

The Bologna Process – A global vision for the future of medical education

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Abstract

What has become known as the Bologna Process has evolved over a series of ministerial conferences with the last meeting in Leuven and Louvain-la-Neuve in 2009. There has been a move towards recognition of the benefits to be gained from greater transparency, a general recognition of degrees across Europe, cooperation with regard to quality assurance, an emphasis on more flexible learning paths and lifelong learning, and the promotion of mobility. This paper highlights the ambitious objectives underpinning the Bologna Declaration and Process and the developments since the 1999 Declaration and the current position in particular with regard to medicine. The paper describes common myths and misunderstandings about the Process relating to the two cycle model, the progress of students after the first cycle and the concept of harmonisation rather than uniformity. It is argued that the Bologna Process can serve as a catalyst for the necessary change in medical education. With careful management and imaginative implementation and the necessary vision, creativity and enthusiasm, any problems can be circumnavigated and rich rewards achieved. The Bologna Process is constantly evolving and its dynamic nature is one of its strengths. Medicine has much to contribute and should be part of this Process.

Introduction

'It will put the clock back 40 years by returning to the pre-clinical/clinical divide'

'Standardising training in medicine throughout Europe will damage some schools' reputation for excellence'

'A disaster for medical education'

'A challenge to quality in medical education'

'Criticism and scepticism – though clearly necessary – overshadow the positive effects of the reform'

'A comprehensive modernisation of tertiary education'

'An opportunity to make necessary changes that have long been discussed'

'It comes at the right time since we need more international orientation, mobility and co-operation in higher education'

'Cross border recognition of qualifications and study achievements will become more feasible'

'A change in perspective from the 'teacher' to the 'taught' that is the student'

'It has turned a Utopia into a reality – and that within only a short amount of time'

Practice points

- The Bologna Process is an important international development in medical education and all concerned with medical schools and health services should be familiar with the vision of greater transparency, the recognition of degrees across Europe, cooperation with regard to quality assurance, flexible learning paths and lifelong learning and the promotion of mobility.
- We should approach the Process with an open mind and avoid polarising opinion between those for whom the Bologna Process is about a religion and those who are bitter critics, unwilling to consider the potential opportunities including those associated with the two-cycle model.
- The Process should be seen as a possible catalyst supporting change in medical education and a response to the current challenges including globalisation.

These are just some of the many comments about the Bologna Declaration and Process. Twenty years ago when the rectors of European universities signed the Magna Charta Universitatum in Bologna, outlining the founding principles of what became known as the Bologna Process, the idea that Europe would unify in systems of higher education seemed nothing more than a dream. Over time, however, this phantom has stepped from the shadows and is becoming a reality. What has become known as the Bologna Process has evolved over a series of

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ministerial conferences with the last meeting in Leuven and Louvain-la-Neuve in April 2009 (Bologna 6th Ministerial Conference 2009). 'Desired Harmonization as the goal to be achieved' had been stated previously in the Sorbonne Declaration (1988), when the Ministers of Higher Education from France, German, Italy and UK committed themselves to 'harmonize the architecture of the European Higher Education system'.

While many have welcomed the Bologna Process as a positive development in higher education, others have been critical and have focused on what was seen as potential dangers and difficulties. There has been a move, however, towards a recognition of the benefits to be gained from greater transparency, a general recognition of degrees across Europe, cooperation with regard to quality assurance, an emphasis on more flexible learning paths and lifelong learning and the promotion of mobility.

In this article, we highlight the ambitious objectives underpinning the Bologna Declaration and Process, we review briefly the developments since the Bologna Declaration (1999) and the current position, in particular with regard to medicine, and we attempt to debunk some of the misunderstandings, highlighting the educational challenges and opportunities offered if we dare to seize them.

The Bologna Declaration and subsequent developments

The development of the Bologna Process since 1998 is outlined in Table 1.

The Process now has 46 European countries as signatories. The action lines in the Bologna Process have evolved over time from the initial six:

- Adoption of a system of easily readable and comparable degrees supported by implementation of the Diploma supplement (DS) in order to promote European citizens' employability.
- Adoption of a system essentially based on two main cycles – undergraduate and graduate. (A third cycle, Doctorate, was introduced later in a subsequent Ministerial Conference.)
- Establishment of a system of credits – such as European Credit Transfer and Accumulation System (ECTS) system, as a means for promoting student mobility.
- Promotion of mobility for students, teachers, researchers and administrative staff.
- Promotion of European cooperation in quality assurance.
- Promotion of the necessary European dimensions in higher education.

To the initial set of actions line, the following were added at subsequent ministerial conferences:

- Lifelong learning through a wide range of learning paths.
- Inclusion of higher education institutions and students in the process.
- Promotion of the attractiveness of the European Higher Education Area (EHEA) and the European Research Area (ERA).

- Further development of the third cycle.

