



International Medical School

IMS Background Study

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Abstract

The present study is part of the IMS 2020 project and offers an introduction to basic principles of Quality Management – QM (as a concept), and provides an insight into the potential role of QM in the field of education, especially in the medical context. The benefits of introducing Quality Management systems into an organisation are now readily recognised, and despite originating in business and industry, Quality Management strategies have since been adapted to apply to a diverse range of other sectors. Even in education, quality management has started having an increasingly important role. Different systems, e.g. accreditation, have been developed to evaluate and prove the program quality at a structural and content-specific (curriculum) level.

Quality management in health care provision plays an even more critical role, often against the background of legal frameworks. While different approaches of quality management exist, the most common in the health sector are the ISO 9000 Series and the EFQM. As the focus of the present study is medical education and regarding the numerous approaches and regulations in health/medical care the focus of this study will be only put on a very brief description of the main principles of quality management.

The first section introduces the structure of the study and is followed by a description of basic principles of Quality Management and the founding systems that form the basis of most implemented strategies. Sections three examine international and European guidelines for Quality Assurance in teaching and research. The section on teaching is supported by examples of good practice, which not only aim to demonstrate the range of structures currently in use, but also provide a working example of the information featured in this study.

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1 Introduction

This background study aims to:

- 1) define the basic terms used in the project IMS 2020
- 2) provide the analytic framework
- 3) describe examples of quality management in medical education.

The goal of this project is to develop an International Medical School (IMS) 2020 label that incorporates a range of approaches including quality management, standards for excellence in medical education and different approaches to develop a label. All three strands contribute substantially to the IMS 2020 label, but cannot be directly used without being adapted for the purpose of the label. Accordingly, the project group has to develop – using the different concepts – its own methodological approach.

Different concepts in the context of (medical) education have been developed and supporting structures have been established. The main approaches were: accreditation, auditing, benchmarking, quality management and curriculum development. Besides a very general definition, the mentioned approaches differ substantially not only in how they are specifically defined but also in how they were applied.

In the IMS project the following very basic definitions will be used:

- **Accreditation**
A process where a professional association or nongovernmental agency agrees based on self-report and/or site visits that defined standards are met. In education, Bachelor and Master Programmes receive accreditation which normally is limited in time.
- **Auditing / Audit**
An internal or external evaluation of an organization, a system or a process. A successful evaluation implies that the audit criteria have been met, and this is normally acknowledged by the award of a certificate.
- **Benchmarking**
A comparison with the best performer in a field and is used to improve performance. The results can be used internally or externally, e.g. as rank list.
- **Quality Management**
A system comprising all activities that are aimed to enhance the quality of an organization, its processes and products.
- **Curriculum Development**
The generation of the content and delivery of study programmes, generally organised as learning goals and objectives at different stages of training, to achieve overall program objectives (see e.g. <http://www.scottishdoctor.org/>).

For the IMS label, the performance of institutions will be tested with respect to internationalization. The evaluation is based on self-reports, consistent with the methodology applied in auditing. Due to the intention to adopt a star system, one to three stars indicating the level of performance, the opportunity to benchmark the participating organisations is embedded.

2 Quality Management: Background

This chapter aims to introduce three major concepts, which more or less build on each other and together form a normative and pragmatic framework for modern quality management systems in general, as well as incorporating the European standards for QM.

2.1 Total Quality Management (TQM)

Total Quality Management (TQM) is a quality management principle that aims to optimise organisational output by taking “the idea of quality in organisations to its *nth* degree” (Elsevier 2005, 8). Unlike the ISO 9000 series and the EFQM Excellence Model (see below), which are the exclusive, patented products of independent organisations, TQM is instead a generic, non-proprietary quality management philosophy that can be applied to a variety of organisations and has been adopted by numerous firms as part of their own quality improvement programmes.

The most widely accepted founder of TQM is American, Dr. W Edwards Deming, who, together with statistician, Walter A. Shewhart, developed a statistical approach to quality assurance in the 1930s as a means of alerting managers of the need to intervene in the production process. Other influences however include Joseph M. Juran, who placed customer satisfaction as a priority and focused on management and technical methods rather than worker satisfaction, and Philip Crosby who identified prevention as an important factor in the development of efficient work processes. Deming’s influence on Japanese industry in the 1980s also means that TQM is for many synonymous with Japanese production methods. (Reference for Business)

The TQM philosophy promotes the development of quality awareness across all levels of an organisational process. Workers are encouraged at all stages to implement measures that strive towards achieving high quality standards, making quality the outcome of all activities. In this context, the concept of quality is heavily bound with customer satisfaction. TQM is therefore a **highly customer-orientated principle** that seeks to integrate all organisational functions (marketing, finance, design, engineering, production, customer service ...) in order to meet or exceed customer needs and achieve organisational objectives (Hasmi). It aims to eradicate wasteful practices and improve efficiency by instilling in its workers the importance of achieving desired outcomes the first time round. TQM does however accept that mistakes will nonetheless occur. Although mistakes can be made by people, much of the culpability is placed on (the effectiveness of) the processes. In turn TQM strives to resolve this issue through the optimisation of processes via a number of prevention mechanisms:

1. Mistake-proofing: Prevent mistakes from occurring.
2. Inspection at source or by the next operation: Where mistakes can't be prevented, detect them early to prevent them being passed down the value added chain.
3. Stop in time: Where mistakes recur, stop production until the process can be corrected, to prevent the production of more defects. (Hasmi)

This belief that mistakes are preventable sets into motion a process of continuous improvement, whereby procedures are continuously evaluated and enhanced. However, TQM not only focuses on the continual improvement of processes but also on the continual improvement of results across all organisational functions, via the constant development of capabili-

ties, people, processes and technology. This demonstrates that continuous improvement is pursued at all organisational levels.

Nine key practices for TQM have been identified in a study carried out by Kristy O. Cua, Kathleen E. McKone and Roger G. Schroeder and can be summarised as the following:

- Committed leadership
- Strategic planning
- Cross-functional training
- Employee involvement
- Information and feedback
- Process management
- Cross-functional product
- Design
- Supplier quality Management
- Customer involvement

(Cua, McKone and Schroeder 2001)

As the oldest and broadest of the three quality management principles presented in this study, TQM has influenced a number of industries, organisations and quality management programmes.

The philosophy's underlying strategy to avoid mistakes, in theory recovers the time and money that an organisation would otherwise have lost as a result of faulty processes and inefficient workers. The result: extra time, money and resources that can be used in numerous productive ways to benefit the development and expansion of the organisation. Furthermore, this strategy helps to create a productive and positive work environment that encourages employees to work at their maximum capacities; not only by instilling in its workers the necessity to achieve optimal results from the first attempt, but also through the collaborative nature of the system. Because the system is dependent on worker input on all levels, it is also reliant on absolute cooperation. In turn, it involves workers in the decision-making process, creating a better working environment, which translates into a greater sense of purpose and an increase in morale. Additionally, a collective involvement in the decision-making process increases general employee awareness of the organisation's goals and ambitions. This results in a more efficient and cohesive workforce, that collectively works towards the same goal.

However, this collective involvement also proves to be a double-edged sword. In spite of its benefits, high dependence on collaborative input is also one of TQM's major downfalls. Due to this dependence on a cooperative workforce, an organisation is likely to only be as strong as its weakest (or least committed) members. Decision-making processes in particular would suffer on account of a need to reach a consensus.

To add to the difficulties in achieving organisational harmony, TQM is a quality management system that aims to introduce a new organisational culture, structure and mentality. Attempting to introduce such fundamental changes is itself problematic and is almost always accompanied by disruption, conflict and disagreement at some level:

“Practitioners must be trained, the philosophy assimilated and taught, decisions must be reached, and time is needed to implement a new work procedure and a way of thinking.” (Hazzard 1993)

In order for TQM to be successfully implemented, senior management must be prepared to make a significant investment to realise the long-term benefits of TQM, particularly in terms of time, monetary and opportunity costs.

2.2 EFQM: General Philosophy

EFQM (European Foundation for Quality Management) is a non-profit organisation based in Brussels, which provides advice and guidance on strategy implementation for organisations and senior leaders. It was established in 1988 by the CEOs of 14 prominent European businesses, who aimed to develop a management tool that would increase the competitiveness of European organisations by pooling together the best business strategies from around the world. It boasts a community of over 500 members from more than 55 countries and 50 industries, and a clientele of more than 30,000 organisations around the world.

The TQM-based EFQM Excellence Model is the quality management system endorsed by EFQM. It is a framework for organisational management systems and a tool for promoting competitive drive. It helps organisations strive for excellence through the establishment of an appropriate management system by measuring their performance on the path to excellence, helping them understand their shortcomings, and then stimulating solutions.

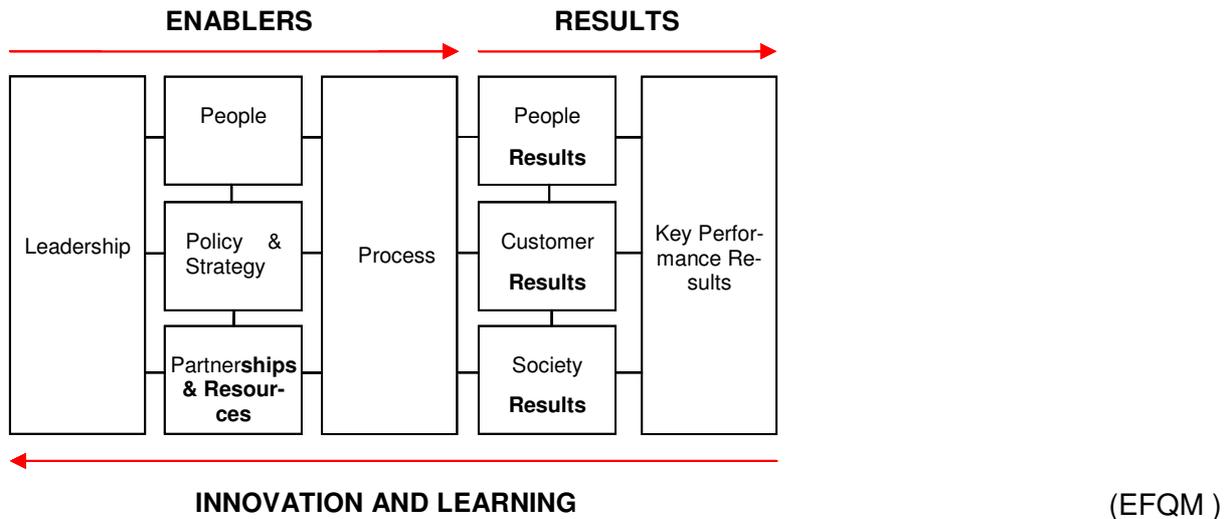
The EFQM Excellence Model comprises a number of components. Like the ISO 9000 group (see below), the model is based on the eight fundamental concepts of excellence. EFQM describes them as:

- Achieving Balanced Results
- Adding Value for Customers
- Leading with Vision, Inspiration & Integrity
- Managing by Processes
- Succeeding through People
- Nurturing Creativity & Innovation
- Building Partnerships
- Taking Responsibility for a Sustainable Future

(EFQM)

The model presents the route towards excellence (Customer Results, People Results and Society Results) as involving people, strategy, partnerships and resources, all of which are driven by efficient leadership. This premise is underpinned by nine criteria which represent each component of an organisation’s activity. These criteria are divided into two categories – Enablers and Results.

