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EAP STATEMENT

Paediatric departments need to improve residents' training in adolescent medicine and health: a position paper of the European Academy of Paediatrics

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Abstract

In many European countries, paediatric junior staff has no formal training in adolescent medicine and is ill-equipped to deal with issues and health problems such as substance use, unprotected sex, eating disorders and transition to adult care. This position paper of the European Academy of Paediatrics proposes a set of competency-based training goals and objectives as well as pedagogic approaches that are expected to improve the capacity of paediatricians to meet the needs of this important segment of the paediatric population. The content has been developed from available publications and training programmes and mostly covers the generic aspects of adolescent healthcare, such as how to communicate effectively, how to review and address lifestyles, how to perform a respectful and relevant physical examination, how to address common problems of adolescents and how to support adolescents in coping with a chronic condition.

Conclusion: The European Academy of Paediatrics urges national bodies, paediatric associations and paediatric teaching departments to adopt these training objectives and put them into practice, so that paediatricians will be better prepared in the future to meet the challenge of delivering appropriate and effective healthcare to adolescents.

Keywords Adolescent health · Adolescent medicine · Training objectives · Teaching · Residents · Medical education · Curriculum

What does this paper add to what we know
Due to recent epidemiological shifts, European paediatricians will increasingly be faced with the many and specific health problems and diseases of adolescents. However, unlike the situation in North America, training in the field is hardly developed in most European institutions that educate paediatric residents. This position paper of the European Academy of Paediatrics proposes a set of competency-based training goals and objectives as well as pedagogic approaches, in an effort to improve the ability of paediatricians to meet the needs of this important segment of the paediatric population

Key message
All paediatric residents in Europe should receive core training in adolescent medicine and health, given their future every day activity.

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Introduction

The World Health Organisation defines "adolescents" as people aged 10 to 19; "youth" (also named "AYA" for "adolescents and young adults") as those aged 15 to 24; and "young people" as those aged 10 to 24 [20, 26]. In most European countries, the field of paediatrics covers individuals aged 0 to 18 years [3] and ideally also focuses on the transition from paediatric to adult healthcare [13]; in some countries such as the USA, paediatricians take care of individuals up to the age of 24. Over the last decades, there have been a number of major epidemiological shifts in the main health problems affecting adolescents worldwide. These include a reduction in the prevalence of most infectious diseases, an increase in mental health problems, intentional or unintentional violence and problems associated with substance misuse; along with the persistence of STI's, unplanned pregnancies and abortions [15, 16]. Also, as more and more adolescents now survive what were previously lethal chronic health conditions, issues

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relating to adherence to treatment, as well as short and long-term physical and/or psychosocial consequences need to be addressed [17]. In the European region, despite the fact that the health of adolescents seems to have improved during the last decades, European countries face worrisome trends in specific areas. For instance, the rate of obesity and the rate of suicide are increasing in some countries; moreover, according to the WHO Health Behaviour of School Aged Children survey (HBSC), the proportion of adolescents with recurrent health complaints is on the increase in nine out of the 34 European countries surveyed on this topic [12].

Devoting human resources and skills to the health of adolescents is worthwhile. In a recent paper published in the Lancet, Sheehan and colleagues demonstrate that investment in adolescent health and wellbeing is extremely cost effective [23]. Indeed, while regulation and community-based interventions can effectively reduce the health-compromising behaviour of adolescents [27], the primary care system (in particular the paediatric profession), has an important role to play at an individual level in identifying and effectively addressing the healthcare needs of adolescents. As family doctors in high and middle-income countries are increasingly involved in taking care of an ageing population, in the future, paediatricians will be more and more responsible for the healthcare of adolescents or even young adults. Also, as specialists in development, paediatricians are well placed to approach the adolescents' health concerns and problems in a holistic way. For these reasons, our colleagues in North America and Australia have created a new field of practice, adolescent medicine, which concerns the specific aspects of assessment, diagnosis and management of health issues as applied to adolescents. In these countries, training curricula in adolescent medicine and health have been offered to residents for many years, with more formal training programmes developed recently at the level of the country [19] [22]. With few exceptions [3], this has not yet arrived in Europe, and paediatric junior or even senior staff have no formal training in adolescent medicine and health [6, 10]. Since many paediatric ambulatory and stationary settings currently provide healthcare to adolescents, it is the responsibility of the European paediatric community to assist in improving the skills of all paediatricians.