Key objectives of the Bologna Process are quality higher education in Europe, greater mobility of staff and students and employability. The Bologna Process recognises that to achieve these objectives, it requires a transparent system that allows signatory countries to understand each other's educational systems and specific courses of study. It is important to appreciate that the main purpose of the Bologna Process is not about conformity and a uniform curriculum but rather about harmonisation and clarification of the complexities of the varying higher education systems. To accomplish this ambitious goal, several tools of transparency are being gradually implemented. These include the ECTS, a three-cycle qualification framework with learning outcomes specified for each cycle and a DS that describes the qualifications. The awarding of joint degrees may also be included in a further development. A communiqué following the London meeting in 2007 (Bologna 5th Ministerial Conference 2007) recognised that such tools and frameworks are key instruments in realising comparability and transparency within Europe and in facilitating mobility. It was noted that such frameworks should 'help higher education institutions to develop modules and education programmes based on learning outcomes and credits and improve the recognition of qualifications as well as forms of prior learning' (van der Hout 2007).

In summer of 2000, a group of universities designed a project 'Tuning Educational Structures in Europe' (2005). The Tuning project addressed the adoption of a system of easily readable and comparable degrees by identifying points of reference for general and subject-specific competencies of first and second-cycle graduates in a series of subject areas not including medicine. The specification of learning outcomes for undergraduate medical education in Europe was reported later by Cumming and Ross (2007). It is important to appreciate that the competencies were described as points of reference for curriculum design and evaluation, not as straightjackets. They allow flexibility and autonomy in the construction of curricula. At the same time, they provide a common language for describing what curricula are aiming at.

The action lines in the Bologna Process have evolved over time as summarised in Table 1. Some key features are identified below.

Qualifications frameworks/ three-cycle system

The aspect, which has attracted most attention and debate about the Bologna Process, has been the concept of the three-cycle structure (Bachelor, Master and Doctorate), for higher education.

The Bologna Process does not impose the duration for each cycle. This decision is left to governments and medical schools. The first or Bachelor's cycle is anticipated as usually of 3 or 4 years' duration with 180/240 ECTS, the second or Master's cycle of 2 or 3 years' duration and 120/180 ECTS, followed by a third cycle leading to a PhD or Doctorate. In principle, the Bologna-compliant Bachelor degree may give the graduate access to the labour market without a need for a

Table 1. Summary of the developments of the Bologna objectives.

Conferences	Principles, objectives, priorities and commitments
Sorbonne 1998	Commitment to encourage a common frame of reference, aiming at improving external recognition and facilitating student mobility as well as employability. Call on other Member States of the Union and other European countries to join this objective by <ul style="list-style-type: none"> • Harmonising the architecture of the European Higher Education System where national identities and common interests can interact and strengthen each other for the benefit of Europe, of its students and more generally of its citizens.
Bologna 1999	Supporting the Sorbonne general principles to create the EHEA and promote the European system of higher education worldwide with engagement on the following objectives <ul style="list-style-type: none"> • Adoption of easily readable and comparable degrees • Adoption of a system essentially based on two main cycles (undergraduate and graduate) • Establishment of a common system of credits • Promotion of mobility for students, teachers, researchers and administrative staff • Promotion of European cooperation in quality assurance • Promotion of the necessary European dimensions in higher education
Prague 2001	Commitment to previous Bologna objectives with emphasis on the following points: <ul style="list-style-type: none"> • Lifelong learning as an essential element of the EHEA. • Involvement of higher education institutions and students as active partners. • Promoting the attractiveness of EHEA to students from Europe and other parts of the world.
Berlin 2003	Commitment to establish the EHEA by 2010 by promoting closer links between EHEA and ERA, including the doctorate level as a third cycle: <ul style="list-style-type: none"> • Recognition that higher education is a public good and a public responsibility, and the social dimension of the Bologna Process. • Consider mobility of students and staff among all participating countries as a key objective of the Bologna Process, urging institutions and students to make full use of mobility programmes, advocating full recognition of study periods abroad within such programmes. • Setting deadlines for: effective quality assurance, adoption of a system essentially based on two main cycles (Bachelor and Master), promotion of mobility, establishment of a system of credits, recognition of degrees, involvement of higher education institutions and students, promotion of the European dimension in higher education and the attractiveness of the EHEA, lifelong learning. • Additional actions: <ul style="list-style-type: none"> • EHEA and ERA as the two pillars of the knowledge-based society • Stocktaking with a view to the goals to be achieved by 2010 with the following intermediate priorities <ul style="list-style-type: none"> – quality assurance – two-cycle system – recognition of degrees and periods of studies
Bergen 2005	Establishing further challenges and priorities <ul style="list-style-type: none"> • Underlining the importance of higher education in further enhancing research and the importance of research in underpinning higher education. Doctoral level needs to be fully aligned with the EHEA overarching framework for qualifications using the outcomes-based approach. • Consider the social dimension as a constituent part of the EHEA and necessary condition for the attractiveness and competitiveness of EHEA. • Increase mobility to facilitate the portability of grants and loans with a view to make it a reality within the EHEA • The attractiveness of the EHEA and cooperation with other parts of the world based on the principle of sustainable development. <p>Future progress focused on:</p> <ul style="list-style-type: none"> • Implementation of the standards and guidelines for quality assurance as proposed in the ENQA report; • Implementation of the national frameworks for qualifications; • Awarding and recognition of joint degrees, including at the doctorate level; • Creating opportunities for flexible learning paths in higher education, including recognition of prior learning.
London 2007	Priorities <ul style="list-style-type: none"> • Mobility • Social dimension • Data collection • Employability • The EHEA in a global context • European, national and institutional levels by 2009 • Stocktaking
Leuven and Louvain-la-Neuve 2009	Actions lines <ul style="list-style-type: none"> • Qualifications frameworks/The three-cycle system • Mobility • Quality assurance • Employability • EHEA Higher Education in a global context • Bologna beyond 2010 • Joint degrees • Recognition • Social dimension • Lifelong learning • Stocktaking