Fig 1: EFQM Excellence Model



The Enablers represent factors concerning organisational function, staff management, the management of resources, strategic planning and how it monitors and reviews key processes. Results denote what the organisation achieves, including level of satisfaction among the organisation’s employees and customers, its impact on the wider community and key performance indicators. The results are then used to evaluate how effectively things are done.

Underlying the model is the RADAR logic:

- Results:** *identifying what you want to achieve*
- Approach:** *developing an appropriate way to achieve these results*
- Deploy:** *implementing the approaches planned*
- Assess and Review:** *assessing the effectiveness of the approaches deployed and making necessary improvements.*

This offers organisations an efficient implementation method to complement and facilitate the use of the EFQM Excellence Model.

Another component of EFQM's system lies in learning through exchange. The model promotes collaborative work and strong business relationships in order to endorse greater understanding and better implementation of what delivers higher performance. Its extensive community acts as a platform for this knowledge exchange, in which organisations are able to share knowledge, experiences and good practice for the sake of organisational improvement.

Like most quality management systems, the EFQM Excellence Model is founded on the eight basic quality management principles. Nonetheless its implementation of these principles and the variation in emphasis regarding each standard help to distinguish it from other systems, and its incorporation of a variety of other QM values provides it with a more comprehensive structure.

One fundamental observation regarding the Excellence Model's approach is its **emphasis on results** rather than processes. In other words its focus lies in achieving the desired outcome (through the implementation of an efficient work process) rather than simply working towards 'perfecting' the process itself. Even when the results are achieved, the model continues in its pursuit for excellence by encouraging organisations to constantly assess and evaluate their results for areas of weakness, in order to promote a culture of continuous improvement within the organisation.

In addition to the typical self-contained, introspective and independent "learning from within", endorsed by most QM systems, EFQM also offers its clients a more interactive process of self-improvement. Its large network of 500 member organisations and more than 30,000 clients acts as a learning community; a database of mutual mentors, where organisations are able to exchange ideas and learn from each other, exposing them to a wider range of initiatives and systems, with the additional benefit that they have already been tried and tested.

Flexibility is also an advantage with the EFQM Excellence Model. The system offers a non-prescriptive framework, which can be adapted to a wide range of industries and tailored to meet the individual needs of the organisations. The flexibility of the framework enables an organisation to tackle specific issues, or larger issues in bite-sized stages, as well as the bigger picture in general, whilst also recognising that there are a variety of approaches to achieve sustainable excellence (Gené-Badia, et al. 2001, 408).

Nonetheless EFQM is also subject to a number of drawbacks. Concerns that have been raised include its time consuming nature (in terms of managing work and carrying out self-assessments, organising mutually convenient times for meetings) and its reliance on the full support and commitment of staff. Among other factors, effectiveness can be compromised by: poor relations in self-assessment teams, lack of dedication and reluctance to change practice (Moeller 2001, 47).

2.2.1 EFQM: Excellence Model (in Higher Education)

Over the past decade, use of the EFQM Excellence Model has spread not only in but also beyond the private sector. While critics remain sceptical that a model designed for businesses and employing business sector vocabulary can be applied to non-profit organisations (Moeller 2001, 47) and higher education (Vroeijenstijn 2001, 78-9), others (Zink and Voß 2000, Arjomandi, Kestell and Grimshaw 2009) illustrate how the EFQM Excellence Model can be easily modified or interpreted to measure the quality of higher education institutions. Among the reasons for the growing popularity of and demand for quality assurance and quality management in higher education are increased competition and decreased funding, which have reinforced the efforts of higher education institutions to fulfil or exceed the needs and demands of their stakeholders¹ (Zink and Voß 2000, 241-2), as well as emergent internationalisation and the ensuing need for mutual recognition of degrees (Vroeijenstijn 2001, 82).

Comparing ISO 9001, the Baldrige National Quality Award (BNQA; see below), originating in the U.S., and the EFQM Excellence Model, Bokhari (Bokhari 2006) concludes that the latter is the most suitable model for higher education institutions as it is the most complex and stakeholder-oriented of the three. On the other hand, he suggests that being certified accord-

¹ In most definitions, stakeholders in the higher education sectors include students, staff, funding bodies, external business and research partners, future employers and society.

ing to the ISO 9001 model can, due to its simplicity compared to EFQM, its world-wide recognition and the global availability of certification bodies, be the first step for any higher education institution striving for organisational excellence. The ISO 9000 series certificate is valid for three years.

Central advantages of using EFQM are its non-prescriptive framework character and its flexibility, which enable each higher education institution to adapt the EFQM Excellence Model to meet its unique needs.²

Higher education institutions interested in implementing an EFQM-based quality management system can also draw on the work of the *European University Quality Management Tools for Lifelong Learning (UNI-QM)*³ and of *Trans-SAETO*⁴. Coordinated by the Valencia Institute of Technology, UNI-QM developed “a model and tools for quality management in lifelong learning organisations and continuing education” (UNI-QM) based on the EFQM Excellence Model. Tools, case studies and guidelines are available on UNI-QM’s website. Trans-SAETO, led by the University of Liechtenstein, piloted and implemented a software solution licensed by EFQM that is designed to assist higher education institutions in implementing quality management in 30 education institutions in the German-speaking parts of Europe.

As EFQM offers a guideline and framework for self-assessment, problems of accountability and comparability of different organisations can arise. If an organisation conducts a self-assessment and does not do so honestly and self-critically, the results carry little validity. It is, however, possible to test against the EFQM standard, i.e. to be evaluated and certified by EFQM or one of its partner organisations in the **EFQM recognition programme**. Three consecutive recognitions are available: “Committed to Excellence,” “Recognised for Excellence” (3 to 5 stars) and “EFQM Excellence Award.” Institutions can also request a “Customised Assessment” that is tailored to their specific needs (EFQM). In this way, progress can be measured, and comparability can be assured.

2.3 ISO 9000 Series

ISO (International Organisation for Standardisation) is the largest developer and publisher of International Standards in the world. It is a non-governmental organisation composed of representatives from the national standards institutes of 163 countries.

The ISO 9000 family is the family of standards published by ISO that relate to quality management. It “represents an international consensus on good quality management practices” (ISO) and offers organisations a set of standards and guidelines, to which they can refer for the development and enhancement of their quality management systems.

² A UK consortium (*Excellence in Higher Education Programme*) under the leadership of Sheffield Hallam University and funded by the Higher Education Funding Council for England took an important step towards standardising the use of EFQM-based quality management in higher education. In 2003 it produced a **Higher Education Version of the Excellence Model**, which has been tested in the higher education context and fully endorsed by EFQM. This version offers practical suggestions on how the Excellence Model (the nine main criteria and their respective sub-criteria and areas to address) can be interpreted and implemented in the higher education context and also integrates elements from the American BNQA that were deemed enriching. (http://www.csuchico.edu/vpaa/wasc/docs/EERDocs/APRfiles/EFQM_Version_2003_Model.pdf)

³ <http://www.cfp.upv.es/webs/uniqm/inicio/index.jsp>

⁴ <http://www.trans-saeto.com/Home/Software/tabid/1205/Default.aspx>

ISO 9001

As the most comprehensive model in the series, ISO 9001:2008 is the only standard in the family which organisations can be certified against. Although not a compulsory part of the ISO management system standards, a possible outcome of certification may be greater credibility for the organisation.

The ISO 9001:2008 is based on 8 principles:

- Principle 1: Customer focus
- Principle 2: Leadership
- Principle 3: Involvement of people
- Principle 4: Process approach
- Principle 5: System approach to management
- Principle 6: Continual improvement
- Principle 7: Factual approach to decision making
- Principle 8: Mutually beneficial supplier relationships

These principles function as a set of requirements or aims for the organisation to fulfil/achieve, in order to enhance the performance of the organisation, display a high level of quality management, and ultimately demonstrate organisational excellence.

Principle 1: Customer Focus

This principle ensures that the customers' needs, requirements and expectations feature as a main focus within an organisation's objectives and strategy. Among the benefits of systematically identifying and addressing customer needs and measuring customer satisfaction are increases in revenue and market share, optimised use of resources and greater customer loyalty leading to repeat business.

Principle 2: Leadership

Leaders are responsible for the drive and direction of an organisation. By creating the right work environment through good leadership, motivation is boosted and input increased, to produce a more effective workforce and ultimately achieve goals more successfully and efficiently. Benefits of effective leadership include greater cohesion and motivation among the workforce towards the organisation's goals and objectives, enhanced communication between the different levels of an organisation and, significantly, better consideration of the needs of all interested parties, such as customers, owners, employees, suppliers, financiers, local communities and society as a whole.

Principle 3: Involvement of people

This principle follows on from Principle 2 by focusing on the utilisation of its employees on all levels of the organisation for maximum benefit. The essence of an organisation is its workforce and engaging people on all levels results in minimal wastage of skills and enables their

abilities to be used for the organisation's benefit. This leads to better teamwork, improved work efficiency and quality, and an increase in organisational advantages.

Principle 4: Process approach

This principle promotes managing activities and related resources as a process. This results in greater awareness of the task at hand, resulting in enhanced efficiency, greater cost-effectiveness and better control in attaining desired results.

Principle 5: System approach to management

Similar to Principle 4, this principle promotes identifying, understanding and managing inter-related processes as a system in order to achieve results efficiently and effectively. Key benefits of this principle include the integration and alignment of the processes that will best achieve the desired results, the ability to focus effort on the key processes, and a guarantee of organisational consistency, effectiveness and efficiency for its interested parties.

Principle 6: Continual improvement

Continual improvement of the organisation's overall performance should, according to the ISO 9000 series, be a permanent objective of the organisation. Consistently encouraging self-improvement forces standards to increase, instigating a consistent process of change in a positive and upward direction.

Principle 7: Factual approach to decision making

This involves decisions based on the analysis of data and information. Fact-based decisions are considered to be more effective decisions; they are better informed and consequently more reliable and more accurate. This also impacts positively on the accuracy of the decision-making process, improving not only the quality of the outcome but also the quality of the work leading to the outcome. Implementing this principle can lead to a number of advantages, such as an increased ability to demonstrate the effectiveness of past decisions through reference to factual records and consequently, an increased ability to review, challenge and change opinions and decisions.