Several documents have recently outlined how high-quality healthcare can be achieved for adolescents [1, 21, 25]. A recent publication of the World Health Organisation suggests several core elements of quality care pertaining specifically to adolescents, in which the healthcare providers' competencies play a pivotal role [14]. The focus is not only on acquisition of specific knowledge; it is also important to adopt an appropriate attitude and approach to individuals who are neither children nor adults and who make many physicians ill at ease, especially with regard to the physical examination or issues of confidentiality and privacy. When asked about their training needs in this area, paediatricians express a wish to acquire a variety of knowledge and skills. For instance, in a survey run some years ago among Swiss paediatricians in private practice [11], two thirds wanted to acquire more skills in managing functional disorders and half expressed a desire to receive training in areas such as mental health (including eating disorders), substance use, or how to cope with dysfunctional families. In a similar survey conducted among French paediatric residents, 81% considered that paediatricians should acquire skills in adolescent medicine and health; they reported major difficulties in providing care for teenagers reluctant to seek healthcare or in managing suicidal adolescents [9].

Training in adolescent medicine and health: a competency-based approach

Training in the area of adolescent medicine and health needs more than just the delivery of knowledge: it means acquiring specific competences and skills that allow the trainee to engage and develop a mutually respectful relationship with an adolescent. It also means helping to develop appropriate screening and counselling approaches in reviewing the adolescent's lifestyle, as well as learning how to deal with family conflicts or addressing situations posing ethical dilemmas. The concept of competency-based training [5] is therefore particularly relevant in the area of adolescent medicine and health. Residents should be trained to deal concretely with clinical situations via interactive participative training sessions, bedside teaching and observation, discussions of videos or testing their skills with simulated patients [7].

Aligned with the need for an integrative approach to the acquisition of qualified competencies is the concept of entrustable professional activities ("EPAs") developed over the last few years by Ten Cate and colleagues [24]. An EPA can be defined as a "unit of professional practice or task that an individual can be trusted to perform unsupervised in a given healthcare context, once sufficient ability has been demonstrated". It thus integrates several competencies, whether related to knowledge, attitudes or technical and clinical skills. For instance, in assessing an adolescent's lifestyles, one must possess good communication skills, know about sexual development and provide counselling abilities. Faced with a drunken unconscious adolescent in the hospital, one must be able to grade the coma, order the required lab tests, initiate resuscitation, call the parents and demonstrate a capacity to work with the multi-professional team. The model of EPAs has recently attracted the interest of internists [8] as well as paediatricians [2], and some European countries, such as the Netherlands and Switzerland, are considering the implementation of EPAs in their training curricula. Similarly, the Association of American Medical Colleges (AAMC) is currently developing

a teaching programme ("Education in Pediatrics Across the Continuum"/EPAC initiative) based on the concept of EPAs, and the American Board of Paediatrics has recently issued a series of EPAs pertaining to adolescent medicine [19]. Given the intricate aspects of many situations that adolescents present to their paediatricians, such an approach should be applied in the future training of paediatricians as well as other healthcare providers.

A set of EPA-based training objectives for residents in paediatrics

More and more training curricula are based on a list of goals and objectives (syllabus) describing what is expected from the learner, such as the curriculum recently developed by the European Academy of Paediatrics (EAP) [18] or another similar syllabus developed by the European Confederation of Primary Care Paediatricians [4]. However, neither of these two documents addresses the issue of the overall training of paediatric residents. In the EAP document, the chapter concerning adolescent health and medicine targets adolescent medicine specialists and does not concentrate on the training of residents. On the other hand, the ECPCP document displays objectives which belong to a sub-specialisation in community paediatrics, but does not meet the training needs of paediatricians working in hospitals.

With this in mind, the adolescent working group of the EAP has developed a set of broad goals and detailed objectives covering the generic prerequisites for quality-based adolescent healthcare, both in the hospital setting and in the ambulatory primary care environment. The authors hope that the document inspires the training of school and community doctors; it could also be adapted and implemented within undergraduate training curricula of medical schools, in order to sensitise medical students to some basic aspects of the practice of adolescent medicine and health.

