an integral role to PC promotion. The role of GPs is determined by the need for patients to contact health services that are near where they live and work, for prevention or health issues and, if necessary, to be addressed to more specialized health services [3].

In Greece, in one of the first legislative initiatives of the law 1397/83 for the Greek National Health System formation, FDs' existence was first mentioned. However, especially in urban areas, the full development of PC has not been fully implemented, while at the same time there are organizational issues regarding the cooperation of PC with hospital care [4, 5].

COVID-19 pandemic highlighted health system weaknesses and vulnerability, both in the field of public health and primary health. Overall, it is reported that countries with universal health coverage, updated strategy and readiness regarding the pandemic including primary care, as well as the level of governmental aid for public health measures, are found to best cope with the COVID-10 outbreak [6]. Moreover, past evidence regarding pandemics management, indicates that when community stops receiving health services due to its fear about the probability of getting infected, the health of population is endangered [7].

The aim of this article is to describe the multidimensional advantages of a solid PC system and the existence of FDs, especially during the COVID-19 pandemic. Moreover the legislative initiatives in Greece towards the formation of Greek PC while the reasons that have not been implemented will be analyzed. Lastly, the main reasons of the failure of the

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Greek PC will be descripted, with the aim of that solutions be suggested, so that the next waves of the pandemic may be faced in a better way.

GENERAL PRACTITIONER AS A KEY FACTOR OF PRIMARY CARE

The strengthening of PC systems, with FD playing a central role is of paramount importance [8]. The implementation of PC based on FDs has been associated with improved patient health, and reduction of mortality rates [9, 10], a result independent of confounding factors such as income [11, 12]. The quality of interfacing and the continuity of care between primary and secondary healthcare is improved, as well as the development of doctor-patient interpersonal relationships [13, 14]. Patients are also more satisfied with the quality of services provided [15, 16]. The advantages of a GP/FD-based care may be explained due to its low cost, accessibility, holistic perception and treatment of health problems and comorbidities and knowledge of family and social peculiarities [17, 18]. Last but not least, it is well documented that FDs' delivery of primary care is correlated with better outcomes [17].

Such a health system relies more on prevention and the holistic treatment of patients' health issues, reducing the cost of health services [19]. The contribution of FDs is also important in reducing access to hospitals and hospitalization (gatekeeping) [20, 21]. However, the results are not proportionately positive in regards of reducing the likelihood of re-admission to the hospital [22]. Moreover, relative equality in the quality of health services regardless of income and social class is ensured, while the vaccination coverage of the population is improved [3, 23, 24].

COVID-19 PANDEMIC AND THE IMPORTANCE OF PRIMARY HEALTHCARE

The wide spread of the SARS-CoV-2 outbreak (COVID-19) has been a challenging situation for all types of health systems globally. The uncertain epidemiology of this new infectious disease, makes the action plans to be based mainly on the containment of the disease and the delay of dissemination through social distancing [25]. The role of PC in the management of the pandemic is of paramount importance [26] as only the critical or severe patients admitted to the hospital, while GPs are those who mainly make the initiate diagnosis. At the same time, it is crucial that patients with chronic as well as acute health problems be monitored (follow-up), especially those who are disabled or frail at home or health institutions [27].

Not only has increased non-COVID-19 mortality been mentioned, but it is reported that numerous primary care offices have been closed as well as reduced capacity in primary care in general. Access to primary care has been reduced due to lockdowns, continuity of health services have been dramatically affected, as COVID-19 cases were in priority over non-COVID-19 patients with other health conditions [28].

Hospitals and major health institutions have to focus on the critical cases, while PC has to target on less severe patients as well as on the health of the whole population, with triage and gatekeeping playing a key role. Consequently, there are three main goals that PC has to accomplish during the pandemic: the first goal of PC providers is the healthcare workers' protection from being infected as well as to prevent COVID-19 transmission [6]. The second goal is informing community, identifying and protecting individuals-mainly the vulnerable-from becoming infected as well as protecting the tertiary care level (hospitals), are some other crucial responsibilities of PC providers [6]. Last but not least, PC providers have to continue providing health services for non COVID-19 patients so that there is no discontinuity of their medical condition. Moreover, there are reports that demonstrate the vital role of PC regarding influenza surveillance as well as important information and data about public health [29-31]. As a result, PC may be an important tool as far as COVID-19 management and surveillance are concerned. Nevertheless, this could only be accomplished whether PC has adequate resources and capacity to retain its services [6].

