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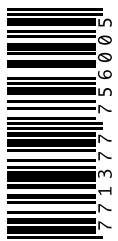
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“Vision without action is a daydream. Action without vision is a nightmare.”

The COmpetency-BASed Training programme in Intensive Care for Europe and other world regions (CoBaTrICE)

The COmpetency-BASed Training programme in Intensive Care Medicine (CoBaTrICE) has been the European Society of Intensive Care Medicine (ESICM)'s vision to achieve a unified and harmonised model of training doctors caring for critically ill patients and their families around the world. Harmonisation is a key part of the concept because this enables free movement of intensive care medicine (ICM) specialists around the world. The vision is that CoBaTrICE will make better doctors in the future by providing the competencies needed to offer the highest level of care in the field of ICM. CoBaTrICE has defined the environment and the tools required to achieve those and to facilitate mobility and modernisation in the field of ICM.

The COmpetency-BASed Training programme in Intensive Care Medicine for Europe and other world regions (CoBaTrICE) is an international partnership of professional organisations and intensive care providers (cobatrance.org/en/index.asp) focused on improving the quality of care of critically ill patients through education and training (Bion and Rothen 2012; CoBaTrICE Collaboration 2009). The CoBaTrICE collaboration was formed in 2003 and initially funded by the European Commission Leonardo da Vinci programme (2003-2010) (Bion and Rothen 2012; Barrett and Bion 2006). It is currently supported by the European Society of Intensive Care Medicine (ESICM, esicm.org), but it works in close collaboration with European medical organisations (EMOs), in particular the Union of European Medical Specialists (UEMS).

The objectives of this programme are:

- To assure high-quality education in ICM
- To harmonise training and accreditation in ICM, in collaboration and without interfering with national regulations or regulatory bodies
- To facilitate free movement of ICM pro-

professionals across Europe and other world regions through providing a harmonised competency-based training programme in ICM.

In this article we describe the growth and expansion of the CoBaTrICE programme over the last decade in Europe and worldwide (Bion and Rothen 2012; Convention on the recognition of qualifications concerning higher education in the European Region 1997 [Lisbon Recognition Convention]).

Europe: mobility and modernisation

One of the basic principles in the European Union (EU) is the free movement of nearly all aspects of life and trade, namely funds, manpower and products. One of the few fields where free movement is not ful-

ly implemented is in the healthcare system, where the provision of services is the responsibility of each European Member State (Lisbon Recognition Convention; Directive 2005/36/EC). In 1957 the mutual recognition of diplomas and accreditations reinforced the creation of the European Economic Community (EEC) and afterwards the EU. Physicians can work in the EU using an automatic mutual recognition of their medical degree and specialty or a process of equivalence following the European Directive 2005/36/EC. This Directive has an annex, where the specialties that can benefit from an automatic recognition are listed and called “primary specialties.” All medical disciplines missing from the annex require national equivalence for recognition (Directive 2005/36/EC; Directive 2013/55/EU). The EU Directive 2005/36/EC revision

was approved by the European Parliament in October 2013 with an amended list of primary specialties. Unfortunately, ICM is still not part of the annex. Since 2005 the situation has been further complicated by the EU Healthcare Directive 2011/24/EU that allows patients but not doctors working in medical specialties outside the annex to move across countries. Moreover, the impact of new developments such as Brexit and the Catalan independence referendum require further evaluation to determine the impact of these changes on free movement of medical specialists working in non-primary disciplines such as ICM in the future (European University Association 2011; Rhodes et al. 2011).

enhancement and harmonisation look set to continue with further development of the CoBaTrICE programme and engagement of key stakeholders

Mobility equals modernisation

The Sorbonne Declaration of 1998 demanded an increase in European mobility as a chief priority (Rubulotta et al. 2011; European University Association 2011). The Bologna Declaration (1999) promoted the same principle and the European Union's "Education & Training 2010" agenda (the educational manifestation of the Lisbon Process) named mobility as one of its "most important objectives" for European education. In parallel to these collective European efforts, national and regional governments have been trying to boost mobility into or out of their countries through scholarship or loan schemes, amongst other initiatives. Many governments, including the UK, have campaigned to attract the best candidates from other regions. In 2011 the European Ministers also highlighted the importance of shared and exchange of knowledge to improve standards of training programmes (European University Association 2011). CoBaTrICE members believe that mobility and modernisation can be translated in