Principle 8: Mutually beneficial supplier relationships

A mutually beneficial relationship between an organisation and its suppliers leads to a more positive collaboration between the two parties and enhances the ability of both to create value. Not only does this create greater value for both parties but it can also optimise costs and resources and increase flexibility and speed of joint responses to changing market or customer needs and expectations.

(ISO 9000)

The ISO 9000 series is perhaps the most internationally recognised of all the quality management systems. It offers organisations a set framework for excellence and the ISO 9001 certification. Many of the benefits in implementing the ISO 9000 quality management system are generated by this distinguished certification.

An important success factor lies in what this certification represents. To many, the ISO 9001 certification is seen as a guarantee for quality. It is testament to the successful implementation of a set of specific criteria for the purpose of attaining a certain quality level (determined by the highly regarded ISO). Furthermore, due to ISO's international reputation, it is instantly recognised as this assurance for quality. Organisations wearing this ISO accreditation are

therefore admitted to a number of reputational benefits, such as increased marketability (Reference for Business). This may not only mean an increase in customer retention but also an increase in customer acquisition as a result of heightened credibility among current and prospective clients alike.

However, in spite of this widely recognised quality label, one major criticism of the ISO 9000 quality management system is the system's limitations to guarantee the quality of results. The ISO 9000 series is **process oriented**. Emphasis is placed on optimising the measures used to acquire a desired outcome. Although it can be argued that a consequence of optimising the process would be optimal results, this cannot be guaranteed and the system itself does very little to ensure or assess this. As a result, the ISO 9000 standards may be successful in developing an efficient work method but it nonetheless falls short of guaranteeing a good standard for results.

In consequence of this strong commitment towards process, the system can be viewed as inflexible and time-consuming (Prove and Improve - ISO 9001: 2008). Although it offers organisations a set framework and clear measures to adhere to, this also results in a tool that may be somewhat less flexible than others, and one that is more difficult to apply when dealing with smaller or single issues. The fixed criteria, which lead to the much coveted certification, have the potential to transform processes into lengthy bureaucratic procedures, in which priority lies in producing the necessary documentation and ticking the right boxes in order to fulfil these measures. This is neither productive nor cost or time effective.

2.3.1 ISO 29990:2010 – Learning services for non-formal education and training - Basic requirements for service providers

In September 2010, ISO released the “ISO 29990:2010 *Learning services for non-formal education and training – Basic requirements for service providers*” standard, an international standard specifically developed for the educational field, with the aim of improving the quality of learning services and facilitate the comparison of educational programmes on a worldwide basis.

ISO 29990:2010 strives to provide “a generic model for quality professional practice and performance, and a common reference for learning service providers (LSPs) and their clients in the design, development and delivery of non-formal education, training and development” (ISO). Targeted organisations for this standard include educational institutions, universities, individual trainers and business establishments offering further training for the industry.

Areas covered by the ISO 29990:2010 standard include:

- The assessment of the needs of interested and affected parties
- Setting the objectives and scope of learning
- The learning content and learning processes
- The establishment of funds to support and monitor educational transfer
- Ensuring availability of and access to learning resources and the learning environment as such

A key component of the standard involves “ensuring the quality and effectiveness of the education or training and [the] improvement of knowledge transfer, whilst also enhancing the

transparency and comparability of the range of learning services provided.” (ISO) It is therefore intended that ISO 29990 support LSPs in their ability to consistently provide quality services, improve organisational effectiveness, and reduce overall business costs.

Typical of ISO standards, ISO 29990:2010 places emphasis on the learner (the primary stakeholder) and the results of the process. It is envisaged that the standard will ultimately be used to certify LSPs and thereby assist organisations and individuals in recognising and selecting the LSP that best accommodates their needs and expectations for competency and capability development.

2.4 Standards and Guidelines for QA in the European Higher Education Area

In a European context the Bologna process has stimulated a major overhaul of the higher education landscape. With the premium that is being put on compatibility, comparability and mobility, the development of standards for quality assurance can be considered an almost natural development. In 2009, the European Association for Quality Assurance in Higher Education published the third edition of its *Standards and Guidelines for Quality Assurance in the European Higher Education Area* (ENQA 2009), by which European medical schools in particular can be guided. It includes non-prescriptive recommendations for higher education institutions (European standards and guidelines for internal quality assurance within higher education institutions), for external quality assurance of higher education institutions and for external quality assurance agencies. The recommendations for higher education institutions cover 7 areas and contain broad guidelines for the implementation of the suggested standards in each:

- Policy and procedures for quality assurance
- Approval, monitoring and periodic review of programmes and awards
- Assessment of students
- Quality assurance of teaching staff
- Learning resources and student support
- Information systems
- Public information

ENQA places great emphasis on stakeholder orientation, accountability and the development of a “culture of quality” at higher education institutions. While not nearly as comprehensive as the EFQM Excellence Model or the WFME⁵ Global Standards (see below), ENQA’s proposals demarcate the context within which European institutions of higher education operate and can serve as the first guideline for quality assurance in a higher education context.

⁵ World Federation for Medical Education

3 Quality Management for Medical Schools: Teaching and Research

The need for quality assurance and quality management instruments and mechanisms is increasingly being acknowledged by governments, associations of higher education institutions and by national, regional and international organisations. Consequently, quality management models originally designed for the private sector have been modified and adapted to fit the higher education context. Moreover, a set of standards and guidelines has been developed specifically for higher education institutions. Some of these are very narrowly concerned with medical education; others apply to all institutions, subjects and forms of higher education. This chapter provides an overview of the most pertinent of these.

3.1 World Federation for Medical Education: Global Standards for Quality Improvement

International medical schools could implement the World Federation for Medical Education's WFME *Global Standards for Quality Improvement* from 2003. These exist for Basic (WFME, Basic 2003) and Postgraduate Medical Education (WFME, Postgraduate 2003) as well as for the Continuing Professional Development (WFME, CPD 2003) of medical doctors. As medical education and clinical medicine occur in symbiosis, all three documents apply to both medical schools and university hospitals, although the guidelines for basic medical education are more relevant to teaching than the others.

WFME's standards for quality improvement are structured similarly to the EFQM Excellence Model. Accordingly, the WFME standards cover nine areas for all three types of medical education and with 36 to 38 sub-areas each:

Basic Medical Education	Postgraduate Medical Education	CPD
<ol style="list-style-type: none"> 1. Mission and Objectives 2. Educational Programme 3. Assessment of Students 4. Students 5. Academic Staff/Faculty 6. Educational Resources 7. Programme Evaluation 8. Governance and Administration 9. Continuous Renewal 	<ol style="list-style-type: none"> 1. Mission and Outcomes 2. Training Process 3. Assessment of Trainees 4. Trainees 5. Staffing 6. Training Settings and Educational Resources 7. Evaluation of Training Process 8. Governance and Administration 9. Continuous Renewal 	<ol style="list-style-type: none"> 1. Mission and Outcomes 2. Learning Methods 3. Planning and Documentation 4. The Individual Doctor 5. CPD-Providers 6. Educational Context and Resources 7. Evaluation of Methods and Competencies 8. Organisation 9. Continuous Renewal
36 sub-areas	38 sub-areas	36 sub-areas

Each of the sub-areas contains *basic standards* denoting the bare minimum of what all medical schools "must" achieve and *standards for quality development* that medical schools

striving for excellence “should” implement. Standards for quality development correspond to the international consensus on best practice in each of the three categories.

Owing to considerable overlap with the nine criteria and numerous sub-criteria of the EFQM Excellence Model Higher Education Version – most notably in the areas of stakeholder involvement, leadership and strategy, and management of resources – the WFME standards lend themselves to integration into EFQM-based quality management systems. In this context, the guiding questions in the “Outline for Data Collection” section complement the areas to address catalogued in the EFQM Excellence Model. Just like EFQM, the WFME standards are based on a continuous process of evaluation, adaptation and re-evaluation. WFME recommends as the most valuable method a combination of institutional self-assessment and external peer review.

WFME encourages regional WFME associations or partner organisations to adapt the global standards to the specific legal, political and/or educational circumstances as well as to the regional health needs prevailing in that region. So far, however, regional specifications exist only for Europe and the Western Pacific (World Health Organization 2001)⁶. The European specifications, crafted in 2007 by an international Task Force set up by the Thematic Network on Medical Education in Europe (MEDINE 2007) have, inter alia, classified several WFME quality development standards as basic standards and have anchored EU or Bologna regulations or recommendations into additional basic and/or quality development standards. As the basic standards, as per the requirements of the WFME, have to remain untouched by any regional modification, a common denominator is ensured.

Consequently, what makes the WFME Global Standards interesting for international medical schools is their specific international orientation aimed at ensuring “an adequate educational grounding of migrating doctors” and “facilitat[ing] exchange of medical students, and eas[ing] the acceptance of medical doctors in countries other than those in which they trained” (WFME, Basic 2003, 3+7). This potential has recently been recognised by the *Educational Commission for Foreign Medical Graduates*, which checks the educational credentials of graduates from non-U.S. medical schools against U.S. standards and issues the certificates required to pursue post-graduate medical education in the U.S.:

“The Educational Commission for Foreign Medical Graduates (ECFMG®) has announced that, effective in 2023, physicians applying for ECFMG Certification will be required to graduate from a medical school that has been appropriately accredited. To satisfy this requirement, the physician’s medical school must be accredited through a formal process that uses criteria comparable to those established for U.S. medical schools by the Liaison Committee on Medical Education (LCME) or that uses other globally accepted criteria, such as those put forth by the World Federation for Medical Education (WFME).” (ECFMG 2010)

While highlighting that currently no globally accepted standards for assessing medical university education are in place, ECFMG expects this new requirement to “catalyze efforts to develop a formal accreditation process for international medical education that utilizes globally accepted criteria,” where WFME could accredit institutions that in turn accredit medical schools (ECFMG 2010).

⁶ These regional specifications are based on a previous version of the WFME standards.

According to the then WFME President Hans Karle, by 2004 the WFME standards were used by a “number” of medical schools and countries in their reform plans and as a basis for their national standards respectively (Karle 2004).

