AMEE Guide number 116

Education Management Series

# Master’s Degrees: Meeting the standards for medical and health professions education

Ara S Tekian1 and David CM Taylor2 and

1University of Illinois at Chicago, USA

2Univerity of Liverpool, UK and Gulf Medical University, UAE

Corresponding author

**Ara Tekian, PhD, MHPE**  
Professor of Medical Education  
Associate Dean, Office of International Education  
College of Medicine  
University of Illinois at Chicago

Email: tekian@uic.edu

**David CM Taylor, MA, MSc, PhD, EdD**

Professor of Medical Education and Physiology

College of Medicine

Gulf Medical University, UEA

Email: prof.davidtaylor@gmail.com

*And*

Director of Best Evidence in Medical Education International Collaborating Centre

University of Liverpool, UK

Email: dcmt@liverpool.ac.uk

**Abstract**

Increasing numbers of educators are finding it necessary to obtain advanced training in medical and health professions education. This demand has been met by a wide variety of postgraduate courses. In this Guide, we present an international consensus statement of the standards to which Master’s courses in medical and health professions education should aspire.

**Notes on contributors**

Ara Tekian is Professor and Director of International Affairs at the Department of Medical Education (DME), and the Associate Dean for the Office of International Education at the College of Medicine, the University of Illinois at Chicago (UIC).  He is involved in both teaching courses offered in the Master’s of Health Professions Education (MHPE) program and advising graduate students.  Dr. Tekian is an internationally recognized scholar and leader in health professions education.  His consultations and workshops have focused on curriculum development, assessment, program evaluation, simulations, and international medical education.

David Taylor is editor of the AMEE Guides, and is the director of postgraduate programmes in medical education at the University of Liverpool and Gulf Medical University. He has wide experience in undergraduate and postgraduate medical education. His research interests include best evidence in medical education, encouraging independent learning in students and the factors that encourage or hinder clinical colleagues being involved in healthcare education.

**Practice Points**

* There has been a rapid growth in the provision of healthcare education which has led to a need to train those responsible for training
* The number of Master’s courses in healthcare and medical education has proliferated, leading to bewildering variety and choice
* There is a need for a set of standards against which the courses can be judged to ensure that basic standards of education are being met and promulgated.

## **Introduction**

The rapid growth, and increasing sophistication, of medical and health professionals’ education over the past couple of decades has exposed a need to train the trainers - those with the responsibility for educating the current and future generations of healthcare professionals, and, in turn, those who run postgraduate and of continuing professional development programmes.

Since the twelfth century, and the development of European Universities, a master’s degree has been a transferable qualification, that indicated that someone was trained and authorised to teach their subject at a University. The currency has been revalued many times over the intervening years, and most countries have regulatory bodies that oversee higher education. Each of these has their own precise requirements that higher education institutes need to meet. Increasing mobility, and the global market, means that national standards are no longer sufficient, and the international community needs a consensus statement to ensure some consistency in the expected outcomes.

Many of us who are responsible for helping people develop into our colleagues and leaders of the future, learned through an apprenticeship model, adopting the things we found helpful and congenial to use, and rejecting things which we did not enjoy or like. Sometimes this was successful, sometimes less so. Consequently, we became interested in the outcomes of what we were doing (Harden et al., 1999a), and progressively more interested in research, and ensuring that we used the best available education research (Harden et al., 1999b) to inform our programme development and curricula.

The resulting rapid expansion in Masters programmes (Tekian and Harris, 2012, Tekian et al., 2014) has helped in ensuring that we have sufficient well informed people in a position to train our upcoming professionals. It has also led to a bewildering choice of programmes and curricula, of varying lengths and intensity.

