# Training and work of dental surgeons in the European Union

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Received October 11, 2019. Approved April 07, 2020.

#### **ABSTRACT**

The aim of the study is to present the current situation of Dentistry in the European Union, with regard to the training, international mobility of dentists, professional regulation and dental specialties. In order to do so, a documental analysis and review of the literature was carried out. Only scientific articles published in full, in Portuguese or English, from 2009 to 2018, that were related to the research topic were included. The search for the articles was carried out in the SciELO, LILACS and PubMed databases, through the combination of the descriptors: "Work", "Dentistry", "Higher Education", "European Union". The study showed that the European Union has in one legislation rules that regulate the mobility of dentists, although the issue of the language seems to be an obstacle to such circulation. Furthermore, the harmonization of the formation of Dentistry was agreed among members of the bloc. In this sense, the European Union sends messages to MERCOSUL, group in which Brazil is a member. The absorption by MERCOSUL of the successful experiences and outcomes already found by the European Union is somehow interesting and necessary, in a matter of higher education and the mobility of dentists, considering the peculiarities that compose it.

**Descriptors:** Education, Higher. Dentistry. European Union. Work.

### 1 INTRODUCTION

Regional integration is a global trend, which starting from an economic context ends up reaching society as a whole<sup>1</sup>, with the integration of markets and the free mobility of professionals being one of its most complex aims.

To analyze Dentistry inserted in the Brazilian job market, ignoring changes in the socio-cultural and political context which all economies are going through, is no longer enough. The aspirations of this professional category for knowing the regulatory process in other countries

for possible immigration are part of the common imagination of dentists in the globalized world. The regulatory process comprises training, entry into the job market, the type of professional regulation undertaken in each country and professional competition practices, such as specializations<sup>2</sup>.

The European Union (EU) covered 28 nations in 2019 (United Kingdom in process of Brexit, started in 2020), with Gross Domestic Product (GDP) per capita estimated at \$ 32,700 and population exceeding 500 million people. However, in the search for regional unity, a lot of political, economic and social confrontation has been necessary to settle differences and obstacles produced by some Member States, ratifying Haas<sup>3</sup> assumptions that motivations and interests in the integration process differ from one country to another.

The EU started in the 1950s, following initiatives by countries, previously antagonistic, with the idea that only political and economic integration could prevent new wars all around Europe. Five treaties were concluded before the Maastricht Treaty, which finally established the European Union in 1993<sup>4</sup>.

According to Silva<sup>5</sup>, successive enlargements of the EU are yet another challenge, since EU citizens have been facing increase in unemployment rates, the rising cost of the pension system, increases in the fiscal and social burden on states.

The intensification of regional integration has led to the establishment of supranational organizations in the EU. Herein, the European Council (EC), highest level of political cooperation between EU countries, defines the general political direction and priorities. Regarding the legislative process, decisions are taken by the institutional triangle constituted by the EC, the European Parliament

and the European Commission. In the legislative sphere, the Court of Justice and the Court of Auditors<sup>6</sup> were established.

Dentistry is comprehended into the health services sector, involved in this process of unification, deepened to the point that it allows the free mobility of professionals. The objective of this study is to present the current situation of Dentistry in the EU, with regard to the training, international mobility of dentists, professional regulation and specialties.

#### 2 REVIEW OF LITERATURE

The present study is a documentary analysis and non-exhaustive literature review of the literature. Documentary analysis was necessary, given a contingent of standardizations adopted by the EU to unravel critical nodes in order to achieve one of the Bloc's objectives, which is the free movement of professionals.

The literature review was conducted based on the following inclusion criteria: scientific articles published in full, in Portuguese, Spanish or English, from 2009 to 2018, that were related to the theme of this research. Articles about higher education, but with no specifications about Dentistry, were excluded.