Table 1 provides eight generic goals, each followed by a set of detailed objectives. The first four goals represent what one could call the *foundation* of adolescent medicine and health, while the last four goals focus on more specific clinical tasks. These goals and related objectives are based on a document recently issued by the World Health Organisation [14] and adapted from the "Euteach" modules (see European Teaching in Effective Adolescent Care and Health/www.euteach.com); Euteach is a teaching programme developed and updated over the last 20 years by a group of European experts in the field. Beyond the acquisition of knowledge, these goals and objectives focus on the identification of health needs and problems, how to investigate them, and in many instances how to manage and treat them.

How should this teaching document be used? The goals and most of the objectives can, to a large extent, be considered as EPAs and have been worded accordingly, e.g. as the outcomes of professional tasks, integrating knowledge, attitudes and skills. Each goal is accompanied by suggestions regarding how to assess the acquisition of the professional task. For each objective, Table 1 also proposes several interactive pedagogic approaches that should stimulate the active participation of the residents. These approaches can be implemented in lectures or small-group interactive training sessions, simulation exercises and everyday bedside activities and teaching.

The training needs of a paediatrician working in a small or large hospital are not the same as those of a paediatrician working in a group practice in a rural area, but both will have to deal with adolescent health problems and diseases, often within an inter professional team and linking with the schools and the community. It is anticipated that most objectives will be introduced within the 3-year core training of residents in paediatrics, with some being covered in more detail in the following training period. The content would then depend on the professional profiles chosen, e.g. working in an academic paediatric department, a regional hospital or in an outpatient setting. To some extent, Table 1 provides a set of objectives that can be regarded as a "menu", depending on the available resources and on the profile of adolescent health needs in a given region or country. Paediatric associations and training institutions could select a smaller list of priority objectives from the document, keeping in mind the importance of tackling at least part of all eight goals.

Not all objectives are specific to adolescent medicine and health, and many areas overlap with items that are included in the core paediatric syllabus, such as issues linked with puberty (endocrinology), chronic conditions and obesity. As mentioned above, medical schools could introduce part of the syllabus in their paediatric training curriculum, either as a "stand-alone topic" or embedded globally in the teaching of paediatrics [14]. Also, as few European paediatricians have so far been trained in adolescent medicine and health, and many admit to a limitation of their skills in this area [11], these objectives should also be used in the future to inspire the content of CME training sessions.

Discussion

With the demographic shifts in the age profile of European countries, the epidemiological shift towards non-communicable diseases, as well as the progress of medicine, general practitioners will have to deal increasingly with elderly people with multiple morbidities, while paediatricians are confronted with adolescents surviving chronic conditions or presenting with various bio-psychosocial problems. Indeed, adolescents with complex situations and conditions such as

Table 1 Eight training goals (left column) and assessment approaches (right column), each followed by a set of related objectives with example of training methods

