

Integration of Ageing into European Specialist Training: A Cross-sectional Review of 55 European Training Requirements

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Abstract

Background: Population ageing is a major demographic transformation affecting European healthcare systems. As life expectancy increases, the number of older adults with complex health needs continues to grow. Geriatric Medicine specialises in managing these needs, but most healthcare encounters involving older adults occur outside this specialty. Ensuring that all physicians possess appropriate ageing-related knowledge and competencies is essential for high-quality care.

Aim: This study presents the findings of a structured review of European Training Requirements (ETRs) published as of December 2025, mapping how ageing and the care of older adults are represented in relevant postgraduate training standards outside Geriatric Medicine.

Methods: Fifty-five ETRs were analysed using a pre-defined five-level framework (Levels 0–4) designed to assess the extent of integration of ageing-related content within each curriculum. Each ETR was systematically reviewed and assigned to the highest level of geriatrics-related content identified, based on the presence of background references, liaison with Geriatric Medicine, knowledge requirements, or defined competencies.

Results: 45 ETRs (82%) included ageing-related content, of which 6 (11%) contained background references only. Seven ETRs (13%) explicitly recommended liaison with Geriatric Medicine, six of which also included defined knowledge or competency requirements. Overall, 12 ETRs (22%) specified knowledge requirements, and 26 (47%) required geriatrics-related competencies. In addition, 22 ETRs (40%) used terminology not aligned with age-inclusive recommendations, such as “the elderly”.

Conclusion: These findings demonstrate substantial variability in the integration of ageing across specialties and support the need for more consistent incorporation of geriatric knowledge and competencies in European postgraduate training.

Keywords: Ageing; Geriatrics; Medical education; Postgraduate training; Curriculum; Europe.



Introduction

Europe is undergoing a profound demographic transition characterised by rapid ageing (1). Improvements in public health, medical care, and socioeconomic conditions have increased life expectancy, while declining fertility has reduced younger age groups (2). As a result, the proportion of people aged 65 years and older continues to rise across the European region (3).

Population ageing has significant implications for healthcare systems. Older adults frequently present with multiple interacting conditions that result in complex care needs. Multimorbidity, frailty, polypharmacy, and geriatric syndromes such as falls, delirium, dementia, and incontinence are increasingly common (4-7). These issues rarely fall within the boundaries of single-organ specialties.

Geriatric Medicine has developed clinical approaches specifically designed to address this complexity. Comprehensive Geriatric Assessment (CGA), multidisciplinary teamwork, and person-centred decision-making are core elements of geriatric practice and have been shown to improve outcomes in a variety of clinical settings (8). However, most healthcare encounters involving older adults occur outside dedicated geriatric services (9). Consequently, the preparedness of specialists across relevant disciplines to manage ageing-related complexity is a key determinant of healthcare quality for the older population (10).

In Europe, postgraduate medical training is shaped in part by the work of the Union Européenne des Médecins Spécialistes (UEMS). Through its specialist sections and bodies, UEMS develops European Training Requirements (ETRs), which define minimum standards for postgraduate specialist training across medical disciplines (11). These documents support consistent specialist training and professional mobility across Europe.

Despite its importance, the integration of ageing into specialist training frameworks remains unclear. Understanding how ageing-related knowledge and competencies are represented in these curricula is essential for evaluating the preparedness of Europe's future medical workforce (12). This work aligns with broader European initiatives advocating for the transversal integration of geriatric principles across healthcare education, including the PROGRAMMING COST Action 21122 (13).

To address this gap, the UEMS Geriatric Medicine Section (UEMS-GMS) conducted a structured mapping of ETRs across relevant specialties. This analysis provides a benchmark of current inclusion of ageing-related content and aims to inform the more consistent integration of knowledge and competencies essential for the care of older adults in future ETRs.

Methods

Study design and data sources

This mapping exercise used a structured cross-sectional review of ETRs. All adopted ETRs publicly available on the UEMS website as of December 2025 (11) were screened for inclusion. ETRs specific to the specialty of Geriatric Medicine and those from specialties not relevant to the care of older adults were excluded, as the aim was to examine how ageing-related content is addressed across relevant medical specialties outside Geriatric Medicine.