The search for the articles was carried out in the Scientific Electronic Electronic Library Online (SciELO), Latin American and Caribbean Literature in Health Sciences (LILACS) and United States National Institutes of Health's National Library of Medicine (PubMed) databases, through the combination using the Boolean operator "AND" - of the descriptors, in Portuguese and English: "Odontologia/Dentistry", "Trabalho/Work", "Educação Superior/High Education", "União Europeia/European Union". Figure 1 shows the flowchart of the bibliographic research.

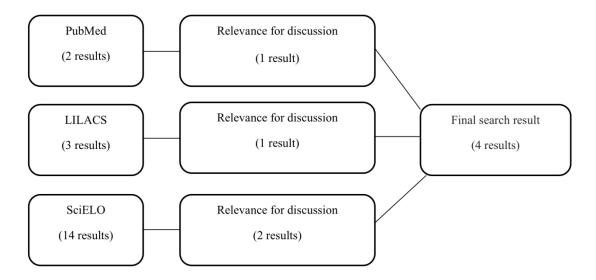


Figure 1. Flowchart of bibliographic search for the combination of terms in Portuguese and English: "Trabalho/Work", "Odontologia/Dentistry", "Educação Superior/ Higher Education", "União Europeia/European Union"

# Training and free mobility of professionals in the European Union

In this regard, EU legislation has been abundant. At the beginning, the objective of achieving the formation of a single market encompassed the four freedoms: goods, people, services and capital. These objectives were reinforced with the Single European Act and the Maastricht Treaty<sup>6</sup>.

The process of recognizing degrees in the EU, depending on the individual's profession, can be complex and expensive. There is a distinction between academic and professional recognition. While the purpose of academic recognition is, in most cases, the pursuit of studies, although it can also serve for professional purposes; the objective of professional recognition is only for the exercise of a certain profession<sup>7</sup>.

Between the 1970s and the 1980s, directives (guidelines) were established with the purpose of harmonizing training and establishing a minimum set of conditions that training must satisfy in order to exist a

professional recognition of training accomplished in EU Members States. Authors such as Peixoto<sup>8</sup> and Silva<sup>5</sup> reported that, at the time, in view of the length of the creation of these directives, a "general" approach was also adopted among the professions, based on the confidence that there is quality in the professional training performed by each Member State.

Several directives were adopted in order to facilitate the recognition of professional qualifications, but it was the consolidation in a single legislative act through directive 2005/36/EC, which effectively simplified administrative procedures<sup>4</sup>.

## **Regulation on professional recognition**

Professional recognition is the authorization to exercise a profession in a host country by competent authorities, which regulates the exercise of a specific profession or professional activity regulated in that country.

This process is based on the principle of mutual trust between EU Member States, as

already explained, and assumes that academic and professional training may vary between countries, but it does not prevent the exercise of this profession in another country, other than the one where the individual obtained the training in the first place. This principle supports two pillars: national quality accreditation systems and information systems.

Directive 36/2005/EC, described above, presents three systems for the recognition of qualifications:

- a A general system for regulated professions, where the host country can refuse or even force the professional to undergo additional training and exams, so that the diploma is recognized for professional purposes;
- b Recognition based on professional experience, most common in commerce and industry;
- c An automatic recognition system, applied to the sectorial professions, such as Dentistry. In this way, professionals registered with the competent authority of an EU country can register for the practice in any other country in the EU, with guaranteed automatic recognition<sup>7</sup>.

The automatic recognition of sectoral professions is based on the harmonization of their training, agreed within the scope of the bloc and established, in the case of dentistry, in section 4 of Directive 36/2005/EC, in order to facilitate the mobility of professionals. Besides Dentistry, the European Economic Community recognizes as sectorial professions: Medicine, Veterinary Medicine, Nursing, Pharmacy, Midwives (nursing focused on maternal and obstetric health) and Architecture.

Dentistry is a recognized profession in all EU Members States and the authorities of host countries must recognize the qualifications of general dentists. The harmonization of their training requires at least five years of full-time study including knowledge and skills listed in article #34, which provides for the training of general dentists, and in annex V.5.3.1 of the same directive, which outlines the minimum subjects to be taken in dentistry training. The curricular structure was divided into three blocks: basic subjects; medical-biological and general medical; and specifically, oral medicine and diagnosis disciplines<sup>9</sup>.