1. **General Goal**	**Examples of Assessment**
Demonstrate how to integrate the adolescent bio-psychosocial developmental stages in their daily healthcare, tackling their vulnerabilities and resources	Multiple choice questions Questions based on a clinical vignette Short essay Comments on a video
Objectives Related to Goal 1	**Training Methods**
Understand the bio-psychosocial developmental stages occurring during adolescence	Discussion: ask participants to define adolescence, age limits; explore the learner's experience and representations of (own) adolescence
Demonstrate how to integrate the stages in adolescent daily care, focusing on both vulnerabilities and resources of the patient	Use of two videos, one with a young and one with an older adolescent. Discuss how the attitude, wording and content of the encounter changes over time (from ~ 12 to 19 years) Use of screening tools such as the HEEADSSS[a] or the SHADE[b] Using vignettes, check patients' stage of development using a developmental grid[c]
2. **General Goal**	**Examples of Assessment**
Identify stages of psychosocial development, with a focus on brain development and the issue of sexual orientation and gender identity	Multiple choice questions Questions based on a clinical vignette Short essay Comments on a video
Objectives Related to Goal 2	**Training Methods**
Identify and investigate patterns of growth development during adolescence, including BMI and body composition, bone growth, puberty and brain development	Interactive lecture on growth and puberty, with a focus on how to evaluate pubertal stages among girls and boys Exercise on the use of growth, weight and BMI charts
In daily care, take into account the process of identity formation and the role of gender issues in the adolescent's development and its impact on health; respectfully explore the young patient's sexual orientation and gender identity	Small group work: illustrate the meaning for participants of biological sex, gender identity, gender expression, and attraction to partners Review articles describing the formation of identity Invite a young person belonging to any LGBTQ group to testify about how it was to belong to this group Role play: interview around sexual orientation
In delivering advice or discussing adherence issues, keep in mind and consider the progressive maturation of the adolescent brain (e.g. lack of long-term perspective, impulsivity, denial)	Interactive lecture on adolescent brain followed by discussion on the impact of the adolescent's brain development on health behaviour, using concrete clinical vignette. Groups discuss how to assess cognitive/affective maturation
3. **General Goal**	**Examples of Assessment**
Establish a trustful, empathetic and respectful relationship with the adolescent, securing confidentiality and taking into account available ethical guidelines. Involve parents or caregivers as far as possible	Objective Structured Clinical Examination (OSCE) Direct observation of an encounter with a real or simulated patient Evaluation based on a video with patient
Objectives Related to Goal 3	**Training Methods**
Adopt effective communication approaches with the adolescent	Role play, if feasible with simulated adolescent patient Bedside observation and teaching, use of videos
In any interview, integrate basic ethical principles such as respecting confidentiality and the adolescent's right to autonomy ("shared decision approach")	In group, discuss how to express the issue of confidentiality to an adolescent Review of international (convention on the rights of the child) and national legal and ethical guidelines Role play, if feasible with simulated adolescent patient Present an ethical dilemma using a clinical vignette, and discuss in small groups how to choose between different options and how to involve the adolescent and other potential stakeholders in the decision
Obtain relevant information and then provide it to the parents (caregivers) with the agreement of the adolescent Involve the parents appropriately in the assessment and planning of intervention/treatment	Review of different educational styles and how to communicate effectively with parents while giving the young person a voice (lecture, video, articles, group discussion) Use a video of an encounter between a healthcare provider, adolescent and parents to discuss what went well or wrong Involve junior residents in discussion with families (role modelling)

Table 1 (continued)

4. **General Goal**	**Examples of Assessment**
Involve all potential stakeholders, such as school health professionals or social workers in the care of adolescents, while respecting the young patient's rights	Questions based on a clinical vignette Name stakeholders of local network Based on a clinical vignette, ask resident how he/she would set up and run a discussion with stakeholders
Objectives Related to Goal 4	**Training Methods**
Recognise the role of networking activities in caring for adolescents, especially when confronted with complex/chronic bio-psychosocial situations	Group work: participants share their experiences with liaison activities (school, social services), and discuss pros and cons of inter professional approach Participants reflect on the added value of networking in any complex situations (e.g. functional disorder) and list factors which enhance or limit collaboration Use of a clinical vignette or video
Analyse evidence-based effective, preventive and health-promoting activities that can be developed within the school and community setting	Interactive lecture Screening the literature: review evidence-based interventions for health promotion (e.g. Cochrane library, Lancet series)
Identify interventions that promote empowerment and resilience among school pupils	Visit of school health services and exchange ideas with school health staff and teachers; discuss with the staff what kind of interventions have been implemented and how they worked
5. **General Goal**	**Examples of Assessment**
Elicit a relevant, concise and accurate history from the adolescent and other sources of information (parents, caregivers), while exploring both resources and risk/health-compromising (exploratory) behaviours. Offer counselling and preventive responses accordingly	OSCE Direct observation of an encounter with a real or simulated patient mini-Clinical Examination Exercise (mini-CEX) Evaluation based on a video with patient Based on a clinical vignette, provide some questions related to exploration of lifestyles (risk and resources)
Objectives Related to Goal 5	**Examples of Training Methods**
In any history-taking, review the adolescent's lifestyle and psychosocial background	Interactive lecture Use of the HEADDSSS or the SSHADESS or other tool Role play with simulated adolescent patient Observation of encounter with real patient Supervised consultation with a patient Discussion during rounds Video of an interview with an adolescent
In the interview, include an exploration of the adolescent's personal and environmental resources and health-compromising behaviour	Interactive lecture on risk and protective factors Group discussion: list a series of typical questions that cover resources and risks Ask residents to interview young people in their own environment regarding potential resources and risks
Provide counselling activities: support positive health lifestyles and address health-compromising behaviour. Use some basic ingredients of motivational interviewing	Short lecture on motivational interviewing Exercise 2 by 2 on trying to change one's behaviour
Refer to a colleague when appropriate (e.g. after having identified a behavioural or mental problem or an adverse environment	Group discussion: reflect on how one's feelings depend on the communicating style used (paternalistic vs motivational) Role play exercises between learners Supervised consultation with a patient
6. **General Goal**	**Examples of Assessment**
Conduct an effective general or focused physical examination, including an assessment of growth and pubertal stages	Direct observation of an encounter with a real or simulated patient (Mini-CX) Questions using drawings of pubertal stages and growth charts Ask trainee to comment a video
Objectives Related to Goal 6	**Examples of Training Methods**
Assess physical growth using relevant references, tools and charts Identify the stages of pubertal development	Interactive lecture using clinical vignette; ask trainees to plot patient's development on growth charts, BMI charts, pubertal stages