Data extraction and review process

The primary review was conducted by six academic collaborators with expertise in Geriatric Medicine from institutions in Ireland and Lithuania: Sara Solis-López, Paulina Vergara, Dafne Estefania Durón Reyes, and Virgilio Hernández Ruiz (Trinity College Dublin, Ireland); Agnė Butkiemė and Gerda Kalinauskaitė (Lithuanian University of Health Sciences, Lithuania). The review process was primarily overseen by two members of the UEMS-GMS, Román Romero-Ortuño and Jūratė Macijauskienė, with additional interpretative input from Michael Vassallo and Marianne van Iersel.

Each ETR was reviewed using a standardised data collection template specifically developed for this project. Reviewers examined each document to determine whether it contained content relevant to ageing or the care of older adults, including references to geriatric syndromes (e.g., falls, frailty, dementia, delirium, incontinence) (5, 7). Each document was initially assessed by one reviewer and subsequently cross-checked by a second reviewer. Discrepancies were resolved through discussion and consensus.

Classification of geriatrics-related content

To assess the integration of geriatrics into each curriculum, a five-level classification framework (Levels 0–4) was applied. Each ETR was assigned to the highest level of geriatrics-related content identified. For example, if an ETR included both liaison with Geriatric Medicine (Level 2) and specified knowledge requirements (Level 3), it was classified as Level 3.

- Level 0 – No ageing content: No mention of older adults, ageing, or geriatric syndromes. No stated learning objectives or competencies related to the care of older people.
- Level 1 – Background reference: General mention of ageing or demographic change without specific educational objectives or learning outcomes. No explicit recommendation for consultation with Geriatric Medicine.
- Level 2 – Liaison with Geriatric Medicine: General references to ageing without specific mention of frailty, multimorbidity, or CGA. Explicit recommendation for consultation or collaboration with Geriatric Medicine specialists, but without defined learning objectives or educational outcomes.
- Level 3 – Knowledge requirement: Inclusion of specified knowledge related to the care of older adults (e.g. frailty, multimorbidity, functional decline), without defined geriatrics-specific competencies. May or may not include recommendations for consultation or collaboration with Geriatric Medicine.
- Level 4 – Competency requirement: Explicit inclusion of defined competencies in the assessment and/or management of older adults, including reference to geriatric syndromes. Content demonstrates alignment with ageing-related competencies. May or may not include recommendations for consultation or collaboration with Geriatric Medicine.

The highest applicable level identified within each ETR was recorded. Importantly, Level 2 was assigned only when consultation with Geriatric Medicine was explicitly recommended but no geriatrics-specific knowledge or competencies were described. Because ETRs classified at Levels 3 or 4 did not necessarily include such references, the presence or absence of explicit liaison with Geriatric Medicine was also recorded separately.

Terminology assessment

The terminology used to describe older adults was also evaluated. Terms such as “older adults” were considered preferred terminology, whereas expressions such as “the elderly” were classified as less-



preferred terms according to contemporary age-inclusive standards in Geriatric Medicine (14-17). An ETR was classified as using less-preferred terminology if at least one such term appeared in the main body of the document (excluding bibliographic references).

Data analysis

All reviewer inputs were compiled into a central dataset, which was cleaned and synthesised. Descriptive statistics were generated to summarise: the proportion of ETRs containing ageing-related content; the distribution of ETRs across the five levels of integration; the prevalence of explicit recommendations for consultation with Geriatric Medicine; and the use of less-preferred terminology. Quantitative analyses were performed using IBM SPSS Statistics version 26. This study is a structured cross-sectional analysis of publicly available documents and is reported in line with relevant aspects of the STROBE guidelines (<https://www.strobe-statement.org/>).

Ethical considerations: This study analysed publicly available documents and did not involve patient data or personal identifiers. Ethical approval was therefore not required.

Results

The review exercise was conducted between November 2024 (initial download of ETRs) and March and December 2025, when additional ETRs not initially captured were incorporated into the dataset. Of the 68 ETRs published on the UEMS website as of early December 2025, the ETR for Geriatric Medicine was excluded, and 12 additional ETRs were excluded because they were not relevant to the care of older adults (Child and Adolescent Psychiatry, Neonatology, and paediatric specialties). Following these exclusions, a total of 55 ETRs were included in the analysis.

Overall, 45 ETRs (82%) contained some form of content related to ageing or the care of older adults. However, the level of integration varied substantially between specialties. 26 ETRs (47%) required demonstrable competencies related to the care of older adults (Level 4); 12 ETRs (22%) specified knowledge requirements relating to ageing (Level 3); 6 ETRs (11%) contained only background references to ageing or demographic change (Level 1); one ETR (2%) recommended consultation with Geriatric Medicine without defining specific educational outcomes (Level 2); and ten ETRs (18%) contained no explicit reference to ageing or the care of older adults.