France is one European country that dealt with the problem of rapid escalation of COVID-19 cases. Despite the fact that in the initial national guidelines, published at February 2020, PC providers were not involved, on March 2020, when the first version of a national guideline engaging the role of PC was implemented [27, 32].

Furthermore, as far as Iceland is concerned, the PC providers have the role as the first point of management for people with COVID-19 like symptoms. Instructions and/or indications for tests were published by the Directorate of Health. The majority of the COVID-19 tests were taken in PC centers. COVID-19 confirmed patients were admitted to a special Hospital of Iceland, being monitored until their discharge. People who were under quarantine, were monitored by the PC providers (GPs). The whole structure of the Icelandic PC system was adjusted, in order to be adapted to the new criteria and needs for the COVID-19 pandemic.

In United Kingdom and Australia, the national health system relies on the integrated and well-structured primary health care. When a serious health emergency occurs, e.g. the

COVID-19 outbreak, it is of outmost importance that general practice as well as other national PC services be supported, in aim that the continuity of health care for the community be secured and the entire health system be better prepared to cope with the emergency [33]. During the COVID-19 pandemic, telehealth services and PC in general were funded with $2.4 billion by the Australian government, in order to secure the uninterrupted access to health services [33, 34].

LONGITUDINAL SURVEY OF LEGISLATIVE INITIATIVES FOR PC ESTABLISHMENT IN GREECE

In Greece, there is not a well-organized PC system, especially in urban areas [5]. Outpatient healthcare is provided, without an solid coordination, by many specialized physicians of both various PC services and physicians from the private sector, leading to a piecemeal approach/treatment of health issues [35]. In Greece, the institution of family doctor has been institutionalized with various laws in the past, but it has not gone into operation, despite all the efforts that have been attempted from time to time. Legislations that foresee the provision of PC services in Greece begin from very early times, but the first remarkable effort for the development of an organized national health system is held with a bill at 1983. Since then, despite the fact that numerous laws have been voted regarding the provision and organization of PC and the institution of FD, they have not been fully implemented [36]. In 1983, the foundations of PC network were created, especially in rural areas. It enabled residents of remote areas to obtain their own doctor, a form of "FD". However, the inability to organize and record patients and their problems did not allow that the system be improved and established at levels similar to those abroad [36]. From the above, it may be distinguished that despite the existence of successive bills concerning the development of PD and FD, neither is completed. Actually, the Greek PC system remains one of the weakest in Europe [37]. Numerous laws and bills were passed, many of which were often contrary to each other.

Another main reason concerning the insufficiency of Greek PC system is the small number of GPs. In 2018, Greece had the highest number of doctors with 6.1 per 1,000 population, but this number is a over-estimation as it includes all doctors licensed to practice (including retired physicians and those who might have emigrated to other countries) (Table 1) [38]. In many countries, the main concern has been about growing shortages of general practitioners, particularly in rural and remote regions. Whereas the overall number of doctors per capita has increased in nearly all countries, the share of general practitioners (GPs) has come down in most countries. On average across EU countries, only about one in five doctors were GPs in 2018.

