



## SPECIAL ARTICLE

## Education of physical and rehabilitation medicine specialists across Europe: a call for harmonization

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### ABSTRACT

**BACKGROUND:** Physical and rehabilitation medicine (PRM) is well established in Europe and officially recognized by the European Union of Medical Specialists (UEMS). The European PRM Board works to promote patient safety and quality of care through the development of the highest standards of medical training and healthcare across Europe as well as the harmonization of PRM specialists' qualifications. In its Action Plan for 2014-2018, the UEMS PRM Board has included the harmonization of the PRM curriculum among the EU countries, as one of its main goals. Based on a European Directive, the Belgian Superior Council is envisaging a reform of the PRM curriculum.

**AIM:** The aim of this paper is to present the current situation of PRM education in Europe according to the survey carried out by the Belgium Task Force.

**DESIGN:** An online survey was posted on May 3<sup>rd</sup> 2015 to all delegates of the UEMS PRM Section and Board. Two questions were formulated: 1) What is the duration and curriculum of PRM training in your country? 2) Does a Postgraduate Rehabilitation training exist for other medical specialties?

**RESULTS:** The majority of the PRM training programs in Europe have a duration ranging from 4 to 5 years, and are not aiming at downsizing the duration to the European minimal training period of 3 years. The vast majority (70%) of the responding countries don't offer an additional accreditation of Rehabilitation for other medical specialties

**CONCLUSIONS:** Comparing PRM training programs in Europe can support the long-awaited reform of the PRM postgraduate curriculum in Belgium and gives perspective to agree on a transparent and comparable specialty training throughout Europe. Providing a more comparable training promotes the establishment of PRM and its rehabilitation service provisions in the world.

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**Key words:** Physical and rehabilitation medicine - Education - Europe - Curriculum.

Rehabilitation can be regarded as a general health strategy with the aim of enabling persons with health conditions experiencing disability to achieve and maintain optimal functioning.<sup>1</sup> Physical and rehabilitation medicine (PRM) is a medical specialty with a team-based, patient-centered, goal-directed holistic approach

aimed at optimizing individual functioning and quality of life, preventing complications and increasing community participation. It deals with the consequences of a health condition, at the level of impairments (structure and function), activity limitations and participation restrictions, taking into account personal and environ-

mental factors, in line with the model known as International Classification of Functioning, Disability and Health (ICF), provided by the World Health Organization (WHO).<sup>2-5</sup>

PRM is an independent and emerging medical discipline currently at a crossroad due to increasing needs for its expertise.<sup>4, 6-9</sup> This is the consequence of a progressive increase in life expectancy not only in Western but also in Low and Middle Income Countries, where improved medical health knowledge and technologies have transformed life-threatening illnesses into disabling conditions with acute onset and chronic course.<sup>4</sup>

PRM is very well established in Europe, and as such, it is officially recognized by the European Union of Medical Specialists (UEMS).

According to UEMS rules, a common set of knowledge, skills and competencies for postgraduate training is advocated in order to create a Common Training Framework, enabling specialists in that discipline to move from one country to another. Within the UEMS PRM section, the European PRM Board works to promote patient safety and quality of care through the development of the highest standards of medical training and healthcare across Europe as well as the harmonization of PRM specialists' qualifications.<sup>2, 10, 11</sup>

### The origin of this research

In Belgium the PRM specialty curriculum consists of a 5-year training plan. However to have full access to rehabilitation activities an extra subspecialty training of one or even two years in Functional and Professional Rehabilitation of Persons with a Disability is required.<sup>12, 13</sup> Other medical specialties such as cardiology, pulmonology, orthopedics or neurology can also obtain an official Rehabilitation accreditation after a 2-year subspecialty program.<sup>13</sup>

Currently the Superior Council of Physicians of the Belgian Federal Public Service (FPS) of Health has assembled a task force to reform the rehabilitation subspecialty training program. The idea is to incorporate the specific "rehabilitation" accreditation in the current five years for PRM trainees while shortening the two-year program for other specialties to a one year subspecialty training on the condition that one year can be incorporated in the basic specialty.

