The development of a geriatric postgraduate education assessment instrument using a modified Delphi procedure

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Keywords:

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Keypoints:

- There is currently wide variation in higher medical training across Europe.
- An agreed core dataset was required to facilitate more detailed audit of current practice.
- An audit tool has now been derived from a combination of literature review and international consensus building.
- This tool, presented here, can be the basis of future work to understand differences and build a consensus curriculum.

Introduction

Global population ageing has been identified by the World Health Organisation as, “the next global health challenge” [1]. Traditional training for healthcare professionals has resulted in a skills deficit that will render health services unable to meet this challenge. Medical training, in particular, has historically focused on a reductionist medical diagnostic paradigm which is inadequate when faced with multi-morbidity and frailty [2]. Evidence-based care for older people with frailty, by contrast, requires a multi-domain, multi-disciplinary approach, feeding into iterative and case-managed care [3].

Recent consensus-building across 29 European countries, led by the Union of European Medical Societies (UEMS), established a recommended undergraduate curriculum in ageing and geriatric medicine [4]. Whilst this established the core concepts of ageing which all doctors must grasp, there is a need to agree higher-level medical competencies for doctors routinely required to provide more specialist care to patients with frailty.

We are some way from such consensus. The format of geriatric medicine varies substantially between European countries and some countries have not yet established postgraduate training in the discipline [5, 6]. A recent survey on postgraduate specialist training in Europe found 24 of the 31 countries had a recognised curriculum [7]. However, these differed considerably in terms of duration of training, specified core competences and mechanisms for assessment and certification [8]. Some countries reported structured and accredited programmes whilst others had informal mechanisms for training. In countries where training was less formal, it was possible that core competencies might be covered, but fail to be recognised as “in scope” and hence not reported.

To better facilitate a shared understanding of postgraduate training in Geriatric Medicine across Europe, we set out to develop an audit tool to enable mapping of training programmes.

Methods

Development of the initial version of the instrument

An initial version of the template was developed by two experts in geriatric medicine and medical education (KS, RRW) using the information gained from a literature review referring to postgraduate education in geriatric medicine since 2005 and consideration of six European postgraduate curricula identified during our previous survey work (from the Czech Republic, Ireland, Romania, the Netherlands, Switzerland and the UK).

The initial version of the template described four main domains and related objectives specified to enable comparison between different national curricula. The four domains were: general considerations (domain 1); knowledge in patient care (domain 2); roles that should

be considered in medical training (domain 3); and assessment in postgraduate education (domain 4). The initial version of the template was piloted in a small group of experts in geriatric medicine comprising participants and members of the European Academy for the Medicine of Aging (EAMA), who were consultant geriatricians from a number of member states with English both as a first and second language, to resolve comprehension problems. Wording was changed according to the feedback.

Expert panel and modified Delphi process

In order to further refine the template, an international expert panel was invited to participate in a modified Delphi process [9, 10]. Of the 15 experts invited by mail, 14 agreed to participate. Thirteen were consultants in geriatric medicine and one in palliative care medicine. All had an additional degree or special interest in medical education, indicated for example through membership of the Special Interest Group of the European Union Geriatric Medicine Society, or did research in postgraduate medical education. Names and affiliations of the panel are described in table 1. An initial version of the template was sent as an internet-based questionnaire to the panel in March 2014. This included 12 elements in domain 1, 22 in domain 2, 7 in domain 3 and 5 in domain 4. Panel members were asked to select items they felt to be important when comparing curricula for postgraduate training in geriatric medicine. For all domains there was the possibility to suggest changes or missing content. Responses were counted and feedback of the panel evaluated. Items with less than 50% and more than 75% acceptance were excluded from or included in the template respectively. Items with an acceptance rate between 50% and 75% were re-evaluated in a second round. Comments and suggestions from the panel were evaluated, condensed and integrated in the domains of the second version of the template and sent out again for voting. In the second round the panel was asked to decide on 20 elements in all four domains. Elements accepted by ≥75% were included in the template at this round, with all other items excluded.