Several specialties demonstrated relatively strong integration of ageing-related competencies, including anaesthesiology, emergency medicine, internal medicine, neurology, medical oncology, physical and rehabilitation medicine, and a number of surgical disciplines. These curricula frequently addressed clinical issues such as frailty, delirium, cognitive impairment, multimorbidity, and medication management. By contrast, some specialties included limited or no explicit reference to older adults despite their substantial involvement in caring for ageing populations, including cardiology and intensive care medicine.

Explicit references to collaboration with Geriatric Medicine were relatively uncommon. Although only one ETR met criteria for Level 2, a total of seven ETRs (13%) explicitly recommended consultation or liaison with Geriatric Medicine. Analysis of terminology revealed variation in language use across documents: 22 ETRs (40%) used less-preferred terminology such as “the elderly.”

Figure 1 shows the distribution of ETRs according to the highest level of geriatrics-related content using the five-level classification framework. Figure 2 summarises the proportions of ETRs including ageing-related content, explicit liaison with Geriatric Medicine, and the use of less-preferred

terminology. Table 1 presents all ETRs grouped according to the highest level of geriatrics integration, ranging from no inclusion (Level 0) to defined competencies in the care of older adults (Level 4).

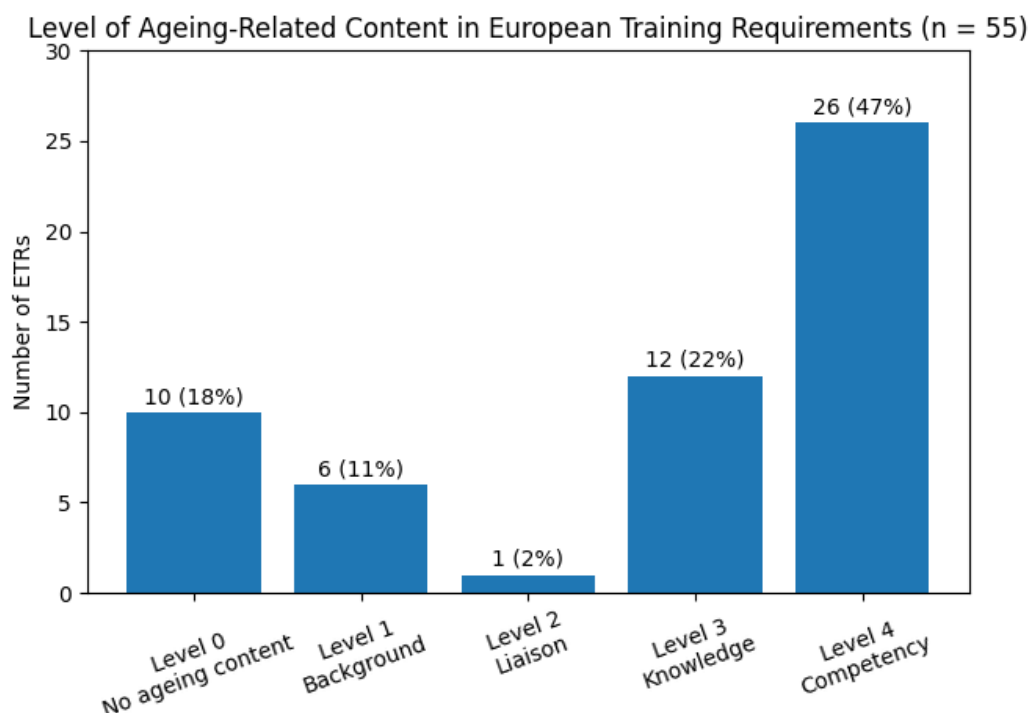


Figure 1. Distribution of 55 ETRs according to the highest level of geriatrics-related content using a five-level framework.

