

## Diversity and Differences of Postgraduate Training in General and Subspecialty Pediatrics in the European Union



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The European Union (EU) has progressively expanded the number of its member nations throughout the years. Since its founding in 1993, the number of its members has grown from the initial 6 nations to 28 nations (EU28) in 2013, therefore including more than one-half of the nations belonging to geopolitical Europe. This political achievement has been paralleled in many European nations by the emergence of cultural values awareness and strong feelings for the preservation of the various local cultural profiles, including traditions, history, and cultural roots. The preservation of the identitarian profiles and cultural diversity of the local systems, which characterize Europe, is generally assumed as a capital for its development<sup>1</sup> and often may influence the decisions in many fields, including medical education.

The equation of how to amalgamate a multiplicity of consolidated cultural backgrounds, all becoming acceptable to each local reality and its historical profile, will keep the EU institutions busy for many years. Of course, several additional factors must be taken in account when discussing cultural diversities vs homologation, which we would leave to a more extended study. It is also not an easy task to find examples in different geopolitical areas that could inspire solutions on how to deal with diversities and differences that often are difficult to be reconciled.

This is the articulated basic scenario that provides the stage for the analysis of the current status and future perspectives of many institutional structures in Europe, including medical education, specifically postgraduate education.

The management of medical education in the EU28 would require appropriate coordination, backed by an adequate cultural knowledge, a balanced strategic vision, and constant supervision. EU does not have a clearly identified administrative structure devoted specifically to medical education, and the responsibilities in this area are shared by different departments or agencies of the European Commission, including the Directorates General of Education and Culture, Health and Consumers, Internal Market and Services, and the EU Education, Audiovisual, and Culture Executive Agency.

The traditional Kissingerian question, “Who do I call to speak to Europe?,” still seems to be relevant and applicable to the specific case of European medical education.

Currently, in relations with the EU28, the various European national associations of medical subspecialties, including pediatrics, have a major advocate in the European Union of Medical Specialists (Union Européenne des Médecins Spécialistes [UEMS]), a private nongovernmental organization regulated by Belgian law. UEMS has been active since 1958 with the aim to represent national associations of medical specialists and operate at the European level to defend and promote the interests of medical specialists, the free movements of medical specialists, and the quality of medical care.<sup>2,3</sup> Following the well-recognized general notion that the issue of quality, quality assurance (QA), and quality improvement (QI) in medical education are of paramount importance, not only for the benefits of medical students and doctors but primarily for the health of citizens, UEMS has devoted its efforts to developing European standards in postgraduate medical specialist training. Among the aims of this nongovernmental organization is to harmonize the various national curricula, promote unifying criteria to which the training centers should conform, and ultimately foster a European board of examination.<sup>3</sup>

A satisfactory and reliable QA and QI of postgraduate medical education has a foundation in comparable educational goals among different systems. In absence of these factors, any sincere effort to pursue a credible QA and QI standardized analysis in higher education applicable throughout the European Nations may be in vain. The considerable diversities and differences among the independent medical educational systems in the EU28 thus seem to represent a major obstacle to a proper and dependable QA and QI assessment.

The case of pediatric postgraduate education provides scholastic evidence that the achievement of comparable and assessable medical education systems is not an easy task to

EU	European Union
EU28	European Union 28 nations
QA	Quality assurance
QI	Quality improvement
UEMS	Union Européenne des Médecins Spécialistes (European Union of Medical Specialists)

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be accomplished in the EU28. The original data included in the [Table](#) (available at [www.jpeds.com](http://www.jpeds.com)) show how the postgraduate pediatric training is currently (2014) performed in the EU28 nations. The 28 different national programs last from 4 to 8 years and present strikingly diversities. We have arbitrarily divided the nations into two groups: Group A includes nations that offer a 4-year basic course in general pediatrics and in some cases an additional 1-3 years optional training in selected pediatric subspecialties, and Group B includes nations that offer a 5- to 8-year basic course in pediatrics, including general pediatrics and part of pediatric subspecialties, which in some cases may be further expanded by 1-3 years of specific subspecialty training. The educational system in the Group B nations is intended to ensure that primary care pediatricians are prepared for the diversity of clinical and social problems that they will encounter and that specialist pediatricians receive sufficient training in rare and complex disorders.<sup>4</sup>

