

European postgraduate training in geriatric medicine: data of a systematic international survey

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Abstract

Introduction High-quality education and training standards in geriatric medicine are important to develop the profession of geriatric medicine. The objective of the study was to give a structured update on postgraduate specialty training in geriatric medicine throughout Europe to assess the need for further developments in postgraduate education.

Methods The study was performed as a cross-sectional structured quantitative online survey with qualitative comments. The survey content covered organization, content and educational aspects of specialty training in geriatric medicine in European countries. After piloting, the questionnaire was sent to experts in geriatric medicine with a special interest in postgraduate training who are members of one of the following organizations; European Union of Medical Specialists (UEMS), European Academy for the Medicine of Aging (EAMA), and European Union Geriatric Medicine Society (EUGMS).

Results Respondents to the survey represented 31 European countries. Geriatric medicine is recognized as an independent postgraduate specialty in 61.3 % (19/31) and as a subspecialty in 29.0 % (9/31) of the countries. In 5 of the 31 countries geriatric medicine is not recognized at all. Nearly all countries offering postgraduate training in geriatric medicine have written, competence-based curricula covering different learning domains. 20/31 countries (64.5 %) have some kind of specialist assessment.

Discussion The survey tries to give an actual condensed picture of postgraduate specialty training in geriatric medicine across Europe. Results show a consistent improvement in the recognition of geriatric medicine as independent specialty over the last decade. Continuous development of specialty training in geriatric medicine is required to medical address the public health needs of an aging population. Competence-based educational models including adequate forms of assessment should be targeted

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throughout Europe. To emphasize the importance of postgraduate geriatric training, it should be a mission to harmonize training standards across Europe.

Keywords Teaching · Postgraduate education · Curriculum

Introduction

A combination of longer life expectancy and declining birth rates has led to population aging throughout Europe [1]. Moreover, a predicted further increase in life expectancy implies further expansion of this demographic shift. In 2012, mean life expectancy at birth in the European Union was 77.5 years for men and 83.1 years for women [2] and is expected to increase even further. Aging is often associated with multi-morbidity.

However, healthcare services are designed for patients presenting with individual diseases and often do not cover the individual needs of the patients typically seen in the daily practice of geriatric medicine. As the prevalence of older patients with complex medical conditions is rapidly increasing “multi-morbidity management” has become an essential task for nearly all physicians [3]. As multimorbid patients do not fit into disease oriented management systems, care should be provided by generalists, such as geriatricians.

Geriatric medicine as a specialty was first approved in the United Kingdom in 1948. From that “cradle” it has spread out into many different European countries. Nowadays, more than numerous thousands of specialists in geriatric medicine within the European Union are represented by the Union of Medical Specialists (UEMS) and the European Union Geriatric Medicine Society (EUGMS). Beside the intention to foster best practice in healthcare for older adults, one mission of EUGMS is to provide high-quality standard education and training in the field of geriatric medicine.

Despite these transnational efforts the recognition of geriatric medicine as an independent specialty still varies among different European countries. Harmonizing educational and training standards within European postgraduate specialty training in geriatric medicine would seem essential to foster and advance the profession across the continent. To develop such standards, the current status of postgraduate specialty training in geriatric medicine had to be assessed throughout member states. Previously published European surveys on medical training [4, 5] have shown a big variation among standards in undergraduate and postgraduate educational and training curricula. Given the rapid evolution of geriatric medicine across Europe, a structured update of current postgraduate specialist training

was required. This could then form a basis for quality management of postgraduate specialty training in geriatric medicine and the establishment of Europe wide standards.