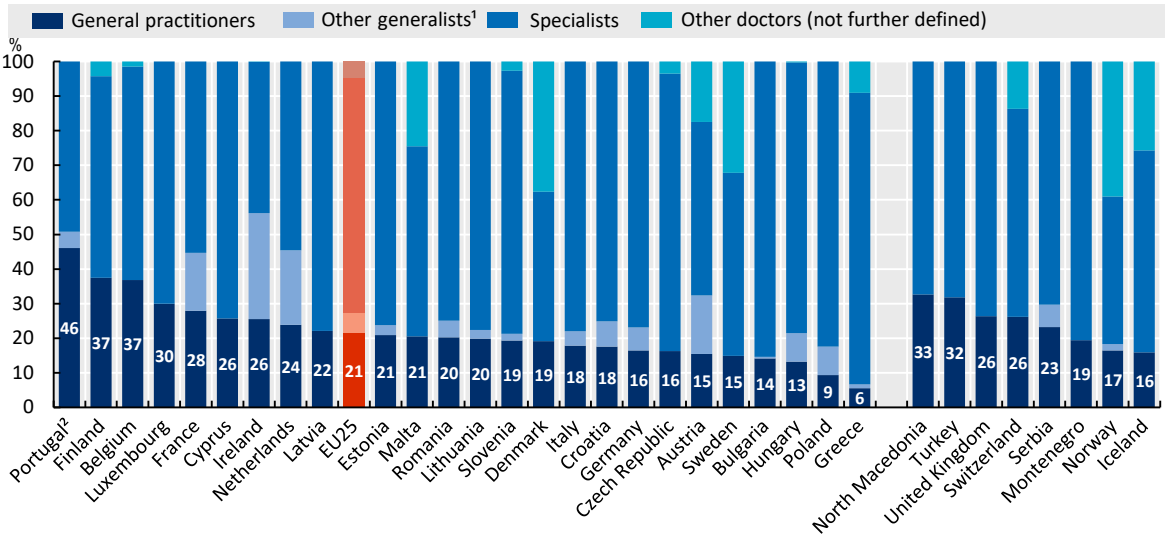
Table 1: Practicing doctors per 1 000 population, 2008 and 2018

	2008	2018
Greece[1]	5.71	6.10
Austria	4.60	5.24
Portugal[1]	3.61	5.15
Lithuania	3.88	4.60
Germany	3.54	4.31
Sweden	3.68	4.27
Bulgaria	3.66	4.22
Denmark	3.58	4.19
Cyprus	2.78	4.07
Czech Republic	3.56	4.04
Spain	3.54	4.02
Italy	3.79	3.98
Malta	3.05	3.97
EU27	3.32	3.83
Netherlands		3.67
Slovak Republic[2]	3.37	3.52
Estonia	3.34	3.48
Croatia	2.74	3.44
Hungary	3.09	3.38
Latvia	3.23	3.30
Ireland		3.28
Finland	2.72	3.21
Slovenia	2.40	3.18
France	3.07	3.17
Belgium	2.92	3.13
Romania	2.32	3.05
Luxembourg	2.72	2.98
Poland	2.16	2.38
Norway	4.00	4.81
Switzerland	3.82	4.34
Iceland	3.64	3.89
North Macedonia[2]	2.62	3.00
Serbia		2.98
United Kingdom	2.57	2.84
Montenegro	2.10	2.76
Turkey[2]	1.59	1.88

[1]Data refer to all doctors licensed to practice, resulting in a large over-estimation of the number of practicing doctors (e.g. of around 30% in Portugal).

[2]Data include not only doctors providing direct care to patients, but also those working in the health sector as managers, educators, researchers, etc. (adding another 5-10% of doctors)

Figure 1: Share of different categories of doctors, 2018



Greece and Poland have the lowest share of GPs, while Portugal, Finland and Belgium have been able to maintain a better balance between GPs and specialists. Several countries have taken steps over the past decade to increase the number of postgraduate training places in general medicine. For example, in France, about 40% of all new postgraduate training places have been allocated to general medicine since 2017, a greater proportion than in most other EU countries [38]. According to most recent data from Hellenic Statistical Authority, there are 3.8 GPs per 10.000 inhabitants (Figure 2) [39]. The number of GPs is smaller than other specialties such as cardiologists, microbiologists, obstetricians-gynecologists (Table 2).

Figure 2: Percentage of general practitioners in physicians' total number in the various regions of Greece

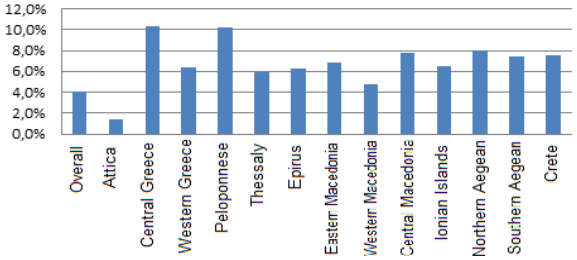


Table 2: Number of doctors per 10.000 inhabitants per specialty in Greece, 2019

Doctors total number	General Medicine	Cardiologists	Microbiologists	Internal Medicine	Paediatrists
66,058	3,232	3,508	3,493	4,604	3,719

An additional challenge in many European countries is the uneven geographic distribution of doctors as well as the various difficulties in recruiting and retaining doctors in remote and sparsely populated areas [38, 40]. In all countries, the density of physicians is generally greater in urban regions, reflecting the concentration of specialized services such as surgery in urban centers as well as physicians' preferences to live and practice in cities. Differences in the density of doctors between urban and rural regions are highest in the Slovak Republic, the Czech Republic and Greece (Figure 3) [38, 40].

