

Summary

The Inquiry on Medical Education in Sweden proposes the following changes in medical education:

- That the degree of Master of Science in Medicine (MSc Medicine) be extended by one term to include six years of study (360 higher education credits) and that for the degree, the student must demonstrate the knowledge and skills required for full registration as a doctor of medicine (MD).
- That the Master of Science in Medicine should form the basis of the licence to practise without a period of further mandatory practical service and that the system with the internship after the degree is to be abolished.
- A new qualification descriptor that more extensively than previously emphasises scientific and professional skills and the capacity for medical decision-making.

The proposals create the conditions for a coherent programme with a clear scientific basis and well-considered progression; i.e., where knowledge and clinical skills are continually broadened and deepened.*

* In 2011, The Swedish Government appointed a one-man inquiry on the renewal of medical education in Sweden. According to its terms of reference, the scope for review is all medical education and training preceding the licence to practise. To qualify for a licence to practise, doctors must currently (2013) complete a mandatory internship (allmäntjänstgöring /AT) following their degree.

Promoting health in the future – new medical education

We have chosen to give the report the title *‘Promoting health - medical education for the future.’*

By highlighting the concept of health, we want to draw attention to the overarching objective of education for practising doctors of medicine. Medical education must be a scientifically-based professional education that trains students’ professionalism, while simultaneously stimulating their interest in medical research and the future development of the health and medical services. The Inquiry stresses the importance of an understanding of the conditions in society that affect the health of individuals and different groups, from both a national and a global perspective. We consider that the future role of the doctor will include a greater focus on health-promotion and illness-prevention efforts in collaboration with other actors. The Inquiry takes social responsibility by adopting society’s long-term needs as its point of departure and emphasises the importance of a systems perspective on medical education and the future role of the doctor. Its proposals are strongly based on international developments in education within health care and medicine. Tomorrow’s doctors must be able to work and undertake research both in Sweden and in other countries. The proposals are also clearly linked to other phases in the life-long learning of doctors.

The title of the report relates to our points of departure in working with the Inquiry. These have comprised the national objectives in the legislation for the health and medical services, for public health policy and for higher education. This has meant that we have given priority to:

- the patient and citizen perspective, with a focus on health, and good care,
- the student perspective, with a focus on education of a high quality.

We have also been influenced by international developments in health and medical care systems and medical education.

The Inquiry's analysis of the present situation

We have made an effort to throw light on today's situation, both with regard to developments within the health and medical services and the various stages leading to the licence to practise. Background material has been collected from several areas, including material regarding the historical development of the doctor's role and medical education, and conditions affecting students' learning within the various sectors of the health and medical services. Valuable viewpoints and information have been gained from the agencies, organisations and interest groups that the Inquiry has consulted.

Based on an analysis of the present situation, the Inquiry finds that:

- medical education needs to be more clearly based on future global needs in health and medical services, medical research and the overall knowledge society,
- in order to promote student's learning, the path towards the licence to practise medicine needs to be more extensively characterised by progression and the integration of basic sciences and clinical sciences,
- it is important that the health and medical services prioritise learning and the scientific basis of their activities.

Health and medical services have undergone considerable changes since medical education was last the object of central government review. These include demographic developments, the disease panorama and the organisation of health and medical services in combination with an increasingly rapid growth in knowledge. Universities and other higher education institutions (HEIs) have also undergone major reforms and HEIs now have more scope than previously to govern the way in which their activities are to be shaped. Learning outcomes for the Master of Science in Medicine and thus for medical programmes need to be more clearly based on the needs of the health and medical services, medical research and the knowledge society as a whole. Cooperation and communication between HEIs and the health care sector need to be strengthened to be able to deal with future common challenges, such as those relating to course learning outcomes and examinations.

Progression is of key importance in all education. In the structure of today's medical education, with the requirement of at least 18 months of internship after the Master of Science degree, there is a risk that important training in key skills is postponed and does not clearly build on the knowledge and skills that the student acquired before gaining the degree. The long period of internship after the degree has been considered to be valuable in many ways, but standards across the country appear to have been uneven and the link between the objectives of the Master of Science in Medicine and those of internship is unclear. We believe that internship has become redundant and give several reasons for this in the report.