3.2 Other Guidelines and Projects in Medical Education

3.2.1 International: Global Minimum Essential Requirements in Medical Education

The Institute for International Medical Education (IIME), established by the Board of Trustees of the China Medical Board of New York, is concerned with developing international standards, which medical students should demonstrate upon graduation of a medical degree. In 2002, a Core Committee comprised of international medical education experts published 60 *Global Minimum Essential Requirements in Medical Education* (GMER) that cover seven skills areas:

1. Professional Values, Attitudes, Behavior and Ethics
2. Scientific Foundation of Medicine
3. Communication Skills
4. Clinical Skills
5. Population Health and Health Systems
6. Management of Information
7. Critical Thinking and Research

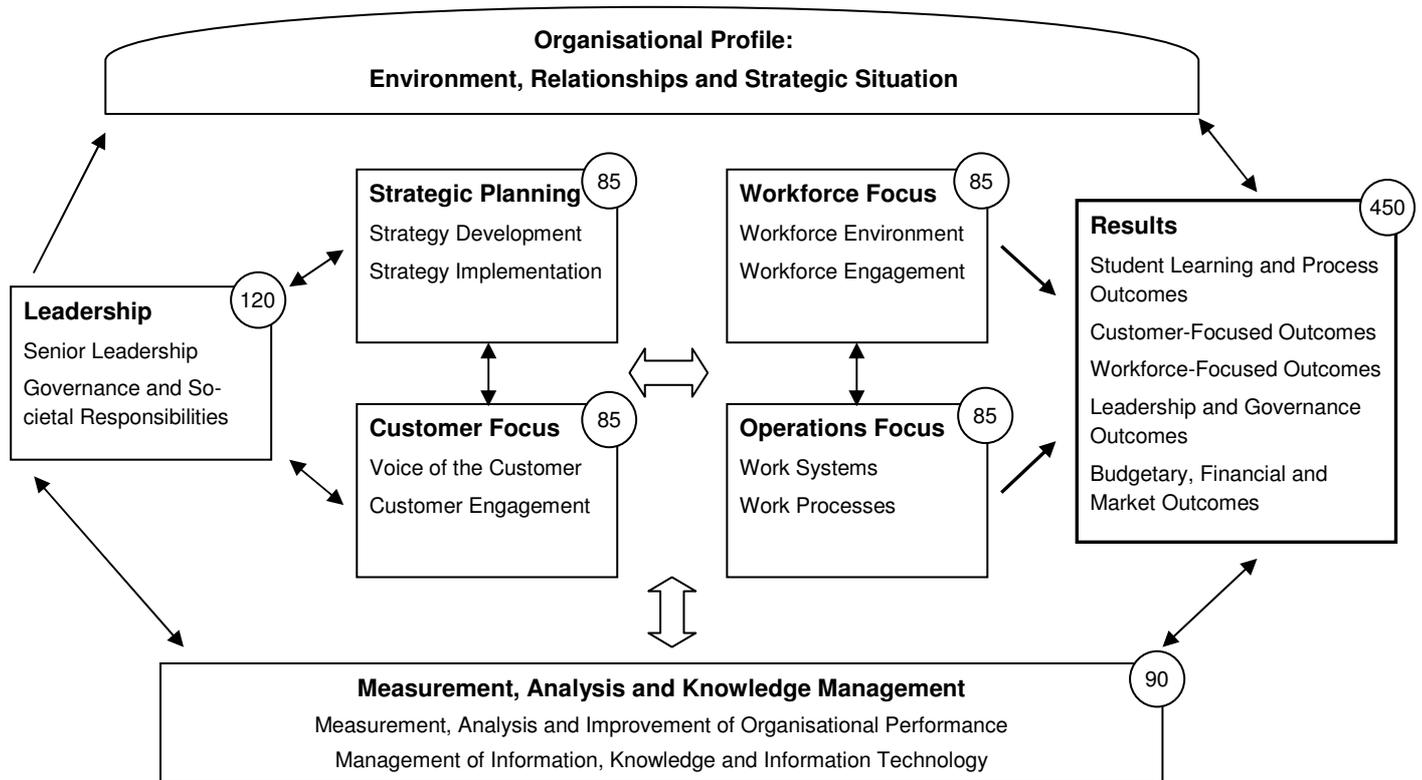
Similar to WFME, IIME allows for the adaptation and amendment of its universal standards to reflect national and regional variations in education systems, legal and political frameworks and health needs (Core Committee, Institute for International Medical Education 2002). Following the formulation of the GMER, IIME established a task force for identifying the tools most suitable to assess their implementation. A combination of multiple choice written exams (MCQ), Objective Structured Clinical Examination (OSCE) using patient and bench simulations with post-interaction exercises, and observer ratings of performance and students’ log-books were found to be most financially viable and educationally adequate. A test run at eight leading Chinese medical schools was conducted in 2003 (Stern, Wojtczak and Schwarz n.d.).

3.2.2 USA: Baldrige National Quality Award

The Baldrige National Quality Award (BNQA) is managed by the U.S. National Institute of Standards and Technology (NIST) and is available for several areas, including education. For each of these areas exists a specifically tailored and regularly revised and updated catalogue of criteria. The current edition (2011-2012) of the *Education Criteria for Performance Excellence* (NIST) covers seven categories, divided into a system foundation (Measurement, Analysis and Knowledge Management) as well as a leadership triad (Leadership, Strategic Planning and Customer Focus) and a results triad (Workforce Focus, Operations Focus and Results). The categories are further subdivided into a total of 17 process and result items. An overarching Organisational Profile captures the organisational structure, mission, values, objectives and strategic situation of the organisation and defines the context within

which the seven criteria categories are assessed and evaluated. The categories receive weighted scores totalling 1,000 points as follows:

Fig 2: Baldrige Education Criteria for Performance Excellence Framework



For each of the process and result items in the seven criteria categories, Baldrige lists areas to address in the form of guiding questions, thus producing an overall structure very similar to that of the EFQM Excellence Model. Other similarities include the emphasis on leadership and results and the stakeholder orientation of both models. In addition, the BNQA criteria are compatible with ISO 9000 and other models and approaches to performance enhancement (Baldrige by Sector: Education 2010). All participating education institutions receive a detailed feedback report composed by an expert panel. Although only U.S.-based organisations are eligible for application, the criteria are sufficiently detailed to be used in self-assessment and also include scoring guidelines for the process and results criteria. Moreover, two worksheets (*“Are we making Progress?”*⁷, *“Are we making Progress as Leaders?”*⁸) and the *easy Insight* self-assessment tool⁹ are publicly available on the NIST website.

3.2.3 UK: General Medical Council: Tomorrow’s Doctors

Medical schools wishing to implement a quality management system could also draw on *Tomorrow’s Doctors*, published and regularly updated by the UK’s General Medical Council. The current edition of *Tomorrow’s Doctors* (General Medical Council 2009) outlines nine domains of standards in undergraduate medical education with which UK medical schools are obliged to comply, with the goal of producing outcomes for graduates in three dimensions:

⁷ <http://www.nist.gov/baldrige/publications/upload/Progress.pdf>

⁸ <http://www.nist.gov/baldrige/publications/upload/ProgressAL.pdf>

⁹ http://patapsco.nist.gov/eBaldrige/Education_Profile.cfm

Outcomes for graduates	Standards for the delivery of teaching, learning and assessment
<ol style="list-style-type: none"> 1. The doctor as a scholar and scientist 2. The doctor as a practitioner 3. The doctor as a professional 	<ol style="list-style-type: none"> 1. Patient safety 2. Quality assurance, review and evaluation 3. Equality, diversity and opportunity 4. Student selection 5. Design and delivery of the curriculum, including assessment 6. Support and development of students, teachers and the local faculty 7. Management of teaching, learning and assessment 8. Educational resources and capacity 9. Outcomes

Like WFME, GMC distinguishes between requirements that “must” be fulfilled and those that “should” be fulfilled and contains a set of criteria to be met, which roughly compare to the sample questions contained in the WFME “Outline for Data Collection”, or the areas to address as proposed by the EFQM Excellence Model and the BNQA Education Criteria for Excellence. Moreover, *Tomorrow’s Doctors* contains suggestions for the kind of evidence that can be used to assess and document fulfilment of each of the standards and their criteria. GMC ensures compliance with these standards by means of an Annual Return Process (analysis of documents supplied by medical schools) and a Visit Process, which can be initiated if an issue, such as changes to the curriculum, needs to be more thoroughly investigated (General Medical Council).

3.2.4 Germany: Gesellschaft für Medizinische Ausbildung: MedEd

In 2007, the German *Gesellschaft für Medizinische Ausbildung*¹⁰ (GMA) published a draft concept paper on quality assurance and management in German medical education (Rotgans 2007). This paper, which encourages the use of internal self-assessment and external assessment, is predominantly conceptual with a few practical suggestions. Perhaps of greatest interest to German medical schools is the MedEd-project (which is presented in chapter five of the concept paper). Based on experiences with the European DentEd Thematic Network, MedEd aims to establish a network of German, or German-speaking, medical schools that share information and knowledge through mutual visits. In the course of the project, the curricula of participating medical schools are to be analysed and mutually agreed quality indicators for medical education to be developed. Target areas are curriculum design, content and organisation; teaching, learning and examinations; programme progress and achievement; study aid and guidance; teaching and learning materials and quality management and development. Interested medical schools can register for the project on the GMA website.¹¹

¹⁰ German Association for Medical Education

¹¹ http://gesellschaft-medizinische-ausbildung.org/index.php?option=com_content&view=article&id=94&Itemid=170&lang=en

3.3 Good Practice: Medical Universities employing QM

Higher education institutions are increasingly recognising the need to implement quality assurance and management systems. Although EFQM has yet to achieve universal recognition, several higher education institutions in Europe have started to recognise the benefits of using quality management systems based on the EFQM Excellence Model, while similar options have been investigated and adapted for use in a higher education context in Asia, the Middle East, Australia and elsewhere. A number of higher education institutions have alternatively, and in some cases additionally, been ISO 9000-certified.

The following section aims to deliver an insight into the QM-systems currently employed in medical schools to monitor and assess quality standards in teaching and research. The examples included in this study comprise medical schools from across Europe. Much of the information for these examples is derived from a survey, designed by the authors of this study, and completed by the medical schools. Some of the examples, however, are not based on survey results and instead other sources have been consulted for the assessment of such examples.

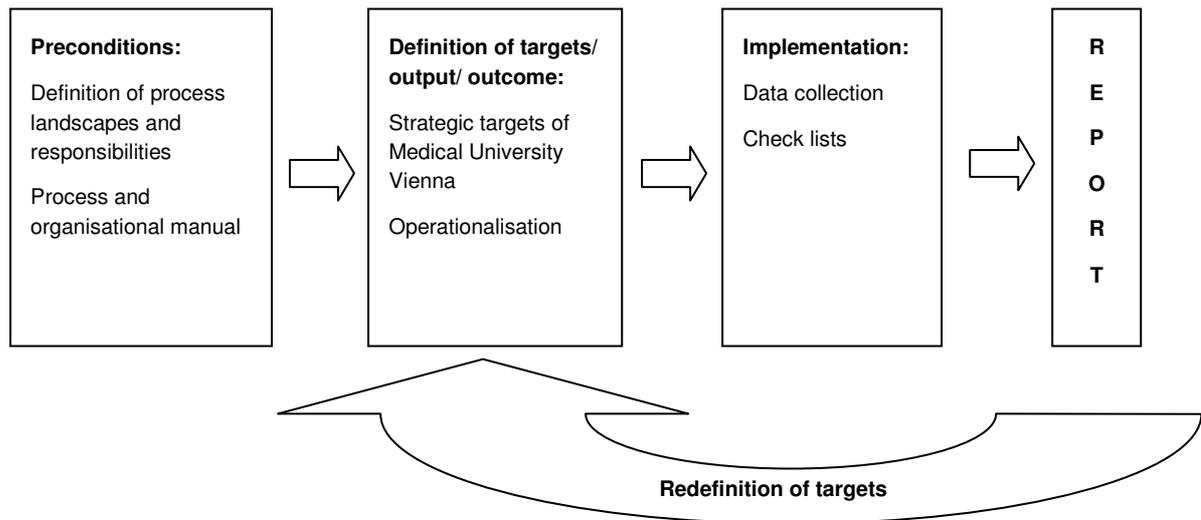
3.3.1 Non-Survey Based Examples

3.3.1.1 Austria: Medical University of Vienna

The Medical University of Vienna is the largest medical research institution in Austria and the largest medical university in the German speaking area. Founded in 1365, it originally began as the Medical Faculty of the University of Vienna, but since 2004 has operated as an independent institution. In addition to being one of the most reputable medical schools in Austria, the Medical University of Vienna has also generated international acclaim for its research institution as well as its academic opportunities.