In terms of the outcomes model of professional education, we are aiming to develop people with the professional aptitude and attitudes to do the right thing, and to do it well (Harden et al., 1999a). There is a broad consensus about the core content of masters programmes (Tekian et al., 2014), although one would hope that they would always be informed by current concerns and evidence. What is needed though, is some degree of consensus about what prospective students, and indeed institutions, should be able to expect from those who deliver programmes. The purpose of this AMEE Guide is to present the expectations as described by the World Federation for Medical Education Standards group.

## **The World Federation for Medical Education Standards**

Master’s degrees in medical education and health professions education have proliferated over recent times. Between 2000 and 2015, the number of such degrees had grown from seven to 121(Tekian et al., 2014) and the growth continues. Although there is considerable commonality, a survey of such programmes ~~they~~ concluded that:

*“There is a need to establish criteria and mechanisms for evaluation of these programmes*.” (Tekian et al., 2014)

The World Federation for Medical Education, as the current repository of global standards for medical education, has responded to this call and has developed standards for Master’s Degrees in Health Professions and Medical Education.

## **Purpose**

The purpose of these standards is to:

* guide programme directors in their work of course design and management
* offer prospective and current students a framework for judging the quality and qualities of the provision they are contemplating or experiencing
* offer a framework for institutions and regulators in judging that provision.

The issue of quality of Master’s programmes underpins these standards. As Tekian and Harris suggest: given the fact that there is a proliferation of such Masters-level programs in HPE (Higher Professional Education) , there is a clear need to establish criteria for evaluation of these programs and perhaps an accreditation process for such programs. Furthermore, best practices should also be established to ensure that all programs maintain a minimum acceptable quality. These best practices would provide an example of excellence to strive for by all programs.

## **Rationale**

The role of global standards is not to homogenise educational provision but to allow a rich diversity of contextually relevant courses that meet agreed standards for content, process and outcome. We hope that these standards will liberate educational providers to be creative in their planning within the necessary quality parameters for an academic course.

There are many ways of interpreting each standard. We intend that each standard should be reviewed and the ways in which it is locally relevant identified. This might sometimes involve a recasting or rewording.

A Master’s degree must show certain academic characteristics. Students should graduate with a sound knowledge base, an appreciation of the nature of evidence and theory in social science, a sound grounding in research methods, and an ability to analyse, synthesise and critique theories and trends so that appropriate contextual decisions can be made about which to apply.

The challenge of undertaking a Master’s degree in medical education is that students must move to a social science paradigm and knowledge base that is different from that already learned within basic and clinical sciences. This presents challenges not only to the student, but also to the teacher.

The World Federation for Medical Education hopes that these standards will assist the programme planners in addressing such problems.

## **Structure**

The standards presented here follow the same general framework as previous sets of WFME standards. We have used the same nine headings:

1. Mission and outcomes
2. Educational process
3. Assessment of students
4. Students
5. Staffing
6. Educational resources, settings and scholarship
7. Monitoring and evaluation of the educational process
8. Governance and administration
9. Programme renewal

Within these, however, we have not offered the previous WFME structure of basic and quality development standards. Our consensus view is that all the standards set out should be addressed as a baseline for all Master’s programmes.

## **Use**

We intend the standards to be used in at least five ways:

1. As a guide for new programme designers
2. As a framework for local quality assurance and programme evaluation
3. As a means for current students to judge their own Master’s courses
4. As a guide to help prospective students choose between courses
5. As a framework for regulators and accreditors.

We trust that the standards are practical and relevant for these purposes across the globe.

## 

## **How the standards were developed**

A first draft of the standards was prepared on the basis of the general WFME framework. These, and two subsequent iterations, were then discussed by an international committee of ten experts in the field. These consisted of:

Ara Tekian, Janet Grant, John Norcini, Ilene Harris, Steven Durning, Olle ten Cate, Renee Stalmeijer, Diana Dolmans, Lambert Schuwirth and Larry Gruppen.

The agreed draft was presented for discussion to an invited meeting at the 2015 meeting of the Association for Medical Education in Europe (AMEE).

Thereafter, a final draft was presented to the WFME Executive Committee for final amendments and approval.