Note: Updated from Patricio et al. (2008).

degree from a second cycle. The idea under the Bologna Process, however, is that after the BA the student proceeds to the MA. The Bachelor degree was created to recognise a previous period of study when a student decided to change to another area or to leave their studies. The Bachelor should not be considered as an 'end in itself' and 'full access' to work or a career as a professional when the student completed the Master degree.

In reality, most universities have not yet made their Bachelor degree into the Bologna-compliant 'labour-proof' degree with the labour market recognising the degree as evidence of a student's readiness to work. The 'professional profile' of the Bachelor will result from the interaction between 'labour-market demands' and 'University response' with the former highlighting the market needs. In particular, in Medicine a Bachelor's degree is not seen as a professional qualification that enables the graduate to take responsibility for the care of patients. It should be recognised, however, that even after completion of the Master degree the medical doctor is not allowed to practice independently and must complete a further period of training.

Mobility

Mobility of staff, students and graduates is one of the core elements of the Bologna Process, as highlighted by Ministers responsible for higher education in the countries participating in the Bologna Process at the Bologna 5th Ministerial Conference (2007). The London Communiqué followed the conference noted 'creating opportunities for personal growth, developing international co-operation between individuals and institutions, enhancing the quality of higher education and research, and giving substance to the European dimension'.

Mobility in Europe has been problematic, particularly due to differences in the higher education systems and degrees and a lack of transparency. Increasing cross-border mobility is one of the core goals of the Bologna Process. Much remains to be achieved in this area despite the advances triggered by Bologna and the fewer bureaucratic obstacles. Many challenges still remain, especially with regard to visas and work permits, recognition of qualifications, financial incentives, pension arrangements and joint programmes and flexible curricula. It has been suggested that the rate of mobility can serve as a yardstick for monitoring the success of the Bologna reforms (Lenzen 2008).

Recognition of qualifications

The transparency instruments of the Bologna Process, including the statements of learning outcomes, module descriptions, credit points and DSs were designed to help those responsible for decisions relating to transfer of students and staff to make reliable and informed decisions. 'Recognition' is a key part of the Bologna Process. Davies (2010) has highlighted, in light of the recent Green Paper on the European Workforce for Health, which has the aspiration to create an integrated European health care workforce, the need for the Bologna Process to accelerate its drive towards transparency and ease of

recognition. The aim of 'recognition' is to make it possible for learners to use their qualifications from one education system in another education system (or country) without losing the real value of these qualifications. Tools that facilitate the recognition of qualifications are the ECTS and the DS.

Learning outcomes are included in the module descriptions that are part of each ECTS package. The DS assists mobility by describing the academic and professional status achieved through a particular programme. To help develop good practice and a common understanding of recognition, the Council of Europe, UNESCO/CEPES and the European Commission coordinate the ENIC and NARIC networks. These networks develop good practice and policy, whereas individual member centres may provide information on the recognition of qualifications as well as the qualifications frameworks and education systems of the countries for which they are responsible. It is intended that the transparency instruments will result in recognition procedures becoming more systematic but not automatic. It is recognised that there will not be complete and full equivalence in the curricula of the home and host universities and that there will still remain room for flexibility and creativity for those responsible for decisions (Rathjen 2008). The question to be posed is whether the learning outcomes achieved in the home and host institute are so drastically different that 'the foreign' ones are considered to be unacceptable.

Quality assurance

Quality assurance has been, and remains, an important action line in the Bologna Process. It refers to all the policies, ongoing review processes and actions designed to ensure that institutions, programmes and qualifications meet and maintain specified standards of education, scholarship and infrastructure. Quality assurance in the Bologna Process provides institutions and stakeholders in higher education with a guarantee that quality is being achieved. It is intended to help establish a quality culture within universities in a sustainable and long-lasting way, contributing at the same time to institutional autonomy and public accountability. Quality assurance is seen as part of the continuing development and improvement of higher education. The Bologna Process aims to encourage European cooperation in quality assurance with a view to developing comparable criteria and methodologies. The European Ministers of Education adopted in 2005 the 'Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)' drafted by the European Association for Quality Assurance in Higher Education (ENQA) in cooperation and consultation with its member agencies and the other members of the 'E4 Group' (ENQA, EUA, EURASHE and ESA).