Quality Management forms an integral part of the Medical University of Vienna. The medical university is ISO:9001 certified and has an EFQM-based quality management system in place for teaching, research and services.

The university applies EFQM's RADAR approach and places great emphasis on defining explicit, SMART (specific, measurable, achievable, relevant/ realistic, time phased/ timely) targets and expected results in teaching and research. These are further specified by means of sub-results and indicators. Progress on the targets is continuously monitored and evaluated, while the targets themselves and desired outcomes are re-evaluated as well:

Fig 3: Quality Management System, Medical University of Vienna¹²

The targets and expected results have been extracted from the university development plan. In the area of teaching the university conducts online evaluations, meta-analyses of the online evaluations, evaluations of degree sections as well as evaluations of electronic learning aids and materials. In the area of research quality management a Peer Review/Advisory Board and research activities documentation are used. In addition, measures taken to assure gender mainstreaming are evaluated.¹³ The Medical University Vienna was one of Trans-SAETO's pilot education institutions and started implementing an EFQM-based quality management system using Trans-SAETO's software.¹⁴

The staff unit *Evaluation and Quality Management*, which reports to university management, consists of 9 employees (one head of unit, and four staff members each for evaluation in teaching and documentation of research activities).¹⁵

Quality management at the Medical University of Vienna is founded on the philosophy of continual improvement. It adopts an all-inclusive approach, which engages its staff and employees within its QM procedures on every level of the institution, in both the development of its improvement strategies and in identifying problematic areas.

3.3.1.2 Germany: Carl Gustav Carus Faculty of Medicine, Technische Universität Dresden

The Carl Gustav Carus Faculty of Medicine, University of Technology Dresden (TU Dresden), Germany, was founded in 1993 following the reunification of Germany and was the first

¹² Adapted from: http://www.meduniwien.ac.at/homepage/fileadmin/HP-Relaunch/pdforganisation/evaluation/Infoveranstaltung_QM_MUW_Oktober_2006_Langfassung.pdf

¹³ http://www.meduniwien.ac.at/homepage/fileadmin/HP-Relaunch/pdforganisation/evaluation/Infoveranstaltung_QM_MUW_Oktober_2006_Langfassung.pdf, http://www.meduniwien.ac.at/homepage/fileadmin/HP-Relaunch/pdforganisation/evaluation/qualitaet_in_studium_und_lehre_an_muw.pdf

¹⁴ http://www.meduniwien.ac.at/homepage/fileadmin/HP-Relaunch/pdforganisation/evaluation/Juni/Leistungsbericht_2010_V2.pdf

¹⁵ <http://www.meduniwien.ac.at/homepage/content/organisation/dienstleistungseinrichtungen-und-stabstellen/evaluation-und-qualitaetsmanagement/en/>

medical school in Germany to establish an ISO 9001 certified quality management system in teaching (in 2005).

Major elements of the quality management system are: (1) guidelines on strategy and teaching objectives, (2) a customer and staff orientation, including identification of customers, their needs and expectations, (3) a description of leadership, core and supporting processes, and (4) a coordinating structure. Within the latter, a representative for quality management in teaching was appointed to report to the dean in the advisory body. The structure of the quality management system and information on duties and responsibilities are documented in a manual, accessible by all involved faculty and staff members.

The QM system is evaluated in annual internal audits as well as in external audits conducted by the Institute for General Psychology and Methods of Psychology of TU Dresden. In addition to assessment by administrative and academic staff, students evaluate courses, degree sections, internships and practical training elements in (online) evaluations. The cost for the initial consultation and certification process amounted to approximately €10,000, continuous maintenance of the quality management system requires annual personnel costs approximating €15,000. (Tiebel, Dieter and Reichmann 2006)¹⁶

3.3.1.3 University Hospital Hamburg-Eppendorf

The University Hospital Hamburg-Eppendorf (UKE¹⁷) is one of the largest hospitals in Hamburg, comprising over 80 interdisciplinary clinics, polyclinics and institutions, and is a leading health care organisation in Germany in both its services and research. Medical training also forms an integral part of the institution and UKE offers study programmes in Medicine and Dentistry as the Medical Faculty of the University of Hamburg. This combination as academic institution and health care provider results in an all-round, practical-oriented study programme that combines theoretical teaching with the valuable experiences of on-site training.

In 2009, UKE became the first university hospital in Germany to receive an all-round quality certification (ISO 9001:2008) for the institution as a whole. Quality Management systems are therefore employed in clinics, institutions and other areas of the hospital (ISO 9001, ISO 17025, ISO 15189, Onkoziert¹⁸), and the assessment, carried out by Germanischer Lloyd Certification (GLC) GmbH, certifies that the university hospital's standards, specifically in patient care, research and teaching, are in line with DIN ISO 9001 international standards. (University Hospital Hamburg Eppendorf 2010)

The primary aims of Quality Management at UKE are: to optimise processes, minimise risks, ensure high efficiency and satisfaction of its staff during work processes, and to deliver optimum quality standards in patient care and safety. To achieve these aims, UKE employs a number of philosophies¹⁹:

¹⁶ <http://www.egms.de/static/pdf/journals/zma/2006-23/zma000282.pdf>

¹⁷ Universitätsklinikum Hamburg-Eppendorf

¹⁸ Onkoziert is an independent accreditation institute for the assessment of organ cancer centres and cancer centres in compliance with technical requirements.

¹⁹ Points have been adapted from the German and translated into English

- All systems (even good systems) should strive for improvement.
- Mistakes are a constructive learning tool for generating continual improvement and further strengthening a process (based on the Japanese KAIZEN-Principle).
- Criticisms and complaints are welcomed as forms of advice and suggestions, and offer yet another opportunity for optimisation.
- The staff are the experts and should be consulted in optimisation processes
- Unnecessary and wasteful measures are excluded so as to make work processes as efficient as possible.

(University Hospital Hamburg-Eppendorf 2007)

Based on these philosophies, UKE has developed a comprehensive QM-system, with a primary focus on continual improvement, efficient processes and a holistic approach. The full certification of UKE clearly demonstrates not only the success of their QM-system but also its successful implementation within every level of the institution.

3.3.1.4 UK: University College London (UCL)

University College London pursues an “explicitly academic-led quality management and enhancement (QME) strategy” (UCL 2011), which actively involves its academic staff in the QME processes. Key elements of UCL's approach to managing the enhancement of quality include:

- Internal Quality Review
- Annual and Augmented Annual Monitoring
- Peer Observation of Teaching
- The external examiner system
- Student feedback mechanisms
- Committees with quality management responsibilities at institutional, faculty and department levels

(UCL 2011)

At the UCL Medical School, responsibility for internal quality review lies with the Quality Assurance Unit (QAU). This organisation functions as an internal governing body to ensure the Medical school fulfils its own requirements and complies with national standards set by the external QA bodies, the QAA (Quality Assurance Agency) and the GMC (General Medical Council).

The QAU in essence has two functions in its role of managing and monitoring quality standards. On the one hand, it ensures that high standards are achieved through identifying problematic areas and providing guidance on how they should be addressed, and on the other hand, it functions as an award body to identify, recognise and reward undergraduate

medical programmes that demonstrate high quality standards within their teaching and learning processes.

Responsibilities of the QAU include the internal monitoring of Medical School courses, modules and individual teachers, the supervision of procedures to guarantee compliance with external requirements, and the management of the Quality Monitoring and Enhancement Committee (QMEC), which oversees the implementation of the Medical School Quality Strategy.

At UCL, Quality Management is implemented with the primary objective of achieving and maintaining academic excellence. Although external influences govern the minimum standard requirements, as is the case for all medical schools in the UK, UCL has nonetheless succeeded in developing its own internal governing body, award schemes and QM-strategy to ensure it meets and exceeds these quality standards.

3.3.2 Survey Based Examples

All medical schools that participated in the survey were offered the possibility of confidentiality for any information provided in the survey. As a result, not all Universities that took part in the survey will be named in this section. Instead any confidential contributions have been included in the conclusion at the end of this chapter. They will be used to compare all results obtained and to offer a broader view on QM/QA in medical schools.

3.3.2.1 Austria: Medical University of Graz

The Medical University of Graz

The Medical University of Graz is a legally independent medical school.

Quality Management

There are a number of different units responsible for Quality Management at the Medical University of Graz. Within the university itself, the university has established a staff unit for Quality Management and Organisational Development. This is followed by a QM working group, which is coordinated by the staff unit, and a mediation service for scientific quality assurance. At the university clinics, responsibility for quality management lies with the QM Committee, whilst at the Steiermärkische Krankenanstaltengesellschaft m.b.H. (KAGes)²⁰, a staff unit for Quality Management and Risk Management has also been established for the university clinics.

The Medical University of Graz has partially implemented the WFME²¹ Global Standards Trilogy and WFME Global Standards Regional Specifications for Europe, as well as IIME²². On a European level, it has implemented the ENQA guidelines. Additionally, the following standards have also been implemented in some organisational units: ISO 9001, ISO 14155, EN ISO/IEC 17025, EFI (European federation for Immunogenetics), Good Laboratory Practice (GLP), Good Clinical Practice (GCP), Good Scientific Practice (GSP), European Qualifica-

²⁰ The Steiermärkische Krankenhausgesellschaft is a privately organised association owned by the state of Styria in south-east Austria. 1985 saw a change in the hospital landscape in Styria, in which formerly state-run hospitals merged into this new association under private law. <http://www.kages.at/cms/ziel/2283216/DE/>

²¹ World Federation for Medical Education

²² The Institute for International Medical Education

tions Framework (EQF), National Qualifications Framework (NQF), European Charter for Researchers, ERASMUS Charta and EFQM.

