

Equivalence of the Integrated Master's Degree in Dental Medicine in the European Union – Impact on the Mobility of Students and Dentists

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Received: 18 Jun 2026; **Accepted:** 23 Jul 2026; **Published:** 03 Aug 2026

Citation: Bouquerel M, Jorge M, Rompante P, et al. Equivalence of the Integrated Master's Degree in Dental Medicine in the European Union – Impact on the Mobility of Students and Dentists. Oral Health Dental Sci. 2026; 10(4); 1-9.

ABSTRACT

Introduction: The equivalence of integrated master's degree in dentistry in the European Union (EU) marked a significant milestone with the Bologna process, enabling the recognition of dentists' qualifications among member states. This equivalence has had repercussions on the mobility of dental students and doctors.

Objectives: Comparing the recognition of the equivalence of the syllabus of the Master's Degree in Dental Medicine (MIMD) course at the Universities of Ciências da Saúde, Egas Moniz, Lille and Aix-Marseille and its impact on the mobility of dental students and doctors.

Materials and Methods: A bibliographic search was carried out in the *Diário da República Portuguesa*, the websites of the French Universities of Lille and Aix-Marseille, the European Parliament, the Portuguese Dental Association (OMD), the OECD, the *Cour des Comptes*, the French *Sénat*, and PubMed. Statistical software (Statistical Programme for Social Sciences) and Microsoft Excel were used for statistical analysis.

Results: Disparities were found in the programme content studied. An average mobility of 30% of dentists trained at Portuguese universities was observed. It was found that at least 2028 dentists who graduated from Portuguese universities did not register in the OMD, and that 1257 suspended their registration due to practising in another country.

Discussion: The universities studied show some disparities in their syllabuses, but there is an equivalence between them. The study revealed a mobility of dentists, with a loss of dentists in Portugal.

Conclusion: The equivalence of MIMD in EU countries has had a considerable impact on the mobility of students and dentists in Portugal.

Keywords

Curriculum, Dentists, Emigration and immigration, Europe, Health profession.

Introduction

The mobility of dentists and dental students within the European Union is guided by a regulation, which provides a framework for

the equivalence of training and the recognition of professional qualifications between member countries [1]. In 1978, the European Economic Community (EEC) adopted a Directive leading to the establishment of minimum standards in training, with a minimum duration of five years, comprising practical and theoretical teaching in the Integrated Master's Degree in Dental Medicine (MIMD) [2]. The comparability of programme contents

was made possible by the Bologna declaration and the creation of the European Credit Transfer System (ECTS), which facilitated the mobility of dental students and dentists in the European Union (EU) [3]. This process of comparability guaranteeing the conditions for academic and professional recognition of dental diplomas within the EU was reinforced by Directive 2005/36/EC, which came into force in 2007 [2]. This Directive is based on the Bologna process with a three-year bachelor's cycle and a two-year master's cycle. These disparities persist in training, for example in students' clinical experience [2,3].

The study of dentistry in Europe has historically been divided into two training models: the stomatological model and the odontological model [1]. The former was prevalent in central and eastern Europe, as well as in Spain, Portugal and Italy. It was based on an initial training in medicine, followed by a specialization in stomatology [2,3]. In contrast, the dental model, prevalent in Western Europe, considers dentistry to be an independent discipline from medicine at the beginning of the course. These structural differences posed a challenge for the equivalence of syllabuses and the recognition of qualifications. Other aspects have made equivalence possible, such as political and academic initiatives and the DentEd project (1997-2003) with the aim of increasing training requirements, favoring a convergence of competences in Europe [2]. The Association for Dental Education in Europe (ADEE) has helped to establish a framework of competences and significant disparities can even be observed depending on the country of training, especially in the acquisition of clinical experience [2,3].

The movement of health professionals in the EU cannot be called migration, but mobility [4]. In fact, the mobility of dentists and dental students in Europe is based on the principle of freedom of movement and the EU's internal market [1,5]. The mobility of health professionals, particularly dentists, reflects the structural imbalances between member countries in terms of salaries, working conditions and opportunities [5]. This mobility is allowed by Directive 2005/36/EC, revised in 2013, which establishes two systems for recognizing qualifications: an automatic system for diplomas, in line with European standards, and the general system requiring an assessment in the country of destination [1]. Some countries, such as France and Portugal, have created strict regulations framing training in line with the European Directive, both in terms of minimum hours of clinical practice and formal assessment of competences throughout the course [3]. These regulations allow for equivalence of diplomas in the EU. However, disparities persist in terms of programme content, between countries and even between universities in the same countries. Finally, this mobility leads to disparities in healthcare provision, due to a shortage of professionals [6].