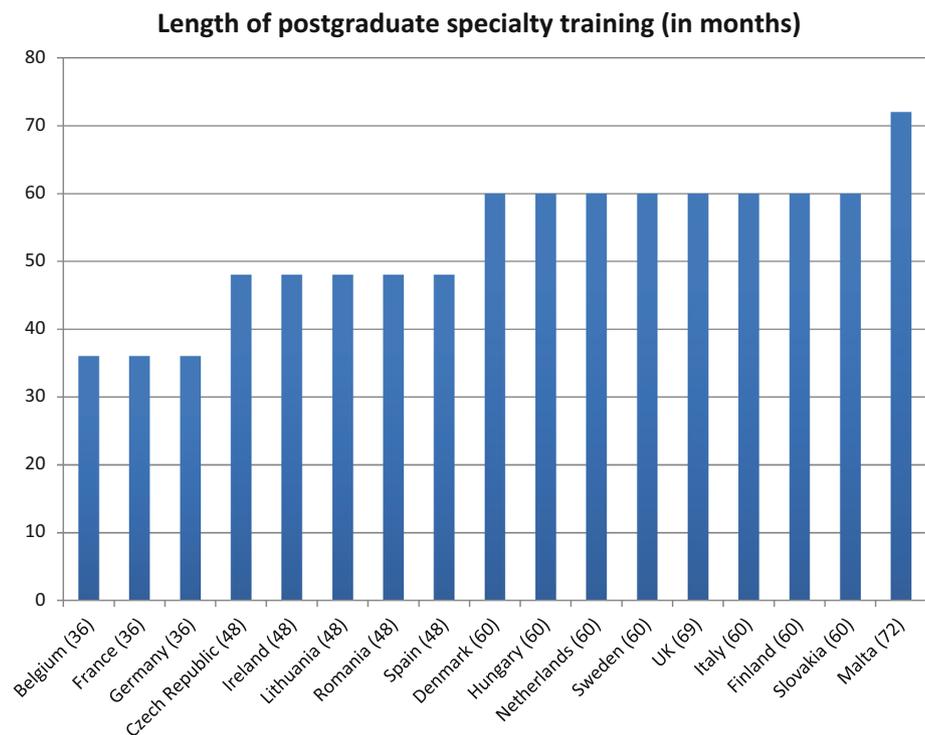
Methods

The study was performed as a cross-sectional structured quantitative survey leaving space for qualitative comments within every domain checked. The survey content covered organizational items as well as content and educational aspects of postgraduate specialty training in geriatric medicine across European countries. A structured questionnaire, based on a similar survey tool used by the group on pre-graduate education in geriatric medicine in 2011 [6], was established by two experts in the field of geriatric medicine and medical education. To prove feasibility in the questionnaire setting and time management, the survey was piloted in five international experts in geriatric medicine and any ambiguous questions were subsequently refined. Questions were grouped into the following educational domains: 1. mode and length of specialization, 2. availability of syllabus or curricula, 3. learning domains covered and 4. examination in specialist training and conditions of certification. Questions in the survey were all closed (mostly multiple choice) with the possibility to give a free comment after every domain. The validity of individual data collection was controlled by repeated hidden content within different questions.

Participants were identified as being experts in the field of geriatric medicine, members of one of the organizations European Union of Medical Specialists (UEMS), European Academy for the Medicine of Aging (EAMA) or European Union Geriatric Medicine Society (EUGMS), and having a strong special interest in postgraduate specialty training. Once identified, they were contacted by the survey coordinator and invited to participate in the survey personally and via E-mail. The survey was performed using the questionnaire software SurveyXact (<http://www.surveymxact.com/>) and sent by e-mail to 47 representatives of UEMS, EAMA and EUGMS. In case, the experts invited did not feel able to answer the questionnaire they were asked to suggest other national representatives. Participation was then confirmed by telephone or mail and, if they accepted, the survey questionnaire was forwarded. Reminders were sent out 1, 3 and 5 months after the first contact. Total data collection was closed after 7 months in October 2013. To reassure data quality, the survey was sent for double checks within nations.

Two independent experienced medical teachers double checked the records. Data were expressed in real numbers and grouped to percentages of total numbers to answer structural questions.

Fig. 1 Length of training in countries where geriatric medicine is an independent specialty (in months)



Results

Of the 48 delegates invited to participate in the survey, 34 (70.8 %) responded to the questionnaire (representing 31 European countries). A table naming the responding countries, full names and affiliation of respondents is attached at the end of the article.

Geriatric medicine as an independent specialty

In 61.3 % (19/31) of the countries, geriatric medicine is recognized as an independent postgraduate specialization. Those countries are: Belgium, Bulgaria, Czech Republic, Denmark, Finland, France (also with a possibility of sub-specialisation), Germany (3/16 states), Hungary, Ireland, Italy, Lithuania, Luxembourg, Malta, Netherlands, Rumania, Slovakia, Spain, Sweden and United Kingdom (UK).

Length of training in these countries varies between 24 and 72 months (Fig. 1).