Improving learning and lifelong learning

It is important to recognise that the Bologna Process is more than a structural reform. It involves steps towards achieving greater clarity and quality in teaching with a greater emphasis on student-centred learning. Importantly, the Bologna Process should be seen as a commitment to improving the quality of

teaching with a move to student-centred learning and with a fundamental interest in the individual students' learning success. The Bologna Process requires a curricular reform orientated towards clearly defined learning outcomes and this has been clearly set out in the 'Tuning Project'.

Lifelong learning has been recognised as an essential element of the European higher education Area since the Ministers met in Prague in 2001 (Bologna 2nd Ministerial Conference 2001) and featured prominently as a priority in the 2007 action lines (Bologna 5th Ministerial Conference 2007).

The Prague Communiqué (Bologna 2nd Ministerial Conference 2001) signalled that in a Europe built on a knowledge-based society and economy, lifelong learning strategies are necessary to face the challenges of competitiveness and the use of new technologies, and to improve social cohesion, equal opportunities and quality of life. There has been growing awareness of the need to embed lifelong learning within higher education, if we are to meet the challenges of the future.

At its conference in Rotterdam, the European Universities Association (EUA) officially presented the new European Universities' Charter on Lifelong Learning (EUA 2007). The charter, developed at the request of the French Prime Minister François Fillon, is based around a series of 10 commitments made by universities in addressing the development and implementation of lifelong learning strategies, with a set of matching commitments proposed for governments and regional partners.

A social dimension

The social dimension has been an integral part of the Bologna Process since the first Ministerial follow-up meeting in Prague in 2001. A commitment was made to making quality higher education equally accessible to all with the need for appropriate conditions for students so that they could complete their studies without obstacles relating to their social and economic background. This included measures taken by governments to help students, especially from socially disadvantaged groups, in financial and economic aspects. With the London Communiqué of 2007 (Bologna 5th Ministerial Conference 2007), Ministers responsible for higher education in the countries participating in the Bologna Process confirmed the relevance of the social dimension: 'Higher education should play a strong role in fostering social cohesion, reducing inequalities and raising the level of knowledge, skills and competencies in society. Policy should therefore aim to maximise the potential of individuals in terms of their personal development and their contribution to a sustainable and democratic knowledge-based society. We share the societal aspiration that the student body entering, participating in and completing higher education at all levels should reflect the diversity of our populations. We reaffirm the importance of students being able to complete their studies without obstacles related to their social and economic background. We therefore continue our efforts to provide adequate student services, create more flexible learning pathways into and with higher education, and to widen participation at all levels on the basis of equal opportunity'.

Employability

Employability has been part of the Bologna vision and features in most recent priorities. There are many definitions of employability. For the purpose of the Bologna Process, employability is defined as the ability to gain initial employment, to maintain employment and to be able to move around within the labour market. The role of higher education in this context is to equip students with skills and attributes that individuals need in the workplace and that employers require, and to ensure that people have the opportunities to maintain or renew those skills and attributes throughout their working lives. At the end of a course, students are expected to have an in-depth knowledge of their subject as well as generic employability skills. Employability has been one of the main goals to be achieved with the creation of the EHEA from the very start but many concerns still exist – among employers, students, academics, higher education institutions and governments.

After the Ministerial Meeting in London in May 2007, the Bologna follow-up group was committed to looking at how to improve employability in relation to each of the three cycles (with a particular emphasis on the first cycle) as well as in the context of lifelong learning. This implied among other things an awareness-raising among employers of the value of a Bachelor's qualification and associated learning outcomes and involving employers in devising curricula and curriculum innovation based on learning outcomes.

European Higher Education in a global context

One of the main goals of the Bologna Declaration was 'to ensure that the European higher education system acquires a world-wide degree of attraction'. In most parts of Europe, the international promotion and marketing of higher education is, however, a fairly recent phenomenon. For many years, international promotion was (erroneously) viewed as a commercial practice, and as such incompatible with academic values, rather than as a natural element of national and European public policy.

An increasing number of countries around the world have shown their interest to be involved in a dialogue with the countries participating in the Bologna Process on how worldwide cooperation in higher education can be enhanced. At the same time, there is growing interest among European countries to develop closer links with higher education around the world. For the first time, a Bologna Policy Forum with Ministers of the 46 Bologna countries and colleagues from different parts of the world took place in April 2009 at the University of Louvain-La-Neuve (Belgium) within the framework of the Bologna Ministerial Conference, to facilitate a global dialogue about higher education.