# **MISSION AND OUTCOMES**

## **Statements of purpose and outcome**

The programme director must:

* Formulate the purpose of the programme and make it available to potential students, their sponsors, employers or funders.
* State the intended outcomes resulting in a graduate who:
  + Demonstrates mastery of the theories, concepts and practices of health professions education, including: critical appraisal of their rationale and evidence base; and comparative, contextual and cultural analysis to determine applicability to the student's own context.
  + Understands the particular nature of theory, research and evidence in the social sciences.
  + Demonstrates intellectual, personal and professional abilities for:
  + Independent thinking
  + Synthesising information
  + Creative problem solving
  + Communicating clearly
  + Demonstrating appreciation of the social, environmental and global implications of their studies and activities.
  + Demonstrates applied knowledge and skills to take on a variety of leadership, management or organisational roles in educational development in their institution or department.
  + Demonstrates applied knowledge and skills conduct health professions education research and programme evaluation.
  + Is prepared to undertake higher-level study, such as doctoral level study.
  + Demonstrates commitment to a professional and ethical approach to educational development, research and evaluation.

## **Participation in the formulation of mission and outcomes**

* The programme director must involve the principal stakeholders, including potential students, in formulating the programme mission and outcomes.

## **Autonomy and academic freedom**

The programme director must have autonomy to:

* Formulate and implement the policies for which the teaching, academic and administrative staff are responsible, especially regarding:
  + Design of the curriculum
  + Use of the allocated resources necessary for implementation of the curriculum

## **Programme title and description**

The programme description must provide documentation of appropriate breadth and depth that describes:

* Programme purposes, philosophy and values
* Programme learning goals, objectives or outcomes and content
* Modes of delivery including methods of face-to-face, individual, group, self-directed and distance learning
* Expected time commitment and credits to be awarded
* Assessment policy, methods, progression and completion conditions, including arrangements for acceptable deadline extensions; penalties for late submission and conditions for resubmission of inadequate work
* Purpose and arrangements for dissertations, including design, structure, length, style, supervision and marking
* Student support systems
* Plagiarism and collusion policy
* Conditions for admission and enrolment, including advanced standing and exemption arrangements
* Programme fees and bursaries
* Advice on study and academic skills (including presentation of written assignments and referencing) and time management
* Warnings and complaints procedures
* Programme evaluation and quality assurance.

# **EDUCATIONAL PROCESS**

## **Instructional and learning methods**

The programme director must:

* Describe the blend of instructional and learning methods, including the rationale for the methods.
* Use instructional and learning methods that stimulate, prepare and support students to take responsibility for their own future professional development and learning.
* Offer a balance of carefully planned instructional methods (see below) that offer students a range of learning experiences, and individual learning support and guidance, consistent with the learning goals and objectives.
* Specific instructional methods might include face-to-face interactions, individual and group learning, distance learning, online education (synchronous and asynchronous), e-learning, tutorials and seminars, written programme units, supervision, mentoring, blended learning and independent learning

## **Academic skills development**

The programme director must ensure that the programme enables each student to develop the Master’s level academic skills of:

* Independent thinking
* Analysing, synthesising and offering a critique of information
* Creative problem solving
* Communicating clearly
* Appreciating the social, contextual and global implications of their studies and activities.

The programme director must:

* Describe expected standards of work, including length and presentation of assignments and other required elements.

## **Programme content, scope and contextualisation**

The programme director must:

* Select programme content that educates students in the full breadth of educational concepts, theories, models, historical perspectives and practices.
* Ensure coverage of basic and advanced theories and models in each topic, methods of critique and critical-reflective application to the student’s own context.
* Draw on both the health professions literature and on practice, models and theories from wider educational and social sciences.
* Ensure that the content selected is presented in its social and historical context, and is appraised for its current applicability to the student’s context.