Certifications in detail:

Programme accreditation of diploma programmes Medicine, Dentistry and PhD-programmes – ACQUIN with ENQA-Standards and Guidelines
Certification (Quality Audit) of the QM-System - Performance area: Studies, Teaching & Further Education - AQA with ENQA-Standards and Guidelines
Human Resources Excellence in Research ²³
<i>ISO 9001 Certification for 14 institutes, departments and centres</i>
<i>EFQM - Committed to Excellence (C2E) for 5 university clinics</i>
<i>Certification "Qualifizierte Schmerztherapie" for 7 university clinics and departments</i>

Goals of the Quality Management are to:

High relevance (point 6): Optimise work flow to speed up administrative and bureaucratic processes
Better respond to the needs and expectations of students
Better respond to the needs and expectations of funding bodies
Better respond to the needs and expectations of patients
Enhance the identification of students and employees with the institution
Enhance the performance of teaching staff
Improve the scientific output of research staff
Attract first-rate students
High relevance (point 5): Optimise the use and allocation of resources
Better respond to the needs and expectations of society
Better respond to the needs and expectations of other stakeholders
Explore avenues for innovation in research
Explore avenues for innovation in patient care
Attract first-rate teaching staff
Attract first-rate doctors
Less, but still high relevance (point 4): Better respond to the needs of the labour market
Increase the number of clinical trials and clinical research

²³ <http://www.vitae.ac.uk/policy-practice/303561/European-Commission-HR-excellence-in-research-badging.html>

To reach these goals, the Medical University of Graz uses different tools in research, teaching and patient care:

Tool	Teaching	Research	Patient Care
Accreditation	X		
Assessment of teaching			
Course evaluation by participants	X	x	
Critical friend rotations			
External evaluation/ peer review	X	x	x
Key indicators/ quantification	X	x	x
Milestones and benchmarks			
Progress review	X	x	x
SOPs	X	x	x
SWOT analysis	X	x	x
Workflow/ definition of processes	X	x	x

The duration of the QM cycle depends on the Organisational Unit (see above) and the process. The Medical University of Graz has defined the intervals for almost every single process, which can be found in its standard operating procedures.

To ensure process quality, the Medical University of Graz shares its information with other higher education institutions, some of them in Germany, such as ZQ²⁴ of the Universität Mainz and Hannover Medical School. Furthermore, the medical school is a member of the National Network of Austrian Universities for Quality Management and Development.

Dr. Sabine Vogl, at the Medical University of Graz, stated: “The personal involvement of all university members in the development, implementation, and continuous improvement of the system is essential for establishing and maintaining a consistent quality culture.

Quality strategy: The interdisciplinary quality management system of the Medical University of Graz has been established in accordance with the European Standards and Guidelines for Quality Assurance in Higher Education and thus meets the numerous requirements of any university. It relies on four dimensions of quality, ranging from target definition to evaluation:

²⁴ Zentrum für Qualitätssicherung und –entwicklung. (<http://www.zq.uni-mainz.de/>)

1. **Conceptual quality:** Interdisciplinary quality policy including all three core processes of the university (teaching, research and patient care), based on clearly defined targets.
2. **Structural quality:** Integration of quality strategy into steering elements and corresponding provision of resources.
3. **Process quality:** Clear competences and responsibilities within university organisation, transparent process flows and access to information.
4. **Result quality:** Quantitative and qualitative evaluation of optimisation measures.”

Effects, impediments and challenges in the field of Quality Management at Med Uni Graz:

Simplified and outcome oriented processes
Defined, transparent standards
Direct information transfer
Coordinated interaction in projects
Basis for indicator supported decisions
Cost reduction
Learning processes (What are we doing? Why? What should be improved? What can I do?)

2.2 What negative effects can be attributed to the establishment of the QA/QM system at your institution?

High workload for changing processes
Short-term cost increase
Partial overkill in documentation or regulation – to cope with we defined revision intervals for processes (set out in the Standard Operating Procedures)

2.4 What are/were the major challenges in implementing the QA/QM system?

Five major challenges, you need to be continually aware of (you cannot overcome these challenges – they are an integral part of daily work in Quality Management):
- Bringing a (documented) system to life
- Incorporating all relevant stakeholders
- Bringing academic and non-academic staff together
- Implementing non-bureaucratic processes
- Smart monitoring

These answers demonstrate that the most notable advantages of implementing a QM system are simplified processes and standards that are well-known by staff and teachers. This enables information to be shared in an organised way and ensures that information reaches all

parties involved. The constant evaluation of processes and quality standards result in continual learning processes and decision-making competencies through the assistance of verified indicators. In the long term, costs can be reduced, even if they may increase in the process of establishing a QM system in the short term.

Dr. Sabine Vogl: “We noticed magnificent approaches – different in teaching, research and patient care. But to sum it up: Enhancement in processes, in use of resources, in transparency, in outcome orientation, in working atmosphere, etc.”

However, a possible disadvantage of employing a QM system includes high workloads in initiating a process of change within all areas if the QM system needs to be established in an already existing system (e.g. a university). Another potential disadvantage may be expressed as an increase in bureaucratic tasks – forms and documentation, which need to be prepared, filled out, evaluated, archived and concluded by different units and personnel in order to achieve comparable results. This produces huge numbers of files that need to be handled by a limited number of staff responsible for QM.

The Medical University of Graz has therefore established revision intervals for processes. Taking all this into account, it is not surprising that the Medical University of Graz views the major challenges of implementing a QM/QA system as: applying the system in reality (at least within the initial stages), incorporating all relevant stakeholders, bringing together different groups of employees (academic, non-academic), and implementing non-bureaucratic processes that allow for efficient and uncomplicated work on and with the guidelines without losing yourself in files and documentation.

Finally, the process of QM/QA involves dealing with different units, needs, wishes and opinions and therefore has to be monitored in efficiently.

Conclusion

The survey shows that the Medical University of Graz is using different standards and certifications to ensure quality in teaching, research and patient care. Dr. Vogl states that only the involvement and responsibility of every single person can result in successful QM/QA and ensure quality improvement in working, learning and patient care.

3.3.2.2 Finland: School of Medicine, University of Tampere

School of Medicine, University of Tampere

The School of Medicine at the University of Tampere, Finland, was founded in 1973 and is the medical faculty of the University.

With regards to the results of the survey, it should be noted that Dr. Hakkarainen, who completed the survey, is only responsible for teaching, and therefore was not able to comment on questions concerning research.

Quality Management

Tampere University does not officially implement any quality management standards itself. Guidelines are set by the Finnish Higher Education Evaluation Council (FINHEEC), which are adhered to by the university. Audits are performed by FINHEEC but are only done so on an institutional level and as a result do not involve individual faculties or schools. FINHEEC

has also established an award scheme for University Centres of Excellence. This has been won by the Medical School of Tampere three times.

The School of Medicine, Tampere, orientates itself on LCME (Liaison Committee on Medical Education), widely used in the USA and Canada, Tomorrow's doctors and CANMEDS. These accreditation programmes are applied to curriculum planning and other areas of the Medical School. This suggests that Finland has a limited range of its own QM systems. Until now, they have not employed external assistance in establishing a QM system. Goals of the QM/QA are to:

High relevance (point 6)
Optimise the use and allocation of resources
Better respond to the needs and expectations of students
Better respond to the needs and expectations of society
Better respond to the needs and expectations of patients
Better respond to the needs and expectations of other stakeholders
Better respond to the needs of the labour market
Enhance the performance of teaching staff
Explore avenues for innovation in teaching
Attract first-rate teaching staff
Attract first-rate doctors
Attract first-rate students
High relevance (point 5)
Optimise work flow to speed up administrative and bureaucratic processes
Explore avenues for innovation in patient care
Less, but still high relevance (point 4)
Better respond to the needs and expectations of funding bodies
Enhance the identification of students and employees with the institution
No answer
Explore avenues for innovation in research
Improve the scientific output of research staff
Increase the number of clinical trials and clinical research

To achieve these goals the School of Medicine, Tampere, employs different tools in research, teaching and patient care:²⁵

Tool	Teaching	Research	Patient Care
Accreditation			
Assessment of teaching	X		x
Course evaluation by participants	X		x
Critical friend rotations			
External evaluation/ peer review	X		x
Key indicators/ quantification			
Milestones and benchmarks			
Progress review	X		
SOPs			
SWOT analysis			
Workflow/ definition of processes			

The QM/QA cycle is currently at a three year interval and the Medical School shares its information with other institutions.

²⁵ When analysing this table, it is necessary to bear in mind that Dr. Hakkarainen is not responsible for research and was therefore unable to provide answers in this field.

Effects, impediments and challenges in the field of Quality Management at the School of Medicine, Tampere:

2.1 What positive effects can be attributed to the establishment of the QA/QM system at your institution?

Students value evaluation when it leads to improvement of quality.

Teachers value evaluation and assessment as QM also on personal level

Quality will be rewarded in Finnish high school level education more in future.

Good reputation leads to recruitment of good teachers and students, it feeds itself.

2.2 What negative effects can be attributed to the establishment of the QA/QM system at your institution?

QM can be seen as a bureaucratic instrument.

2.3 Are there any impediments to an expansion/improvement of the QA/QA systems?

Finnish ministry level so far has insisted on accreditation on university, not school level.

2.4 What are/were the major challenges in implementing the QA/QM system?

see 2.3.-

Dr. Hakkarainen, Director of Medical Education, states that students and teachers value evaluation when it leads to improvements in the quality of teaching. Furthermore, teachers view QM as a personal review of their teaching performance. For Dr. Hakkarainen, there is a strong link between QM in secondary education and in university. Because accreditation on a university level is made compulsory by the Finnish Ministry, Dr. Hakkarainen believes this will lead to QM in secondary schools. Students would be better prepared for their time at university, which would also benefit universities. With regard to reputation, effective QM can lead to the development of a good reputation, which in turn leads to the recruitment of good teachers and students, ultimately re-investing in the upkeep and improvement of quality standards at an institution. However, as mentioned by other Universities, it is important to establish a QM system that is usable in everyday work without being too bureaucratic. QM procedures rely on the involvement of each member of staff in the improvement of processes and quality. As a result, it is necessary for the QM unit to supply and create a system that functions without too many files and documents. QM has to serve people and processes not vice-versa. There are no suggestions that implementing such a system could be a problem on behalf of costs or work load.

Conclusion

The survey shows that the Finnish Higher Education Evaluation Council (FINHEEC) seems to provide a good evaluation process for Universities. The School of Medicine, Tampere, therefore follows its guidelines and does not apply for any QM standards. The School of Medicine, Tampere, shows in addition a strong orientation towards US and Canadian standards. The answers of Dr. Hakkarainen highlight a strong connection between high school

education and University. Due to the fact that Dr. Hakkarainen could only answer questions in the field of teaching and not in research, the survey gives only a small insight into the QM system at the School of Medicine, Tampere. But this part shows that there is a strong international orientation that is even more important for smaller countries, such as Finland, that have to make a name for themselves not only in the international network of higher education institutions.