The Bologna Process is having worldwide ramifications that, among other things it has been suggested, will bring about a paradigm shift in the way US educational institutions evaluate, admit and educate students (NAFSA 2007). A symposium of the Association of Universities and Colleges of Canada (AUCC 2009) looked at the responses by the higher

education community in key non-Bologna countries. Australia was reported as taking a very proactive approach in line with the Bologna Process with active discussions in the Southeast Asia region on academic mobility and collaboration and a review of standards, measurement and reporting of student outcomes. The countries of Latin America were also reported as being very interested in the Bologna Process and the internationalisation of education. The Bologna Process was seen as being compatible too with developments in Canada and it was concluded that it presented a challenge and an opportunity for the Canadian higher education community to develop and enhance the educational experience of their students.

In some respects, the Bologna Process should be welcomed by the medical community. International collaborations are well established in medicine and medical education. The Association for Medical Education in Europe (AMEE; www.amee.org), for example, is an international organisation with members in more than 80 countries, with most countries represented at the annual conference and its journal *Medical Teacher* has worldwide contributors and readership. Its recent initiative MedEdWorld (www.mededworld.org) is a global online community for those with a commitment to education in the health care professions. Bodies such as ECFMG and FAIMER, the World Federation for Medical Education (WFME) are other examples of international collaborations in medical education.

Foley (2007) has highlighted that changes of the magnitude of the Bologna Process cannot help but be global in nature and will have impact across continental boundaries, presenting challenges and opportunities for professions in countries out with Europe, including the USA. The Bologna Process and the series of contributions to *Medical Teacher* (AMEE et al. 2010; Cumming 2010; Davis 2010) should be of interest not only to European educators, but also to teachers in other countries.

Medicine and the Bologna Process

Medicine, particularly in some countries, has remained aloof and not fully engaged with the Bologna Process. A widely held view in medicine was that the Bologna Process represented a top-down politically driven development involving little consultation with medical educators and little understanding of what was perceived as significant differences between medicine and other subjects in higher education.

The response by the medical profession to the Bologna Process, from the first responses by the International Federation of Medical Students Associations (IFMSA) and the European Medical Students Association (EMSA) in 2004 and 2007 (Onur et al. 2005; IFMSA and EMSA 2007) to the recent statement on the Bologna Process by AMEE et al. (2010), has been summarised by Patrício and Harden (2009). In 2005, a joint statement by the WFME and AMEE, in consultation with the Association of Medical Schools in Europe (AMSE) and World Health Organisation, Europe (WHO-Euro), (WFME & AMEE 2005) endorsed the purpose of the Bologna Declaration and supported the full involvement of medical education, as part of higher education, in the Bologna Process. The report cautioned, however, that the particular situation in medicine

needed to be taken into account when the Bologna objectives were implemented. The introduction of the two-cycle structure, in particular, was seen in 2005 as problematic and potentially harmful to medical education.

While some opposition to the Bologna Process remains in medicine, particularly with regard to the two-cycle model, there has been a growing appreciation, as highlighted by Patrício and Harden (2009), of the value of what the Bologna Process was attempting to do and an appreciation that quality improvements and general equivalence across all medical degrees in Europe was desirable. There has been a growing recognition that the Bologna Process is a reality and that medicine is part of it. It is important, however, not to underestimate the difficulties facing medicine. Although there was a general awareness among medical educators that the Bologna Process existed, many of those involved in medical education were not familiar with the practical implications and with the implementation in their own country. Many concerns raised were a result of misunderstandings and poor communication about the process.

A survey was conducted by AMEE and Medical Education in Europe (MEDINE) to establish the state of the implementation of the Bologna Process, in particular the two-cycle system, in medical education throughout Europe (Patrício et al. 2008). The survey found a growing awareness and support within the medical education community for the Bologna Process with seven of the Bologna countries already committed to the implementation of the two-cycle system in medicine. These included Belgium, Denmark, the Netherlands, Portugal, Armenia, Iceland and Switzerland.

At a German Rectors' Conference held in Berlin in October 2008 and AMEE meeting held in Malaga in September 2009, case studies were presented of Bologna-compliant curricula in medicine and Cumming (2010) highlighted how the Bologna Process could be used to drive educational development and quality enhancement in European medical education. A further study on the implementation of the Bologna Process is being conducted by AMEE as a follow-up to its 2007 survey. Preliminary analysis of the results suggests a move in favour of the Bologna Process in a number of countries, despite a recognition that the implementation of the two-cycle system is a challenge for medical studies.

Given the progress made with the Bologna Process since 2005 within the medical education community, AMEE recognised the need to produce a revised position statement, accepting that there still remains some uncertainty and lack of understanding of the Bologna Process on the part of many administrators and teachers in medicine. The aim was to take the discussions about the Bologna Process to a much needed higher level and to facilitate a closer examination of the educational principles and approaches which underpin it (AMEE et al. 2010). It is hoped that the statement will help us to move away from a polarised position, with those for the process on one side and those against on the other.