Results

Of the 14 experts who agreed to take part, 13 participated in both decision rounds, representing 12 European countries. During the first decision round, 40/45 elements were accepted by ≥75% of the panel members. The remaining five items had 50-74% acceptance and therefore entered the second decision round. After evaluation of the expert comments, another 13 elements were identified as missing from the first draft and included in the second round. Expert comments mainly focused upon the degree of specificity of existing elements and adding additional aspects to domain 2. Exact numbers of accepted elements in the first and second decision round as well as the number of added items following panel review are

summarised in table 2. The final draft of the template after the second round is shown in table 3.

Discussion

This paper describes part of a continued programme of research and consensus building about what represents core teaching in geriatric medicine and ageing across Europe. Its main output is an audit tool for higher-level specialist training in geriatric medicine (table 3). We present this to describe the ongoing research journey but also to provide colleagues across Europe with a tool to enable audit and reflection upon current educational practice. The next research step will be to use this as a common template to gather more detailed descriptors of postgraduate programmes across Europe. Core requirements of learning outcomes are that they should be achievable and realistic [11]. We believe that a detailed understanding of the variation in current practice is necessary to arrive at a realistic starting point ahead of a final consensus process on a curriculum. These next steps, by virtue of their complexity, may take some time and this is our rationale for presenting this intermediate phase in a paper.

The first domain of the audit tool considers components recognized as important constituents of a formal curriculum [12].The second looks for curricular objectives regarding geriatric knowledge, attitudes and skills. They illustrate the broad remit of geriatric medicine including prevention, diagnosis, treatment and social aspects of illness in older people [13]. The third domain focuses on additional skills and attitudes that reflect the complex roles geriatricians have to fulfill [14,15]. These include the ability to train other healthcare professionals to be involved in the care of older patients and to act as health advocates for this patient group [16]. The fourth domain describes assessment, which has been recognized to play an important role in curricular development. Beside its role to “drive” the learning process it serves as a method to review the learning goals [17].

The main strength of this paper is that it describes a multinational consensus process, conducted in an objective and systematic fashion using a modification of the accepted Delphi methodology. The proposals put to the consensus group were derived in a robust fashion through previous survey work and review of indexed and grey literature. A high level of consensus was achieved suggesting that the audit tool has content validity. The main weakness is that only 14 European experts from 12 countries were consulted. We were therefore unable to canvas the broader range of opinions seen in recent UEMS undergraduate work. However, this audit tool was designed to compare current practice with those countries where higher medical training is most formalized and clearly specified. We wanted to be able to audit practice against what ought to be taught, rather than what can be taught within individual legislations. Indeed, as already described, establishing what can be

taught by comparison with the gold standard is a core objective of our next phase of research. Thus we canvassed opinions from experts in those countries where our previous survey had shown higher specialty training to be well-established.

We encourage colleagues, now, to use this tool to describe their current practice. The data generated through such work can be used to support innovation and change or, where practice is particularly good, to highlight exemplary training in the specialty.

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Table1

surname	name	country	affiliation
Cherubini	Antonio	Italy	Gerontology and Geriatrics, University of Perugia, Perugia
Cruz-Jentoft	Alfonso	Spain	Servicio de Geriatría Hospital Universitario Ramón y Cajal Madrid, Madrid
Ekdahl	Anne	Sweden	Vrinnevi Hospital, Department of Geriatric Medicine, and Linköping University, Department of Social and Welfare Studies, Faculty of Health Sciences, Norköping
Franco	Alain	France	University Hospital of Grenoble, Grenoble
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Knight	Paul	UK	Medicine for the Elderly Royal Infirmary Glasgow, Glasgow
Lüttje	Dieter	Germany	Medizinische Klinik IV -Geriatrie und Palliativmedizin- Klinikum Osnabrück GmbH, Osnabrück
Münzer	Thomas	Swizerland	Geriatrische Klinik St. Gallen, St. Gallen
Mulpeter	Ken	Ireland	General Hospital Letterkenny, Letterkenny
Pulford	Claire	UK	John Radcliffe Hospital, Oxford University Hospitals, Oxford
Schiessl	Christine	Germany	Algesiologikum GmbH, München
Strandberg	Timo	Finland	Institute of clinical medicine, department of medicine, University of Helsinki, Helsinki
Topinkova	Eva	Czek Republic	Department of Gerontology & Geriatrics Faculty of Medicine, Charles University in Prague Institute of Postgraduate Medical Education, Prague
van der Cammen	Tisha	The Netherlands	Faculty of Industrial Design Engineering, TU Delft, Delft

