



European Education Requirements for the Undergraduate General Practice/Family Medicine Curriculum

Endorsed by the European Academy of Teachers in General Practice/Family Medicine (EURACT) and The European Regional Branch of The World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians (WONCA Europe)

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Foreword

As mentioned in the WONCA Europe statement released in September 2017 (WONCA Europe 2017), there are no common minimum standards for the undergraduate General Practice/Family Medicine (GP/FM) curriculum in Europe. However, standards for the GP/FM Specialty Training have been recently published (Michels et al. 2018).

The European Academy of Teachers in GP/FM (EURACT) and its Basic Medical Education (BME) Committee has been tackling this issue. Data and experiences from European countries have been gathered through the Delphi method to describe the fifteen most important items in GP/FM education, and published in 2011 on behalf of BME Committee (Tandeter et al. 2011). Later, a survey on GP/FM curricula in 14 European countries was carried out in 2017-2018 (unpublished). Ideas were further developed in two workshops for experienced teachers during the WONCA Europe Conference in Krakow (May 2018), the EURACT Medical Education Conference in Leuven (September 2018), and three EURACT BME Committee meetings (2018-2019).

We reached a strong consensus. This paper represents the outcomes of this work and suggests minimum standards that may be applied across Europe. This work on harmonising quality of medical education standards has become imperative following adoption of EU regulation 492/2011 mandating free movement of workers across the EU.

“Once and for all, each European member state and educational institution must fully recognise the discipline and specialty of family medicine with its own educational content, research, evidence base and clinical activity” (WONCA Europe, 2017).

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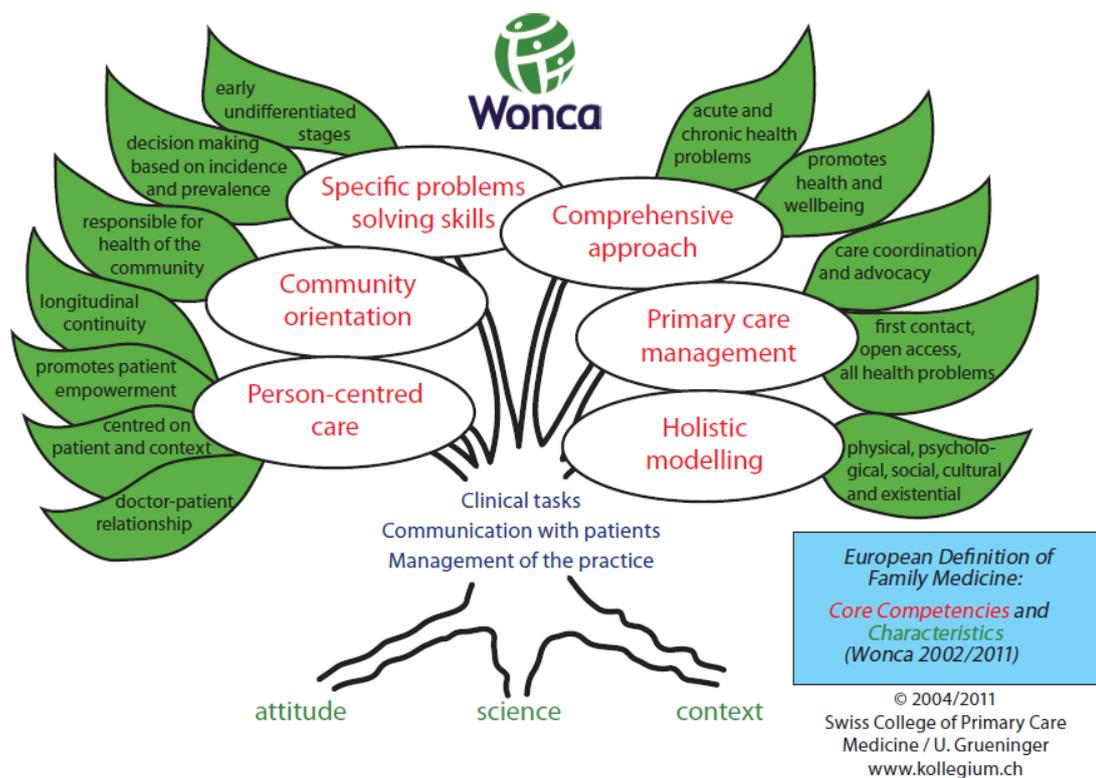
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1. Learning goals: what competencies in GP/FM do medical students need to learn?