In Bulgaria geriatrics is formally recognized as an independent specialty (length of training 24 months), but there are no training facilities. In Luxembourg, geriatrics is also recognized as an independent specialty. Training has to be taken abroad and therefore length of training depends on the country of postgraduate training. In France there is an upcoming modification by 2016. Geriatric medicine becomes an independent specialization starting directly after graduation with a length of training of 48 months.

In the UK, there is a subspecialty within geriatric medicine, so-called stroke medicine. Although stroke medicine is included as part of the curriculum for geriatric medicine it is possible to also complete a further year in sub-specialty training in stroke medicine. On completion of this, the trainee is then awarded a certificate of completion of training in both geriatric medicine and stroke medicine. It is also possible to do subspecialty training in stroke medicine from the other parent specialities of neurology, clinical pharmacology, rehabilitation medicine, general internal medicine and cardiology.

Geriatric medicine as a subspecialty

In 29.0 % (9/31) of the countries, geriatric medicine is a recognized subspecialty. Countries are as follows: Austria, France (also possibility of independent specialization), Germany (13/16 states), Iceland, Norway, Poland, Serbia, Switzerland and Turkey. The length of subspecialty training varies between 12 months (Serbia) and 36 months (Austria, France, Poland, Switzerland, Turkey).

The parent specialty from which geriatric medicine is a subspecialty varies between the different countries evaluated in the survey. The results are shown in Table 1.

In Iceland, geriatric medicine is recognized as a subspecialty, but training has to be taken abroad. There is a new regulation in progress that opens up for geriatric

Table 1 Countries with sub-specialty training in geriatric medicine (in alphabetical order)

Country	Parent specialty	Length of subspecialty training in geriatric medicine (months)
Austria	Internal medicine, neurology, family medicine, psychiatry and physical/rehabilitation medicine	36
France	Most medical specialties except surgery/occupational medicine	36
Germany	Internal medicine, neurology, family medicine, physical/rehabilitation medicine, psychiatry and others (depending on the state)	18
Iceland	Internal medicine	Depending on the country of postgraduate training
Poland	Internal medicine, neurology, and family medicine	24–36
Norway	Internal medicine	24
Serbia	Internal medicine and family medicine	12
Switzerland	Internal medicine	36
Turkey	Internal medicine	36

medicine to be a sub specialization to family medicine as well as an independent specialization.

Some of the respondents specified that geriatric medicine so far is not recognized at all as a sub-or independent specialization. The countries are Cyprus, Estonia, Greece, Portugal and Slovenia. However, in Portugal geriatric medicine recently has been recognized as a medical competency. Furthermore during training in Internal Medicine it is accepted as an option to have a training course in geriatrics. Also Estonia stated an opportunity to have specialty training in geriatric medicine during residential training in Internal Medicine, which takes 16 months.

Content of specialty training in geriatric medicine

In 20/31 (64.5 %) countries, postgraduate specialty training in geriatric medicine requires rotations into one or more other specialties. Table 2 gives an overview about the different rotations a trainee in geriatric medicine has to pass.

Curricula and syllabi

According to the information provided by the experts all countries with geriatric medicine as an independent specialty have a syllabus (a descriptive outline and summary of topics to be covered) and all, except Germany stated they have a curriculum (prescriptive process to become a geriatrician including the syllabus, etc.) for postgraduate training in geriatric medicine. All countries with geriatric medicine as a recognized subspecialty have a syllabus and all, but Austria and Germany stated to have a curriculum. In Iceland, the new regulation on postgraduate specialty training currently in progress provides an own curriculum. So far trainees follow the curricula of the country where their training takes place.

In 23/28 of the countries where geriatric medicine is either an independent specialty or a subspecialty, a national specialist geriatric medicine society assisted in developing the syllabus and/or the curriculum. In Belgium, Finland and Slovakia the geriatric societies (Belgische Vereniging voor Gerontologie en Geriatrie/Soci te Belge de G rontologie et de G riatrie, Societas Gerontologica Fennica and Slovensk  Gerontologick  a Geriatrick  Spolo nosť) assisted in preparing the syllabus, but not the curriculum.

In some countries (4/28), national specialist societies from other medical disciplines assisted in developing a syllabus and/or curriculum. In Austria, societies for the parent specialties assisted in making the syllabus. In the Czech Republic, the societies for internal medicine and for general medicine assisted. In Denmark, the development of the syllabus is assisted by the Danish society of internal medicine and in France different specialities assist on specific topics of the syllabus (e.g., orthopedics, neurology, etc.).