The profound diversities among the EU28 postgraduate pediatric programs are attributable to a multiplicity of factors, some of which were discussed previously. Such factors also may include the significant differences that exist among the various pediatric health care systems, particularly in the organization of children's (nonhospital) first-contact services, and it may also reflect the attention put by some nations in providing a specific postgraduate education particularly focused on general and primary care pediatrics. In fact, the management of first-contact services is a well-recognized social issue in the EU28, subjected to the frequent changes in political visions and policies of single nations, and frequently impacted by economic contingencies. The 3 existing main models are based on whether primary care general physicians, primary care pediatricians, or combinations of both are primarily responsible for care. However, comparisons between models are difficult because of the subtleties and complexities of definitions of these models.<sup>4</sup> The pressure to "deliver more for less" often seems to be the driving force forging the political strategic decisions in the area of pediatric health care and pediatric education, rather than social, cultural, and economic sensitivity and competences.

Therefore, the delivery of appropriate pediatric training seems not to be related exclusively to educational motivations but also to other factors, including social, economic, and political rationales. EU working-time limits and the availability of training posts also play a significant role, although the economic factors seem to be predominant. In response to current global economic pressures, and often in obedience to generalized budget restrictions imposed by local financial policies, ongoing discussions are taking place in many countries that are considering changing the structure of their postgraduate pediatric training. An equivocated interpretation of an EU directive on training in pediatrics<sup>5</sup> has offered many EU28 nations the justification to consider reducing the pediatric training to just 4 years, presenting it as the best length for a postgraduate training in pediatrics. In reality, the EU directive pointed to the complete different

goal of protecting the quality of pediatric education by establishing a minimum period of training. The aim was to avoid unacceptable reductions of the pediatric training's length below the limit of 4 years, which would affect the basic quality standards for education in this area.

Higher education in general has been placed at the center of public debates as a result of the recent economic crisis. The role of improving education on all levels and in all professions has been identified as a theoretical factor that—when adequately implemented in the curricula—may be able to react positively against the threats of ongoing economic and social crises. However, most of the discussion failed to mention the negative impact of the economic crisis on higher education in the "real world." In fact, the economic crisis has legitimized the long-existing argument that higher education should be treated the same way as any other service in the economy and, as such, education should be subject to ever-more accountability and managerial practices. The ongoing discussions aiming at minimizing the length of postgraduate pediatric education in some countries, seem to follow a current trend of unhealthy rationalization, with an emphasis on "cutting the excess fat" and "balancing the budget," instead of following constructive concerns aimed at providing the proper health care to children, supported by properly trained professionals.<sup>6</sup>

In summary, there is a complex challenge that the future of pediatric health care in Europe may be characterized not only by a shortage of pediatricians but also by a shortage of very well-trained newly accredited pediatricians. Furthermore, the EU28 may have an increasing free circulation of medical professionals with an even more limited training in child health care such as general practitioners caring for children. Last, but not least, there will be the need to guarantee excellence in pediatric education and to provide better quality and safety of health care for children. The evidence of a profound diversity of postgraduate pediatric training programs among the EU28 should be carefully considered and addressed, as a propaedeutic approach to ensure the appropriateness and feasibility of any QA and QI assessment program and ultimately to ensure a satisfactory and appropriate level of pediatric health care for European children in future decades. ■

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## References

1. Doria L. Managing the unmanageable resource: multiple utility and quality in the EU policy discourses on local identity. In: Doria L, Fedeli V, Tedesco C, eds. Rethinking European spatial policy as a hologram. Hampshire, UK: Ashgate Publishing Limited; 2006. p. 235-9.
2. Union Européenne des Médecins Spécialistes – UEMS [homepage on the internet]. Brussels: The Union 2013 a.i.s.b.l. <http://www.uems.eu/about-us/structure>. Accessed May 13, 2014.
3. Da Dalt L, Callegaro S, Mazzi A, Scipioni A, Lago P, Chiozza ML, et al. A model of quality assurance and quality improvement for post-graduate medical education in Europe. *Med Teach* 2010;32:e57-64.
4. Wolfe I, Thompson M, Gill P, Tamburlini G, Blair M, van den Bruel A, et al. Health services for children in western Europe. *Lancet* 2013;381:1224-34.
5. EU Commission. Single Market. Directive 2005/36/EC – policy development. Brussels. [http://ec.europa.eu/internal\\_market/qualifications/policy\\_developments/legislation/index\\_en.htm](http://ec.europa.eu/internal_market/qualifications/policy_developments/legislation/index_en.htm). Accessed May 13, 2014.
6. Tsiligiris V. The impact of the economic crisis on higher education. *University World News*, 18 March 2012;issue no:213:1.