Apart from Ireland and Portugal (physicians licensed to practice); there were more specialist physicians than generalist physicians in 2018 in each of the EU Member States [41]. Over time, there has been a widespread movement towards more specialist physicians relative to generalist physicians. In a majority of the EU Member States, there was an increase in the ratio of the number of specialists relative to the number of generalists between the years shown in Figure 5. In relative terms, this was particularly clear in Ireland, Romania and Croatia. By contrast, there were seven Member States, Greece included, where there was a decline in the ratio of specialists to

generalists [41].

As far as the training of GPs is concerned, it is not appropriate, given the range of medical knowledge and practice in which they must immerse themselves. The specialty of General Practice/Medicine lasts five years in Greece. However, there is insufficient education regarding the most common diseases of the population, their diagnosis and treatment, as well as the methods of preventive medicine. Lastly, there are no methods of ensuring continuing education for general practitioners after the end of their specialty [42]. All these reasons make the specialty of General Practice in Greece unattractive.

Another reason of the failure of Greek PC system is the absence of an electronic/digital health record, leading to the inability of a continuous monitoring of the community health (continuity of care) [43]. Furthermore, the absence of urban-type PC centers or a network of GPs/FDs also contributes to the latter. These networks could record each patient's medical history, in order to facilitate the work of health professionals [44].

The different types of PC administration between urban centers and the province as well as between public and private sector, create difficulties in the health services provided. Although, PC services in urban areas are provided by doctors of different specialties, in the province (rural areas) there are primary health centers and peripheral clinics staffed mainly by GPs. In both cases there is no reliable system for linking primary to secondary healthcare. Last but not least, the geographical peculiarities of Greece as a country with numerous islands create additional problems.