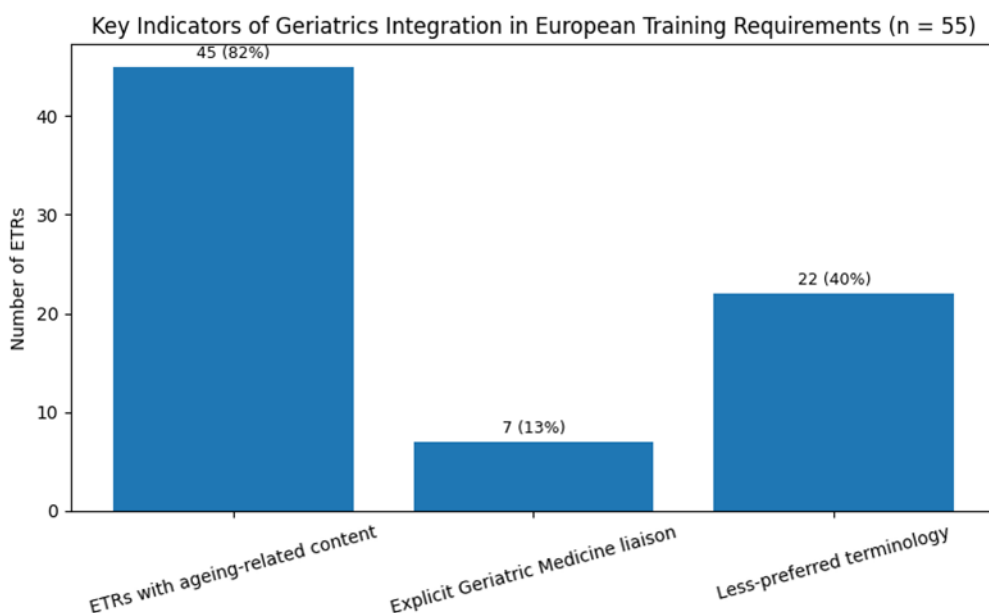


Figure 2. Proportion of ETRs include ageing-related content, explicit liaison with Geriatric Medicine, and use of less-preferred terminology.



Level 0 – No ageing content (n=10)	Level 1 – Background (n=6)	Level 2 – Liaison (n=1)	Level 3 – Knowledge (n=12)	Level 4 – Competency (n=26)
Cardiology	Angiology / vascular medicine	General surgery	Allergology	Anaesthesiology
Endocrine surgery	Interventional radiology		Breast surgery	Anaesthesiology in geriatric patients
Intensive care medicine	Neurosurgery		Endocrinology	Clinical genetics
Interventional neuroradiology	Orthopaedics & traumatology		Gynaecological oncology	Clinical neurophysiology
Laboratory medicine	Phlebology		Manual medicine	Dermatology & venereology
Medical microbiology	Trauma surgery		Occupational medicine	Emergency medicine
Neuroendocrine neoplasia medicine			Ophthalmology	Gastroenterology & hepatology
Nuclear medicine			Otorhinolaryngology	Infectious diseases
Pathology			Psychiatry	Internal medicine
Transplant surgery			Radiology	Medical genetics
			Rare adult solid cancers	Medical oncology
			Vascular surgery	Neurology
				Obstetrics & gynaecology
				Oro-maxillo-facial surgery
				Pain medicine for anaesthesiologists
				Physical & rehabilitation medicine
				Plastic, reconstructive & aesthetic surgery
				Public health
				Radiation oncology / radiotherapy



				Rare and neurological diseases
				Rare and undiagnosed diseases
				Rheumatology
				Sexual medicine
				Sports medicine
				Urology
				Wound healing

Table 1. European Training Requirements (ETRs) grouped by the highest level of geriatrics integration, ranging from no ageing content (Level 0) to defined competencies in the care of older adults (Level 4) (n = 55).

Discussion

This study provides a systematic overview of how ageing and the care of older adults are represented within ETRs outside the specialty of Geriatric Medicine. The finding that more than four-fifths of ETRs include some form of ageing-related content is encouraging and reflects growing recognition of demographic change across medical specialties. Many curricula acknowledge that older adults represent a substantial proportion of patients encountered in routine clinical practice.

However, the level of integration varies considerably between specialties, suggesting uneven preparedness to manage ageing-related complexity. While some ETRs include specific competencies addressing frailty, multimorbidity, cognitive impairment, and other geriatric syndromes, others contain only general references to ageing. This variation may reflect differences in training traditions, perceived relevance of geriatrics within specialties, and varying levels of engagement with ageing-related healthcare challenges. It may also arise from the specialty-led nature of ETR development, whereby curricula are produced by discipline-specific expert groups and therefore differ in the extent to which cross-cutting themes such as ageing are incorporated. In addition, the absence of Geriatric Medicine as an independent specialty in some countries (8) may influence its representation in other curricula.

