The Diversity of Pediatric Residency Programs across Europe: Quality Assurance of Training, Night Shifts, and Wages

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Debating the activities of the European Young Paediatricians Association[1] (EURYPA) and the issue of diversity of pediatric residency programs across Europe, we discussed the diversity in admission procedures, duration, and pediatric training curricula of residency courses in Europe.[2] We now discuss the issues of quality assurance of training, night shifts, and wages, which are of great importance for pediatric residents in Europe.

The Issue of Quality Assurance for Pediatric Postgraduate Education in Europe

Quality assurance (QA) and quality improvement (QI) methods[3] used to evaluate activities, review performances, and testing within normal educational requirements, are of key importance for the benefit of medical students and residents, doctors, and certainly for the health of people. However, a proper and dependable QA and QI for pediatric training, applicable to all European nations, seems to be currently a mirage, mainly owing to the profound diversity of healthcare systems and postgraduate pediatric training programs within and between EU and non-EU European countries.[4] Such diversity seems to be somehow irreconcilable, because the existing profound diversities of pediatric training among the 50 European countries[5] are traceable to a multiplicity of factors. They include the significant differences among the various pediatric healthcare systems, the organization of children's (nonhospital) first contact services, the variable importance given by some nations to community and primary care pediatrics, and the budget cuts to healthcare services, which are frequently used by governments to reduce national deficits.[6]

At least 4 types of mainstream healthcare systems coexist in Europe (Bismarck, Beveridge, Semashko, and free market).[7,8] A classification by the Organization for Economic Co-operation and Development showed that European countries variously adopt more than 25 different combinations of regulation, financing, and provision, based on whether healthcare is state based, societal based, private based, or a completely mix type, which may in part explain why different countries need different types of pediatric healthcare professionals.[9] Furthermore, 1 study emphasized that significant and consistent diversities exist also between pediatric training programs performed in each of the EU-27 countries.[4,10] The European Union of Medical Specialists (Union Européenne des Médecins Spécialistes), a private nongovernmental organization regulated by Belgian law, which represents the national associations of medical specialists defending their interests, has collaborated for many years with the European Union (EU) in developing European standards in postgraduate medical specialist training. However, its long-lasting task is still in progress, as a satisfactory and dependable QA and QI of postgraduate medical education is based on comparable educational goals among different healthcare systems.[11] In absence of these factors, to develop a credible QA and QI standardized analysis in higher education applicable to the European Nations seems to be currently unrealistic. The existing significant diversities among different healthcare systems, cultural views, and medical educational systems in Europe seem to represent a major obstacle to a proper and dependable QA and QI assessment.

Regulations of Night Shifts of Pediatric Residents in Europe

The majority of European states (47/50) belong to the Council of Europe (CE).[12] They maintain their sovereignty, but commit themselves through conventions and treaties. The CE is well-distinct from the 27-nation EU, although it is sometimes confused with it. Unlike the EU, the CE cannot make binding laws, although it does have the power to enforce select international agreements reached by European states on various topics and the member states adopt the CE directives, which are integrated in their national laws.[13]

In 2003, the CE issued a general directive, which regulates working hours, maximum hours of duty, rest time during working hours, and maximum weekly working hours for all

CE	Council of Europe
EU	European Union
EURYPA	European Young Paediatricians Association
QA	Quality assurance
QI	Quality improvement