Figure 3: Physicians by specialty, 2018

	(number)									(per 100 000 inhabitants)								
	Total	General practitioners	Other generalist medical practitioners	General paediatricians	Gynaecologists and obstetricians	Psychiatrists	Medical group of specialists	Surgical group of specialists	Other specialists not elsewhere classified	Total	General practitioners	Other generalist medical practitioners	General paediatricians	Gynaecologists and obstetricians	Psychiatrists	Medical group of specialists	Surgical group of specialists	Other specialists not elsewhere classified
Belgium	35 762	13 178	0	1 586	1 495	1 969	10 079	6 933	:	313.0	115.3	0.0	13.9	13.1	17.2	88.2	60.7	:
Bulgaria	29 625	4 199	123	1 735	1 742	724	11 162	8 292	1 648	421.7	59.8	1.8	24.7	24.8	10.3	158.9	118.0	23.5
Czechia	42 919	*6 981*	*0*	*1 424*	*3 059*	*1 572*	*16 519*	*11 640*	*227*	403.8	*65.7*	*0.0*	*13.4*	*28.8*	*14.8*	*155.4*	*109.5*	*2.1*
Denmark (')	24 301	4649	:	485	656	1 092	4 435	3 719	111	419.4	80.24	:	8.4	11.3	18.9	76.6	64.2	1.9
Germany	357 401	58 940	23 818	14 093	21 197	22 756	115 204	99 216	2 178	431.1	71.1	28.7	17.0	25.6	27.5	139.0	119.7	2.6
Estonia	4 605	964	133	163	304	253	1 680	1 108	0	348.3	72.9	10.1	12.3	23.0	19.1	127.1	83.8	0.0
Ireland	15 962	4 081	4 884	492	374	806	2 969	2 270	66	327.9	83.8	100.3	10.1	7.7	16.6	61.0	46.6	1.4
Greece	65 513	3 642	748	4 278	3 412	2 768	28 725	15 455	523	610.4	33.9	7.0	39.9	31.8	25.8	267.6	144.0	4.9
Spain (²)	188 166	35 798	0	12 610	*5 782*	*5 117*	*51 549*	*45 839*	*664*	402.1	76.5	0.0	27.0	*12.4*	*10.9*	*110.2*	*98.0*	*1.4*
France	212 337	59 399	35 524	8 134	8 036	15 315	51 414	32 030	2 485	317.1	88.7	53.1	12.2	12.0	22.9	76.8	47.8	3.7
Croatia	14 075	2 478	1 029	898	826	657	5 181	2 979	27	344.1	60.6	25.2	22.0	20.2	16.1	126.7	72.8	0.7
Italy	240 301	42 987	10 011	16 968	12 209	10 322	87 722	60 082	0	397.7	71.1	16.6	28.1	20.2	17.1	145.2	99.4	0.0
Cyprus	3 544	912	0	253	188	101	1 122	968	0	407.3	104.8	0.0	29.1	21.6	11.6	129.0	111.3	0.0
Latvia	6 367	1 411	0	249	389	309	1 846	1 383	780	330.4	73.2	0.0	12.9	20.2	16.0	95.8	71.8	40.5
Lithuania	12 881	2 560	324	710	684	653	4 633	3 113	204	459.8	91.4	11.6	25.3	24.4	23.3	165.4	111.1	7.3
Luxembourg (²)(*)	1 780	534	0	98	101	128	513	406	0	298.5	89.6	0.0	16.4	16.9	21.5	86.0	68.1	0.0
Hungary	33 078	4 390	2 706	2 383	1 497	1 461	12 705	6 795	1 062	338.4	44.9	27.7	24.4	15.3	15.0	130.0	69.5	10.9
Malta	1 925	396	0	87	79	55	417	420	:	397.2	81.7	0.0	18.0	16.3	11.4	86.1	86.7	:
Netherlands	63 233	15 091	13 617	1 818	1 645	4 162	15 881	7 296	3 723	367.0	87.6	79.0	10.6	9.6	24.2	92.2	42.3	21.6
Austria	46 337	7 163	7 843	1 313	1 838	1 588	9 728	8 704	75	524.1	81.0	88.7	14.9	20.8	18.0	110.0	98.5	0.9
Poland (²)	90 284	8 418	7 490	5 497	4 976	3 504	39 508	20 592	299	237.8	22.2	19.7	14.5	13.1	9.2	104.0	54.2	0.8
Portugal	52 966	25 123	2 541	2 135	1 837	1 379	12 789	7 866	808	515.0	244.3	24.7	20.8	17.9	13.4	124.4	76.5	7.9
Romania	59 333	12 026	2 865	2 710	2 697	2 313	23 861	12 253	608	304.7	61.8	14.7	13.9	13.9	11.9	122.5	62.9	3.1
Slovenia	6 591	1 275	130	660	378	306	2 233	1 391	44	317.8	61.5	6.3	31.8	18.2	14.8	107.7	67.1	2.1
Slovakia	19 178	:	:	:	:	:	:	:	:	352.1	:	:	:	:	:	:	:	:
Finland (')(*)	25 627	6837	:	*696*	*856*	*1 293*	*4 322*	*3 088*	*394*	464.6	124.8	:	*12.7*	*15.6*	*23.6*	*78.9*	*56.4*	*7.2*
Sweden (²)	42 898	6 411	0	1 083	1 441	2 360	9 985	6 758	1 042	426.5	63.7	0.0	10.8	14.3	23.5	99.3	67.2	10.4
United Kingdom (')	188 783	49 569	:	10 693	7 809	11 948	48 016	54 457	6 315	284.1	74.6	:	16.1	11.8	18.0	72.3	81.9	9.5
Iceland	1 373	218	:	15	54	83	392	258	0	389.3	61.8	:	4.3	15.3	23.5	111.1	73.2	0.0
Liechtenstein (²)	135	25	19	5	8	14	34	30	0	353.0	65.4	49.7	13.1	20.9	36.6	88.9	78.4	0.0
Norway	25 538	4 218	473	925	641	1 375	4 501	3 012	423	480.8	79.4	8.9	17.4	12.1	25.9	84.7	56.7	8.0
Switzerland (')(')	36 940	9683	:	1 869	1 896	4 454	6 695	7 084	198	433.9	113.7	:	22.0	22.3	52.3	78.6	83.2	2.3
Montenegro	1 720	336	0	183	117	71	684	339	0	276.4	54.0	0.0	29.4	18.8	11.4	109.9	54.5	0.0
North Macedonia (')(³)	6 219	2032	:	428	405	190	1 983	997	184	299.8	97.95	:	20.6	19.5	9.2	95.6	48.1	8.9
Serbia	20 824	4 839	1 352	1 890	1 259	847	5 552	3 842	1 243	298.2	69.3	19.4	27.1	18.0	12.1	79.5	55.0	17.8
Turkey (')	153 128	48 688	:	8 312	7 785	4 434	44 348	36 093	3 468	188.1	59.8	:	10.2	9.6	5.5	54.5	44.3	4.3