The Superior Council required this reform after a new

law on the practice of Medical Health Professions that was registered May 10<sup>th</sup> 2015 concerning the importance of mutual recognition of professional qualifications in Belgium and between the European States of the European Union (EU). The law is inspired by the Directive 2005/36/EC of September 7<sup>th</sup> 2005 on the recognition of professional qualifications written by the European Parliament and the Council of the European Union. This directive aims at removing the barriers to free movement and facilitating the mutual recognition of professional qualifications between the European States of the European Union, based on the right of EU citizens to engage in economic activities in another Member State.<sup>14</sup>

However, this right is unfortunately not in practice in all European states yet, as was experienced by a Croatian colleague applying for a specialty registration in the United Kingdom. The automatic recognition of the specialty of Physical and Rehabilitation Medicine has not been included in the Annex V of the above-mentioned Directive in the UK (as well as in Ireland, Denmark and Malta), requiring an alternative route of equivalence. This is a lengthy, costly process whereby one must provide recent (last five years) documentary evidence demonstrating relevant skills, knowledge and experience equivalent to UK training standards. Besides the language barrier in documents that need official translating, not all systems in European states seem compatible with CME (Continuing Medical Education)/CPD (Continuing Professional Development) processes to the UK system, as required by their regulatory body, GMC (General Medical Council). Regarding this particular case, even the UEMS PRM Board Fellowship and Trainership diploma, doctoral degree and professorship in the specialty were of limited value, as a negative decision turned out.

The directive<sup>14</sup> mentioning the minimum training period for each medical specialty gave rise to a reform of the training programs throughout Europe. In 2013 the Health Authorities in the Netherlands performed the Quicksan, a first exploratory research of the duration, funding and structure of training programs of medical specialties in the EU.<sup>15</sup> The report depicted a trend towards a more comparable duration of medical training between the European States.

In order for the task force to reform PRM training in Belgium and harmonize it to the European standard,

an exploratory research was performed by means of an online survey, based on a simplified design of the Quicksan, and aimed at gathering information on duration and content of the PRM curriculum in the European States, and whether a postgraduate rehabilitation program for other specialties exists across other European countries.

The aim of this paper is to present the actual situation of education in PRM in Europe according to the survey proposed by the Belgium Task Force.

### Materials and methods

An online survey was posted on May 3<sup>rd</sup> 2015 to all delegates of the UEMS PRM Section and Board, that represents National Associations of PRM Specialists from 37 European countries, and is committed to promote and defend the interests of the PRM specialists.

Two questions were formulated:

- 1) What is the duration and curriculum of PRM training in your country?
- 2) Does a Postgraduate Rehabilitation training exist for other medical specialties?

### Results

Out of the 37 European countries contacted through the online survey 35 responded (response rate of 94.6%). The European countries were classified based on the duration of the training program (Figure 1).

Table 1 provides a detailed description of the survey outcome.

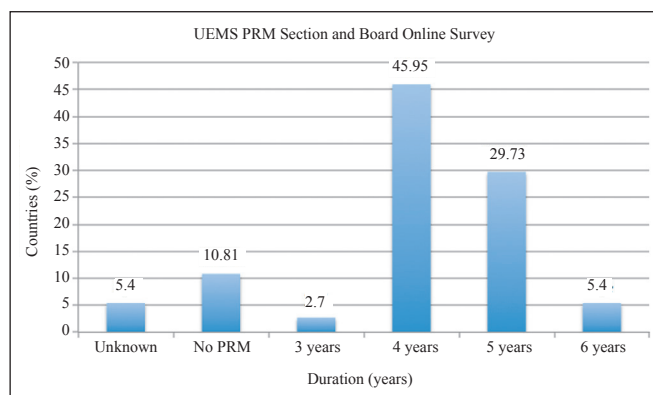


Figure 1.—Results of the online survey regarding the duration of the PRM training program.

Two European countries (Iceland and Georgia) did not respond; in 4 states the PRM training program is not available or existing. Only one state (Estonia) had a 3-year program, 17 states provided a 4-year program, 11 states had a 5-year program and 2 states noted a 6-year program.

Among the states offering a 4-year training program France is the only country including a mandatory training in neurology, rheumatology and pediatrics, beyond that in PRM departments. Six out of the 11 states with a 5-year program required the PRM trainees to attend other Specialty Departments. In Czech Republic, Germany and Hungary a 2-year rotation in other medical specialties such as internal medicine, neurology or orthopedics has to be implemented before three years of intensive PRM training. Slovenia approaches this training structure with 2 years and 3 months of intensive general medicine. In Norway only one year out of 5 has to be spent on an Internal Medicine ward. PRM trainees in Greece follow neurology, internal medicine and orthopedics during a 1.5 year rotation program.