Figure 1. List of countries that have adopted the CoBaTrICE

better doctors' training and patients' care (Bion and Rothen 2012; Convention on the recognition of qualifications concerning higher education in the European Region 1997). CoBaTrICE was one of the first successful programmes in healthcare to generate a curriculum and a syllabus based on agreed minimum competencies. CoBaTrICE currently embraces the concept of mobility of specialists and shared knowledge by providing a high-quality, competency-based training programme that can be recognised and accredited in different European countries (Barrett and Bion 2006; CoBaTrICE Collaboration 2009; Convention on the recognition of qualifications concerning higher education in the European Region 1997).

Nevertheless, ICM is an example of a medical specialty that has yet to be harmonised in Europe despite the long-lasting and active collaboration with EMOs and National Training Organisations (NTOs). CoBaTrICE was established in 2003, two years before the EU directive for the free movement of specialists; however (Convention on the recognition of qualifications concerning higher education in the European Region 1997; Directive 2005/36/EC),

there is still considerable diversity in educational structures, processes and quality assurance in ICM training across Europe (Barrett and Bion 2006; CoBaTrICE Collaboration 2009). On a positive note, an increasing number of European countries have formally adopted the CoBaTrICE competencies as part of their postgraduate training programme in ICM (18 European countries) with a further 10 countries planning to adopt it in the near future (Figure 1).

CoBaTrICE provides healthcare systems with an opportunity to determine the best approaches for quality assurance and long-term improvements in the care of critically ill patients and their families through education and training of specialists. Until recently, ICM was only recognised in two European countries (Switzerland and Spain) as a primary specialty. Since June 2010, direct access to training and accreditation in ICM became possible in the United Kingdom, Ireland, Portugal, Belgium and the Netherlands (Rubulotta et al. 2011; Rhodes et al. 2011). Enhancement and harmonisation look set to continue with further development of the CoBaTrICE programme and engagement of key stakeholders.

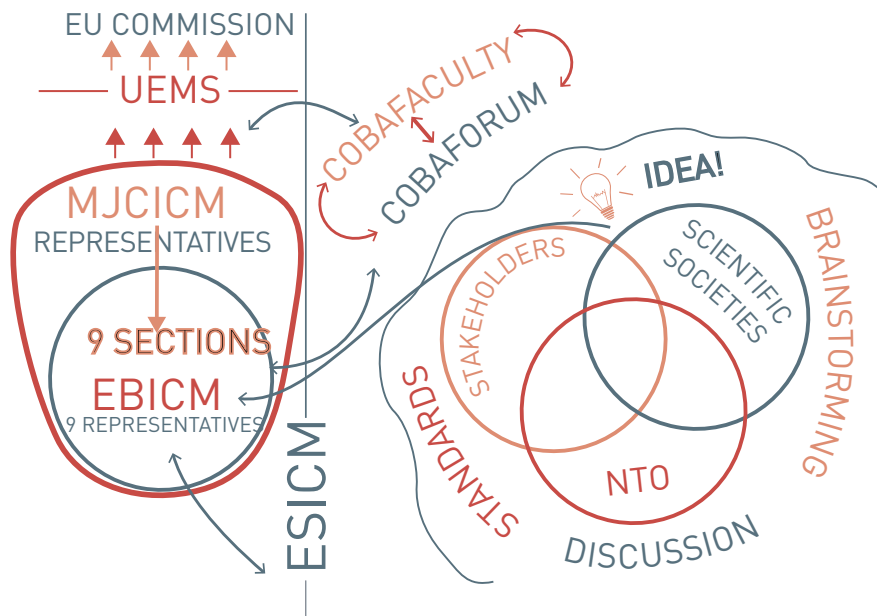


Figure 2. Flow and interaction between the European Society of Intensive Care Medicine and the Union of European Medical Specialists using the mediation of CoBaTrICE