Table 1 (continued)

In the examination, include (where appropriate) assessment of aspects such as growth, skin, sensory organs, spine, joints and genitals, which are of particular relevance during this period of life	Using a clinical vignette, discuss with the audience how they would share their findings with the adolescent and the parentsLearners report on how they felt the last time they performed a physical examination
Adapt the flow of physical examination to the adolescent's stage of development, respecting the patient's privacy	Interactive lecture or video showing the physical examination of an adolescent
Actively involve the adolescent in the examination and provide feedbacks on findings	Direct observation of a physical examination Bedside teaching
7. **General Goal**	**Examples of Assessment**
Identify the most current physical and psychosocial health problems that adolescents present with, and propose relevant investigation, advice, recommendations, treatment or referral	Multiple choice questions OSCE Direct observation of an encounter with a real or simulated patient (mini-CEX) Under observation, perform a short motivational interview (optional)
Objectives Related to Goal 7	**Examples of Training Methods**
Describe some national or regional epidemiologic data pertaining to adolescents' health problems and lifestyles	Interactive lecture Computer-based exercise: find relevant data in various regional/national/international sources
Demonstrate specific skills regarding assessment of mental health and symptoms such as anxiety, depression, self-harm or victimisation	Interactive lecture on mental health issues Use of videos
Provide support for adolescents with problematic behaviour and/or mood, organise referral if needed	Role play Direct observation of a consultation
React appropriately to aggressive/violent behaviour	List available local/regional structures which address mental health problems Group discussion: how to cope with an aggressive adolescent
Review adolescent girls' and boys' sexual orientation, development and behaviour, as well as potential burdens or dysfunction	Interactive lecture on sexual development, how to investigate menstrual dysfunction, STIs, how to provide contraception and protection, adolescent pregnancy, how to react to sexual violence and victimisation
Discuss sexual attitudes and behaviour appropriately with an adolescent, and identify potential risk-taking or victimisationIncorporate in the consultation questions and advice in the areas of safe sex, contraception and protection against STIs; provide concrete responses (e.g. prescribing oral contraception) or refer to specialist if neededAppropriately manage the situation of an adolescent with suspected sexually transmitted infection (STI) and of an adolescent with unexpected pregnancy	Group participants' discussion on how to discuss the issue of sexuality and sexual behaviour with male and female adolescents of different ages Videos displaying consultations on various sexual and reproductive health topics Role play Discussion with young people, family planning counsellors or social workers
In any consultation, review eating and nutrition patterns Assess the adolescent's self-image	Interactive lecture on nutritional needs and potential deficiency associated with obesity and eating disorders Group discussion on the impact of nutritional habits on self-image
Identify and investigate, if appropriate, symptoms of minor dysfunctional eating habits, obesity, binge eating disorder and bulimia	Review clinical vignette to address eating disorders, use of video Bedside teaching and supervised consultation
Refer appropriately if needed (e.g. anorexia nervosa)	Identify available local/regional structures which assist with eating disorders
Assess use and/or misuse of substances (tobacco, alcohol, cannabis and other drugs	Interactive lecture on patterns of legal and illegal substance use Role play with simulated patient or with colleagues, using motivational interviewing approach)
Identify and investigate substance use disorder/SUD Identify and investigate other addictive behaviours (internet, gambling)	Use, if available, of practical assessment tools (questionnaires) and how to interpret them Discuss clinical vignette
Provide support for adolescents with problematic use, refer to specialist if appropriate	Run a supervised consultation Discuss/identify available local/regional structures that assist with substance use problems and addiction. Visit a centre dealing with adolescents with SUDs Invite young adults with HIV to share their experience
8. **General Goal**	**Examples of Assessment**
Promote bio-psychosocial development and autonomy in the care of adolescents with a chronic condition; plan the transition to adult health care	Based on a clinical vignette, ask resident to respond to open questions regarding (a) impact of the condition on development and (b) develop strategies for planning transition Interview a simulated adolescent patient with therapeutic adherence problems