In three countries, universities are involved in the development of postgraduate geriatric training. In Finland, the national syllabus is prepared by five Finnish universities. In Lithuania, there are two resident programs made by two different universities. In Hungary, the National Ministry of Health is in charge of the structure of the training based in major part on the propositions of the National College of Geriatrics and the National Society of Gerontology and Geriatrics and assisted by the regional universities. In the UK, the Joint Royal Colleges of Physicians postgraduate Training Board (JRCPTB) developed the curriculum with detailed input from the British Geriatrics Society (BGS) and in France the curriculum is written by the National College of Academic professors of geriatrics and the French National Geriatric Society.

All curricula contain written, competence-based learning goals. France, Germany, Lithuania and Slovakia have

Table 2 Rotations in other specialties during sub-/specialization in geriatric medicine (length of rotations given in months, listed in alphabetical order)

Country	Neurology	Internal medicine	Psychiatry	Family medicine	Rehabilitation medicine	Other
Austria	3		3		3	3 month in any specialty that cares for older patients
Belgium		36 common trunk				
Czech Republic	1	1	1		1	
Denmark		24				Obligatory 20 days of research period
Finland	3	6	3	9		39 months, mainly geriatric units in primary/secondary care
France		min. 6 recommended				18 months, no requirements
Germany	6 fac	36	6 fac	6 fac		
Hungary	2	29 (of which 17 months common trunk)	2		3	6 months emergency, intensive care, 1 month theoretical courses, 2 months oncology, 1 month infectology, 2 months rheumatology
Ireland		12				
Lithuania	1	24	2			
Netherlands	Fac	24	12			Nursing home medicine fac
Poland	1		1		2 weeks	2 weeks long-term care
Romania	4	6	4		2	Bioethics (2 weeks)
Serbia	1	8	1	1	1	
Slovakia	2	24	2	1		Fac 2 months orthopedic surgery, head, nose and ear dept., emergency medicine, palliative care medicine, 2 weeks dermatology
Spain	3		3			9 months endocrinology, digestive medicine, pneumology, cardiology
Sweden	3	18	6			
Switzerland			12 (at least 6 months of geropsychiatry)			
Turkey	3		2			
UK	12 (stroke unit)	24	4			Palliative care, falls and syncope, orthogeriatrics, geriatric rehabilitation, continence, community geriatrics

more than one syllabus. Learning domains such as knowledge, skills and attitudes are covered by nearly all syllabi/curricula. An exception is the Bulgarian syllabus, which only includes knowledge goals. In Finland, Malta and Poland competence-based learning goals include knowledge goals and skills. No exact data could be evaluated for Lithuania and Sweden as experts of these countries did not specify in that field.

In 13/26 countries (50.0 %), a continuous feedback loop for evaluation of the curriculum is undertaken. This is the case in Belgium, Czech Republic, Finland, France, Italy, Lithuania, Malta, the Netherlands, Norway, Romania,

Serbia, Spain, the United Kingdom and single universities in Turkey.

Specialist examination

24/31 countries (77.4 %) have a specialist examination or assessment. This is either a final examination or a continuous process with competence assessments either at regular intervals or individually planned (Table 3).

8/31 (25.8 %) countries have a process of recertification for their specialist training in geriatric medicine. The number in brackets shows the interval in years: Belgium

Table 3 Assessments/examinations in postgraduate specialty training in geriatric medicine (countries listed in alphabetical order)

Country	Oral examination	MC-questions	Free text	Practical skills	Comments
Belgium					Examination planned for 2016 (rating: 50 % portfolio/MC, 50 % clinical examination), at the moment portfolio and thesis
Czech Republic	X		X	X	Essay on selected geriatric topics
Denmark	X			X	Assessment during training; case-based discussions, OSCE, audits
Estonia			X	X	
Finland			X		
France	X		X		Specific thesis presented to a jury
Germany	X				
Hungary	X			X	
Iceland					Depending on the country in which specialized training takes place
Ireland					Yearly external assessment of training, no formal assessment
Italy	X			X	
Lithuania	X		X	X	
Luxembourg					Depending on the country in which specialized training takes place
Malta					MRCP (UK)
Netherlands	X	X		X	Assessment during training, no final examination
Norway		X		X	3 MC-exams in addition to a geriatric exam included in the internal medicine specialization
Poland	X	X			2 separate parts (1. written, 2. oral nationally organized in two centers)
Romania	X		X	X	3 parts, build up on each other; 1. written (free text), 2. oral, 3. practical
Serbia	X	X	X	X	
Slovakia	X	X	X	X	
Spain					Annual evaluation by a local committee
Switzerland	X	X	X	X	A palliative care situation and a corresponding report is part of the oral/practical exam
Turkey	X		X		
UK		X		X	MRCP part1/2—paper based MCQ and MRCP PACES: OSCE (communications/ethic scenarios), Specialist Certificate in Geriatric Medicine: MCQ-questions Annual competency-based evaluation by a local committee