Objective

The aim of this study was to assess the impact of recognizing the equivalence of the Integrated Master's Degree in Dental Medicine in the European Union and the mobility of dental students and dentists.

The main objectives of this study were:

1. To compare the syllabuses of the Integrated Master's Degree in Dental Medicine at 2 Portuguese universities and 2 French universities (*Ciências da Saúde, Egas Moniz, Lille and Aix-Marseille*).
2. To assess the impact of recognizing the equivalence of the Integrated Master's Degree in Dental Medicine on the mobility of dental students and dentists in the European Union.

Materials and Methods

This study was carried out in two parts. The first part was a comparative analysis of the syllabus contents of the Integrated Master's Degree in Dental Medicine (MIMD) at 2 Portuguese Universities and 2 French Universities

(*Ciências da Saúde, Egas Moniz, Lille and Aix-Marseille*) and the second part assessed the impact of recognizing the equivalence of the MIMD on the mobility of dental students and dentists in Europe.

Comparative analysis of the syllabuses of the Universities of *Ciências da Saúde, Egas Moniz, Lille and Aix-Marseille*

The different syllabuses of the Portuguese Universities were obtained from the *Diário da República Portuguesa* and those of the French Universities were obtained from the respective websites of the Universities of Lille and the University of Aix-Marseille. The programme content of each university was classified according to the programme content of Directive 2005/36/EC, updated in Directive 2013/55/EU. The results obtained would make it possible to assess the number of hours of practice, the number of hours of pre-clinical training and the number of hours of internship.

Impact of the equivalence of the Integrated Master's Degree in Dental Medicine on mobility

An information search was carried out in institutions such as the European Parliament, the Portuguese Dental Association (OMD), the Organization for Economic Cooperation and Development, the *Cour des Comptes*, and the French *Sénat*, and in the PubMed database, using the following keywords: 'emigration and immigration', 'Europe', 'health profession', 'dentists', 'curriculum' combined with 'AND'.

A descriptive, comparative, longitudinal and retrospective study was carried out based on data found for the years 2014 and 2023. The main objective was to compare, over nine years, the number of MIMD graduates at Portuguese universities and correlate this with the number of new registrations with the Portuguese Dental Association (OMD).

The study population is made up of students who completed the MIMD at Portuguese universities between 2014 and 2023 and dentists who registered with the OMD during the same period. The sample was based on public databases, namely the dissertation

repositories of Portuguese universities and the OMD's statistical reports. Although it is a comprehensive sample, it is subject to certain representativeness biases. The inclusion criteria were students graduating and professionals registered with the OMD between 2014 and 2023. Data that did not fulfil these conditions was excluded.

The data on new OMD registrations was provided by the OMD following a formal request. The response was received on 17 January 2025, along with the official statistical files. Information on recent graduates was collected manually from the university repositories of the following institutions: Universities of Porto, Universities of Lisbon, Universities of Coimbra, Universities of Health Sciences, Egas Moniz University, Portuguese Catholic University and Fernando Pessoa University.

The two main variables analyzed were the number of recent graduates with a MID, considered as the independent variable. And the number of new OMD enrolments, considered the dependent variable.

The data was organized by calendar year and analyzed descriptively. The annual comparison between the number of recent graduates and the number of enrolments made it possible to identify possible discrepancies. The tools used for statistical treatment included IBM-SPSS (Statistical Programme for Social Sciences) software (Mac version) and Microsoft Excel. The analysis focused on absolute and relative deviations, as well as trends over the years.

All the data used in this study came from public sources and was collected completely anonymously. Therefore, it was not necessary to obtain informed consent or specific ethical approval.