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professions. The directive instructs the member states that the average working time for healthcare professionals, including residents, should not exceed 48 hours in a 7-day period and a daily rest of 11 consecutive hours per 24-hour period, a rest period for every 6 hours must be adopted by state rules or through collective agreements.[13] However, a broad flexibility exists in how the member states comply with the CE directive. For instance, some of the countries give the residents the next day off to rest after their duty hours, whereas others do not. EURYPA studied the compliance to the CE directive on night shifts, in 6 European EU (Ireland, Romania, Italy, Hungary, Denmark, and Croatia) and 2 non-EU (Turkey and Russia) countries. Residents in these countries have comparable working hours per week; however, the calculation does not include nightshifts.[2] The number of night shifts usually depends on the hospital that residents works in. The average number of hours per week per night shift and the number of night shifts per month performed by residents in pediatrics in the 8 countries studied, and whether they benefit of resting time after the night shifts, are shown in **Figure 1** (available at www.jpeds.com). Among the hardest part of being a resident are the night shifts. The long and restless working hours in a job with high expectations from the patients generate a burden that can negatively impact the quality of work. On-call requirements, crowded emergency departments, busy neonatal intensive care units, the unstable inpatients, undetermined treatment protocols, and challenging physical conditions may well contribute to "burnout." There are country-specific efforts being made to balance residents' working time and night shifts, although they seem to be unsuccessful.

The Broad Difference of Residents' Wages between European Countries

In Europe, there are 3 main models of pediatric healthcare, which are based on whether primary care general physicians, primary care pediatricians, or combinations of both are primarily responsible for care.[11,15] This important factor significantly contributes to the differences among the pediatric healthcare systems currently adopted and in constant evolution in the various countries, and influence the type of competences required of pediatricians. A major effort is currently undertaken by the European pediatric societies, aimed at developing a corpus of recommendations which could be adopted by the various countries in order to coherently remodel and update their pediatric healthcare systems, while respecting local needs.[15] European healthcare systems are therefore evolving and need changes, and so are the capabilities physicians need to best practice medicine and serve their patients' needs. Pediatric medical education in Europe is facing a period of transformation, and medical schools are beginning to innovate to prepare new physicians for the emerging needs of patients and their care.[16] These efforts suggest the importance to provide residents with new competencies, including social and economic acumen, data analytic skills, and broadened interpersonal relationship skills, including enhanced communication and leadership skills.[10,17]

Because residents serve as a reliable and skilled labor source for the hospitals in which they train, their work should be acknowledged through adequate salaries. The EURYPA report showed a significant diversity of residents' wage among the 8 countries studied.[10] European countries have different economic conditions and residents earn different amounts of money in different hospitals, even in the same city. In several cases, differences also exist between junior and senior residents.[14] **Figure 2** (available at www.jpeds.com) shows the average monthly salary of pediatric residents throughout the residency program, in each country. In the 8 selected countries, the annual average earning of medical residents is $22 900, and in the US the average earning of a medical resident is $61 200 annually.[10,18,19]

The data show that the highest wages are provided in Ireland and Italy.[20] In Ireland, pediatric residents are paid an incremental basic salary starting at approximately 1750 Euro/month, which increases up to 3100 euro/month at the end of training. In Denmark, wages are 3000 Euro/month throughout 5 years of the program. However, the cost of living in Denmark is about one-half the cost of living compared with Ireland and Italy. In Romania, although life is as expensive and the residency is as long as in Denmark, the salary is 3 times less. In Turkey, residents earn 1300 Euro/month during the 4 years of the program, which is consistent with the cheapest cost of living compared with the other countries studied. In Croatia and Hungary, where the cost of living is higher than in Turkey, residents' wages are one-third less. Finally, in Russia, where the cost of living is high and the duration of pediatric residency is 2 years long, no wages are provided, because residents receive their compensation in the form of a 200 euro/month scholarship.

Conclusions

Political strategic decisions in the area of pediatric health care and education in Europe seem to be often driven by the pressure to "deliver more for less." The process of reorganizing the residency programs in Europe is likely to be uneasy and complicated by the broad diversity of legislations between countries. However, there is light at the end of the tunnel. Differences in pediatric residency programs across Europe could be transformed by thoughtful planning, involving mutual collaboration, rather than by externally imposed directives. However, quick solutions and approaches, often broadly diverse and based on political and economic motivations, rather than driven by educational and public health rational choices, would be unsustainable in the long term.[21,22] ■

