

European Module
EMUTOM
for Undergraduate Teaching of Occupational Medicine

**CURRICULUM DEVELOPMENT
EMUTOM**

Progress Report

Public Part

Project information

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Executive Summary

EMUTOM is a project aimed at enhancing cooperation between European medical universities through the design of a module for teaching health and work issues that allows for harmonisation and transparency in terms of competencies and learning outcomes. For most people work is essential for economic, social as well as physical wellbeing. All medical doctors, whichever speciality they practice, have a key role in the prevention of work-related disease and the promotion and maintenance of good health. Educational experts and specialists in occupational medicine from five different countries (Belgium, France, The Netherlands, Romania and Serbia) will offer a research based module in the form of blended learning for qualifying future health professionals in issues around work and health.

The target groups that will be reached during the life of the project, are undergraduate students in medicine, academics and staff members of the participating universities as well as professionals in the field. The long term target groups are students in health sciences e.g. nursing but also other disciplines and institutes may benefit from the experience of providing a European joint module on occupational medicine.

In order to reach the general goal, some specific objectives should be accomplished: the examination of the undergraduate medical curricula with regard to work-related issues throughout Europe; the analysis of the needs among general practitioners and medical specialists in the partner countries; the development of a competency framework, associated teaching materials and resources; and finally the design of a quality policy.

The surveys on undergraduate teaching concerning the link between work and health and the analyses of needs among several groups of practitioners have already been completed. First, a lack of standardised preparation for practice in these topics across Europe was identified. Whilst some countries have a robust training at medical undergraduate level, others have little or none. Second, differences in needs and demands were observed between countries on one hand and between occupational physicians and general practitioners on the other hand. These activities enabled the partners to formulate core competencies, learning objectives and construct the module and a teaching format. We are currently finishing the content of four course packages and installing the training materials on the website. Last, a quality management system must be developed which should regulate partners' performance in the process as well as guarantee outcomes and further implementation.

Dissemination involves informing the academic community in each partner institution on the progress in the development of the module and getting professionals from the field also involved in the debate. Results of the surveys have already been presented at local meetings and during the EASOM Summer School. Oral presentations at international congresses are also envisaged.

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1. Project Objectives

The primary aim of the project is to provide within the framework of the European Higher Education Area a teaching module covering the basics of occupational medicine at undergraduate level. This general goal originates in the need to harmonise and strengthen the training materials available to medical students, who in turn, will be better placed to advise a significant proportion of their patients on the impact of work on health, health on work and fitness for work.

To deliver a coherent module and an integrated learning experience for an international student body, following objectives are included :

- To assess the level and content of the teaching of occupational medicine in the undergraduate medical curricula throughout Europe. This will allow us to identify common approaches and topics but also to reveal the intellectual and cultural diversity between countries.
- To take into account the experience from key players in the field by launching a survey examining their perceived needs and compare them with the ideas and proposals put forward by the academics.

These inputs together with educational principles will set the basis for a blended learning strategy. The structure and methods of the module will capitalise on the knowledge and competences of the academic community and that of several stakeholders and professionals in the field of medicine and health sciences.

Concordance between course content, pedagogy and teaching relations is fundamental for the integrity of the module and its impact.

Quality assurance mechanisms are inclusive; they foresee student involvement as well as involvement by staff faculty and external experts. The final result will be a tailor made module ready to be implemented in the medical curriculum.

2. Project Approach

The project is focused on the study and development of a common framework that enable medical students, staffs and physicians to prevent and recognize work-related health problems. The present consortium unites five universities, geographically distant from one another, with very different academic cultures but all of them are committed to bring their specialized knowledge and create a learning module with a high level of quality.

In order to accomplish key objectives, the project has been divided into two phases. The first phase, to be completed in the first year, has been composed by three parallel but connected activities:

First, from national surveys carried out in some countries, we know that large gaps exist between and within countries with regard to the training of health professionals in this specific field. A questionnaire was designed to capture detailed information on the teaching of occupational medicine to undergraduates and this was sent to all medical schools in Europe (n = 283). Results from this survey will serve as help for the identification of the learning outcomes and enable the development of a balanced module that not only will meet the needs but is also within the bounds of possibility in different countries.

Second, learning objectives are usually formulated by staff members of the universities. We know little about the 'work and health' competencies as experienced by stakeholders e.g. patients, general practitioners and medical specialists. In order to approach a joint map of competences, a convenience sample of stakeholders in the partner countries was invited by letter to complete an open answer questionnaire. They were asked to articulate which 'work and health' competencies, according to their opinion, medical students should have at the end of their medical study. And next to prioritize their answers. By examining their opinions, it should be possible to discuss the direction the module should take. In this way the teaching programme responds to the needs perceived and recognized by professionals as important.

Third, the elaboration of the overall structure and content of the module, based on results of the above mentioned research. Each of the partners prepares the didactic products attributed according to the field of excellence. This is the core of the project. The integration between individual course packages is warranted as each of the partners acts as co-author for multiple packages and they will meet regularly. Pedagogical aspects will not be neglected.