3.3.2.3 Romania: Iuliu Hatieganu University of Medicine and Pharmacy Cluj-Napoca

Quality Management System

The Iuliu Hatieganu University of Medicine and Pharmacy Cluj-Napoca (UMP) is a legally independent Medical School founded in 1947 in Cluj, Romania. The University established in 2005, first established Quality Assurance and Quality Management systems in line with the standards and guidelines for quality assurance set out by the European Association for Quality Assurance in Higher Education. Additionally, the ISO 9000 series certification standard has also been implemented in teaching and research as well as the national standard for higher education (ARACIS).

Goals of the Quality Management are to:

High relevance (point 6):
Optimise work flow to speed up administrative and bureaucratic processes
High relevance (point 5):
Better respond to the needs and expectations of students
Better respond to the needs and expectations of funding bodies
Enhance the identification of students and employees with the institution
Enhance the performance of teaching staff
Explore avenues for innovation in research
Attract first-rate teaching staff
Attract first-rate students
Less, but still high relevance (point 4):
Optimise the use and allocation of resources
Better respond to the needs and expectations of society
Explore avenues for innovation in teaching

The priority goal of the UMP's Quality Management is to optimise its work flow in order to speed up administrative and bureaucratic processes. Therefore, to ensure quality assurance and quality management, this is exercised by the Vice-Rector's Office for Academic Evaluation and Quality Assurance. The vice-rector of the Iuliu Hatieganu UMP coordinates a Commission of QA and the QM for ISO. Furthermore, all activities organised within the University are coordinated by the QA Department staff.

In order to reach these goals, the Luliu Hatieganu UMP uses the following tools in research, teaching and patient care:

Tool	Teaching	Research	Patient Care
Accreditation	X	X	
Assessment of teaching	X	X	
Course evaluation by participants	X		
Critical friend rotations			
External evaluation/ peer review	X	X	
Key indicators/ quantification	X	X	
Milestones and benchmarks	X	X	
Progress review	X	X	
SOPs	X	X	
SWOT	X	X	
Workflow/ definition of processes	X		

The duration of the quality assurance/ quality management cycle depends on internal audits which are conducted annually and on external evaluations carried out by ARACIS in 5 years intervals. In order to ensure process quality, the Luliu Hatieganu UMP shares information with other institutions regarding QA/QM. These are annual symposiums organised by ARACIS and with the Commission 12 for health sciences being in charge of national regulations.

Furthermore, the Luliu Hatieganu UMP developed its QA/QM system with the aid of an external consultant but ultimately held the final decision.

Effects, impediments and challenges in the field of Quality Management at Luliu Hatiganu UMP:

The Luliu Hatiganu UMP established a QM system in conformity based on the requirements of standard SR EN ISO 9001:2008, and supervised by the management of the University to organise and coordinate the process of implementation. Its quality strategy has been established to promote a quality culture inside the University.

Positive Effects:
Clear and transparent Quality Policy
Protection of direct and indirect beneficiaries of Higher Education study programs
Coherent and credible information regarding the academic quality:
Regular analysis of institution's state
Constant learning improvement
Easily accessible to clients

What negative effects can be attributed to the establishment of the QA/QM system at your institution?

The University does not consider any negative effects that can be attributed to the establishment of the QM within the University. However, the University faces certain challenges during the development of QMS:

Setting up a visible and clear commitment of academic management and quality
High efficiency in administrating the available resources
Minimizing bureaucratic aspects
Constant correlation and improvement
Ensuring a climate of fairness and trust

The implementation of a QM within the University has had a positive impact on teaching-learning, research, administrative and auxiliary activities. Through the specialty of their activities, the QMS's operational structures contribute constantly to the promotion of a quality culture inside the university. Another factor promoting the culture of quality is the active involvement in the process of quality evaluation of both the teaching staff and the students. Within the university, there are also certain activities in charge of establishing qualitative and quantitative benches (benchmarking) in comparison with other universities from the country, for the evaluation and monitoring of quality. The positive effects attributed to the QM consist of a clear and visible to all (transparent) Quality Policy, protection of direct and indirect beneficiaries of Higher Education study programs by producing and disseminating systematic, coherent and credible information regarding the academic quality; regular analysis of institution's state by specific means of quality evaluation; constant learning improvement in the academic quality of the personnel involved in the quality assurance process and mechanisms for measuring feedback regarding the academic quality, easily accessible to beneficiaries/clients.

The Iuliu Hatiganu UMP has not identified any particular disadvantages, however it has identified certain challenges related to the process of implementing a QA/QM system. Therefore, among others, the greatest challenge in implementing QM is to keep all employees constantly motivated and ready to achieve the highest academic quality. Another challenge is the continuous improvement of teachers' skills and of teaching conditions, in order to satisfy the established educational requirements. Furthermore, the increasing responsibility of the teaching staff regarding the educational process in terms of the scientific content, teaching methodology as well as the use of full time schedules and existing facilities, place further challenges on the university. Additional challenges are: converting the teaching process from an informative type of process to a formative one, in which teachers and students are considered equal partners contributing to the educational act; and to encourage the promotion of young teachers with outstanding achievements in teaching and research to higher positions. Another potential challenge also lies within the creation of an early culture of quality and synchronising an institutional quality culture policy with national and international quality assurance policies.

Conclusion

This survey shows that the Iuliu Hatieganu UMP has successfully implemented the QA/QM system in combination with the national Romanian standard system for higher education (ARACIS). Nevertheless, it encounters certain challenges within the process of implementation, however advantages of the QA/QM System become apparent within the evaluation of this survey. The University focuses on its students and teaching staff in order to improve and

update its educational quality. Its main Quality Management goal is to speed up administrative and bureaucratic processes for the purpose of optimising work flows. This is followed by the ability to respond to the needs and expectations of students, as well as of the teaching-staff and other actors involved. To implement these goals the UMP uses various tools in teaching and research, however there are no tools being used in the patient care sector. Furthermore, Prof. Dr. Constantin Cine outlines that the overall implementation of the QMS has resulted in improvements within the teaching-learning, research, administrative and supporting measures.

3.3.2.4 Switzerland: Faculty of Medicine, University Bern

Faculty of Medicine, University Bern

The Faculty of Medicine at the University of Bern originally began as a medical institution founded in 1797 by a selection of doctors and pharmacists for the education and development of doctors, pharmacists and veterinarians. In 1805 the Government of Bern reorganised the Theologian school into an academy comprising 4 faculties, including the medical faculty. The University of Bern was then founded in 1834. The Faculty of Medicine is a Department within the University.

Quality Management

The QA/QM system for the faculty of medicine was established in 2007/2008 as part of the university QA/QM organisation. The system helps to coordinate all quality related efforts within the faculty and provides guidance for quality assurance and development for the core university areas (research, teaching and their related services). The already existing efforts related to quality or QA/QM systems are being integrated into and coordinated within the faculty's QA/QM system. Each institute or clinic is able to select a preferred QA/QM system, or standards, in line with the QA/QM for the faculty.

The dean of the medical faculty is primarily responsible for QA/QM. The faculty has a QA/QM appointee (Q-Beauftragter), a QA/QM assistant and a QA/QM core group (Q-Kerngruppe) responsible for coordination, processes, planning and controlling of QA/QM activities for the faculty. The QA/QM appointees of each faculty are members of the university QA/QM commission, which offers guidance to the university management and is responsible for developing the basic principles and strategies for QA/QM. The QA/QM assistant is employed in the dean's office and works directly with the QA/QM appointee. Each institute or clinic of the faculty has a Q-Coach, responsible for co-ordination, development and the implementation of QA/QM related tasks at its own institution.

The faculty did not develop the QA/QM system with the aid of external consultants. However, some institutes or clinics did employ external consultants for the development of their systems.

The Faculty of Medicine is aware of yet more standards and guidelines but has decided not to implement them: "For research and teaching we have so far chosen not to implement any of the above mentioned standards and guidelines apart from the SUK guidelines. The feedback on a questionnaire among the faculty's Q-Coaches at the end of last year, showed a certain need to implement standards. This will now be analysed within the faculty's QSE core group together with representatives from the faculty's Q-Coaches."

Additionally, the faculty has implemented other guidelines: Guidelines for Quality assurance in Swiss Higher Education from the Swiss University Conference (Qualitätsstandards der Schweizerischen Universitätskonferenz (SUK) (Services (ex. laboratory medicine) are partly accredited since many years). These guidelines comply with ENQA standards and guidelines for quality assurance in the European higher education area.²⁶

The Faculty of Medicine is aware of yet more standards and guidelines but has decided not to implement them: “For research and teaching we have so far chosen not to implement any of the above mentioned standards and guidelines except the SUK guidelines. The feedback on a questionnaire among the faculty’s Q-Coaches at the end of last year, showed a certain need to implement standards. This will now be analysed within the faculty’s QSE core group together with representatives from the faculty’s Q-Coaches.”

Known guidelines and standards are:

- Guidelines from the Swiss Federal Office of Public Health (BAG) regarding Good laboratory practice (GLP) (In Switzerland, the Good Laboratory Practice (GLP) is based on the OECD principles of GLP issued on 26th November 1997)
- Various guidelines regarding good clinical practice (GCP):
 - European Medicines Agency: good clinical practice (GCP)
 - Guidelines regarding Good Clinical Practice (GCP) ex. WHO, ICH (International Conference on Harmonisation)
- Various guidelines regarding ethical principles for medical research:
 - CIOMS (Council for international Organization of medical sciences)
 - Swiss academy of medical sciences (SAMW) regarding research on humans
 - EU Guidelines 2001/20/EC
 - The Ethic-commission of Canton Bern
- Evaluations standards SEVAL (the Swiss Evaluation Society)
- Strategic Guidelines of the medical faculty²⁷

As institutes or clinics are free to choose their own QA/QM systems, different systems and guidelines are employed and followed within the faculty’s various institutes and clinics. EFQM, ISO 9000, TQM and the RADAR Logic are used in both research and patient care, whereas in teaching just TQM is implemented.

²⁶ <http://www.cus.ch/wDeutsch/publikationen/richtlinien/D-443-06A-Quali-RL-VO.pdf>

²⁷ This fact made the completion of the questionnaire difficult for Bern as some of the answers may only account for teaching, research or services.