Table 1 shows the country, year in which data were made available, number, administrative category, duration, number of entrants, graduates and percentage of women in Dentistry courses in the EU. It is noted that 57% of the countries adopt the five-year time interval for graduation, the minimum time agreed within the scope of the Bloc. Altogether the EU forms 80.42% of its entrants and its administrative dependence is mostly public (87%). It is noteworthy the fact that despite the number of women in training exceeding half (89%), there has still not been a reflection in the job market, in which the male sex still overlaps. With regard to the number of colleges, emphasis should be given to Italy, with 34 educational institutions; whilst Estonia, Latvia, Malta and Slovenia have only one training institution each and with public administrative dependency.

#### Distribution of dental surgeons in the EU

Professional associations in the EU claim that, despite the continuous increase in the number of dentists throughout the Bloc, the geographical distribution remains uneven, with little assistance in rural areas, implying the displacement of individuals residing in these regions to urban areas, in order to have access to dental treatment. Formal incentive policies are rare and, more commonly, rural communities promote opportunities to attract professionals by themselves.

Table 1. Country, year in which data were made available, number, administrative nature, length of the course, number of enrolled and graduated students, and percentage of women among students in Dentistry courses in the EU.

Country	Year	Total of courses	Public	Private	Lenght (years)	<b>Enrolled</b> students	Gradua ted student	Women (%)
Austria	2013	4	4	0	6	165	119	65
Belgium	2012	5	5	0	5	NA	158	80
Bulgaria	2012	5	5	0	5.5	350	290	50
Croatia	2013	3	2	1	6	148	113	69
Czech Republic	2012	5	5	0	5	280	250	38
Denmark	2012	2	2	0	5	162	120	76
Estonia	2013	1	1	0	5.5	32	30	87
Finland	2013	4	3	1	5	186	100	68
France	2011	16	16	0	6	1,154	917	55
Germany	2012	30	29	1	5.5	2,222	1,813	62
Greece	2012	2	2	0	5	250	275	62
Hungary	2013	4	4	0	5	310	245	58
Ireland	2013	2	2	0	5	86	68	54
Italy	2013	34	32	2	5	984	883	47
Latvia	2012	1	1	0	5	35	32	87
Lithuania	2013	2	2	0	5	161	161	83
Malta	2013	1	1	0	5	8	8	38
Netherlands	2013	3	3	0	6	243	268	57
Poland	2013	10	10	0	5	1,231	809	80
Portugal	2012	7	3	4	5	716	553	66
Romania	2013	10	8	2	6	1,800	1,700	70
Slovakia	2013	4	2	2	6	117	101	60
Slovenia	2012	1	1	0	6	70	50	70
Spain	2012	17	12	5	5	1,379	1,379	67
Sweden	2012	4	4	0	5	339	200	63
United Kingdom*	2013	16	16	0	5	1,100	1,052	56
Total		193	175	18		13,528	11,694	

Source: Adapted from Kravitz, Treasure<sup>10</sup> (there is no information about Cyprus and Luxembourg). NA: Not available. \*: Left the EU in 2020.

A trend observed in the research published by Wismar et al.<sup>11</sup> is the fact that health professionals are encouraged to move between EU Members States in search of higher payments, better working conditions, training and career opportunities, or new professional and personal experiences. Nevertheless, it is considered that the poor geographical distribution of dentists and other health professionals is a worldwide trend. Just as the large urban centers concentrate professionals, those countries that offer greater socioeconomic development, greater labor market and better remuneration are centers of attraction for them.