Following the European definition of GP/FM issued by WONCA, GP/FM is an independent medical academic discipline, with its own educational content, research, evidence base and clinical activity, orientated towards community care (Allen et al. 2011, Tandeter et al. 2011). As a discipline the relevant disciplinary knowledge needs to be communicated to teachers and students.

The WONCA tree (WONCA Europe 2011) describes six core competencies for GP/FM divided into twelve characteristics, all of which should be the base for undergraduate education in GP/FM (Figure 1). We have used this framework as the basis for further work.

Figure 1. The WONCA tree



However, the allocated time and resources for GP/FM education in the undergraduate curriculum is often disproportionately small given the size of the GP/FM workforce (approximately 50% in many European countries), and the complexity of disciplinary knowledge. Students need both general experience of GP/FM, but also time to learn outcomes specified by individual medical schools together with more general discipline-specific knowledge to GP/FM. Much of this disciplinary knowledge, represented by the WONCA tree has now been articulated in curriculum and textbook formats (RCGP 2018, RCGP 2020).

A better understanding of health care in community contexts and of the disciplinary knowledge of GP/FM will enable all undergraduates to appreciate both the differences and similarities between GP/FM and hospital-oriented disciplines – thereby ensuring improved interdisciplinary working and patient care.

Key features of GP/FM undergraduate learning

Symptom-oriented care is a typical characteristic of GP/FM; in the context of primary care, patients often present only with symptoms and at an early stage of disease. Thus, teaching should be based on symptoms, not only on diseases.

In addition, clinical decision making can be taught excellently outside the university campus, on a one-to-one basis (under supervision) by GP/FM teachers at their practice with real patients in the real clinical context (Turkeshi et al. 2015, Blitz et al. 2019, Claramita et al. 2019). Students may need specific training regarding the differences in clinical method between community and hospital contexts. And finally students can comprehend the complexity within GP/FM as all competencies and characteristics of the WONCA tree will be demonstrated in practice.

Based on the WONCA tree, the suggested learning goals for GP/FM are presented in Table 1; the goals are modified in order to explain the competencies and to define the level of learning according to Bloom's taxonomy (1956). The lowest levels of learning (knowledge, comprehension and application) is the minimum prerequisite for undergraduate education in GP/FM. The more advanced levels of Bloom's taxonomy (analysis, synthesis and evaluation) can be reached during Specialist GP/FM Training (postgraduate).

Table 1: Learning goals in GP/FM Curriculum in undergraduate education, modified from WONCA Europe (2011), core curriculum by EURACT (Tandeter et al. 2011) and after Bloom’s taxonomy (1956).

<p>KNOWING that GP/FM is a specific medical discipline in itself</p>	<ul style="list-style-type: none"> • knowing the concept of health and wellbeing • listing and describing health determinants • knowing the local/national health system • knowing characteristics of healthcare: all ages and genders, preventive, acute and curative care. • knowing the most common symptoms in family practice • naming principles of EBM, discussing critically new technologies
<p>COMPREHENDING that continuity and coordination of care, comprehensive-ness and first contact are the basic principles of GP/FM</p>	<ul style="list-style-type: none"> • giving examples of the full range of health conditions, prevention and health promotion • distinguishing biological, psychological and social aspects of health and disease • interpreting health problems in the context of the patient’s circumstances, in particular the family as a resource, or a source of disease • understanding the importance of person-centred and community-centred care • dealing with uncertainty • identifying multimorbidity
<p>APPLYING skills appropriate to the GP consultation</p>	<ul style="list-style-type: none"> • treating healthy people and diseases at an early, undifferentiated stage • selectively producing information from history-taking, physical examination, and investigations • coaching and communicating with patients and relatives in a constructive and appreciative way • using basics of epidemiology and statistics (e.g. prevalence, Bayes’ theorem) for decision making • applying a biopsychosocial model taking into account cultural and existential dimensions • managing chronic care and dealing with other professional groups