Two states, Belgium and Austria, had a 6-year program. As stated earlier, Belgium has a 5-year training plan and an optional subspecialty training of one year in Functional and Professional Rehabilitation of Persons with a Disability. So it was decided to consider Belgium as a country providing a 6-year program. Interesting to note that PRM trainees in Austria have to rotate for 9 months on different General Medicine wards during their training program. In Denmark the medical specialty of Physical & Rehabilitation Medicine does not exist, whereas in Cyprus and Luxembourg the medical discipline is recognized but the education and training has to be performed abroad (for Cyprus the minimal training period is 4 years). During the review of the article there was an update of the PRM specialty in Russia and Ukraine, namely they recognized the PRM specialty but are still at the process of defining the specialty. As mentioned above Ukraine was not included in the online survey.

The official recognition and accreditation of rehabilitation for other medical professions does not exist in 26 out of the 37 European countries involved (70.27%). Information concerning extra accreditation is missing for Georgia, Iceland, Luxembourg and Russia (10.81%) (Figure 2).

The 7 countries that offer the subspecialty of Rehabilitation for other medical professions are Serbia, Bel-

TABLE I.—Detailed overview of the curricula.

Country	PRM specialization (years)	Rehabilitation for other specializations
Austria	5 yr 3 mo PRM + 9 mo general	No
Belgium	5 yr PRM + 1 yr specialized training rehabilitation	2 yr
Bosnia and Herzegovina	4 yr	No
Bulgaria	4 yr	No
Croatia	4 yr 6 mo + starting to implement accreditation areas (ITB, amputee, ...)	No
Cyprus	No training, have to study abroad for 5 yr	No
Czech Republic	2 yr general + 3 yr PRM	No
Denmark	Not recognized	No
Estonia	3 yr PRM (planned to become 4 yr)	For sports medicine: 3 yr for PRM + 1 yr for sports
Finland	5 yr	No
France	4 yr (min. 3 sem PRM + 1 sem neurology + 1 sem theumatology + 1 sem pediatrics)	Possible
Georgia	?	?
Germany	2 yr general + 3 yr PRM	No, postgraduate training physical therapy and balneology ≠ PRM
Greece	1.5 yr orthopedics/internal medicine/neurology + 3.5 yr PRM	No
Hungary	2 yr general + 3 yr PRM	2 yr
Iceland	?	?
Ireland	4 yr	No
Italy	4 yr	No
Latvia	4 yr	1 yr balneology (yet to be implemented)
Lithuania	4 yr	No
Luxembourg	No university, must study abroad	No
Macedonia	4 yr	No
Malta	4 yr	No
Netherlands	4 yr, will evolve to 3 yr 7 mo	No
Norway	1 yr general + 4 yr PRM	No
Poland	5 yr	3 yr for specific specialties, e.g. orthopedics, internal medicine, etc.
Portugal	5 yr	No, yet ROL and cardiac perform rehab
Romania	4 yr	No
Russia	Non-existing	No
Serbia	4 yr	1 yr for baneology/child rehabilitation/vascular/geriatrics/pain therapy; 2 yr for rheumatology
Slovakia	4 yr	No
Slovenia	2 yr 3 mo general + 2 yr 9 mo PRM	No
Spain	4 yr	No
Sweden	5 yr	No
Switzerland	5 yr	No
Turkey	4 yr + 2 yr for pain medicine or 3 yr for rheumatology	No
United Kingdom	4 yr	2 yr

yr: year; mo: month; sem: semester; general: different specializations such as internal medicine, surgery, etc.

gium, Hungary, the United Kingdom, Poland, France and Portugal (18.91%). This is shown graphically in Figure 2. In Serbia the training diverges between one to two years. Belgium, Hungary and the United Kingdom offer a 2-year program, whereas Poland provides a 3-year program but only to a defined set of specialties. In France the extra accreditation is possible but undefined. In Portugal the situation is unclear, the training program can be followed but is unofficial.

## Discussion

This first exploratory research shows that the majority of the PRM training programs in Europe have a duration ranging from 4 to 5 years, and are not aiming at downsizing the duration to the European minimal training period of 3 years (Table I).