Six years for a degree and licence to practise

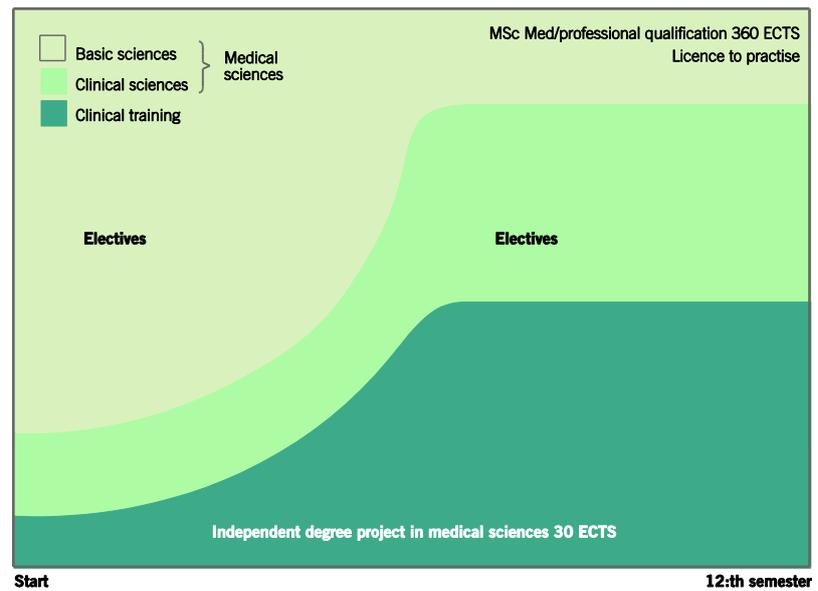
The Inquiry proposes that the Master of Science in Medicine include a total of six years of study (360 higher education credits) and that for the degree, the student must demonstrate the knowledge and skills required for full registration as a doctor of medicine. The Inquiry therefore proposes new learning outcomes in the qualification descriptor. We also propose that the Master of Science in Medicine provide the basis for the licence to practise, without requiring further training stages or practical service after the degree. As a consequence of this, the Inquiry's proposals include phasing out the current structure for internship after the degree. This means that the HEIs that are authorised to award the Master of Science in Medicine will be responsible for students having the skills required to be able to independently exercise their profession when they gain their degrees. Apart from the specific learning outcomes for the Master of Science in Medicine, the student must also achieve the learning outcomes of the Higher Education Act pertaining to education at the second level.

Medical education must be planned and implemented with a focus on the skills that a student must have achieved when awarded the degree and a licence to practise. We therefore believe that basic sciences and clinical sciences must be more extensively integrated to promote the progression of student's learning, i.e. a gradual increase in the degree of difficulty in the training of their clinical skills.

The following principles of particular importance for modern medical education were identified at an early stage of the Inquiry's work:

- progression throughout the entire programme with a clear systems perspective and focus on learning results,
- integration of basic sciences, clinical sciences and the training of clinical skills throughout the entire programme,
- a focus on professional development, a scientific approach, interprofessional teamwork and the ability to participate in improvement efforts,
- the taking of social responsibility, marked by a global perspective,
- student-activating learning methods,
- examinations in order to document the professional skills acquired and continual formative evaluation, in order to enable each student to achieve his or her individual development potential,
- long consecutive periods of integrated clinical learning to enable training of professional skills,
- opportunities for more extensive and in-depth studies on an individual basis.

Figure 1 Proposal for a model for medical education that supports achievement of learning outcomes



The higher education institutions are responsible for, and are free to govern the design of the educational process. The way in which the programme is planned is, however, of great importance for students' ability to have achieved the expected learning outcomes when they are awarded their degrees. This, we believe, means that clinical training should be introduced at an early stage in the programme and be seriously integrated into the theoretical parts of the programme. The parts of the programme that comprise integrated clinical training will be crucial for quality, in combination with the use of scientifically-based assessment and examination methods.

All parts of the integrated clinical training are to be included in courses, with clear learning outcomes and examinations that provide students with feedback on their professional development. One consequence of the proposal is that the requirement for internship after the degree will cease to apply. The entire process towards a prospective doctor's full registration will be integrated into the HEI's system for quality follow-up and responsibility for quality will thus become clearer. With this proposal, we place particular emphasis on medical decision-making and the training of

clinical skills. The Inquiry stresses the importance of enabling the skills and experience built up in connection with the internship system to be made use of to benefit county councils and universities in the new medical education. Cooperation on the development of good arenas for integrated clinical training will be necessary.

Other alternatives that were considered

We have considered some possible alternative models for the process leading to licence to practise. Two of these are:

- maintaining the present structure with the requirement for internship after the degree, but taking measures to ensure quality,
- a six-year medical education as a requirement for a licence to practise according to the principles of the Inquiry's main proposals but specifically allocating the final year for clinical training in different sectors of the health and medical services.

The Inquiry's overall assessment is that these alternative modules lead to improvements in certain respects, but do not create the conditions for change that are necessary for an appropriate and fully quality-assured medical education.