This study has some limitations that should be considered:

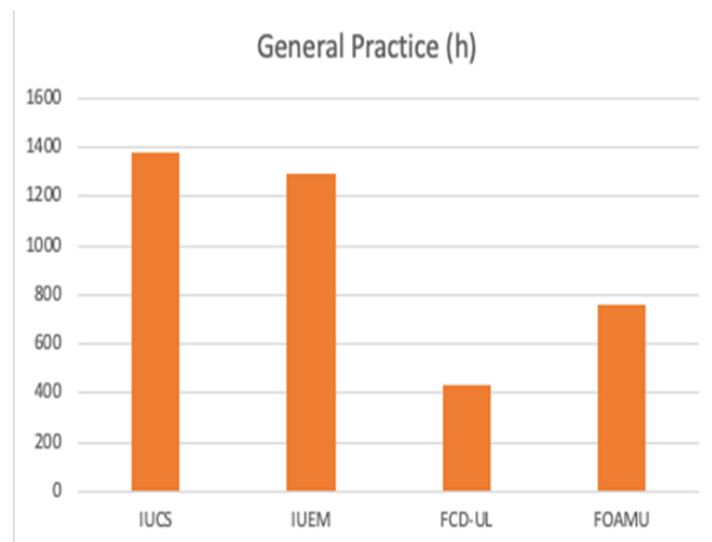
- The reliability and homogeneity of the data: the information collected on university websites is not always uniform, and some institutions do not publish data systematically, which can jeopardies the accuracy of the figures.
- The time lag between finalizing the MIMD and registering with the OMD: recent graduates from a given academic year may not register with the OMD in the same calendar year, which can distort the direct comparison between the two sets of data.
- International mobility: some Portuguese graduates may choose to practice abroad without registering with the OMD in Portugal, while other professionals trained abroad may register with the OMD. These movements influence the figures but are not identifiable in the databases analyzed.
- Aggregated data: the study is based on global data, with no individual follow-up. It is therefore not possible to know whether a specific graduate has registered or not, which limits the causal interpretation of the discrepancies observed.
- Quality of institutional publication: errors or omissions in the publication of data by universities or the OMD cannot be completely excluded, even though the sources are official.

Results

Comparative analysis of the syllabuses of the curricular units of the universities: *Ciências da Saúde*, *Egas Moniz*, *Lille* and *Aix-Marseille*

• Distribution of general clinical practice hours

After adding up the hours of practice in the compulsory subjects of Directive 2005/36/EC of 7 September 2005 and updated in Directive 2013/55/EU at each University: 1381.5 hours at the University of *Ciências da Saúde*, 1294.5 hours at the *Egas Moniz* University, 436 hours at the University of *Lille*, and 762 hours at the University of *Aix-Marseille*. We can see a significant difference between the French Universities studied and the Portuguese Universities studied in terms of the approach to practice and theoretical-practical aspects, which results from the tradition of dental medicine education. The stomatologist model, where the dentist followed the content of general medicine, was prevalent for years in Portugal, which would lead to the more medical approach to dentistry taking root, with theoretical and practical classes being more present in the Portuguese universities studied than in the French universities studied (Graph 1).

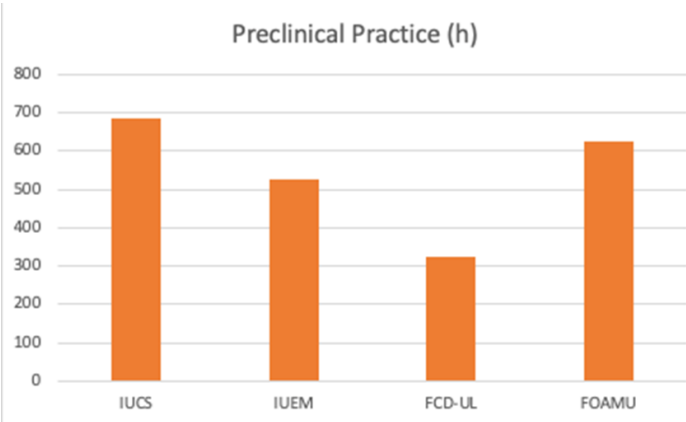


Graph 1: General Practice (h) of IUUS (Universidade de Ciências da Saúde), IUEM (Universidade Egas Moniz), FCD-UL (Faculté chirurgie dentaire de l'Université de Lille) and FOAMU (Faculté d'Odontologie Aix-Marseille Université).

• Distribution of pre-clinical practice by hours

Similarly, the total number of pre-clinical hours was analyzed for the curricular units associated with the practice of dentistry, namely: dental prosthetics, dental materials, conservative dentistry, preventive dentistry, anesthesiology and sedation in dentistry, special surgery, special pathology, dental-stomatological clinic, pediatric dentistry, orthodontics, periodontology, dental radiology, dental occlusion and masticatory function, professional organization, deontology and legislation, as well as the social aspect of dental practice. There were 685 hours at the University of *Ciências da Saúde*, 575.5 hours at the *Egas Moniz* University, 324

hours at the University of *Lille*, and 665 hours at the University of *Aix-Marseille*. The discrepancies between the traditional models are particularly evident in terms of pre-clinical practical classes, with a higher practical workload at the Portuguese universities analyzed compared to their French counterparts (Graph 2).