Also implemented are the following systems:

JACIE accreditation (for example in the field of haematopoietic stem cell (HSC) transplantation) PC
Concret AG PC
UEMS: European Union of Medicine specialists PC
ISCD: International Society for Clinical Densitometry PC
EC/ISO17025 accreditation R/PC

Certificates that are held by the faculty of Medicine, Bern:

ISO / IEC 17025 in various institutes and clinics for patient care or services and research (for ex. central laboratory services, clinical microbiology)
JACIE accreditation (accreditation in the field of haematopoietic stem cell (HSC) transplantation)
Concrete AG (patient care)
Synarc
Further education in Prosthodontics is accredited by the Swiss Federal Office of Public Health (BAG)
Further education in Periodontology is accredited by European federation of Periodontology (EFP)
Further education in infectiology
Certified on-line assessments in education
Accredited examiners in the education of general practitioners or family doctors

The goals of QM/QA are to:

High relevance (point 6)
Better respond to the needs and expectations of patients
Better respond to the needs and expectations of students
Improve the scientific output of research staff
High relevance (point 5)
Better respond to the needs of the labour market
Enhance the performance of teaching staff
Explore avenues for innovation in patient care
Attract first-rate teaching staff
Attract first-rate doctors
Attract first-rate students
Less relevance, but still high (point 4)
Better respond to the needs and expectations of other stakeholders
Optimise work flow to speed up administrative and bureaucratic processes
Optimise the use and allocation of resources
Better respond to the needs and expectations of society
Better respond to the needs and expectations of funding bodies
Point 3
Enhance the identification of students and employees with the institution
Explore avenues for innovation in teaching
Explore avenues for innovation in research
Increase the number of clinical trials and clinical research

The use and allocation of resources are not under the complete control of the faculty but instead are centrally managed by the university.

To achieve these goals the Faculty of Medicine, Bern, employs different tools in research, teaching and patient care:

Tools	Teaching	Research	Patient Care
Accreditation	X	x	x
Assessment of teaching	X		
Course evaluation by participants	X		
Critical friend rotations			
External evaluation/ peer review	X	x	x
Key indicators/ quantification	X	x	x
Milestones and benchmarks	X	x	x
Progress review			x
SOPs		x	x
SWOT analysis	X	x	x
Workflow/ definition of processes			(used in services and administration/management)
CIRS-EBKE (Critical Incident Reporting System)			x
KWP-IMS (Integriertes Management-system)		x	x

In addition to the proposed tools in the survey, Bern also uses CIRS-EBKE and KWP-IMS in patient care and research.

The QA/QM-cycle follows the time period of the service agreement between the faculty and the university, as well as between the faculty and the institute/clinic, which typically set at a 4-year period. The administration and service units choose the cycles and systems in line with their branch. The time period can therefore vary across the different areas. The QA/QM-cycle is based on the PDCA (Deming's cycle) with the 5 key elements: plan and define a strategy, set goals and objectives, evaluation, action, review or control. The external audits take place every 4 years, quantitative key figures for research outputs and teaching activity are evaluated yearly, teaching achievements are evaluated for each course or event, service areas have regular external audits depending on their QA/QM system.

The Faculty of Medicine shares information within the University (between faculties and with the University QSE coordinator) and with the university hospital. To some extent it also shares information with other Swiss universities and medical faculties.

The QA/QM system applies to the areas' research, teaching (including further education) and services linked to these core university areas. Each institute or clinic is responsible for the implementation and development of its QA/QM for teaching and research output in institutes and clinics, which are in line with the faculty quality strategies. As part of the quality system, key figures have been integrated into the service agreements, in order to set goals, define actions and use as basis for regular discussions.

The Bologna reform has led to changes in structures and content of curricula at Swiss universities. It will now be easier to compare the Swiss universities, faculties, institutes and clin-

ics with European higher education institutions. QA/QM is an elementary component in such comparisons, in order to define what we can compare and how.

Effects, impediments and challenges in the field of Quality Management at the Faculty of Medicine, Bern, include:

2.1 What positive effects can be attributed to the establishment of the QA/QM system at your institution?

The awareness of quality within the faculty is growing.

The transparency is being improved.

The institutes and clinics that are not yet certified or accredited are better prepared for the process when they want to start the process.

Various efforts concerning quality are done at different places in our organisation; a QA/QM system allows these efforts to be coordinated within the organisation. A QA/QM system allows the collection of data, which can be used to show stakeholders the achievements.

2.2 What negative effects can be attributed to the establishment of the QA/QM system at your institution?

More administrative work.

Cost: e.g. one accreditation number in laboratory services alone cost 15'000CHF.

2.3 Are there any impediments to an expansion/improvement of the QA/QA systems?

Views of students, teaching staff and staff are different / No budget for QA/QM

Involve institutes or clinics to participate and speed up development of a QA/QM system. Since this year the university considers this endeavour as a bottom-up process.

Coordinate existing QA/QM systems in service areas with QA/QM of the university concerning teaching and research, thereby avoiding two QA/QM systems running in parallel

2.4 What are/were the major challenges in implementing the QA/QM system?

Involve institutes or clinics to participate and speed up development of a QA/QM system. Since this year the university considers this endeavour as a bottom-up process.

Coordinate existing QA/QM systems in service areas with QA/QM of the university concerning teaching and research, thereby avoiding two QA/QM systems running in parallel

Elisabeth Albertson considers the positive effects of QM at her Faculty to be: a collective awareness (of everyone) for quality and the growing transparency of processes. As different teams are dealing with QM within the Faculty, the QM system ensures that data can be collected and evaluated. As other Universities before, she stated that negative aspects include higher costs produced by the accreditation processes and more administrative work. Impediments appear to include the different perceptions of "what is good quality" by students, staff and teaching staff, to make the different clinics and institutes aware of the importance of QM and to coordinate the existing QM/QA systems by avoiding different systems running parallel. The last two reasons are also seen as the major challenges in the process of implementing a QA/QM system.

Conclusion

Although the University of Bern and its Faculty of Medicine has a long tradition, it lacks a balanced QA/QM system. Different institutes and clinics use different systems that best suit their concerns and which are in line with the faculty quality strategies. The only guidelines they are following at the moment are the Guidelines of the Quality assurance in Swiss Higher Education from the Swiss University Conference. As part of the quality system, key figures regarding teaching and research output for institutes and clinics have been integrated in the service agreements, in order to set goals, define actions and use as basis for regular discussions. There are many different groups working on QM on different levels and ensuring that quality is ensured. Because the faculty has demonstrated a comprehensive knowledge of the different QM systems, standards and certification, the ongoing process will hopefully lead to a more balanced QM system within the different clinics and institutes. Due to the Bologna process, internationalisation is seen as an important factor to enhance quality and is used to start a process of building a new QM system by implementing international standards and certifications.

Results

The survey shows that all universities that were asked to take part in the survey have already some kind of QM/QA system implemented in their faculties. The handling of the topic is different in every faculty and is defined by processes to achieve certifications and build processes with the help of international standards and guidelines. Many of them also stated that they orientate their work on international standards but that they do not implement them as they are searching for their own solutions to fit their needs. Some of them are also undergoing a reconstruction of their QM/QA systems, which shows that the IMS project just might be coming at the right time. Many of the Faculties also stated that a major obstacle for their work in the field if QM/QA is a lack of finance. There is not enough money to implement the necessary structures and staff to establish a good QA/QM in every part of the school and clinics. This happens despite stakeholders often viewing QA/QM as an important tool to ensure the excellence of the work and education offered by the medical school. Nevertheless, it seems that they are neither able nor willing to invest more money into this section. Another negative aspect is the bureaucratic work load that the staff has to handle in addition to their normal work. The implementation of QA/QM means a high number of files and forms, and if the different clinics and institutes in addition to this use different QA/QM systems, handling this data will take up a great part of the working time of the QM/QA staff. There is therefore a shortage of time for establishing new structures, re-designing the QA/QM system and reviewing the ongoing processes. However, QA/QM naturally offers medical schools and clinics a range of positive aspects. Some of the most important aspects for medical schools are the transparency of processes and the awareness of staff, teaching staff and students of the quality of services that the medical school offers. The knowledge of the good quality of services will lead to a good reputation for the medical school and therefore bring new motivated staff, teachers and students to this school. As an ongoing cycle, this will once again lead to better quality. The results of the survey show that QM/QA was implemented in medical schools from the 1990s on. The latest year of implementation in the survey was 2008. Some of the medical schools stated that they are very interested in the results of this project as they are searching for a better way to implement QA/QM into their schools and clinics at the moment and that they would be happy to receive some external guidance. This is also supported by the fact that many of them use the help of external consultants to apply for certifi-

cations and exchange information with other. Unfortunately, this exchange often only happens within the University. But exchanging information with other Faculties that do not have the same problems as a medical faculty means that the exchange may not be the right solution. However, this coincides with the fact that some of the medical schools did not want to reveal their internal plans and problems. If medical schools were to be more open and consider contacting other medical faculties perhaps this would lead to better QA/QM, too. Nevertheless, the survey shows that there is no perfect way for QA/QM at medical schools yet.

4 Conclusion

The numerous examples presented in this study to illustrate the range and variety of Quality Management strategies currently implemented in medical teaching and research at Medical universities demonstrate the growing importance and increasingly recognised value of Quality Assurance and Quality Management in this field. Over the years, quality assurance in education in general and in medicine in particular has witnessed an increase in the development of strategies, regulations and organisations – both independent and government agencies – responsible for establishing quality standards in medicine, not only on a national level, but also on a regional (European) and even international level as well. The scope of these regulations and guidelines illustrates that the importance of QA in Medicine is not simply confined to individual institutions or countries, but is instead a universal concern. The transition of QM from business and industry into other sectors demonstrate the ubiquity of the principles and its flexibility and adaptability. This flexibility even continues within inter-institutional implementation, enabling organisations to tailor its processes to meet its individual needs. This adaptability is evident in the application of QM in medical teaching and research.

QM in teaching and research naturally aims to develop and maintain high teaching standards in order to deliver well-trained, well-educated and highly capable doctors (this could perhaps even be viewed as the first step towards QA in patient care). The implementation of QM in this area therefore monitors teaching performance, curriculum and course content, and learning facilities etc. with the student (at least directly) as the main stakeholder. As a result, this QM system calls into question a more theoretical and content-based criteria, in which student satisfaction and performance are the primary indicators for success. Although shortcomings can still be observed regarding a systematic implementation in education in general and in medicine in particular as well as regarding an evaluation and research of QM and its benefits and pitfalls. Other notable benefits of employing QM systems, as observed in the examples of this study, include greater control and structure in institutional processes; greater efficiency; a better, more collaborative work force that works together to achieve the same aims (institutional procedural harmony); less wastage; and, perhaps most importantly, introducing a process of continual improvement. Many of the examples in this study listed this as a major component of their QM systems. Instead of viewing QM as a means to an end with “quality” as the final product, QM systems encourage institutions to adopt a different philosophy – to use QM-systems to initiate an ongoing process, which continues to strive for better outcomes. Not only does this maintain high standards, but it also leads to a constant state of progress not only within the institution itself but also across the field in general; in which the institution continually moves forward to redefine and better their concept of “quality”, and thus encourages other institutions to follow suit.

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