Table 1 (continued)

Objectives Related to Goal 8	Examples of Training Methods
Recognise how a chronic condition interferes with the bio-psychosocial development of an adolescent	Interactive lecture Small group discussion working on vignettes: review how a chronic condition impacts on development and how development affects the course of the condition
For an adolescent with a chronic condition, identify his/her needs for basic healthcare and care for the condition, and how to address them both in the area of physical health and psychosocial adaptation	Interactive lecture (bio-psychosocial development of adolescent with chronic conditions;Videos with adolescents sharing their experienceInterview of adolescents with chronic conditions and their parents
Maintain or improve adherence, taking into account the patient's cognitive and affective state (including aspects linked with brain maturation, impulsivity and denial)	Using clinical vignette, small group work to discuss strategies to improve adherence Bedside discussion with a senior staff member Review of a videotaped interview
Support adolescents' coping strategies and assist them in improving their environment: support them in maintaining a network of friends and a normal social life	Role play: support young people of various ages and with various conditions in (1) improving therapeutic adherence, (2) socialising and engaging in activities with peers and (3) overcoming episodes of stress and depression Direct supervision Work with simulated patientsGroup discussions using clinical vignette Interview of an adolescent with a chronic condition Supervised consultation, bedside teaching
Anticipate and plan the transition from the paediatric to the adult healthcare setting	Review (literature survey) effective models of transition Invite older adolescents with chronic conditions to report on how they coped with the transition Group work: list the steps to successful transition Organise a meeting with paediatric and adult specialists to review effective strategies

[a] http://www.bcchildrens.ca/Youth-Health-Clinic-site/Documents/headss20assessment20guide1.pdf

[b] https://www.aap.org/en-us/professional-resources/Reaching-Teens/Documents/Private/SSHADESS_handout.pdf

[c] https://www.prearesourcecenter.org/sites/default/files/content/6._stages_of_adolescent_development.pdf

self-harming behaviour, eating disorders, substance use disorders, unplanned pregnancy or functional disorders increasingly present to paediatric hospitals and outpatient clinics, so that paediatricians working both in hospitals or ambulatory settings in the community have an important preventive and curative role to play.

How should this list of goals and objectives be implemented and adapted? It will of course depend on both the educational contexts and resources of each European country, as well as the epidemiological situation and most prevalent health problems. As indicated by the European professional associations of paediatrics, which are responsible for accrediting paediatricians, the authors suggest that the paediatric societies and national bodies responsible for the design of training curricula and their accreditation should progressively endorse and adapt the proposals made in this article. For example, departments of paediatrics in academic hospitals could identify at least one senior practitioner especially interested and trained in the field of adolescent medicine and health who could provide guidance to his teaching colleagues and to residents and chief residents. In the future, formative and summative assessments of paediatric residents should include an evaluation of their clinical skills in the area of adolescent healthcare. Improving the competences of healthcare providers in this area is a promising way to decrease the morbidity of adolescents, improve their health and enhance the wealth of their country [16].

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