Graph 2: Preclinical Practice (h) of IUCS (Universidade de Ciências da Saúde), IUEM (Universidade Egas Moniz), FCD-UL (Faculté chirurgie dentaire de l’Université de Lille) and FOAMU (Faculté d’Odontologie Aix-Marseille Université).

• **Distribution of clinical placements by hours**

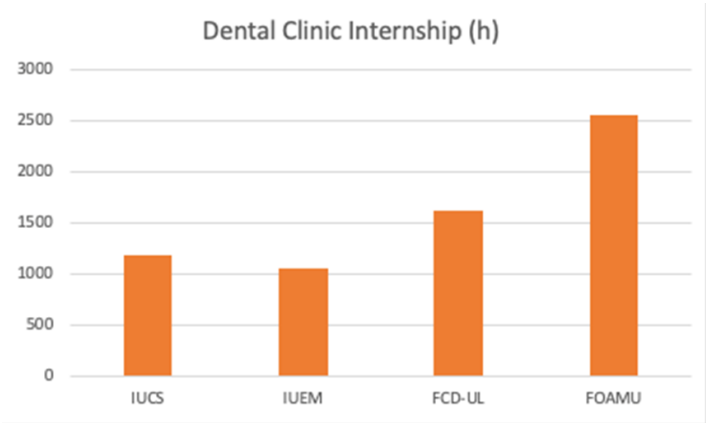
The number of clinical placements per hour at the four universities was totaled. We found 1176 hours at the University of *Ciências da Saúde*, 1051.5 hours at the *Egas Moniz* University, 1610 at the University of *Lille* and 2552 at the University of *Aix-Marseille*. We can observe a significant difference in terms of clinical placements between the French and Portuguese universities studied. The model of dentistry found in France and other European countries, where the dentist follows a programme more focused on the practice of dentistry, is evident in the French universities studied, where more placements were found than in the Portuguese universities studied (Graph 3).

Impact of the equivalence of the Integrated Master's Degree in Dental Medicine on mobility

• **Distribution of recently graduated dentists by university**

In Portugal, there are 7 recognized institutions with an Integrated Master's Degree in Dental Medicine, namely: *Universidade*

Ciências da Saúde, *Universidade Egas Moniz*, *Universidade Fernando Pessoa*, *Faculdade de Medicina de Coimbra*, *Faculdade de Medicina Dentária de Lisboa*, *Faculdade de Medicina Dentária do Porto*, and *Universidade Católica Portuguesa*. The data in the table was found in the repositories of each university and all the dissertations published per year were counted. This method leads to limitations and underestimation due to the lack of the exact number of students graduating per year. We can see a predominance of students graduating from the private Portuguese universities (Health Sciences, Egas Moniz and Fernando de Pessoa), where the number of foreign students is higher when compared to the other Portuguese universities (Table 1).



Graph 3: Dental Clinic Internship (h) of IUCS (Universidade de Ciências da Saúde), IUEM (Universidade Egas Moniz), FCD-UL (Faculté chirurgie dentaire de l’Université de Lille) and FOAMU (Faculté d’Odontologie Aix-Marseille Université).

• **Difference between the number of newly qualified dentists and registrations with the Portuguese Dental Association**

The data on registrations with the Portuguese Dental Association (OMD) was found in the study ‘*Os números da Ordem*’ published by the OMD in 2024. All newly qualified dentists were counted by year, as can be seen in Table 2. Even if the number of newly qualified dentists is underestimated, we see a significant difference between the two, with an average loss of dentists of 30 per cent in Portugal (Table 2).

Table 1: Distribution of Newly Graduated Dentists by University in Portugal: Universidade Ciências da Saúde (IUCS), Universidade Egas Moniz (IUEM), Universidade Fernando Pessoa (FP), Faculdade de Medicina de Coimbra (FMC), Faculdade de Medicina Dentária de Lisboa (FMDL), Faculdade de Medicina Dentária do Porto (FMDUP), and Universidade Católica Portuguesa (UCP).