Currently, the EU has seen a very small contingent of dental surgeons trying to settle in Member another State. However. the professional interested in settling in a Member Party other than the one in which he is accredited must apply to the authority of the host country. This may require many documents and forms necessary for establishment in another Member State and issued for a maximum of three months, namely: formal qualifications; certificate from the competent authorities of the State Party of origin, confirming the existence of that title; proof of nationality; proof of honorability; conduct or suspends the prohibition on exercising the profession in the event of serious professional misconduct or criminal offense. Furthermore, in the case of temporary service provision, it is necessary the professional being also legally established in the Member State of origin<sup>12</sup>.

Table 2 shows the number of registered dental surgeons in EU countries, those who are active and the population contingent. Note that the information from authorities in each country is consistent with data obtained in different years (2007 to 2013), although most of them

were released in 2008.

Of the EU Member States, Malta (3.38), Ireland (4.50) and Hungary (4.95) have the lowest ratio of dental surgeons per 10,000 inhabitants, while the highest ratio is found in Lithuania (12.18), Bulgaria (11.46) and Cyprus (9.55). The unusual data is considered, since the largest number of training institutions are in Italy (34) and Germany (31), according to table I, with Germany having the largest population of the entire Bloc. Greece, besides having only two universities, has serious economic problems and lower GDP than Germany and Italy.

#### **Regulation of Professionals**

In the EU there are no professional councils, in most countries the regulation of professional practice is the responsibility of professional associations or unions, with some associations also taking on the role of union; in others, the regulation of the profession is exercised by specific departments of the Ministries of Health.

In about a third of countries, membership in dental associations is mandatory, often because they are also the registration authorities. According to Kravitz and Treasure<sup>13</sup>, in countries where membership is voluntary, there is great variation. Thus, whilst in Finland 98% of dental surgeons are members, in Italy less than half are members of the country's two main associations.

Although all countries have one major national association, some of them have two or more. Within the EU, there are many associations, specialist societies and committees representing dental surgeons. The most relevant are the Council of European Dentists and the European Union of Dentists. Table 3 shows the authorities responsible for regulating the profession in EU countries.

Table 2. Country, year in which the data were made available, population, number of registered and

active dental surgeons in each EU country

Country	Year	Population	Registred dental surgeons	Active dental surgeons
Austria	2013	8,489,482	4,820	4,421
Belgium	2011	11,153,405	8,879	7,777
Bulgaria	2013	7,282,041	8,350	8,350
Croatia	2007	4,475,611	4,537	3,875
Cyprus	2013	865,878	1,073	827
Czech Republic	2012	10,516,125	9,354	7,821
Denmark	2013	5,605,836	7,989	5,161
Estonia	2013	1,324,814	1,615	1,250
Finland	2013	5,434,357	5,925	4,500
France	2012	65,657,000	41,505	41,505
Germany	2012	80,523,746	88,882	69,236
Greece	2013	10,772,967	14,125	9,000
Hungary	2013	9,906,000	5,500	4,973
Ireland	2013	4,591,087	2,627	2,200
Italy	2012	59,685,227	58,723	45,896
Latvia	2012	2,178,443	1,724	1,474
Lithuania	2013	2,962,000	3,660	3,610
Luxembourg	2008	537,000	512	452
Malta	2013	421,364	230	170
Netherlands	2013	16,789,800	10,780	8,773
Poland	2012	38,533,299	33,633	21,800
Portugal	2012	10,487,289	9,097	9,097
Romania	2013	20,057,458	15,500	14,400
Slovakia	2013	5,410,728	3,357	3,298
Slovenia	2013	2,060,253	1,762	1,358
Spain	2012	47,059,533	31,261	29,000
Sweden	2010	9,580,424	14,454	7,528
United Kingdom*	2013	63,887,988	40,156	34,534
Total		506,249,155	424,105	352,286

Source: Adapted from Kravitz, Treasure<sup>10</sup>. \*: Left the EU in 2020.