**Table. Pediatric postgraduate medical education and training in the EU28 (2014)\***

Group A	Group B
<b>4 years basic course in general pediatrics<sup>†</sup> (additional 1-3 years training in pediatric subspecialties are optional)</b>	<b>5-8 years basic course in pediatrics (including general pediatrics<sup>†</sup> and part of pediatric subspecialties)</b>
<p>In the countries listed herein, the 4 years of training in general pediatrics enables MDs to practice general pediatrics and may include, in some cases, a short training in a few subspecialties.</p> <p>After gaining a degree as a general pediatrician, additional training in various pediatric subspecialties is optional. To obtain a pediatric subspecialty diploma, the training must be performed in a pediatric subspecialty center, not in adult centers.</p> <p>The duration of the subspecialty training varies from 1 to 3 years among the different countries and it depends on the type of subspecialty selected.</p> <p>The number and kind of pediatric subspecialties approved to issue habilitation certificates, differ from country to country.</p> <ul style="list-style-type: none"> <li>• Bulgaria</li> <li>• Cyprus</li> <li>• France</li> <li>• Greece</li> <li>• Spain</li> </ul>	<p>The countries listed below generally follow the basic postgraduate medical education structure of 3 + 2 years' course.</p> <p>Typically, the structure of the courses includes 3 years of training in general pediatrics (common trunk), and 2 years of elective training and rotations in pediatric subspecialties, as well as research training and diagnostic skills, having a variable design and implementation between and within the different countries. The basic period of training of 5 years may be extended with further optional subspecialist training ranging from 1 to 3 years.</p> <ul style="list-style-type: none"> <li>• Austria (6 years)</li> <li>• Belgium</li> <li>• Czech republic</li> <li>• Croatia</li> <li>• Denmark</li> <li>• Estonia</li> <li>• Finland (6 years)</li> <li>• Germany</li> <li>• Hungary</li> <li>• Ireland (7 years)</li> <li>• Italy</li> <li>• Latvia</li> <li>• Lithuania (6 years)</li> <li>• Malta</li> <li>• The Netherlands</li> <li>• Poland</li> <li>• Portugal</li> <li>• Romania</li> <li>• Sweden</li> <li>• Slovakia</li> <li>• Slovenia</li> <li>• United Kingdom (6 years)</li> </ul>