GP = General Practice, FM = Family Medicine, EBM = Evidence-based medicine

Early clinical exposure is essential

The learning goals mentioned in Table 1 should be taught both in university and in the real-life and specific context and setting of GP/FM. This should start as early as possible and could be done during patient contacts, visits to GP practices or other community placements, depending on local possibilities and conditions (Basak et al. 2009).

Research has shown that students who are given the opportunity for early experience (in their first 2 study years) in clinical settings show increased motivation for their studies, have a better understanding of subject matter, and develop important clinical skills (Littlewood et al. 2005). Also, for GP/FM, it is well known that early and continuous clinical exposure is an incentive for future career choice in GP/FM (Pfarrwaller et al. 2015, Jordan et al. 2003, Miettola et al. 2005, Dornan et al. 2006, Barber et al. 2015).

Future doctors in GP/FM can thus gain knowledge about the context of the patient, co-morbidity, continuity of care and a holistic approach. Ideally, when possible, the concept of continuity of care profits from longitudinal placements, i.e. placements during several years of basic medical education (Henschen et al. 2015, Pfarrwaller et al. 2015).

2. How much time should be spent on GP/FM education in the undergraduate medical curriculum?

There is an association between the quantity of clinical GP/FM teaching at medical school and entry to GP/FM speciality training (Alberti et al. 2017). As outlined, present levels seem disproportionately low given the size of the GP/FM workforce and therefore, it is worth investing more in undergraduate GP/FM education. Funding of GP/FM education should have a clear costing rationale and the methodology for this has now been outlined (Harding 2015).

Based on the relationship between quantity of time and career choice (Alberti et al. 2017) and recently adopted guidance by some European Parliaments, we recommend that the optimal duration of the GP/FM curriculum in BME should be three months. However, bearing in mind the challenges that exist across Europe, the minimum duration should be four weeks. In the long run, at least four weeks of practice-based training in a GP/FM practice should be mandatory for all students in each medical faculty. This is the consensus that was reached during several workshops or meetings in EURACT and congresses (the 2nd EURACT Educational congress and WONCA Krakow in 2018) (Table 2).

The EURACT BME Committee's pilot survey in 2017-18 showed wide variation in the duration of undergraduate GP/FM curricula across countries, thus confirming the results of the previous survey in 2011 (Brekke et al. 2013). Additionally, the duration of the practical GP/FM placements varied from only two days in the first year to 3 months in the last year. In many universities students have GP/FM placements in all medical school years; e.g. in the UK that can account for as much as 40% of the clinical curriculum (EURACT 2018, unpublished, Alberti et al. 2020).

In table 2, we outline how some of the core curriculum content might be delivered across study years.

Table 2. The minimum standard for the timing and duration of GP/FM curricula in European medical schools by EURACT Basic Medical Education Committee 2020, and additional suggestions of the content of GP practice placements during these teaching periods.