Table 3. Authority responsible for regulating dental surgeons in EU countries

Country	esponsible for regulating dental surgeons in EU countries  Regulatory authority
Austria	Austrian Dental Chamber, through regional organizations
Belgium	Ministry of Health
Bulgaria	Bulgarian Dental Association, through regional colleges
Croatia	Croatian Dental Chamber
Cyprus	Cyprus Dental Council & Cyprus Dental Association
Czech Republic	Czech Dental Chamber and regional authority
Denmark	National Board of Health
Estonia	Healthcare Board/General Dental Council
Finland	National Authority for Medicolegal Affairs
France	Ordre National
Germany	Kassenzahnärztliche Vereinigungen
Greece	Ministry of Health, Social Solidarity and Regional Dental Society
Hungary	Ministry of Health
Ireland	Irish Dental Council
Italy	Federazione Ordini dei Medici Chirurghi and degli Odontoiatri
Latvia	Pauls Stradins' Clinical University Hospital
Lithuania	Licensing Committee at the Lithuanian Dental Chamber
Luxembourg	Ministry of Health
Malta	No register
Netherlands	Ministry of Public Health Welfare & Sport
Poland	Regional Council
Portugal	Ordem dos Médicos Dentistas
Romania	Romanian Collegiums of Dental Physicians
Slovakia	Slovak Chamber of Dentists
Slovenia	Medical Chamber of Slovenia
Spain	Regional colleges
Sweden	National Board of Health and Welfare unit for Qualification and Education
United Kingdom*	General Dental Council

Source: Adapted from Kravitz, Treasure<sup>10</sup>. \*: Left the EU in 2020.

The directive leaves the recognition of dental Oral/Buccomaxillofacial Surgery are the two specialties to free negotiation between Members specialties formally recognized by almost all EU States, and Orthodontics and countries, apart from Austria, Spain and

Luxembourg, that do not recognize the concept of specialties in Dentistry. Nonetheless, in Austria, it is possible to qualify at any of the 3 universities in the "subspecialty" of oral surgery for another 3 years of course.

The other most common specialties are Surgery and Prosthesis. As shown in Table 4, these specialties are formally recognized in thirteen and eleven countries, respectively. Many other specialties are nationally recognized in various ways (for example, formal training, departments of dental schools) in different countries, but may not be formally recognized under the EU Directive for dental practice.

In most countries, patients can access specialists directly, without having to go to a general practitioner. However, in Estonia, Ireland, Italy, Latvia, Portugal, Slovenia, Sweden and the United Kingdom, referral from a general dentist is mandatory<sup>14</sup>.

Table 4. Country, year in which data were made available, number of professionals registered by

specialty in the EU Members States

Country	Year	Orthodo ntics	Oral Surge ry	BMF Surgery	Endo- dontic s	Pediatric dentistry	Perio- dontics	Prosth esis	Public Oral Health	Others
Austria	2013	-	-	167	-	-	-	-	-	No
Belgium	2011	399	-	290	-	-	139	-	-	No
Bulgaria	2013	45	266	45	417	580	36	115	17	Yes
Croatia	2013	184	98	-	97	130	74	156	-	Yes
Cyprus	2013	46	12	-	-	-	-	-	-	No
Czech Republic	2012	337	-	72	-	-	-	-	-	No
Denmark	2013	290	-	98	-	-	-	-	-	No
Estonia	2013	62	-	25	-	-	-	-	-	Yes
Finland	2013	156	-	104	-	-	-	-	90	Yes
France	2012	1,981	-	-	-	-	-	-	-	No
Germany	2012	3,443	2,552	-	-	-	-	-	460	No
Greece	2013	476	-	174	-	-	-	-	-	No
Hungary	2013	379	139	157	-	254	65	924	-	No
Ireland	2013	140	49	5	-	-	-	-	-	No
Italy	2012	1,795	-	640	-	-	-	-	-	No
Latvia	2012	24	-	39	10	23	0	19	-	No
Lithuania	2013	93	92	23	44	56	57	270	-	No
Malta	2013	7	-	1	9	2	3	3	3	Yes
Netherlands	2013	331	-	265	73	46	81	-	-	No
Poland	2012	1,115	405	227	1,561	486	420	1,453	71	No
Portugal	2012	51	4	93	-	-	-	-	-	No
Romania	2008	412	157	234	-	-	-	-	-	No
Slovakia	2013	193	192	26	-	39	95	64	-	No
Slovenia	2013	84	24	34	24	36	16	24	-	No
Sweden	2010	265	-	145	47	83	101	134	-	Yes
United Kingdom*	2013	1,343	754	-	250	246	333	431	117	Yes
Total		13,651	4,744	2,864	2,532	1,981	1,420	3,593	758	