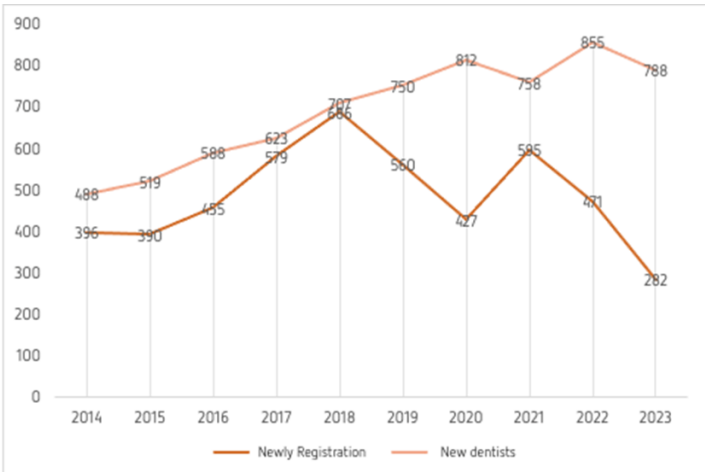
University	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
IUCS	215	280	238	220	167	178	133	139	147	121
IUEM	195	173	157	192	198	135	143	134	118	91
FP	191	206	201	195	248	286	235	143	135	132
FMC	-	-	-	-	-	-	-	48	2	21
FMDL	45	56	44	50	49	38	36	46	35	44
FMDUP	82	80	76	83	88	68	76	78	82	79
UCP	51	60	42	72	-	2	-	-	-	-
Total	779	855	758	812	750	707	623	588	519	488

Table 2: Difference Between the Number of New Registrations with the OMD and the Number of Newly Graduated Dentists.

Years	OMD Registration	Newly qualified dentists	Average mobility (in %)
2014	396	488	18,9
2015	390	519	24,9
2016	455	588	22,6
2017	579	623	7,1
2018	686	707	3
2019	560	750	25,3
2020	427	812	47,4
2021	595	758	21,5
2022	471	855	44,9
2023	282	779	63,8
Total	4841	6879	29,6

- **Difference between the number of new registrations with the Portuguese Dental Association and newly qualified dentists**

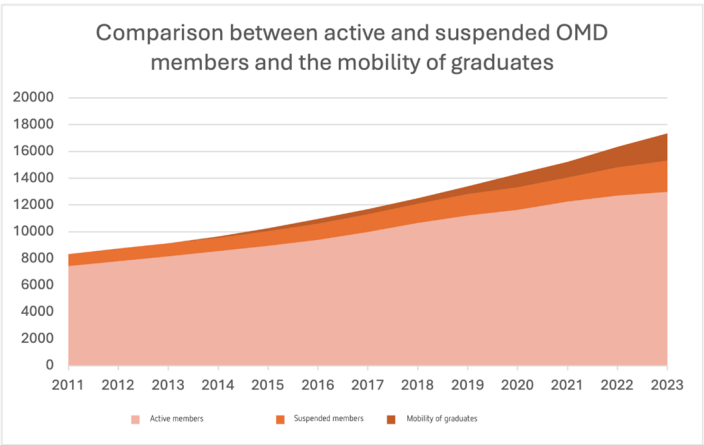
Difference between the number of new registrations with the Portuguese Dental Association (OMD) and newly qualified dentists. We can see that the confinement due to COVID in 2020 has affected OMD registrations with a decrease in registrations. However, this decrease cannot be explained in isolation because the decrease has occurred since 2019 (Graph 4).



Graph 4: Difference Between the Number of New Registrations with the OMD and the Number of Newly Graduated Dental Practitioners.

- **Comparison between active members of the Portuguese Dental Association and suspensions and mobility of graduates**

A graph was drawn comparing the number of active members registered with the OMD with the number of suspended and mobile members of recently graduated dentists. This study showed that 2028 students had not registered with the OMD. Of the 2312 suspended, 1257 gave the reason of practicing in another country. This adds up to 4350 dentists not practicing in Portugal, with 3295 practicing in another country (Graph 5).



Graph 5: Comparison Between Active Members of the OMD, Suspensions, and Graduates' Mobility.

Discussion

This chapter provides a critical analysis and in-depth reflection of the results presented in the previous section, focusing on a comparison of the syllabuses of the four universities studied (Health Sciences, Egas Moniz, Lille and Aix-Marseille), as well as assessing the impact of recognizing the equivalence of the Integrated Master's Degree in Dental Medicine (MIMD) on the academic and professional mobility of dental students and doctors.