As part of the EU Erasmus Lifelong Learning Programme, the MEDINE2 Academic Network (www.medine2.org) will, in the context of identified curricular trends, ascertain an updated position with regard to the adoption of the Bologna Process in medical schools and look at how the Bologna Process can be

integrated with what are seen as the desired curricular developments and how it can serve as a basis for the implementation of these trends in medical education.

Myths about the Bologna Process

A recognised problem associated with the implementation of the Bologna Process in medicine is the different interpretations as to what the implementation of the Process means in practice. Some interpretations have suffered from an excessively narrow, superficial and rigid perspective being taken where there has not been a full consideration of the range of options. What has been lacking is out-of-the box thinking and creative consideration of ways in which the implementation of the Bologna Process might in fact be an instrument for change in medical education in response to the current demands and pressures from advances in medicine, changes in the health care system, expectations of the public, new educational thinking and approaches and globalisation.

Some critical and highly promoted misunderstandings relating to the Bologna Process are highlighted below.

Myth 1

The two-cycle model is a retrograde step returning medical education to the basic science/clinical divide.

The aspect of the Bologna Process that unquestionably has attracted the most adverse comment is the proposal for a two- or three-cycle model. Concern has been expressed that in the Bologna Process there has been an unwarranted assumption that the years spent in medical school break neatly into two halves – pre-clinical and clinical. Critics have assumed that the result will be a two-phase undergraduate programme with a first phase comprising the basic medical sciences and a second phase covering clinical medicine. Medical schools who have a vertically integrated curriculum where clinical medicine is taught alongside the basic sciences from the first year of the undergraduate programme (Harden et al. 1984; Harden 2000) have had a particular concern. In schools where an integrated curriculum has been in place for many years, the prospect of a move back to a previously less satisfactory system fills them with dismay. Moreover there is now ample evidence to support the value of a vertically integrated curriculum with early clinical experiences incorporated (Dornan et al. 2006). The concerns that the Bologna Process represents a move away from an integrated approach to the curriculum, however, are based on the false premise that such a move is inevitable. This need not be so. It is possible within the Bologna framework to have a first cycle curriculum that embraces both basic sciences and clinical medicine, followed by a second cycle with the subjects and topics revisited and repeated in more depth in the second cycle (Figure 1). The learning outcomes for the two phases reflect the students' progression and increasing mastery and capabilities as they pass from the first to the second phase. Such a spiral curriculum is now well documented (Harden & Stamper 1999).

A Spiral Curriculum and the Bologna Process

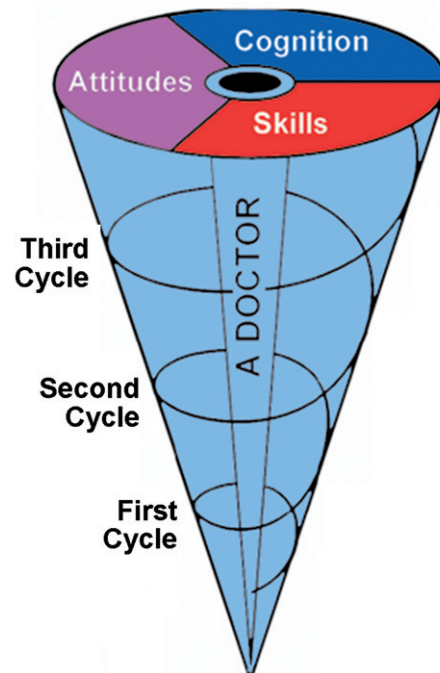


Figure 1. A spiral curriculum and the Bologna Process.

Students in the first cycle can be expected to master basic communication and clinical skills in addition to a knowledge and understanding of basic medical sciences. Attitudes are developed early in the medical curriculum and an appreciation of professionalism as applied to medicine can be gained from the first year of the medical course. In the second cycle, the communication and clinical skills can be developed further together with a more in-depth understanding of the basic sciences. An agreement to a two-cycle model with learning outcomes specified for each cycle in line with such a spiral curriculum if implemented across Europe, would represent a significant move forward for medical education in Europe. Such a model is already embedded in many schools in Europe and is implicit in the UK General Medical Council's recommendations for 'Tomorrow's Doctors' (General Medical Council 2009).

Myth 2

Students will not find employment should they choose to leave their studies after the first phase and if they do they will be employed as some sort of second-rate doctor.

An aim of the Bologna Process is to provide the student with a significant qualification after the first 3 years and one that will allow anyone who wishes to enter the workplace and seek skilled employment in a variety of health-care related fields to do so. Job opportunities after the Bachelor might include medical journalism and communication systems, medico-legal work, the pharmaceutical industry and other health-related occupations. The graduate, however, would not be qualified to practice Medicine as a doctor. While experience gained in

practice to date is by necessity limited, there is reassuring evidence that students who do leave after the first cycle can gain meaningful employment in a range of careers that make use of their medical studies.