When?	How long?	What? An example of the content
1st year	1 week	<ul style="list-style-type: none"> • Observation <i>The (beginner) student is asked to actively observe aspects of the doctor-patient encounter (e.g. focus: communication).</i> • Reflection: GP as a role model <i>The GP trainer is explicit in his/her clinical reasoning or focused clinical examination during the consultation.</i>
2nd/3rd year	1-3 weeks	<ul style="list-style-type: none"> • History taking <i>The GP trainer can delegate parts of the interview to the student (direct supervision).</i> • Clinical examination <i>The student can perform certain parts of the clinical examination (blood pressure, height and weight, heart and lung auscultation) under direct supervision.</i> • Hands-on patients <i>A task can be defined in advance with the student like helping a patient with a questionnaire to fill in.</i> <i>Technical skills: the student should perform some skills, learned at the skills lab: suturing, vena puncture, taping, taking care of wounds ...</i> • Interviewing chronically ill patients <i>Time can be set-aside for the student to meet a chronic patient (if possible: at home) who is prepared to discuss his/her story outside the consultation.</i> • Essence of teamwork <i>The GP trainer can explicit the role and importance of other members of the team (nurse, physiotherapist, psychologist, social worker ...) as different situations present themselves during the clinical placement.</i> • Reflection/coaching <i>With the GP as a coach or individually, the student reflects on his/her performance, thoughts or attitude if possible in writing.</i>
5th/6th year	2-3 weeks	<ul style="list-style-type: none"> • Real patients, only supervised by the GP trainer

3. Teaching methods: how should GP/FM be taught?

Teaching methods always depend on what must be taught: knowledge, skills or attitudes (Heyrman 2005). Therefore, mixed methods apply: lectures may be needed in some cases and are economical and suitable for very important and more theoretical (or cognitive) learning goals (Willoughby et al. 2016). However, to teach many of the core competencies of GP/FM active methods and blended learning are suggested. “Hands-on teaching” is relevant in ambulatory settings with real patients, going further than just watching the “experts” performing e.g. physical examinations.

Another method is the “flipped classroom” where, for example, a student makes a treatment plan for a patient with multimorbidity prior to the teaching session. During the seminar the plans are then discussed with the expert; problems encountered (such as the death of the patient’s alcoholic son, financial problems, loneliness and polypharmacy) facilitate the student’s understanding of the person-centred, holistic and community-oriented approach, decision-making based on disease incidence, shared decision-making, etc.

The above-mentioned early clinical exposure in GP/FM practices, preferably with a longitudinal aspect, is essential to learn to think like a GP/FM doctor. Supervision is a very effective teaching method to reach the learning goals in GP/FM. As stated by Guldal et al. (2012) and Nichol森 et al. (2016) the GP/FM practice is the only environment where the core competencies of GP/FM and the complexity of GP/FM can be learnt. Besides, it is shown that medical students do not need to be protected from complex case scenarios as long as teaching objectives are adapted to the level of the learner (Dreyfus 2004). On the contrary, a broad patient mix improves self-confidence and comfort level (de Jong et al. 2013, Golden et al. 2018, Herwig et al. 2018).

Integrated learning

GP/FM teachers are encouraged to collaborate with other specialties: a GP trainer can join the teaching sessions of other disciplines, starting in the beginning of the medical curriculum. This is a positive trend since students get acquainted with GP/FM alongside other disciplines. Besides

cultivating collaboration between all faculty members, such an approach will gradually improve attitudes towards GP/FM as a specialty with its own educational content, research, evidence base and clinical activity.

Interprofessional learning with other health care students should also be supported during undergraduate education (WONCA Europe 2011), and could be organised both in the university context and in the ambulatory setting (e.g. with sociologists, psychologists, nurses, social workers, physiotherapists, dieticians, etc.).

4. Assessment of learning goals: how should students be assessed?

Assessment should facilitate learning, so here also a mixed assessment method-approach should be used. The choice of the method depends on the learning goals, the type of assessment (formative or/and summative) that is aimed for, but also on the number of students, and resources.

Assessment should be of competencies rather than concepts, in line with the EURACT statement on assessment in GP/FM specialty training (EURACT 2015). Assessment should be planned, performed by trained assessors, and lead to meaningful formative feedback (van der Vleuten et al. 2010, EURACT 2015).