Source: Adapted from Kravitz, Treasure<sup>10</sup> (there is no information about Spain and Luxembourg). BMF: Bucomaxillofacial. \*: Left the EU in 2020.

Professional specialties are also important to the regulation of professional practice, since they are considered competitive practices. It is possible to observe, at this moment, how culture can influence the regulation of professional practice. In European countries, for example, the logic is that the greater the number of specialists, the more segmented the job market will become and the greater the competition for clients. As a result, the number of specialists in the EU is very low, in relation to the number of active dental surgeons.

In a sociological view, Freison<sup>15</sup> argues that tendency towards specialization contributes deskilling to the among professionals and proletarianization, because it can be expected that increasingly limited professionals - through repetitive work, may lose control of an entire process whose specialty is just one fragment. It is understood that there is a segmentation of the market when the increase of specialized professionals happens. However, expertise is necessary, as there is so much knowledge required as a result of new technologies, discoveries and protocols arising from research that make it impossible for a professional to perform procedures excellence in all fields.

Still regarding the competition practices between members of the same profession, it is important to highlight that there is no single code of ethics in the European Union. Ethical guidance is largely observed by national associations or, in certain countries, by the profession's regulatory authority. However, sanctions are applied by commissions at the local level.

#### **3 FINAL CONSIDERATIONS**

As exposed above, the EU managed to gather in a single legislation, Directive 36/2005/EC, rules that regulate the mobility of

dentists and it seems to have been the most correct decision in this process of integration of services. Except for the issue of the language, which in the face of so many nations, becomes an obstacle to circulation, the harmonization of the formation of sectoral professions, among them Dentistry, seems to be very interesting. The current legislation is the result of a maturation of previous proposals of a Bloc that has been undergoing the integrative process for more than half a century. In this perspective, the EU sends messages MERCOSUL, of which Brazil is a member. The absorption by MERCOSUL of the successful experiences and outcomes already found by the European Union is somehow interesting and necessary, in a matter of higher education and the mobility of dentists, considering the peculiarities that compose it.

#### **RESUMO**

# Formação e trabalho dos cirurgiões-dentistas na União Europeia

O objetivo do estudo é apresentar a situação atual da de Odontologia na União Europeia, no que tange à formação, ao trânsito de cirurgiõesregulação dentistas, à profissional odontológicas. especialidades Para pautou-se em uma análise documental e revisão bibliográfica da literatura. Foram incluídos apenas artigos científicos publicados na íntegra, em português ou inglês, no período de 2009 a 2018, que estivessem relacionados ao tema da pesquisa. A busca dos artigos foi realizada nas bases de dados SciELO, LILACS e PubMed, por meio da combinação dos descritores: "Odontologia/Odontology", "Trabalho/Work", Superior/Education, "Educação Higher". "União Europeia/European Union". O estudo demonstrou que a União Europeia detém em uma só legislação normas que regulam o trânsito dos cirurgiões-dentistas, embora o domínio da língua pareça ser um entrave à circulação. Ademais, a harmonização formação da Odontologia foi pactuada no bloco. Nesse sentido, a União Europeia manda recados

para o MERCOSUL, do qual o Brasil faz parte. Interessante e necessária é a absorção pelo MERCOSUL das experiências exitosas e desfechos já encontrados pela União Europeia, nesse desafio de planificar a educação superior e o trânsito de cirurgiões-dentistas, considerando as peculiaridades que o compõem.

**Descritores:** Educação Superior. Odontologia. União Europeia. Trabalho.

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