In a second phase, a quality assurance system will be developed, and should regulate partners' performance in the further process as well as guarantee outcomes and implementation. Critical evaluation by students, faculty staff and external experts will permit the last corrections before opening the contents to all interested parties. Ultimately, the course should set the quality reference point and benchmark for improving the supply of qualified health professionals required in the coming decades to deal with the special needs of the working population and to generate evidence on workers' health and to translate that evidence into policy and actions.

3. Project Outcomes & Results

We reached positive results during the first period of the project. One of the most interesting experiences was to contrast the divergent opinions of partners and target groups as conditioned by national cultural and academic traits.

Sharing a first approach to European curricula indicated different traditions. One hundred and twenty nine medical schools (response rate 48%), representing more than 100.000 undergraduate students, returned a completed questionnaire. Despite the European harmonization, wide intra- and inter-country disparities were observed. The majority had specific lectures on occupational medicine but the amount of teaching ranged from 2 to 80 hours with a mean of 27 hours. Occupational respiratory diseases, occupational cancers and toxicology were the most frequently taught, whereas assessment of disability and return to work in less than one half.

For the development of a European Module, agreements on learning outcomes among academic staff and stakeholders are valuable. At this moment, answers on the open questionnaire were received from professionals in outstanding positions on the one hand, and on the other hand from patients in four countries. Results were gathered and attributed to categories independently by two researchers. A large majority of the necessities were common and therefore will form a solid basis for a European Module. For the issues where differences were established, compromises should be found and for a few topics, a smaller package will be further elaborated per country.

Having identified the most important competencies in opinion of all target groups, the structure and content of the module were agreed upon by all partners, including some differences and affinities among countries. The module will cover four packages : general introduction to work and health (including legal and ethical aspects, structure and role of occupational health care), effects of work on health (occupational diseases), fitness for work, and health promotion. A format was developed and it was decided that each course package would have an advanced organizer, learning objectives in terms of the student, structure of the chapter, referral to the general frame of the course, summary with key elements, key words, competence-based assessment in relation to the course content (e.g. student assignment and multiple choice questions) and feedback on the assessment.

The module will be delivered as a 5-day taught programme with a student workload of 84 hours (3 European credits). The information and the material is directed both to those who teach medical undergraduate and also to undergraduate themselves. Development is currently being finalised under the coordination of international dyads or triads from within the consortium.

4. Partnerships

At this time, the partnership is composed by 5 universities from countries that cover different regions of Europe : Belgium, France, The Netherlands, Romania and Serbia. By cooperating with a partner from third countries, the Emutom project partnership well represents the objective of the programme namely *"contribute through lifelong learning to the development of the Community as an advanced knowledge-based society"*.

The human resources that each partner will make available are figures with a high level of qualification and with an appropriate professional experience.

- Ghent University (BE) is the leading coordinator of the project. Inside of the coordinating institution following experts are integrated as partners : prof dr Lutgart Braeckman (Department of Public Health, Occupational Medicine, coordinator), prof dr Anselme Derese (Department of Family Medicine and Primary Health Care), prof dr Tom Defloor, Dr Ann Van Hecke (Department of Public Health, Nursing Science) and prof dr Martin Valcke (Department of Educational Studies in the Faculty of Psychology and Educational Sciences).
- Centre Hospitalier Universitaire de Rouen (FR) with the participation of prof dr Jean Francois Gehanno who has a great experience within risk assessment and information retrieval methods;
- Coronel Institute AMC (NL) with the participation of prof dr Frank Van Dijk, responsible for the department and very active in international curricula development and dr Paul Smits, expert in evaluation research of medical education;
- University of Medicine and Pharmacy "Victor Babeş" (RO) with the active participation of prof dr Elena-Ana Pauncu, who has great expertise in creation of curricular contents together with dr Florina Popescu and dr Madia Hanna.
- University of Belgrade (SE) with the participation of prof dr Petar Bulat, who is a renowned expert in occupational health. The involvement of Serbia should be seen as an added optional element in the project, though one which contributes clearly to the added value of the project as a whole.

The project enjoys the cooperation and support of the European Association of Schools of Occupational Medicine (EASOM). The consortium partners initiated the basic concept of the Emutom project during EASOM meetings and Summer Schools.

From the first phase of the project activities emerged already the added value that the partnership could bring to the project. With involvement of all partners it was possible to identify a much wider range of 'stakeholders and key players' to question than would have been possible or likely if the surveys was being completed by one or two partners only. The contact with the non-academic world (the advice of experts, the cooperation of patients, practitioners etc..) created a clear win-win situation in this project for all parties from all countries involved.

The project partners are themselves stakeholders interested in the use of project results. All play an influential role in their countries and act in the interest of policy makers, universities and associations to support the socio-medical and cultural

territory development. Their direct involvement in the organization of national seminars and their contacts with European key players for the exploitation of results, guarantees the sustainability and the adoption of the results achieved in the project by a wide range of stakeholders.