Methods can include written, oral and performance-based assessments (e.g. OSCE - objective structured clinical examination), the latter are well suited to the end of medical studies, especially for simulating whole consultations (Heyrman 2005). Also student self-reflection on performance and formative feedback should be part of the assessment program and be embedded in the curriculum. Suggested assessment methods have been already published for GP/FM Specialist Training, but could also be used to guide GP/FM assessment in BME (EURACT 2015).

5. Requirements for teachers of GP/FM

Teachers of undergraduate GP/FM should be specialists, or at least experienced trainees in GP/FM (EURACT 2014). It is acknowledged that teachers have an important role as role models (Paice et al. 2002, Jordan et al. 2003, Miettola et al. 2005). Ideally, they should have several years of practice and be up-to-date. A systematic review revealed that the most important attributes of a positive role model as an educator are being an excellent, inspiring and patient clinician, and devoted to the doctor-patient relationship (Jochemsen-van der Leeuw et al. 2013). A good educator is a coach, who asks more than gives answers, thus gaining mutual trust (Paice et al. 2002).

Teachers should complete a specific training course with didactic contents, e.g. the EURACT Leonardo Teachers' Courses (Allen et al. 2012). This applies both to clinical teachers in universities and to GP trainers in practices. Educational needs of teachers vary. The level and complexity of training need to be adapted for both novice and expert teachers. However, there is no significant difference in the content that is required among different GP/FM educators (Guldal et al. 2012). Teaching in the busy and time-constricted GP/FM setting is a challenging task for clinical supervisors. Therefore, staff development and support by universities and medical institutions is particularly important. This promotes reflective teaching practices and helps to build communities of practice which foster excellence and new knowledge in teaching and learning (Ramani and Leinster 2008, McLean et al. 2008, Alberti and Atkinson 2018).

Courses impart skills for academic education (preparing seminars, presentations and other teaching material) and for one-to-one teaching and coaching in practice settings. At the beginning of the teaching period, supervision by peer GP teachers is useful. It is advisable to also have teachers from other professions like psychologists, physiotherapists, etc., to widen the scope to the real world and to enhance interprofessional collaboration (Iroku-Malize et al. 2013).

6. Requirements for universities and medical institutions

Every medical faculty should have a department or unit of GP/FM with a family doctor as chair (EURACT 2014). Faculty units of GP/FM should have close contact with collaborators in primary health care. They can accredit practices that are willing to teach students in order to provide adequate standards for undergraduate education.

The faculty and unit of GP/FM should ensure that sufficient time and resources are allocated to teachers and practices. Teaching cannot just be an 'add-on', so all teachers should be entitled to cope with time constraints between their teaching and clinical tasks (Guldal et al. 2012).

The main responsibility for the learning goals, the structure of the curriculum and the training of teachers and qualification of GPs should rest with the faculty and the unit of GP/FM. However, in many European countries, faculties are obliged to cooperate with, or are controlled by governments or Ministries of Health and/or Education. In such cases, it is advisable that learning goals and curricula are standardised by the national scientific societies of GP/FM. In all cases, European standardisation is opportune; GP/FM BME education can be based on the European Definition of GP/FM (WONCA Europe 2011) and the WONCA Tree.

Key messages

Key messages (*European Education Requirements for the Undergraduate General Practice/Family Medicine Curriculum by EURACT 2020*)

- **Many essential learning goals for every medical student can be learnt efficiently in GP/FM**
- **Teaching should be based on symptoms, not only on diseases**
- **Students should be taught on a one-to-one basis by experienced GPs, alongside other forms of education**
- **Teaching should include the outpatient setting**
- **Early clinical exposure to GP/FM should be implemented if at all possible**
- **The optimal duration of the GP/FM curriculum should be three months, and at least four weeks**
- **Every medical faculty should have a department or unit of GP/FM with a family doctor as chair**

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