Equivalence of programme contents in the Integrated Master's Degree in Dental Medicine

- **A common regulatory framework**

Recognition of the IMMD course in the European Union (EU) is regulated by Directive 2005/36/EC, as amended by Directive 2013/55/EU, which establishes automatic recognition of the diploma for the practice of dentistry in all member states [1,9]. According to the Directive, admission to the IMMD course requires a certificate or equivalent diploma issued by a member state. Basic training must last at least five years and comply with the syllabuses specified in Annex V, point 5.3.1. of the Directive, which may be updated in line with scientific progress (Article 58, paragraph 2) [13].

The process of equivalence of syllabuses in the EU, supported by European Directive 2005/36/EC [13], aims to guarantee homogeneous training and the recognition of professional qualifications in all member states [12]. However, as GLINOS I. et al. point out [4], this equivalence is limited, since the Directive does not impose a common workload, a uniform teaching method or standardized criteria for assessing competences.

In fact, although Directive 2005/36/EC stipulates that the MIMD course must be at least five years long, as in Lithuania [6], some European countries choose to extend the training to six years [1,13]. The Directive recognizes six specialties: oral surgery, periodontics, endodontics, prosthodontics and pediatric dentistry.

The Directive recognizes six specialties: oral surgery,

periodontology, endodontics, prosthodontics, orthodontics and pediatric dentistry [6]. However, there are still significant variations in the syllabus and duration of courses between the different member states, reflecting different academic traditions and specific teaching structures [1].

- **Curriculum disparities between member countries**

The equivalence of syllabuses and their recognition is one of the main challenges within the European Union. The EU, respecting the principle of subsidiarity, has no direct competence over national education systems. However, it can support cooperation between member states and complement their actions where necessary [10].

It is difficult to ensure uniform compliance with the Directive between the different countries, especially regarding the workload, the curriculum structure of the courses and validation by the competent national authorities [1].

In the analysis carried out, the syllabuses of the universities were compared with the structure of Directive L255/115, Annex V, point 5.3.1. This structure covers three groups of curricular units: the basic curricular units, the medical-biological and general medicine curricular units, and finally, the specific odontostomatology curricular units. Each group covers different subjects. The basic curricular units are aimed at studying chemistry, physics and biology.

The group of medico-biological subjects and general medicine subjects is based on the study of anatomy, embryology, histology (cytology), physiology, biochemistry (and physiological chemistry), pathological anatomy, general pathology, pharmacology, microbiology, hygiene, prophylaxis and epidemiology, radiology, physiotherapy, general surgery, internal and pediatric medicine, otorhinolaryngology, dermato-venereology, general psychology, psychopathology and neuropathology, and anesthesiology.

In the group of specific dental-stomatology curricular units, there are dental prostheses, dental materials, conservative dentistry, preventive dentistry, anesthesia and sedation in dentistry, special surgery, special pathology, dental-stomatological clinic, pediatric dentistry, orthodontics, periodontology, dental radiology, dental occlusion and masticatory function, deontology and legislation, and finally the social aspect of dental practice. All the universities studied include these curricular units in their syllabuses, albeit with significant variations [13].

The influence of traditions in dental education continues to be an important factor in the syllabuses of the universities studied, contributing to increasing disparities in training. This corroborates the statements made by RIBEIRO JS, et al. [10].

Also, according to RIBEIRO JS, et al. [10], who state that the stomatology model, predominant in countries such as Spain, Portugal and Italy, consisted of providing dental students with a predominantly medical basis, followed by a specialization in oral

medicine or stomatology [10]. This tradition can be seen in the syllabuses of the Portuguese universities analyzed, where the University of Health Sciences and the Egas Moniz University devote 1381.5 and 1294.5 hours respectively to theoretical and practical classes, figures that are two to three times higher than those of the French universities studied.

On the other hand, the predominant dental model in France is characterized by an approach to dentistry that is distinct from general medicine [10]. The French universities of Lille and Aix-Marseille devote 1610 hours and 2552 hours respectively to clinical classes, which is almost double the number of hours allocated to the Portuguese universities studied.

- **Control limitations and the European challenge**

The lack of effective European mechanisms to guarantee the effective compliance of programme content with the standards defined at European level undermines mutual trust between member states. According to WILLIAMS GA, et al. [15], recognition is mainly based on declarations by national authorities, without systematic independent audits.

Universities that align their programme content with European standards tend to facilitate the integration of graduates in other EU countries. This alignment has contributed to an increase in academic mobility, with students training in other EU countries and then returning to their country of origin. This movement of students and health professionals within the EU is not exactly migration, but intra-European mobility, since European citizens are not subject to immigration laws as they are for third country nationals [4]. Despite these advances, obstacles to the harmonization and recognition of qualifications persist [15].