(3), Hungary (5), Lithuania (5), Netherlands (5), Romania (1), Serbia (7), Slovakia (3) and United Kingdom (5).

Discussion

The present survey has given a condensed picture of postgraduate specialty training in geriatric medicine in Europe.

The response rate of the survey (34/48 invited delegates; 70.8 %) was high. Therefore, the survey reflects the situation of the profession within Europe reliably. A major limitation is the fact that data from 14 European countries are missing, as it was not possible to identify a national participant for the current survey. These 14 countries include city states such as Andorra, Liechtenstein, Monaco, San Marino and Vatican City. The high rate of

participation is probably linked to the identification of participants who promote geriatric medicine on a national and international level as well as their intention to initiate a collaborative project between the EAMA, the EUGMS and the UEMS, with additional support by the International Association of Gerontology and Geriatrics, European Region (IAGG-ER).

Geriatric medicine is not recognized as a specialty all over Europe and the structure of postgraduate training differs substantially between European countries, even among different regions within countries. In more than 60 % of the countries, geriatric medicine is considered an independent specialty with a length of postgraduate specialty training between 3 and 6 years, depending on the system, e.g., common trunk of internal medicine. In nearly 30 % geriatric medicine is recognized as a sub-specialty, mainly associated with internal medicine. In France and

Germany, geriatric medicine is regarded as independent specialty as well as subspecialty. In five countries, inquired geriatric medicine is not a recognized specialty or subspecialty. Comparing data from of a survey conducted by Stähelin and colleges [8], in which geriatric medicine was recognized as a specialty in eight European countries, the implementation of specialty geriatric medicine training programs has increased across the European member states. By 2006, when Michel and colleges repeated the transnational survey on postgraduate training, the number had doubled (16 European countries with geriatric postgraduate training to a specialist status) [4]. In 2006, geriatric medicine was recognized as a sub-specialty in nine countries whereas in six countries geriatric medicine was still not recognized at all. The results here show a consistent rise in the implementation of geriatric medicine as an independent specialty across Europe. But it also has to be emphasized that length and profoundness of postgraduate training in countries with geriatric medicine being recognized as an independent specialization differ substantially.

Postgraduate specialty training in geriatric medicine should play an important role in the anticipated increasing demand for health care providers with special knowledge in the care of older people [7]. Compared to the expected increase in older adults throughout all European countries, the data are lacking a progressive alignment to these changes. Interestingly, European politics seems to be quite aware of the challenges of demographic shifts within the next decades. This fact is reflected in various action plans addressing aging and the fact that the European Union (EU) and other countries worldwide try to take responsibility within its public duties [9–11]. Still many of the EU countries seem to lack structural alignments to prepare for the “graying of Europe” [12, 13]. One of the reasons might be missing awareness about integrated educational structures within professions involved into care and treatment of the older European population [1, 11].

Continuous development of medical curricula to address public health needs is the cornerstone to cope with demographic changes. To standardize teaching, the implementation of learning and assessment curricula can be very helpful [14]. They should include written competence-based learning objectives as a basis for effective learning and assessment methods [15, 16]. “The intended output of a competency-based program is a health professional who can practice medicine at a defined level of proficiency, in accord with local conditions, to meet local needs” [17].

As stated by the participants in our survey, written curricula, describing the process of becoming a geriatrician and including assessment methods as well as competence-based learning objectives exist in 24 of the countries, but a descriptive outline and summary of topics to be covered in

geriatric training was present in all countries with geriatric medicine recognized as independent specialty or subspecialty. At this point, it should be noted that it was out of the scope of this survey to describe contents of training as big variations are to be expected. Efforts to highlight these differences are currently ongoing.