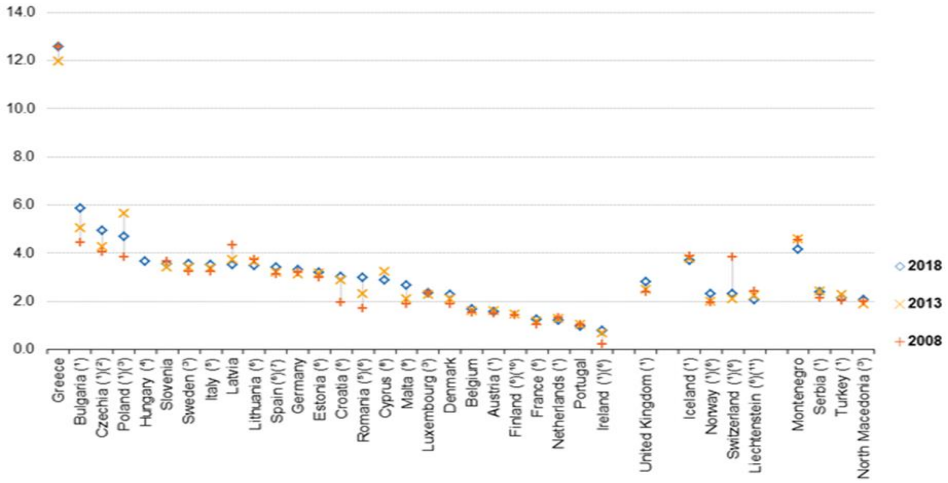
Note: practising physicians except Slovakia, North Macedonia and Turkey (professionally active physicians), Greece, Portugal and Finland (physicians licensed to practise).
(') General practitioners: includes also other generalist medical practitioners.
(²) Except for the total, generalist medical practitioners and general paediatricians: only includes physicians working in hospitals.
(³) 2017.
(*) Medical group of specialists: physicians working in laboratories (such as microbiologists, pathologists and haematologists) are excluded.
(') Total: 2018. All remaining data are for 2015 and professionally active physicians.
(*) Except for the total: physicians licensed to practise.
(') Except for the total: excludes physicians in training.

Figure 4: Medical doctors employed in hospitals (2008, 2013, 2018)