**Notes**

- Austria: 6 years, which include a number of mandatory subspecialties plus 1 year in a nonpediatric specialty. Training may be extended by 2 or more optional years, depending on the type of subspecialty selected.
- Bulgaria: In parallel to the 4-years training course in general pediatrics, different 4-year training courses are established for each of the following recognized pediatric subspecialties: cardiology, pneumology, neonatology, endocrinology, rheumatology, neurology, nephrology, and gastroenterology. Such courses include 2 years of general pediatrics integrated by 2 years in one subspecialty selected by the trainee.
- Czech Republic: The training in general pediatrics lasts 5 years. Subspecialist training is optional and requires an additional 2 years of training. However, the last of the basic 5-year curriculum in general pediatrics may be included in the subspecialty training if it is spent in a clinical department accredited for the subspecialty selected.
- Denmark: The 5-year training in pediatrics includes 1 year of introductory training in general pediatrics, followed by 4 years of further pediatric training (2 + 2 years) in 2 different accredited pediatric departments. Although Denmark does not recognize pediatric subspecialties, trainees may expand their education in pediatric subspecialties from 6 months up to 3 years depending on the type of subspecialty selected.
- Estonia: 3.5 years of training in general pediatrics is followed by 1.5 years or rotation in selected subspecialties. Ongoing changes will soon include a mandatory 1 year of training ("general residence") for all postgraduate courses, including pediatrics, that will include family medicine and emergency medicine. This will increase the postgraduate training in pediatrics to 6 years.
- Finland: The 6-years' training course in general pediatrics includes the first 3 years spent in central hospitals followed by 3 years in a university hospital. General pediatricians may become subspecialists by taking an additional 2-year course in one of the following: neonatology, allergology, cardiology, endocrinology, hemato-oncology, gastroenterology, infectious diseases, rheumatology, nephrology, or social pediatrics.
- Germany: 5 years of basic training in pediatrics, including part of pediatric subspecialties, plus 1-3 years of subspecialty training, depending on the type of subspecialty selected (one of the 3 years is a subspecialty course [eg, pediatric nephrology] may be included in the initial 5-year training period).
- Hungary: The 5-year training course includes 2 years of training in general pediatrics, followed by 3 years of rotations in pediatric subspecialties. An additional 2 years of training are required to obtain a diploma in one of the pediatric subspecialties accredited.
- Ireland: 2 years of training in general pediatrics, including 6 months in neonatology, followed by 5 years of higher specialist training.
- Italy: Ongoing discussion are taking place at government level aimed at reducing the pediatric training to 4 years, including general pediatrics and perhaps rotations in a few selected subspecialties. Pediatric subspecialties are not officially recognized.
- Latvia: 4 years of training in general pediatrics, plus 2-3 years of subspecialty training, depending on the type of subspecialty selected.
- Lithuania: After 6 years of training, including 4 years of general pediatrics and 2 years in a selected pediatric subspecialty, two separate diplomas are issued: one in general pediatrics, and another in the pediatric subspecialty selected for the training.
- Malta: The last year of the 5-year training in pediatrics is performed in the United Kingdom.
- Poland: Pediatric training is currently 6 years, followed by additional separate training for pediatric subspecialties of typically 3 year. The system is in transition to adapt to the 5-year structure, including the common trunk (3 years), followed by 2 years of training to become specialist in general pediatrics, or 2-3 years of training in a selected subspecialty to become a specialist in general and subspecialty pediatrics. However, it still will be possible to perform 2-3 years of training in a pediatric subspecialty after 5 years of training in general pediatrics to acquire the additional diploma in a pediatric subspecialty.
- Romania: The training in general pediatrics lasts 5 years with no common trunk. Subspecialties are optional and performed after the 5th year in separate programs.

*(continued)*

## Table. Continued

## Notes

- Slovakia: 3 additional years of training are currently required to obtain a diploma in a pediatric subspecialty. Ongoing discussions are taking place at the governmental level aimed at reducing the basic pediatric training to 4 years.
- Spain: Pediatric training follows the postgraduate education structure of 3 years dedicated to general pediatrics, followed by a 1 year rotation in selected subspecialties.
- Sweden: 5 years of general pediatrics plus 2 optional years of elective subspecialties.
- United Kingdom: the postgraduate medical education in pediatrics includes 2 initial years of general medicine. The total length of training is 6 years, and it could be extended up to 8-9 years, depending on the type of subspecialty selected.

\*Data in this table were collected with the collaboration of the European Pediatric Association, Union of National European Pediatric Societies and Associations, the European Medical Association (<http://www.emanet.org>), and representatives of the EU28 Ministries of Health, national pediatrics societies, associations, and postgraduate courses in pediatrics.

†The training in general pediatrics is ill defined in most countries and may include training periods within hospitals, dispensaries (polyclinics), private practices, seminars or self-study that may differ in duration and content from country to country and within countries. The training periods include primary, secondary, and tertiary pediatric care; however, the training may be organized following a rather strict schedule or an optional mode. Luxembourg does not offer postgraduate training in Pediatrics, however the specialty in Pediatrics is included in the list of medical disciplines recognized in Luxembourg. Training in Pediatrics is performed abroad based on agreements with European Universities from different EU countries (Austria, Belgium, France, Germany, Switzerland, and the United Kingdom). Luxembourg only recognizes Pediatric trainings of 5 years' minimum. Trainees may spend 1 or 2 years training in a pediatric department in Luxembourg and at least 3 years abroad in university hospitals. Luxembourg also offers a complete training for general practitioners performed locally, with at least 2 months of training in Pediatrics conducted in an accredited pediatric department.