To keep in track with health needs, strengthen health systems and facilitate an individualized learning process competence-based educational models should be targeted throughout Europe [18].

To enable comprehensive teaching curricula should not only address the taxonomy of one learning domain, but also of all three domains. In our survey, with only few exceptions, all syllabi covered the three domains of educational activities; cognitive (knowledge), affective (attitudes) and psychomotor (skills) (KAS) [19]. This is important as learning not only distinct knowledge about the care of older patients is important. Special geriatric skills such as geriatric assessment, geriatric interdisciplinary team management, the management of complex geriatric cases and others are important to emphasize that geriatric medicine is a recognized speciality and that training cannot be obtained by just working with older adults in other disciplines where older patients are seen [20, 21]. Attitudes play an important role in medical education as well, not least in the health advocacy for evidence-based individualized care and treatment of the elderly [22–24].

There is a distinct variation between countries in how learning is assessed. Ca. 75 % of the countries have a specialist competence assessment and skills assessment makes up part of the specialist examination in only eleven countries. The use of competence-based assessment methods is important as “assessment drives learning” and therefore they have an important impact on education [25, 26]. To assess competences in the care of older, multi-morbid adults, an adequate competence level according to Miller’s pyramid has to be chosen [27]. An Objective Standardized Clinical Examination (OSCE) is a most appropriate method to assess complex problems in patients suffering from multi-morbidity, but, according to the actual survey, OSCEs are only used by one country in postgraduate training in geriatric medicine [6, 25, 28].

Another finding in the survey was the involvement of a geriatric society in curriculum development in nearly all countries, in which geriatric medicine is regarded as independent or sub-specialty. However, not only geriatric medicine societies assist in developing the syllabus and the curriculum, but also other medical societies. In most cases, it is the parent specialty universities and public authorities that have influence on the content and process of postgraduate training. The national societies play an important role in accompanying postgraduate training and evolving training content and standards on a national level.

Table 4 Acknowledgement: names and affiliations of respondents

Respondent	Country	Affiliations
Reiter Raphael	Austria	Universitätsklinik für Geriatrie, Landeskrankenanstalten/Paracelsus Medizinische Universität Salzburg
Mirko Petrovic	Belgium	Ghent University Hospital, Ghent
Nele Van Den Noortgate	Belgium	Department of Internal Medicine, Ghent University Hospital, Ghent
Toni Staykova	Bulgaria	Cambridge University Hospitals
Phil Phylaktou	Cyprus	The LCA Family Health Center, Larnaca
Pavel Weber	Czech Republic	Dept. Of Internal Medicine and Geriatrics, University Hospital Brno, Brno
Søren Kasch	Denmark	Odense universitet hospital, Odense
Susanne Stabel Gren	Denmark	Copenhagen University Hospital, Herlev
Kai Saks	Estonia	Dept. Of Internal Medicine, University of Tartu, Tartu
Karppinen Helena	Finland	General Practice and Primary Health Care, University of Helsinki, Helsinki
Nuotio Maria	Finland	Dept. Of Geriatrics, Seinäjoki Central Hospital
Eric Boulanger	France	Gerontology Clinic, Lille University Hospital School of Medicine Lille University
Sylvie Bonin-Guillaume	France	Service de Médecine Interne Gériatrie, Hôpital de Sainte Marguerite, Marseille
Michael Meisel	Germany	Dept. for Internal Medicine, Geriatrics, Diakonissenkrankenhaus, Dessau
Soulis George	Greece	KAPI of Nea Ionia, Hellenic Society for the Study and Research of Aging (EEMEG)
George Chr. Spatharakis	Greece	Public Primary Health Care Center of Itea, Itea, Phokida
Bela Szekacs	Hungary	Dept. of Geriatrics, Faculty of Medicine, Semmelweis University, Dept. of Geriatrics and Gerontopsychiatric Rehabilitation, St Imre University Teaching Hospital
Anna Björg Jónsdóttir	Iceland	Department of Geriatric Medicine, University Hospital of Iceland, Reykjavík
Eythor Jónsson	Iceland	Department of Geriatric Medicine, University Hospital of Iceland, Reykjavík
Ken Mulpeter	Ireland	General hospital Letterkenny, Co. Donegal
Mario Barbagallo	Italy	Geriatric Unit, Dept. of Internal Medicine, University of Palermo, Palermo
Jurate Macijauskienė	Lithuania	Department of Geriatrics, Lithuanian University of Health Sciences
Jean-Claude Leners	Luxembourg	LTCF Pontalize, LTCF ALA, hospice Omega
Anthony Fiorini	Malta	Karin Grech Rehabilitation Hospital, Pieta, St Vincent de Paul Residence, Luqa
Marianne van Iersel	The Netherlands	Department of Geriatrics, Radboud university medical center, Nijmegen
Anne Kristine Gulsvik	Norway	Department of internal medicine, Diakonhjemmet hospital AS, Oslo
Thomas Svendsen	Norway	Dept. of internal medicine, Diakonhjemmet Hospital, Oslo
Katarzyna Wieczorowska-Tobis	Poland	Department of Palliative Care University of Medical Sciences Poznan, Poznan
João Gorjão Clara	Portugal	Faculty of Medicine of Lisbon, Geriatrics University Unit, Lisbon
Sofia Duque	Portugal	Beatriz Angelo Hospital Faculty of Medicine of Lisbon, Geriatrics University Unit, Lisbon
Gabriel Ioan Prada	Romania	“Carol Davila” University of Medicine and Pharmacy, Bucharest, “Ana Aslan” National Institute of Gerontology and Geriatrics, Bucharest
Mladen Davidovic	Serbia	Serbian Association of geriatricians and gerontologists
Stefan Krajcik	Slovakia	Geriatric Dept., Podunajske Biskupice Hospital, Slovak Medical University, Bratislava
Marko Kolšek	Slovenia	Department of family medicine Medical faculty, University of Ljubljana, Ljubljana
Leocadio Rodríguez Manas	Spain	Hospital universitario de Getafe servicio madrilenno de salud, Getafe
Anne W. Ekdahl	Sweden	Department of Clinical Geriatrics, Karolinska Institute
Daniel Grob	Switzerland	Dep. for acute care geriatrics, town hospital Waid, Zuerich