	Head count (number)			Full-time equivalents (number)			Full-time equivalents (per 100 000 inhabitants)		
	2008	2013	2018	2008	2013	2018	2008	2013	2018
Belgium	7 254	7 565	7 501	6 015	6 308	7 088	56.2	56.5	62.0
Bulgaria	13 708	15 668	16 960	:	:	:	:	:	:
Czechia (*)	20 762	22 669	26 521	19 053	20 377	22 717	183.5	193.8	213.7
Denmark	13 588	15 637	17 865	13 376	15 120	17 094	243.5	269.3	295.1
Germany (*)	148 000	174 000	196 000	136 000	155 000	170 000	165.6	192.2	205.7
Estonia (*)	3 015	2 951	3 161	2 772	2 502	2 557	207.3	189.8	193.4
Ireland	6 524	6 778	8 618	6 057	6 302	8 206	134.9	136.3	168.6
Greece	26 063	25 161	23 354	:	:	:	:	:	:
Spain (*)	97 939	102 411	111 795	:	:	:	:	:	:
France (*)	157 554	166 847	176 099	107 502	121 137	133 123	167.5	183.9	198.8
Croatia	6 695	7 643	8 714	:	:	:	:	:	:
Italy	127 705	127 686	134 389	:	:	:	:	:	:
Cyprus (*)	618	797	842	618	796	842	78.6	92.4	96.8
Latvia	:	3 523	3 758	:	:	:	:	:	:
Lithuania	7 386	8 171	8 650	9 645	10 007	9 761	301.6	338.3	348.4
Luxembourg	:	:	:	:	:	:	:	:	:
Hungary	15 179	19 313	20 180	13 564	17 209	17 342	135.1	174.0	177.4
Malta (*)	636	969	1 255	615	887	1 178	149.1	208.2	243.1
Netherlands	20 642	24 524	23 103	18 706	23 222	21 682	113.7	138.2	125.8
Austria	21 103	23 676	25 079	19 936	21 514	23 111	239.6	253.7	261.4
Poland (*)	42 963	42 873	40 387	:	:	:	:	:	:
Portugal	21 100	21 907	26 879	:	:	:	:	:	:
Romania	24 389	26 282	29 687	24 112	26 011	29 342	112.1	130.2	150.7
Slovenia	2 811	2 988	3 878	:	:	:	:	:	:
Slovakia (*)	:	:	:	7 770	8 749	9 309	144.4	161.6	170.9
Finland (*)	7 715	7 863	:	7 946	7 491	:	149.5	137.7	:
Sweden	:	:	:	:	:	:	:	:	:
United Kingdom (*)	120 074	125 187	137 654	112 792	118 086	129 312	181.1	184.1	194.6
Iceland	766	765	969	587	545	696	184.9	168.8	197.2
Liechtenstein	9	17	22	9	12	19	25.3	32.7	49.9
Norway (*)(*)	11 000	11 986	14 163	10 638	11 631	14 049	223.1	229.0	264.5
Switzerland (*)(*)	16 523	22 863	27 933	16 563	19 026	22 731	216.6	235.2	267.0
Montenegro	671	724	966	:	:	:	:	:	:
North Macedonia (*)	2 003	1 961	2 137	:	:	:	:	:	:
Albania (*)	1 754	1 672	:	:	:	:	:	:	:
Serbia	10 702	11 549	11 746	10 565	11 379	11 483	143.7	158.8	164.5
Turkey (*)	89 939	104 177	121 599	:	:	:	:	:	:

(*) 2018: break in series.
(*) 2017 instead of 2018.
(*) 2013: break in series.
(*) 2009 instead of 2008.
(*) Excluding self-employed doctors.

Figure 5: Physicians – ratio of specialists to generalists (2008, 2013, 2018)



Note: practising physicians except Slovakia, Finland, North Macedonia and Turkey (professionally active physicians), Czechia, Greece and Portugal (physicians licensed to practise). Slovakia: not available.
(*) 2018: break in series.
(*) 2018: estimate.
(*) 2017 instead of 2018.
(*) 2008 and 2013: not available.
(*) 2008: estimate.
(*) 2013: break in series.
(*) 2018: provisional. Data on specialists refer only to physicians working in hospitals.
(*) 2008: not available. 2014 instead of 2013.
(*) 2009 instead of 2008.
(*) 2013: estimate. 2018: not available.
(*) 2008: data on generalists exclude interns.

CONCLUSION

The COVID-19 pandemic has revealed the fragility of all types of health systems around the globe. It is obvious that there is a great need to protect global health with a solid and sufficient PC within a properly organized health system, under a strong and continuous governmental support. PC physicians are the "gatekeepers" of the health system, they are responsible for the provision of a quality care as far as the common infections and diseases (COVID-19 cases included) are concerned, as well as undertaking important public health functions.

A strong PC system may lead to a better health level of the community. Furthermore, FD as an institution is accepted by the society and where it is applied, the citizens are more satisfied with the health services provided, as well as a primary care system based on FD is cost-effective, qualitative and efficient especially in times of pandemics. The reasons why a organized PC network has not been applied in Greece are mostly economic, political, social and geographic.

In conclusion, in order that PC be organized from now on, many actions are required. First, pressure should be exerted in aim that reforms be completed such as the electronic health record. Workshops and web events should be held in order public be informed about the benefits of PC. It is of paramount importance that urban-type health centers be made and be staffed properly, as well as documents to the EU be sent in order to seek financing programs. Last but not least, pressure should also be exerted on governments to pass more groundbreaking bills and implement some of the older provisions.

Acknowledgement

The authors report no conflicts of interest or any source of financial grants and other fundings.

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