## **Research and scholarship**

The programme director must ensure that students:

* Demonstrate appreciation of the process, nature and limitations of educational research.
* Demonstrate understanding of the evidence base for any statement or programme topic, especially where there is no, contradictory, or little evidence.
* Demonstrate skills to make an informed critique of educational research and scholarship.
* Demonstrate understanding of the social, contextual and historical basis of educational ideas.
* Demonstrate skills to develop original research and scholarship appropriate to their own contexts.

## **Programme structure and duration**

The overall structure and duration of the Master’s programme must be described with clear definition of:

* The duration of the programme, and whether it is full-time or part-time, stated in terms of actual hours of study
* Start and completion dates
* The expected distribution of work, programme activities, their duration and deadlines
* Components which are compulsory and optional and a rationale for these components
* Amount and role of independent learning
* Available resources
* The formative and summative assessment system
* Provision of feedback
* Evaluation of the programme
* Requirements for completion of the programme
* Arrangements for extension and deferrals, if any.

## **Process of curriculum development**

The programme director must describe:

* The process of curriculum design, including needs assessment and contextual analysis, survey of the academic field including the wider literature in the parent fields of psychology and social science, appropriate selection of content, and practical issues of delivery, communication and cost.
* What reference was made to stakeholders during curriculum design and development.

# **ASSESSMENT OF STUDENT LEARNING**

## **Assessment methods**

The programme director must:

* Define, state and publish the principles, rationale, methods and practices used for assessment of student learning, including the criteria for setting pass marks, grade boundaries and number of allowed retakes.
* Ensure that assessments are open to scrutiny by external examiners, the institutional Exam Board or other authorities.
* Document the methods of quality assurance of the assessments and marking process.
* Offer a system for appeal against assessment results.

## **The assessment system**

The programme director must ensure that:

* Both formative and summative assessments are offered
* Assessments adequately sample the programme content
* The assessments address the Master’s level academic skills *as stated in 1.1*
* A range of assessment methods and formats is used, according to their appropriateness to the learning objectives and context.

## **Feedback to students**

The programme director must ensure that:

* Personalised and detailed written feedback (or oral feedback with a written record) is given to each student after both formative and summative assessments.

## **Quality assurance of the assessment system**

The programme director must appoint a qualified academic external examiner to verify standards and results.

# **STUDENTS**

## **Admission policy and selection**

The programme director must:

* Formulate, implement, publish and periodically review an admission policy and process based on the principles of required prior achievements, equality and objectivity.
* Have a policy and implement practice for admission of disabled students.

## **Student intake**

The programme director must define the size of student intake and relate it to programme capacity.

## **Student support and counselling**

The programme director must allocate resources for and offer student support, including counselling in relation to academic, social and personal needs.

## **Student representation**

The programme director must:

* Formulate and implement a policy on student representation and appropriate participation in the design, management and evaluation of the curriculum, and in other matters relevant to students.
* Encourage and facilitate student activities and student organisations.

## **Graduation requirements**

The programme director must set out requirements in terms of:

* Evidence of successful completion of all degree requirements (programme, projects, thesis, practicum, portfolio, transcript, etc.)
* Expected standards of work
* Evidence of research skills and critical appraisal.

## **Progress and attrition rates and reasons**

The programme director must:

* Set out requirements for progress, including:
  + Range and role of formative and summative assignments
  + Deadlines for assignments
  + Arrangements and acceptable reasons for late submission
  + Arrangements for resubmission, including deadlines and maximum possible marks on submission.
* Keep records of student progress and compliance with milestones.
* Have a system for follow-up of students whose progress gives cause for concern.
* Keep records of student attrition rates.
* Determine and record the reasons why any student who leaves the programme before completion has done so.

# **STAFFING**

## **Appointment policy**

The programme director must:

* Provide a list of full-time, part-time or consulting staff required to run the programme, including:
  + Academic programme design staff
  + Academic teaching staff
  + Administrative staff
  + Technical support staff
  + Staff involved in assessment
  + The programme director.