Table 4 continued

Respondent	Country	Affiliations
Münzer Thomas	Switzerland	Geriatrische Klinik St. Gallen, St. Gallen
Asli Curgunlu	Turkey	Istanbul Bilim university, department of internal medicine, dept. of geriatrics, Istanbul
Adam Lee Gordon	United Kingdom	Medicine, Nottingham University Hospitals NHS Trust, Nottingham, Notts Division of Rehabilitation and Aging, University of Nottingham, Nottingham

The main results of the survey are as follows: (1). Recognition of geriatric medicine as independent specialty lacks progressive alignment to the demographic shift. (2). There is further need for the implementation of competence-based curricula and (3) European standards may help to harmonize postgraduate geriatric training and improve quality management.

In conclusion, this survey demonstrates the increasing adoption of geriatric medicine as a recognized specialty across Europe. It demonstrates significant heterogeneity in training programs and assessments across Europe. Therefore, it should be a mission to harmonize training standards across Europe and develop European education and training standards within the field of geriatric medicine. This issue has also been addressed by a joint effort of different geriatric societies across Europe creating a Special Interest Group on Education and Training in Geriatric Medicine (SIG) under the official umbrella of the European Union Geriatric Medicine Society (EUGMS). This SIG also involves the European Academy for the Medicine of Aging (EAMA), the International Association of Gerontology and Geriatrics (IAGG) and the European Union of Medical Specialists (UEMS)-Geriatric Medicine Section for the purpose of improving quality and standards of education and training in this field. Apart from this group UEMS-GMS is taking strong efforts in training and continuous medical education due to its core mission.

The present survey demonstrates further projects, such as a European curriculum for postgraduate geriatric medical education [29], are now warranted.

Limitation of the study

The survey was conducted among expert raters in the field of geriatric medicine from 2013 to 2014. Data presented in this paper reflect individual answers provided by the experts at that time. For example, a comparison of the content of different curricula was out of the scope of this study and will be the subject of another project. As curricular development is a dynamic process, authors cannot exclude changes from the time of data collection until publication.

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Compliance with ethical standards

Conflict of interest The corresponding author, Katrin Singler, confirms that for all co-authors there exists NO conflict of interest.

Ethical approval The study does not contain animals or human participants.

Informed consent For this type of study a formal consent was not required.

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