It is noteworthy that 8 out of 37 countries emphasize the importance of a broad medical background as

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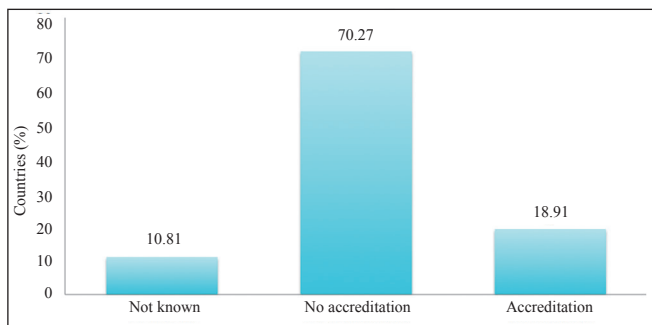


Figure 2.—Graph depicting the results of the online survey regarding the extra accreditation training of rehabilitation for other medical specialties.

the PRM specialty deals with functioning problems as a consequence of many different health conditions, related to most organ systems. The PRM trainees of these countries have to rotate in other medical specialties that are not necessarily directly associated with Physical and Rehabilitation Medicine. In Belgium however this is not compulsory, but at their own request the trainees are allowed to perform a 6 months rotation in a service not accredited for PRM after prior approval by the accreditation commission.

The vast majority (70%) of the responding countries do not offer an additional accreditation of rehabilitation for other medical specialties.

For a deeper understanding, the survey results were matched with data of the United States of America (USA)<sup>16</sup> and Canada.<sup>17</sup> In the USA, PRM training comprises a 4-year program starting with one year rotation on an internal medicine ward before an intensive 3-year PRM program. After these 4 years basic training they offer a limited choice of subspecialty training. This supplemental training can consist of brain injury medicine, hospice and palliative medicine, neuromuscular medicine, pain medicine, pediatric rehabilitation medicine, spinal cord injury medicine and sports medicine. Most of the subspecialty training programs take 1 to 2 years. Subspecialty training is supposed to offer a competitive advantage over basic PRM training. Without a fellowship or subspecialty the PRM physician cannot achieve the standard knowledge and competences required to become a “certified subspecialist”.

In Canada, a 5-year program is divided in 39 months of intensive PRM training, 12 months of general medicine training and an additional 9 months rotations on neurology, rheumatology and orthopedic surgery wards.

This first exploratory survey does have some important limitations. The total training duration was only defined in years, without recording the training hours: since time dedicated to clinical, research and educational activities during a standard week may significantly vary from one country to another, this missing information may affect the relevance and completeness of the survey findings.

Further on, the structures and contents of the training programs differ significantly between the European States of the UEMS PRM Section and Board. As previously stated, PRM is a specialty which is hard to encapsulate.<sup>2, 3, 7</sup> When comparing the focus and activities of the White Book<sup>2, 3, 18</sup> to American documents it is clear that PRM physicians have a similar patient population and perform the same basic activities: “*Physical medicine and rehabilitation (PM&R), also referred to as physiatry, is a medical specialty concerned with diagnosis, evaluation, and management of persons of all ages with physical and/or cognitive impairment and disability*”.<sup>19</sup> However, there remains an important barrier in the approach and disease management across the Atlantic Ocean.<sup>7, 20</sup> In contrast to other medical specialties, where there is a well-defined evidence-based clinical practice, the PRM specialty is susceptible to geographically bound cultural factors, alongside the beliefs and attitudes of multidisciplinary rehabilitation teams.<sup>20</sup>

Comparing the PRM training programs in Europe can represent the first step to realize a long-awaited reform of the PRM postgraduate curriculum and gives perspective to agree on a transparent and comparable specialty training throughout Europe. In its Action Plan for 2014-2018, the UEMS PRM Board has included the harmonization of the PRM curriculum among the EU countries, as one of its main goals. The postgraduate PRM curriculum will display the core competences (training outcomes) to be achieved by PRM trainees at the end of training, and detail the theoretical knowledge necessary for the practice of the medical specialty of PRM and the development of core competences and skills. It will also provide recommended standards of training duration, and of qualifications of trainers and training centers. The updated curriculum will become an integral part of the revised White Book of PRM in Europe.