Table 2

Elements of the template	Number of items first round	Accepted items first round	Number of items second round	Accepted items second round
Domain 1: General Considerations	N=12	N=9	N=3	N=3
Domain 2: Knowledge in patient care	N=22	N=20, 9 items added in the second round	N=11	N=11
Domain 3: Additional skills and attitudes required for geriatricians	N=7	N=7, 3 items added in the second round	N=3	N=2
Domain 4: Assessment of postgraduate education	N=5	N=5, 3 items added in the second round	N=3	N=2

Table 3

Domain 1: General considerations	
1	Year of publication or latest update of syllabus/curriculum cited
2	Cross-references for content cited
3	Editors of the syllabus/curriculum cited
4	Institutions/societies responsible for content cited
5	Aim of syllabus/curriculum outlined
6	Institution/society/ministry responsible for quality control cited
7	Role and responsibilities of program director/educator within the training institutions described
8	Accreditation process for training institutions described
9	Minimum structural requirements for institutions involved in training of young geriatricians described (space, acute care hospital, long-term care facility, long term non-institutional care services, ambulatory care facilities, other support services)
10	Disciplines and other health care professions involved in post graduate training described
11	Resources required described (equipment, medical records, patient population, medical information access)
12	Tutor : Trainee ratio described
Domain 2: Knowledge in patient care	
1	The current scientific knowledge of ageing
2	The current scientific knowledge of longevity
3	Cultural, ethnic, gender and demographic aspects of ageing
4	Age related diseases (eg heart failure in the elderly, syncope etc), their clinical presentations and their effect on functionality
5	Geriatric syndromes (e.g. falls, movement disorders, malnutrition, dementia, delirium etc.) their clinical presentations and their effect on functionality
6	Impact of age- related diseases on organ function in the context of multi-morbidity
7	Ageism
8	Personalized medical approach on an individual level
9	Tailored medical approach for identified geriatric populations on a public—health level
10	Psychosocial aspects of ageing
11	Aspects of preventive medicine
12	Pharmacologic problems associated with ageing
13	Iatrogenic disorders and their prevention
14	General principles of geriatric rehabilitation
15	The pivotal role of the family in caring for the elderly
16	Community resources ((formal support systems) required to support both the patient and the family
17	Issues arising in the context of home care
18	Management of patients in long-term care
19	Issues arising in the context of palliative/hospice care
20	Economic and financial aspects related to ageing
21	Ethical aspects in the management of older people
22	Role of the interdisciplinary team
23	All content on geriatric assessment
24	Frailty and its role in the management of older people
25	Interdisciplinary approach in the management of geriatric patients (eg. orthogeriatrics)
26	Age-related changes in organs, tissue, cells and their impact on organ diseases

27	Interrelation between Nutrition and Aging
28	Emergency care of older people
29	Demographic changes and their impact on health care systems
30	Aspects of gerontechnology
Domain 3: Additional skills and attitudes required for geriatricians	
1	Basic and clinical research for academic settings
2	Educational skills
3	Interpersonal and communication skills
4	Development of geriatric services/administrative duties
5	Quality control
6	Interdisciplinary team management
7	Advocacy of patients' requirements and wishes
8	Leadership competencies
9	Management skills
Domain 4: Assessment of postgraduate education	
1	Schedule of assessments described
2	Competence-based assessment described
3	Type of assessment (formative or summative) described
4	Faculty evaluation described
5	Programme evaluation described
6	Kind of graduation (subspecialty, specialty) described
7	Quality assessement described