Factors in the mobility of dental students and doctors within the EU

- **Mobility made easier, but asymmetrical**

The free movement of professionals within the European Union (EU), reinforced by enlargement in 2004, has allowed dental students and doctors to practice freely in other member states. According to DOMAGAŁA, et al. [5] this freedom has intensified professional mobility flows. However, JANULYTE V, et al. [8] and VARGA J, et al. [7] point out that mobility is asymmetrical: while the countries of Northern and Western Europe face a growing need for dentists, the countries of Eastern and Southern Europe suffer from the outflow of these professionals, and the phenomenon is intensified by economic and social factors [5].

European professional mobility reflects structural imbalances in the EU, particularly in relation to salaries, working conditions and career opportunities [5]. As VARGA J, et al. [7], GOŠTAUTAITĖ B, et al. [9] and RIBEIRO JS, et al. [10]. point out, the main motivations identified for mobility include the prospect of better salaries, access to housing, more professional opportunities and more favorable working conditions [7-10].

This mobility contributes to the growing dependence of certain European health systems, such as those in Ireland, France and Germany, on professionals from other EU countries, a phenomenon also observed in countries outside the EU, such as Switzerland and the United Kingdom [1,5].

- **Student Mobility: Strategies and Effects**

In Portugal, data from the Portuguese Dental Association (OMD) indicate that, in the 2023–2024 academic year, 1,370 international students were enrolled in the five universities studied (FMDUP, FCS-UFP, FMDUL, FMUC, and FMD-UCP). It is worth noting that IUCS and IUEM did not provide data regarding their students. However, it is important to highlight that most of these students do not remain in Portugal after completing their studies. At the same time, the country is also experiencing an outflow of Portuguese dentists who, upon graduation, choose not to practice within the national territory.

This student mobility raises concerns in several institutions. The French Senate has recently reported the emergence of a “commercialization” trend in dental education, marked by the establishment of new dental faculties [1]. Some countries aim to attract international students as a means of generating additional revenue and meeting the growing demand for education from candidates unable to secure a place in their home country. However, it is observed that many of these students do not remain in the host country after graduation, as is the case in Romania and Poland [1,12].

In the specific case of French students who were unable to access dental school in France — whether due to the *numerus clausus* or fear of failure — many opted to study abroad, particularly in Romania. The number of French students in that country rose from 680 in 2014–15 to 1,200 in 2017–18 [12]. Yet, it is evident that these students also tend not to stay after completing their studies [12].

- **Mobility of Dentists: Strategies and Effects**

Between 2014 and 2023, 2,038 newly graduated dentists in Portugal did not register with the Portuguese Dental Association (OMD), representing approximately 30% of the total graduates. This data can be further complemented by analyzing OMD membership suspensions. From 2011 to 2022, 1,257 out of 2,312 registration suspensions were related to practicing the profession in another country, accounting for 54.3% of all suspensions. The European Union emerges as the preferred destination, with 69.5% of these suspensions occurring within the EU (26.8% in France, 13.4% in Spain, 12.1% in Italy, 6.8% in the Netherlands, 3.7% in Sweden, and 6.7% in other European countries). When considering the entire European continent, this percentage rises to 92.2% (including 18.1% in the United Kingdom and 4.6% in Switzerland) [14].

A similar situation is observed in Lithuania. According to JANULYTE V, et al. [8], 55.9% of those who expressed an

intention to migrate planned to remain abroad for only a few years, while just 30.1% considered migrating indefinitely [8]. The study also reveals that Lithuanian dentists mainly emigrated to Ireland and Sweden, with 20% and 15%, respectively [8]. There is a noticeable correlation between the 2010 economic crisis and an increased intention to migrate among dentists, reaching 26.9% of them [6].

Among the main sources of professional dissatisfaction reported by dentists are a lack of patients, excessive workloads combined with insufficient pay, and a general lack of recognition and professional appreciation [5,6,9]. In addition to these factors, the presence of family members in a foreign country also plays a significant role in the decision to migrate [8]. Thus, the intra-European mobility of dentists is a phenomenon that requires attention from authorities to adjust educational offerings and optimize workforce management [10].

Consequences of mobility on european healthcare systems

- **Impact on Countries of Origin**

The geographic mobility of healthcare professionals within the European Union (EU) significantly alters the availability of healthcare services in Member States [1]. In countries of origin, such as Bulgaria and Romania, this phenomenon has contributed to a worrying reduction in the availability of healthcare services. According to a study by VARGA J, et al. [7], it was found that 40% of newly graduated dentists in Hungary between 2007 and 2010 did not register with the national Hungarian health system [7].

