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Master's degrees: Meeting the standards for medical and health professions education*

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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.

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 programs.

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 authorized 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 program development and curricula.

The resulting rapid expansion in Masters programs (Tekian & 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 programs and curricula, of varying lengths and intensity.

In terms of the outcomes model of professional education, we are aiming to develop people with the

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 the basic standards of education are being met and promulgated.

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 programs (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 programs. The purpose of this Association for Medical Education in Europe (AMEE) Guide is to present the expectations as described by the World Federation for Medical Education (WFME) 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 7 to 121 (Tekian et al. 2014) and the growth continues. Although there is a considerable commonality, a survey of such programs concluded that:

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

The WFME, 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 program 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 programs underpins these standards. As Tekian and Harris suggest: given the fact that there is a proliferation of such Masters-level programs in 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 homogenize 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 analyze, synthesize, 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 WFME hopes that these standards will assist the program 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. Program 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 programs.

Use

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

1. As a Guide for new program designers.
2. As a framework for local quality assurance and program 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 10 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 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 program director must:

- Formulate the purpose of the program 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 a 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.
 - Synthesizing information.
 - Creative problem solving.
 - Communicating clearly.
- Demonstrating an 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 organizational roles in educational development in their institution or department.
- Demonstrates applied knowledge and skills conduct health professions education research and program 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 program director must involve the principal stakeholders, including potential students, in formulating the program mission and outcomes.

Autonomy and academic freedom

The program 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.

Program title and description

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

- Program purposes, philosophy, and values.
- Program 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 enrollment, including advanced standing and exemption arrangements.

- Program fees and bursaries.
- Advice on study and academic skills (including presentation of written assignments and referencing) and time management.
- Warnings and complaints procedures.
- Program evaluation and quality assurance.

Educational process

Instructional and learning methods

The program 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 program units, supervision, mentoring, blended learning, and independent learning.

Academic skills development

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

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

The program director must:

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

Program content, scope, and contextualization

The program director must:

- Select program 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 program director must ensure that students:

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

Program structure and duration

The overall structure and duration of the Master's program must be described with a clear definition of:

- The duration of the program, 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, program 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 program.
- Requirements for completion of the program.
- Arrangements for extension and deferrals, if any.

Process of curriculum development

The program director must describe:

- The process of curriculum design, including needs assessment and contextual analysis, a 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 program 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 program director must ensure that:

- Both formative and summative assessments are offered.
- Assessments adequately sample the program content.
- The assessments address the Master's level academic skills as stated in the section "Statements of purpose and outcome."
- A range of assessment methods and formats is used, according to their appropriateness to the learning objectives and context.

Feedback to students

The program director must ensure that:

- Personalized 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 program director must appoint a qualified academic external examiner to verify standards and results.

Students

Admission policy and selection

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

Student support and counseling

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

Student representation

The program 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 organizations.

Graduation requirements

The program director must set out requirements in terms of:

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

Progress and attrition rates and reasons

The program 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 program before completion has done so.

Staffing

Appointment policy

The program director must:

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

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

- Provide a list of duties and responsibilities.
- Specify the program 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 program director on their roles, responsibilities, and the support provided.

Number and qualifications of teaching and supervisory staff

The program 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 program 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 programs, the program 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 program 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 program director must, for both face-to-face and distance learning:

- Formulate and implement a policy which addresses the effective use and evaluation of appropriate information

and communication technology in the educational program.

- 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 program monitoring and evaluation

The program director must:

- Have a program of routine monitoring of curriculum activities, processes, and outcomes.
- Establish and apply a mechanism for program 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 program.
- Ensure that stakeholders have access to results of the program evaluation.

Feedback from staff and students

The program director must:

- Systematically seek, analyze, and respond to teacher, staff, and student feedback.
- Use feedback results for program development.

Performance of students and graduates

The program director must:

- Analyze the performance of cohorts of students and graduates in relation to:
 - The program 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 counseling.

Governance and administration

Program director

The program must have:

- A named program director.
- Accountability to specified higher management.

Governance

The program director must:

- Define program 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 program director must:

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

Program management

The program must have:

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

Funding and resource allocation

The program 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 program director must:

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

Requirements and regulations

The program director must:

- Ensure that the administrative staff is appropriate to support the implementation of the program.
- Show that the management process includes a program of quality assurance.

- Demonstrate compliance with the regulatory requirements, including the award of an academic qualification.

Process for startup and approval

Program documentation must show:

- A formal documented process at startup of vetting program 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 program.
- Documentation and evidence of any joint participation with other institutions and/or adjunct faculty.
- Appropriate official approval by a university to enroll students.

Finance

The program director must show:

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

Financial management and probity

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

Program information

The program director must ensure the provision of:

- Full and accurate accessible information for prospective students about program 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:
 - Program philosophy.
 - Program 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 program level.

- Admission and enrollment.
- 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.

Program renewal

The program director must:

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

Conclusions

All program directors will recognize that there are many things that constrain the planning and organization of postgraduate programs. In this Guide, we have gathered together the consensus of the academic community, which we hope will be an aide memoire for program directors, and potentially act as leverage with management teams unfamiliar with the constraints of running master's programs 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.

Disclosure statement

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.


Notes on contributors

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David Taylor, MA, MSc, PhD, EdD is editor of the AMEE Guides, and is the director of postgraduate programs 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.

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