EBICM European Board of Intensive Care Medicine ESICM European Society of Intensive Care Medicine MJCICM Multi Joint Commission for Intensive Care Medicine NTO National Training Organisations UEMS Union of European Medical Specialists

CoBaTrICE 2.0: the update

The CoBaTrICE syllabus comprises the aggregate of all the knowledge, skills, behaviours and attitudes required for each competence in ICM. Each section is divided into 12 domains (resuscitation, diagnosis, disease management, interventions, procedures, perioperative care, comfort and recovery, end-of-life care, paediatric care, transport, safety and management) plus basic sciences (cobatrice.org/en/index.asp). The syllabus may be used by trainees and trainers to aid reflective learning, formal teaching and to guide assessment. In 2016 CoBaTrICE was updated (CoBaTrICE 2.0) to include new competencies to reflect changes in ICM practice. A self-report web-based English language survey was developed and piloted through several iterations by the CoBaTrICE steering committee, with input from non-native English speakers. The survey was distributed via email to all European national coordinators, NTOs, ICM trainees, ESICM members and stakeholders. Clarification of responses was sought by email or telephone where necessary. The aim of the process was to adapt CoBaTrICE to recent developments, knowledge, guidelines,

definitions, methods of assessment, monitoring and therapeutic concepts in ICM. The principle was to use a pragmatic approach, keep the list of competencies unchanged whenever possible and costs limited. The updating process was entirely funded by the ESICM to avoid any conflict of interests. At the end of the process, new competencies included were ultrasound, echocardiography, extracorporeal membrane oxygenation and rapid response teams. The CoBaTrICE 1 syllabus has now been adopted and translated into 10 different languages. The new updated list of competencies will be translated following its publication and it will be freely available on the web in due course.

Framework of the CoBaTrICE committee

The European Board of Intensive Care Medicine (EBICM) consists of 9 members of the ESICM (including the chair of CoBaTrICE) and 9 members of the Multi Joint Commission for Intensive Care Medicine (MJCICM), namely one member of each primary speciality: Anaesthesiology, Cardiac Surgery, Cardiology, Internal Medicine, Neurology, Neurosurgery, Paediatrics, Pneu-

mology & Surgery. Furthermore, 9 additional members from each of the relevant European societies can be invited to attend EBICM meetings.

In the context of the ESICM, the CoBaTrICE committee forms part of the Division of Professional Development (DPD) and comprises the CoBaFaculty and the CoBaForum. The CoBaFaculty is a committee with 6 voted members. The CoBaForum consists of key stakeholders from different European countries with an interest in education and training in ICM. The CoBaForum can be considered a hub with the aim of advancing the Society's projects and objectives with the support of other NTOs, scientific societies and stakeholders. The CoBaForum (creative hub) typically presents proposals to the CoBaFaculty (executive group of the project). **Figure 2** shows the flow. The chair of the CoBaFaculty is part of the EBICM and is therefore able to share finalised ideas with representatives of the 9 sections and the 9 European scientific societies representing primary specialties involved in the care of critically ill patients. The UEMS is an advisory board of the EU Commission. The UEMS sets standards for high-quality healthcare practice that are conveyed to the relevant authorities and institutions of the EU and the national medical associations, stimulating and encouraging them to implement its recommendations.

CoBaTrICE is a scientific concept that advises and supports NTOs but remains impartial of political matters.

Wider dissemination of the CoBaTrICE programme: the future

The CoBaTrICE programme represents the pillar of all educational activities within the ESICM (**Figure 3**). The ESICM Academy is a new project that started in 2015 with the vision of integrating the society's education activities. Within the ESICM Academy is a new e-learning platform that provides learning pathways (e-modules and e-courses) for individuals based on the CoBaTrICE competencies. CoBaTrICE has individualised tools, such as the electronic CoBaFolio, where trainees and trainers can track progress of competencies from the beginning to advanced stages of their professional ca-