The limited visibility of collaboration with Geriatric Medicine within many ETRs is also noteworthy. In clinical practice, the management of complex older patients often requires coordinated input from multiple specialties alongside geriatric expertise. Explicit recognition of such collaboration within training frameworks could strengthen interdisciplinary care models and improve patient outcomes. The 2025 Geriatric Medicine ETR highlights established and emerging liaison areas in which Geriatric Medicine works in partnership with other specialties (8), including orthogeriatrics, oncogeriatrics, psychogeriatrics, perioperative medicine for older people (POPS), geriatric emergency medicine, cardiogeriatrics, and neurogeriatrics. Greater recognition of these interfaces in ETR development could help ensure that ageing-related competencies and collaborative care pathways are more consistently reflected across specialties. The inclusion of a geriatric appendix within relevant ETRs may provide a practical mechanism to incorporate such cross-cutting competencies while preserving the structure of specialty-specific curricula.



Efforts to harmonise geriatric training across Europe are evolving. Initiatives such as the pilot European Geriatric Medicine Specialty Exam (EGeMSE: <https://www.egemse.org/>), developed through cooperation between the UEMS-GMS, the British Geriatrics Society, and the Federation of Royal Colleges of Physicians of the United Kingdom, with the support of the European Geriatric Medicine Society, aim to establish shared knowledge standards within and beyond the specialty (8). This knowledge-based initiative may contribute to the broader harmonisation of geriatric principles across disciplines, as it is open to physicians from any specialty, while maintaining the distinct competency-based identity of Geriatric Medicine (18).

Another important finding concerns terminology. Language shapes professional attitudes and clinical culture, and the continued use of less preferred terms such as “the elderly” highlights an opportunity to promote more age-inclusive language in training standards. However, given the multinational context in which ETRs are developed, such terminology may reflect linguistic conventions, including the use of English as a second language, rather than intentional use of ageist language. The UEMS-GMS is available to provide guidance on age-inclusive language in English during the development and revision of ETRs.

From a policy perspective, integrating geriatric principles across specialist training frameworks aligns with broader European and WHO priorities related to workforce sustainability, patient safety, and healthcare quality. As populations age, healthcare systems increasingly require clinicians capable of managing complex patients across traditional specialty boundaries. More consistent integration of ageing within postgraduate training is therefore essential to ensure that Europe’s medical workforce is prepared to meet the needs of an ageing population (19). This is consistent with the PROGRAMMING COST Action 21122 call to strengthen geriatric medicine education and promote interdisciplinary collaboration in the care of older adults (13).

This study has several limitations. First, the analysis focused on ETRs adopted by UEMS and did not include general practice or family medicine training programmes, which are represented separately at the European level by UEMO. Second, the study did not examine how ETRs are implemented within national curricula and therefore cannot assess how ageing-related knowledge and competencies are translated into practice. Third, the extent to which Geriatric Medicine is represented at the undergraduate level may influence its integration within postgraduate training, but this was not assessed in the present study. Finally, although paediatric specialties were excluded, a life-course perspective suggests that ageing-related concepts may also have relevance to paediatric practice (22).

Conclusion

Europe’s ageing population presents both challenges and opportunities for specialist medical training. This review demonstrates that, while many ETRs acknowledge ageing and the care of older adults, integration remains variable across specialties. Achieving more consistent incorporation of geriatric principles, together with greater emphasis on interdisciplinary collaboration, will be essential to ensure that European postgraduate medical education is aligned with the needs of an ageing population.

Author Contributions

Román Romero-Ortuño and Jūratė Macijauskienė conceptualised the study. Data extraction and analysis were performed by Sara Solis-López, Paulina Vergara, Dafne Estefania Durón Reyes, Virgilio Hernández Ruiz, Agnė Butkiemė, and Gerda Kalinauskaitė. All authors contributed to the interpretation of results. Román Romero-Ortuño drafted the manuscript, and all authors critically



revised the manuscript and approved the final version. The authors also acknowledge the valuable input and contributions of members of the UEMS-GMS, including Santiago Cotobal Rodeles, Ioana Dana Alexa, John Cordina, Rozemarijn L. Van Bruchem-Visser, Eva Topinková, Jesús Mateos del Nozal, Karolina Piotrowicz, Huub Maas, and Sofia Duque.

Conflict of Interest

The authors declare no conflicts of interest.

AI Use Disclosure

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