For each type of staff, the programme director must formulate and implement an appointment policy, consistent with the mission of the programme, that specifies:

* The expertise and level of qualification required
* Criteria for scientific, educational and experiential merit, including the balance between teaching, research and service qualifications
* Their responsibilities, including:
* Hours and distribution of work
* Communication with students
* Submission of records and reports of activity.

## **Obligations and development of staff**

For each category of staff, and each staff member individually, the programme director must:

* Provide a list of duties and responsibilities
* Specify the programme policy on staff induction and support
* Provide induction and training, as appropriate
* Provide appropriate monitoring and feedback
* Make provision for all staff to provide feedback to the programme director on their roles, responsibilities and the support provided.

## **Number and qualifications of teaching and supervisory staff**

The programme director must ensure the presence of:

* Teaching and supervisory staff with education-related academic qualifications at least one level above that for which the students are studying
* A student-to-staff ratio that is specified and sufficient to allow students appropriate access to teachers and supervisors
* Qualified dissertation mentors with sufficient research experience.

## **Administrative support**

The programme director must describe and publish the arrangements that ensure:

* Sufficient administrative support for students
* Sufficient administrative support for teaching and supervisory staff.

# **EDUCATIONAL RESOURCES, SETTINGS AND SCHOLARSHIP**

## **Educational settings**

In the case of face-to-face programmes, the programme director must ensure:

* Sufficient physical facilities for staff and students to ensure that the curriculum can be delivered adequately
* A learning environment, which is safe for staff and students.

In the case of distance learning, the programme director must ensure that:

* Materials are provided in formats that are accessible to all students.
* A clear set of guidance about materials, resources and study requirements is set out.

## **Information technology**

The programme director must, for both face-to-face and distance learning:

* Formulate and implement a policy which addresses effective use and evaluation of appropriate information and communication technology in the educational programme.
* Enable teachers and students to use appropriate information and communication technology for:
  + Independent learning
  + Accessing information.

# **MONITORING AND EVALUATION OF THE EDUCATIONAL PROCESS**

## **Mechanism for programme monitoring and evaluation**

The programme director must:

* Have a programme of routine monitoring of curriculum activities, processes and outcomes.
* Establish and apply a mechanism for programme evaluation that:
  + Addresses the curriculum and its main components
  + Addresses student progress
  + Identifies and addresses student and staff concerns
  + Reviews the continued appropriateness of educational and study settings.
* Ensure that relevant results of monitoring and evaluation influence the programme.
* Ensure that stakeholders have access to results of the programme evaluation.

## **Feedback from staff and students**

The programme director must:

* Systematically seek, analyse and respond to teacher, staff and student feedback.
* Use feedback results for programme development.

## **Performance of students and graduates**

The programme director must:

* Analyse the performance of cohorts of students and graduates in relation to:
  + The programme mission and intended educational outcomes
  + The curriculum
  + Provision of resources.
* Use the analysis of student performance to provide feedback to the committees responsible for:
  + Student selection
  + Curriculum planning
  + Student counselling.

# **GOVERNANCE AND ADMINISTRATION**

## **Programme director**

The programme must have:

* A named programme director
* Accountability to specified higher management.

## **Governance**

The programme director must:

* Define programme governance structures including the managing committee structures, relationships, conflicts of interest and accountability.
* Ensure transparency of governance processes and its decisions.

## **Academic leadership and integrity**

The programme director must:

* Describe the responsibilities of its academic leadership for definition and management of the educational programme.
* Periodically evaluate its academic leadership in relation to achievement of its mission and intended educational outcomes, objectivity and conflicts of interest.

## **Programme management**

The programme must have:

* Appropriately qualified (i.e. having a degree higher than a Master’s award) academic leadership and/or programme director(s) and administrative staff with responsibility for planning and implementation
* Clear lines of appropriate responsibility and management for programme design and the various components of the programme.