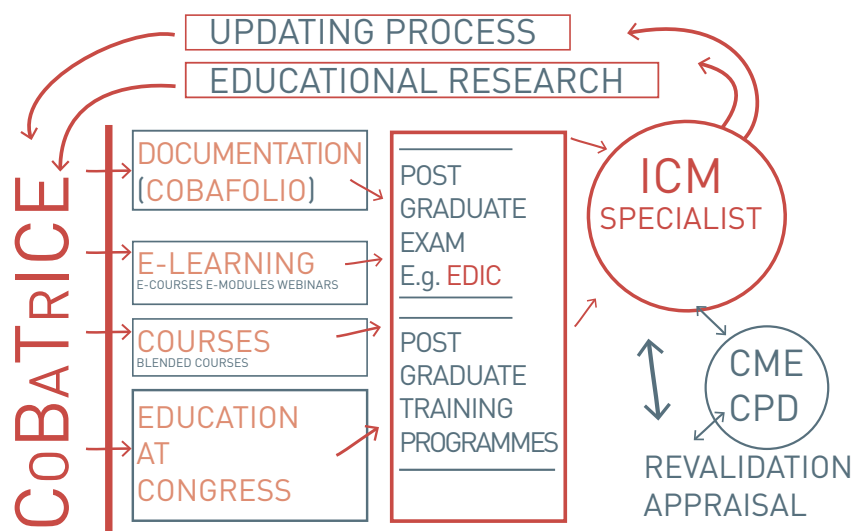


Figure 3.

CME continuing medical education CPD continuing professional development EDIC European Diploma in Intensive Care Medicine

reer. This is crucial, because documentation of newly acquired or maintained competencies can be transferable and used to enhance mobility. The European Diploma in Intensive Care (EDIC) exam is a key component of the ESICM's education strategy. The blueprint of the exam is based on the CoBaTrICE competencies, which define the minimum standard of knowledge, skills and attitudes required for a doctor to be identified as a specialist in ICM. The EDIC exam has recently obtained accreditation by the Council of European Specialist Medical Assessment (CESMA) in the UEMS and is recognised as a high-quality postgraduate exam. Candidates for the exam need to be fully registered medical doctors (i.e. intern-

ship completed). They should be enrolled in a national training programme in a primary specialty, namely: Anaesthesiology, Internal Medicine, General Surgery (and other surgical specialties), Accident and Emergency Medicine, or ICM. The aim of the written exam (EDIC part I) is to test the theoretical knowledge (summative knowledge), whereas the oral part (EDIC part II) aims to test professional conduct at the end of the training (formative knowledge). The exam is intended to be complementary to specialist postgraduate medical training and the taking of the two components of the exam should correspond to stages of experience. The number of participants taking the exam outside Europe has increased dramati-

cally over the last few years and includes specialists coming from all continents. The recognition of the high standard of the ED-IC exam and greater popularity is reflected in the increased number of candidates taking the exam, from 519 (2013-2014) to 867 (2016-2017) respectively.

Exam preparation courses and focused blended courses have also been developed and successfully delivered around the world. CoBaTrICE has been used to set the curriculum and the format of such courses. Instructors for those courses have now been trained in Europe, the Middle East and Asia.

CoBaTrICE is now an integral part of many postgraduate training programmes in Europe. It provides a framework for future development of educational material (e.g. courses, e-learning content), assessment (exam) and other education tools (portfolios, entrustable professional activities) in ICM. The vision is to obtain further dissemination and adoption of CoBaTrICE in Europe and worldwide, paving the way for modernisation and mobility to have better doctors in the field of ICM. ■

Abbreviations

CoBaTrICE COmpetency-BAsed Training programme in Intensive Care Medicine for Europe
 DPD Division of Professional Development
 EBICM European Board of Intensive Care Medicine
 EEC European Economic Community
 EDIC European Diploma in Intensive Care Medicine
 EMOs European medical organisations
 ESICM European Society of Intensive Care Medicine
 EU European Union
 ICM intensive care medicine
 MJCIM Multi Joint Commission for Intensive Care Medicine
 NTO National Training Organisations
 UEMS Union of European Medical Specialists

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