5. Plans for the Future

Our next step is to complete the content of the course packages and to start on the first of December 2011 the Pilot of the Emutom European Module. In the pilot project implementing the Module, a 360° assessment and a multi-actor perspective for evaluation purposes will be applied: developers, students, teachers and experts will be invited to provide feedback and formulate advice. Several quality control actions are planned in the coming months :

- Evaluation of the development approach (use of the format) by questioning the European partners by means of the Metaplan method. This simply card technique is an effective system for collecting ideas when a group of people are working together.
- Students from each partner university will be enrolled in order to test the content and to find out whether the programme really meets the aims and objectives. They will be invited to fill in specific questions in a short logbook (e.g. study load, difficult topics,...) and some open questions. A small group is better to work with within the test phase, so it was decided that every partner should enroll a minimum of 5 students for the test phase.
- Simultaneously a strategically relevant group of teachers and experts will be approached to comment on the content of the different course packages according to their specific qualifications and experience. They will crosscheck the materials for acquisition of the learning objectives, the appropriate difficulty level (undergraduate), repetitions or lack of topics etc.

All results will be summarized in the Quality report made by the management team and educational expert and will be taken into account in the refining of the Module by the partnership. In the meantime developers and teachers will still prepare some new course material (e.g. cases and multiple choice questions) to enrich the module.

Only after an accurate evaluation and an adequate refining of the content and the educational approach the module will be ready to be implemented as a part of the regular medical curriculum and will be made available to all interested parties. This will not only promote the acknowledgement of the training as a reference for other institutions but also bring quality and excellence criteria in this specific field of medicine.

Another important element concerns the definition of a detailed plan for dissemination and exploitation by the partners. This plan foresees specific activities/events to be implemented during the project's lifespan, it indicates dates, modalities and targets involved. This tool ensures that the results will be appropriately valorised and implemented at European level. The main dissemination means are : development of a project flyer in different languages of the partnership and a power point presentation (English) in order to ensure the widest dissemination; the construction of a website (www.emutom.eu) containing background information on the project and use for uploading the project products like the four course packages; the link to the Emutom website on the home page of each partner university; presentations at local and national seminars; publications in newsletters and international journals; contributions to international congresses and a final conference in Romania.

6. Contribution to EU policies

The Emutom project took care to contribute to a variety of European Union policies in the area of the Objectives of the LifeLong Learning Programme.

To contribute to the development of quality lifelong learning and to promote high performance, innovation and a European dimension in systems and practices in the field

This project will develop a new innovative European Module in Occupational Medicine (OM), promoting lifelong learning in this field. The consortium is well spread over Europe, covering all 'corners'. The Module will have a strong emphasis on European aspects and comparison (European Law, European Labour Politics) but, at the same time, it will offer the opportunity to bring in specific situations and practices from the various regions.

At the national level, standards of competences are not so common : because of the nature and the level of the selected partners, their networks and the contact with the non-academic world, this common project will promote higher education standards and higher performance in learning in the EU.

To support the development of innovative ICT-based content, services, pedagogies and practice for lifelong learning

The project is about developing a blended learning module, aimed at undergraduate medical students, living and studying in various countries. Until now, different aspects complicate the quality and quantity of teaching occupational medicine across Europe : lack of time, increasing number of students and no available specialist in OM among faculty staff. Special attention is given to the development of the online module, a well-structured digital learning platform and e-learning techniques. This will lead to an improved technological capability for all students and partners that co-operate in this project.

To support the achievement of a European Area of Higher Education

Partners from five European institutions are involved in a project to upgrade and harmonise the undergraduate teaching of OM. The partners are all specialists representing a wide range of areas of expertise in occupational health and are all involved in teaching work and health-related issues at their respective institutions. In addition, some are also working clinically with patients experiencing an occupational disease or a disability. They thus provided a unique combination of research, clinical and teaching expertise.

Through the module health professionals will be better prepared to define and manage the major occupational health problems and give advise on fitness for work which in the end will contribute to a healthier European population and workforce.

To improve the quality and to increase the volume of multilateral co-operation between higher education institutions in Europe

Learning materials will be contributed by all participating universities, thus providing a multicultural view of a wide range of issues relating to occupational medicine. The exchange of knowledge and the learning methodology, based on best practice examples, will increase the quality of education in the different European member

states. Moreover, the translation of selected project products in the languages of the partners, will help to establish the multi-cultural nature of the project.

To facilitate the development of innovative practices in education and training at tertiary level, and their transfer, including from one participating country to others

The current project will contribute by encouraging communication and collaboration between educators, experts and students in a European dimension through innovative pedagogical and didactical approaches (e-learning, self-assessment etc). The joint development of the module has led to a useful exchange of ideas and experiences. New and more student-centered teaching methodologies have been introduced to some of the partners, while others have been able to consolidate their more innovative practices.