A similar situation is observed in Portugal, where between 2011 and 2023, the mobility of dentists involved a total of 3,925 professionals. Currently, Portugal has 12,988 dentists with active registration in the Portuguese Dental Association (OMD), and the absence of 4,350 dentists may pose a significant challenge to the national healthcare system. In 2009, RIBEIRO JS, et al. [10] reported that the OMD estimated that 1% of registered dentists were practicing abroad—a proportion that now appears clearly underestimated, given the significant increase in mobility over the past decade, not including dentists who are unregistered or have suspended registration.

On one hand, this mobility can be detrimental to the healthcare systems of the countries of origin, as the high cost of dental education represents an investment that is not recovered, resulting in economic loss for the country [4]. On the other hand, a shortage of dentists in certain regions with low dentist-to-patient ratios—although it may reduce competition and thus benefit professionals who remain—can also lead to work overload and longer waiting times for appointments [6,7,12]. As a result, 65% of dentists surveyed in the study by JANULYTE V, et al. [8] continued to work even after retirement [4,6].

Currently, many European countries face a decrease in the number of dentists, caused both by the retirement of older professionals and by the general ageing of the population. At the same time, the

growing mobility of younger dentists further increases pressure on European healthcare systems, reinforcing the need to regulate professional mobility and implement coordinated planning at the European level [5,8,9].

In practice, although the mobility of healthcare professionals may not be numerically significant in smaller European countries, such as Portugal, its impact on the healthcare system is substantial [10]. Portugal faces several challenges: demographic ageing, the lack of effective mechanisms to adapt to emerging needs in the healthcare system, and issues with the geographic distribution of doctors [10]. The data from this study, although likely underestimated due to incomplete information, suggest possible mobility or abandonment of professional practice within the country.

This phenomenon, however, is not exclusive to Portugal. In Lithuania, for instance, there is also a clear need for structured planning of the healthcare system, considering the uneven distribution of dentists across the country [6]. On the other hand, mobility can also represent an opportunity, if dentists return to their country of origin and share the knowledge acquired abroad, thereby enriching local clinical practice [7].

• Impact on Destination Countries

Within the European Union (EU), there are considerable disparities between countries regarding the mobility of dentists [9]. In European countries that attract the most dentists—such as Belgium, France, and Ireland—there have been reports of discrimination, underemployment relative to qualification levels, and a lack of career progression [4]. However, it is important to highlight that this new workforce originating from other EU countries has helped to mitigate the effects of dentist shortages, as is the case in France [1]. In fact, data from this study reveal that 29.6% of dentistry students between 2014 and 2023 moved to countries other than Portugal. Nevertheless, some professional bodies, such as the French Dental Association, have expressed concerns about the commercialization of dental education and practice [1,11].

It is also evident that the number of students enrolled in Integrated Master's Degree in Dental Medicine (MIMD) outside their country of origin has significantly increased over the last decade, especially in OECD and EU countries [10,12]. This student mobility represents an advantage for host countries, which benefit from the integration of qualified dentists without bearing the high costs of their education [6].

As the newer Member States of the European Union become less competitive compared to the EU founding countries, Eastern and Central European nations continue to express concern about the intensification of dentist mobility [7]. These geographic shifts have a direct impact on the availability of oral healthcare across EU Member States. In countries of origin—such as Bulgaria, Romania, Lithuania, Portugal, and Poland—there has been a significant reduction in service availability. Conversely, in destination

countries like France and Germany, the arrival of foreign dentists has helped to alleviate the effects of dentist shortages [1,6,10].

Conclusion

Despite its limitations, the present study made it possible to observe that the equivalence of the Integrated Master's Degree in Dental Medicine (MIMD), combined with the freedom of movement within the European Union (EU), has resulted in increased mobility within the profession, both among students and practicing dentists.

Based on this study, the following conclusions can be drawn:

1. The curricula of the MIMD program at two Portuguese universities and two French universities (*Ciências da Saúde, Egas Moniz, Lille, and Aix-Marseille*) show significant differences, although they are aligned with the European Directive.
2. The recognition of the MIMD degree equivalence among EU Member States has had a considerable impact on the increased mobility of both students and dentists.

Acknowledgments

The authors would like to express their gratitude to Marta Jorge, whose support in the realization of this article.

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