It is expected that only a few students will choose to leave their studies at the end of the first cycle and that almost all will continue and complete their medical studies in the second cycle. For the students who do leave, either because they do not wish to pursue a career in medicine or for other personal reasons, however, this is an important option and one that offers significant flexibility in career pathways.

It is important to recognise that it has never been the intention that students, on completion of the first cycle, would leave and take up a post as some sort of less well-qualified doctor although this spectre has haunted the discussions and has been put forward as a reason for rejecting the two-cycle model. This is a myth and does not represent the expectations inherent in the two-cycle model and the experience gained to date in practice.

Myth 3

The Bologna Process has as an aim the imposition of a uniform curriculum across medical schools in Europe.

Traditionally medical schools have had a significant element of autonomy over their education programme and it is feared that, in the implementation of the Bologna Process, this would be lost. In the UK there has been concern that if implemented, the Bologna Process could undermine the autonomy and flexibility of the UK education system in medicine with its own appraisal to quality assurance. The fear was expressed by some educators that schools with a world-class reputation for medical education might be damaged by an attempt to standardise training through a Europe-wide reform of higher education. The Bologna Process, however, specifically is about comparability and compatibility and not about uniformity. It does not require a uniform curriculum common to all schools with a rigidity imposed curriculum and a loss of flexibility. What is proposed in the Bologna Process is harmonisation and not standardisation. It would be hard to argue that more exchange within European institutions and more comparable curricula, learning outcomes and qualifications would be a bad thing making academic degrees across Europe more compatible, resulting in greater mobility for students and doctors, is a central Bologna aim (Reynolds 2007). The Leuven and Louvain-la-Neuve Communiqué in 2009 (Bologna 6th Ministerial Conference 2009) highlighted in its preamble the importance of institutional autonomy and academic freedom. Agreement on a set of learning outcomes does not militate against a measure of autonomy by individual schools (Cumming 2010). This has been demonstrated by the experience of collaboration between the five Scottish medical schools in the provision of a set of common core learning outcomes – The Scottish Doctor (Simpson et al. 2002; SDMEG 2009) – while at the same time maintaining the individual characteristics and differences between the schools. The work of the China Medical Board in the USA in the development of

the global minimum educational requirements (GMER) (IIME 2002) further demonstrated how learning outcomes can be used as a tool for comparing curricula in very different settings (Schwartz et al. 2007).

That the Bologna Process is a threat to schools through the imposition of a common core curriculum, which all schools must sign up to is a myth. A report on the Bologna Process by the UK Parliamentary Education and Skills Committee (2007) reinforced that the Bologna Process is about comparability and compatibility and not about standardisation. 'It is clear to us that the Bologna Process in intention and design is about comparability and compatibility and not about standardisation of higher education systems'.

Myth 4

Differences in the curricula of medical schools will prevent the transfer of students from a school where they have completed the first cycle in a different school in the same or other country to complete the second cycle programme.

While an admirable goal, will the transfer of students to another school between the first and second cycles be feasible in practice? Will there be a demand from students for such a move? A preliminary analysis of the current AMEE survey suggests that staff expect that some students are likely to take up this option. Moreover, experience elsewhere has demonstrated the feasibility of student transfer. There has been 17 years experience in the International Medical University (IMU), Malaysia of admitting students to the first 2½-year phase of the IMU programme in Malaysia where they have an integrated basic science/clinical curriculum. On completion of this phase of their studies they receive a degree awarded by IMU. Each year, about half of the class then remain in Malaysia to complete their training and are awarded an IMU medical degree recognised by the Malaysian Medical Council. The other half – more than 200 students – transfer to complete their training in one of 22 schools in Australia, New Zealand, the UK, USA or Canada. (Lim 2008). This experience has clearly demonstrated that such transfer midway through the medical training is not only feasible but offers a number of attractions including a student body with a greater international experiences and awareness.

The way ahead

Where does the future lie for medicine and the Bologna Process? There is unquestionably a deep-rooted feeling in some countries, particularly the UK, that an effective system for medical education is already in place and there is no merit in changing this. There is a belief that medical curricula have already responded to the changing requirements and demands on medical education and that further change, such as set out in the Bologna Process, is not only unnecessary but may have an adverse impact on the changes already implemented in the local context. The risks of such a stance were highlighted by the UK Parliamentary Education and Skills Committee (2007) 'Despite the UK's strong position in higher education, it would

be a mistake to think we are in a sufficiently advantageous position as to be able to stand aside while other countries make progress'.

The Bologna Process has to be looked at in the context that the medical profession is by its nature conservative and that while modest changes of an evolutionary nature may be tolerated, more fundamental changes are likely to be opposed. The continuum of education is a good example of the slow rate of change in medical education. Although powerful arguments for greater attention to be placed on the continuum from undergraduate through post-graduate to continuing education have been made since 1932 (Commission of Medical Education 1932) and repeated at frequent intervals since then, little has happened to move medical education out of the silos where each phase of education is situated. (There are some encouraging signs that this is beginning to change.)