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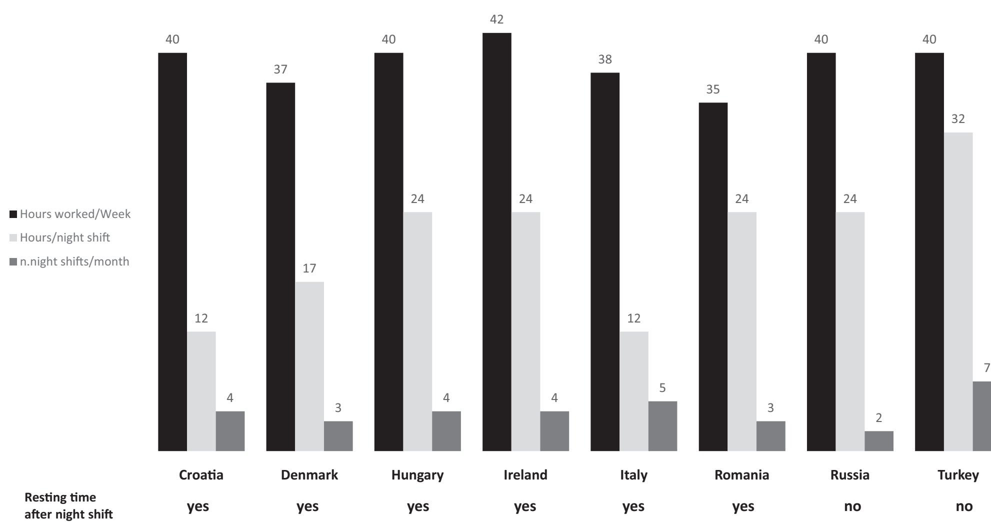
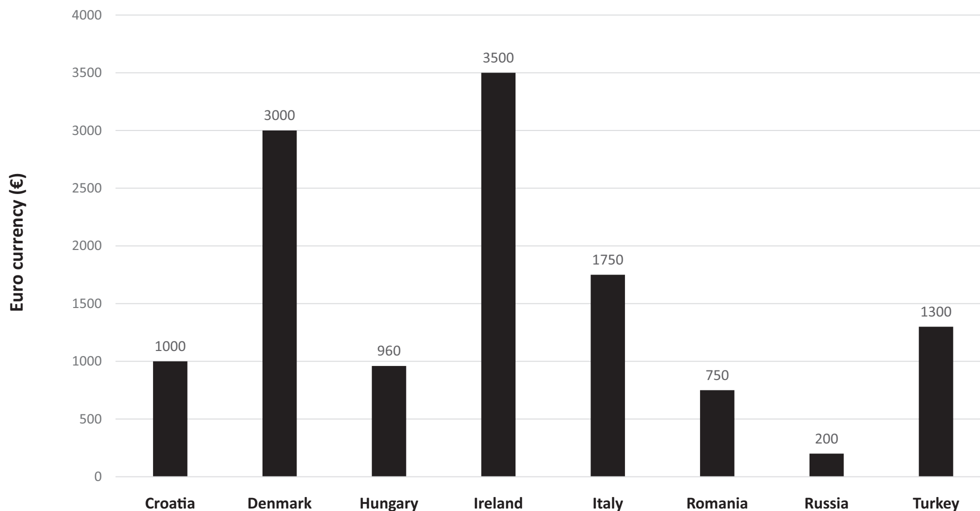


Figure 1. Number of hours worked/week, number of hours worked/night shift, resting time after night shifts and number of night shifts performed monthly by residents in pediatrics are shown for 8 selected European countries.



	Croatia	Denmark	Hungary	Ireland	Italy	Romania	Russia	Turkey
Cost of 1.0L water bottle	€0.60	€0.50	€0.25	€1.00	€1.00	€0.50	€0.70	€0.20
Duration of residency	5	5	5	7	5	5	2	4

Figure 2. Average monthly salary of pediatric residents in 8 European countries during their residency program. Duration of programs (in years) is shown for each country and the average cost of a 1 L of water bottle is reported as an arbitrary indicator of the local cost of living.