## **Funding and resource allocation**

The programme director must:

* Define a clear line of responsibility and authority for resourcing the curriculum, including a dedicated educational budget.
* Have autonomy to allocate the resources necessary for the implementation of the curriculum.

## **Administration**

The programme director must:

* Have an administrative and professional staff establishment that is appropriate to:
  + Support implementation of its educational programme and related activities
  + Ensure effective management and resource deployment.

## **Requirements and regulations**

The programme director must:

* Ensure that the administrative staff are appropriate to support the implementation of the programme.
* Show that the management processincludes a programme of quality assurance.
* Demonstrate compliance with the regulatory requirements, including the award of an academic qualification.

## **Process for start-up and approval**

Programme documentation must show:

* A formal documented process at start-up of vetting programme and other degree requirements by a group of experts in education (e.g. graduate education or an external advisory board)
* A formal initial approval and subsequent review process for the programme
* Documentation and evidence of any joint participation with other institutions and/or adjunct faculty
* Appropriate official approval by a university to enrol students.

## **Finance**

The programme director must show:

* Adequate documentation of the cost of completing the programme
* Clearly documented fees for the programme (minimum cost for receiving the degree and explicit documentation of cost for additional programme components, incidentals, other)
* Evidence of financial sustainability.

## **Financial management and probity**

The programme director must provide evidence of financial management and probity, including independent audit of finances.

## **Programme information**

The programme director must ensure provision of:

* Full and accurate accessible information for prospective students about programme content, structure, costs, processes and events, including the assessment system.
* A variety of information channels appropriate to prospective students including a website, a brochure and help-line.
* A comprehensive student handbook for registered students to include information on:
  + Programme philosophy
  + Programme aims and values
  + Learning goals and objectives
  + Program structure
  + Study times
  + Approaches to teaching and learning
  + Learning materials and resources
  + Feedback and supervision
  + Assessment policies and practices
  + Coursework requirements
  + Description of assessments at each programme level
  + Admission and enrolment
  + Requirements for admission with advanced standing
  + Specific requirements for approving module exemptions
  + Course fees and bursaries
  + Course materials
  + Available faculty and staff for teaching and student academic, technical and administrative support
  + Study skills
  + Academic, personal and technical support for students.

# **PROGRAMME RENEWAL**

The programme director must:

* Initiate procedures for regularly reviewing and updating programme structure and functions.
* Have a system for rectifying documented deficiencies.
* Base the process of renewal on results of programme evaluation and wider changes in educational practice, where appropriate.

## **Conclusion**

All programme directors will recognise that there are many things that constrain the planning and organisation of postgraduate programmes. In this guide, we have gathered together the consensus of the academic community, which we hope will be an aide memoire for programme directors, and potentially act as leverage with management teams unfamiliar with the constraints of running master’s programmes in medical or healthcare education. We are confident that these guidelines will be helpful in providing structure and support for postgraduate education, and give confidence to prospective students, that within the diversity they face, there is a common, robust and internationally agreed structure.

## **References**

HARDEN, R. M., CROSBY, J. R., DAVIS, M. H. & FRIEDMAN, M. 1999a. AMEE Guide No. 14: Outcome-based education: Part 5-From competency to meta-competency: a model for the specification of learning outcomes. *Medical teacher,* 21**,** 546-552.

HARDEN, R. M., GRANT, J., BUCKLEY, G. & HART, I. 1999b. BEME Guide No. 1: Best evidence medical education. *Medical Teacher,* 21**,** 553-562.

TEKIAN, A. & HARRIS, I. 2012. Preparing health professions education leaders worldwide: A description of masters-level programs. *Medical teacher,* 34**,** 52-58.

TEKIAN, A., ROBERTS, T., BATTY, H., COOK, D. & NORCINI, J. 2014. Preparing leaders in health professions education. *Medical teacher,* 36**,** 269-271.