It is important to appreciate, however, that pressures now on medical education require an international response. The days where a country could be left to recruit, train and monitor its medical workforce in isolation are past. The world is changing, as powerfully argued by Friedman (2005) in his book 'The World is Flat'. 'The beginning of the 21st century will be remembered not for military conflicts or political events, but for a whole new age of globalisation – 'a flattening of the world''. Schwartz (2001) argued that 'Few would disagree that we now live in a global village and that every sector of human endeavour is being impacted and altered by the phenomenon of globalisation'.

Lunn (2008) in an article 'Global Perspectives in Higher Education: Taking the Agenda Forward in the United Kingdom' suggested that we should not ignore the international dimensions to education and that 'The economic, social, and cultural interests of the nation demand that graduates have sound knowledge of global issues, the skills for working in an international context, and the values of a 'global citizen'. We cannot ignore the move towards globalisation in education, but as argued by Dabbagh and Benson (2007) further work needs to be done. 'The global market for education is leading to new educational trends sometimes described as transnational education, borderless education global e-learning, flexible learning, open learning and others. As these trends continue to emerge, their practical implications will need to be examined and new learning theories and models will be needed to capture these developments'.

Medicine is not immune and globalisation impacts on medical practice and on medical education in many ways, affecting the health care system, the workforce, the teacher, the student and the patient. A supplement to the December 2006 issue of *Academic Medicine* looked at issues such as the global physician workforce, the establishment and assessment of performance standards in an international context and physician migration. Harden (2006) argued that the future for medical education lay in a move from an international to a transnational approach in which internationalisation is integrated and embedded within a curriculum and involves collaboration between a number of schools in different countries. He argued that in a transnational approach, the study of medicine is exemplified in the global context rather

than in the context of a single country. The Bologna Process can be seen as a response to such global developments in medicine and medical education.

In medicine, we need to move away from looking at the negative aspects and the problems that may arise when the Bologna Process is implemented. Instead we need to think creatively about the potential benefits and how these might be realised in practice. The AMEE et al. (2010) statement recognises the areas of consensus while at the same time accepting that further creative work is necessary to allow medicine to fully achieve the key Bologna objectives.

There are undoubtedly potential problems associated with the Bologna Process, which have been seized upon by the critics. The value of the Process is yet to be proven in practice and it remains to be seen how it will be applied in medicine, particularly with regard to the two-cycle model. There is evidence, however, of its acceptance and implementation across Europe including in Medicine (Patricio et al. 2008). With careful management and imaginative implementation and the necessary vision, creativity and enthusiasm any problems can be circumnavigated and rich rewards achieved.

The Bologna Process represents a challenge for all concerned with the necessary continuing development of medical education to meet the needs of the twenty-first century. The Process should be seen as an opportunity for progression and not as an enforced regression. It can be a catalyst for a re-examination of current approaches to medical education in terms of curriculum planning, learning outcomes, approaches to teaching, learning and assessment and importantly international perspectives. For this to happen, however, we need more involvement and better communication with teachers, as argued by Kettunen and Kantola (2006). '...there is enough strategic awareness about the importance of the European education policy to create a powerful driving force. The communication about the objectives of the Bologna Process could be much more effective. The HEIs have the primary responsibility for institutional management and quality assurance, but it is most effective when the outlines for a better future can be communicated and implemented close to teaching and learning'.

It is important that we enter the discussion as to how we should proceed with an open mind and avoid polarising opinion between those for whom the Bologna Process is about a religion and those who are bitter critics, unwilling to consider the potential opportunities. As argued by Wintermantel (2008 p. 3), President of the German Rector's Conference (2009) 'Critique should drive the need for improvement, but we should recognise the encouraging results to energise us for our further efforts'.

Ministers have signed up to implement the Bologna changes and it is a question of when rather than if they occur (Oliver & Sanz 2007). It is essential that we do not see the Process as a top-down bureaucratic one and that there is better communication and consultation than we have seen to date. We need to go beyond a superficial consideration of the Process and its implications to take the discussions to a much needed higher level and to engage in deep collective reflection in which we may be forced to reappraise our current policies and plans. We cannot say the Bologna Process is not

happening – it is reality and no longer a dream. Medicine needs to be part of it. Medical education can no longer be a matter of an exclusive national concern – the intentional dimensions must be recognised. As Foley (2007) has suggested ‘the Bologna Process may even force the entire world to redefine higher education in the 21st century and the process is an opportunity to reinvent higher education to meet the current needs of our students and countries’. The Bologna Process is itself constantly evolving and indeed, its dynamic nature is one of its strengths. Medicine has much to contribute and should be part of this process. As noted by Davies (2010), ‘In a world of mobile educators, mobile students, mobile patients and even more mobile disease, the chance is too good to miss’.

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