Providing a more comparable training promotes the establishment of PRM and its rehabilitation service provisions in the world. Despite the attention for dis-

ability with approximately 15% of the global population affected in some way, there still remains a defying gap between the need for rehabilitation and the service provision led by PRM physicians.<sup>8, 10</sup> The global disability action plan provides a good initiative to address this important health matter.<sup>6</sup>

## References

1. Meyer T, Gutenbrunner C, Kiekens C, Skempes D, Melvin JL, Schedler K, *et al.* ISPRM discussion paper: Proposing a conceptual description of health-related rehabilitation services. *J Rehabil Med* 2014;46:1-6.
2. Gutenbrunner C, Ward AB, Chamberlain MA, editors. White Book on Physical and Rehabilitation Medicine In Europe. *Europa Medicophys* 2006;42:292-332.
3. Gutenbrunner C, Ward AB, Chamberlain MA. White Book on Physical and Rehabilitation Medicine in Europe. *J Rehabil Med* 2007;39(Suppl 45):1-48.
4. Gutenbrunner C, Meyer T, Melvin J, Stucki G. Towards a conceptual description of Physical and Rehabilitation Medicine. *J Rehabil Med* 2011;43:760-4.
5. World Health Organization. International Classification of Functioning, Disability and Health (ICF). Geneva: World Health Organization; 2001.
6. Gutenbrunner C, Negrini S, Kiekens C, Zampolini M, Nugraha B. The Global Disability Action Plan 2014-2021 of the World Health Organisation (WHO): a major step towards better health for all people with disabilities. Chance and challenge for Physical and Rehabilitation Medicine (PRM). *Eur J Phys Rehabil Med* 2015;51:1-4.
7. Haig AJ. Practice of physical medicine and rehabilitation on both sides of the Atlantic: Differences and the factors that drive them. *Eur J Phys Rehabil Med* 2008;44:111-5.
8. Gutenbrunner C, Nugraha B. Why the Collaboration With the World Health Organization (WHO) Is Important for Specialists in Physical and Rehabilitation Medicine. *PM&R J Inj Funct Rehabil* 2015;7:532-6.
9. Gutenbrunner C, Lemoine F, Yelnik A, Joseph PA, de Korvin G, Neumann V, *et al.* The field of competence of the specialist in physical and rehabilitation medicine (PRM). *Ann Phys Rehabil Med* 2011;54:298-318.
10. Haig AJ, Im J, Adewole D, Nelson V, Krabak B. The practice of physical and rehabilitation medicine in Sub-Saharan Africa and Antarctica: A white paper or a black mark? *J Rehabil Med* 2009;41:401-5.
11. United Nations. Convention on the Rights of Persons with Disabilities. Art. 1; 2001 [Internet]. Available from: [www.un.org/disabilities/convention/conventionfull.shtml](http://www.un.org/disabilities/convention/conventionfull.shtml) [cited 2016, Nov 14].
12. Federal Public Service of Health Food Chain Safety and Environment. Superior Health Council [Internet]. Available from: [www.health.belgium.be/en/superior-health-council](http://www.health.belgium.be/en/superior-health-council) [cited 2016, Nov 14].
13. Federal Public Service of Health Food Chain Safety and Environment. Ministerieel besluit tot vaststelling van de bijzondere criteria voor de erkenning van geneesheren-specialisten, stagemeeesters en stagediensten voor de specialiteit fysische geneeskunde en revalidatie. 2004022852(2004-10-20/33):77065.
14. The European Parliament and the Council of the European Union. Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications. *Off J Eur Union* 2005;255:22-142.
15. Duchateau DC, Van Der Rol M, Smit Jongbloed LJ, Jong EM De, Vos P. Eindrapportage Quicksan Opleidingsduur en Bekostiging Medisch Specialistische Vervolgopleidingen in de EU. 2013;(April).
16. American Board of Physical Medicine and Rehabilitation. What is the ABPMR? [Internet]. Available from: [www.abpmr.org/consumers/what\\_is\\_abpmr.html](http://www.abpmr.org/consumers/what_is_abpmr.html) [cited 2016, Nov 14].
17. Royal College of Physicians and Surgeons of Canada. Specialty Training Requirements in Physical Medicine & Rehabilitation 2012:3-5.
18. Delarque A, Franchignoni F, Giustini A, Lankhorst G. European Physical and Rehabilitation Medicine, three years after the White Book. *Eur J Phys Rehabil Med* 2010;46:1-4.
19. American Board of Physical Medicine and Rehabilitation. Definition of Physical Medicine and Rehabilitation [Internet]. Available from: [www.abpmr.org/consumers/pm\\_definition.html](http://www.abpmr.org/consumers/pm_definition.html) [cited 2016, Nov 14].
20. Negrini S, Frontera W. The Euro-American Rehabilitation Focus : a cultural bridge across the ocean. *Eur J Phys Rehabil Med* 2008;44:109-10.

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