We argue that some of the most important principles for medical education that is adapted to the needs of the health and medical services in the future, are based on clear progression. Responsibility and the level of difficulty of the prospective doctor's training must increase successively in order to promote their learning. By making the HEIs responsible for the quality of medical education up until the higher education qualification and the licence to practise, the entire process leading up to the full registration as a doctor of medicine is covered by the HEI's requirements for a scientific basis. This, in turn, provides better conditions for well-considered progression.

New learning outcomes with the emphasis on professional skills and a scientific basis

The Inquiry proposes several new or modified learning outcomes for medical education. The emphasis lies on core professional skills, such as the ability to communicate, social responsibility,

capacity for cooperation and the ability to participate in research and development work. A global perspective and a health-promoting approach are other aspects that have been highlighted.

The aim of the new qualification descriptor is, on the one hand, to highlight relevant professional skills and on the other, to relate more clearly to the objectives for good care. The proposal contains more learning outcomes than previously, which the Inquiry considers may be able to facilitate both the design of medical education programmes, examinations and future external quality control. The content of medical education programmes at the detailed level must be kept up-to date and be continually renewed, reviewed and developed. It is thus not appropriate, for a sustainable medical education, to propose learning outcomes in the qualification descriptor that are at such a detailed level that they risk rapidly becoming out of date. We therefore propose that the HEIs, in cooperation with each other and together with representatives of the health and medical services, the National Board of Health and Welfare and the professional organisations describe the learning outcomes at a more detailed level and that they regularly review them. Likewise, we want to encourage cooperation on the development of examination formats and examination tasks.

Since the Inquiry's proposals mean that the Master of Science in Medicine will form the basis of the licence to practise issued by the National Board of Health and Welfare and thus of the full registration, several of the new learning outcomes in the qualification descriptor focus on medical decision-making.

Some examples of these learning outcomes for the degree of Master of Science in Medicine are that the student shall demonstrate:

- a deeper capacity for professional conduct and approach vis-à-vis patients and their close relatives, with respect for the patient's integrity, needs, knowledge and experience,
- the ability to independently diagnose and initiate treatment of acute, life-threatening conditions,
- a deeper capacity, from a pathophysiological and psychosocial perspective, to independently diagnose the most common illnesses and together with the patient, deal with these,

- the capacity for leadership and interprofessional cooperation, both within the medical and health services and with professions from other sectors of society,
- the ability to initiate, take part in and implement improvement efforts and show the skills that are required to participate in research and development work.

The proposal for a new qualification descriptor also aims at facilitating future national quality evaluations.

Teaching and learning in the various sectors of the medical and health services

Developments in health and medical services, with a reduction in the number of hospital beds, an increasingly ageing population, and greater demands for quality and patient safety entail challenges for the parts of medical education programmes that are based in the health and medical services. Primary and emergency care services are therefore increasingly important arenas for students' training to achieve many of the most core learning outcomes in the qualification descriptor and for the development of their clinical skills. There is also a trend in different parts of the country towards the increasing use of the front line of the health care system in connection with teaching and learning in these services.

The Inquiry recommends longer, continuous periods of integrated clinical training in order to clearly give priority to clinical training and assessments of the student's professional skills, and ability to cooperate with other professional groups in the health and medical services.

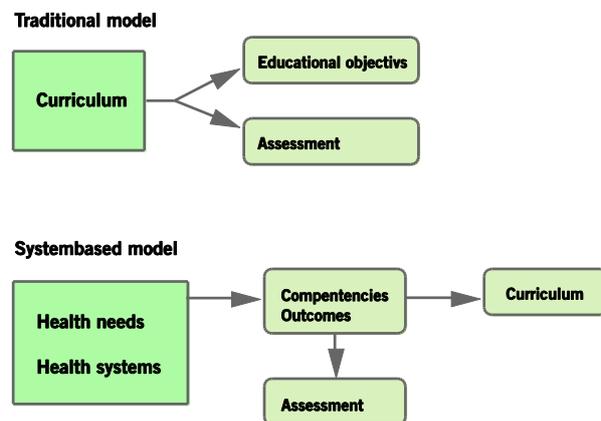
Longer periods of training in clinical skills in the health and medical services will also enable an interest in clinical research and development work to be encouraged and made use of. Health and medical services that offer good conditions for students' learning may affect the choice of their future vocational orientation and specialised service.

Continual assessments of students' development

Our proposal means that, when taking their degree, students must demonstrate the knowledge and skills required for full registration as a doctor. The HEIs will thus be responsible for ensuring that students achieve such a level of independence that the degree can form the basis of the issue by the National Board of Health and Welfare of licences to practise. We therefore stress that the use of different types of examination should be developed, particularly for the assessment of students' skills in clinical decision-making and other professional competence, such as conduct and approach towards patients, and communication.

The knowledge and skills that a newly licensed doctor needs must constitute the minimum level for what a student is expected to have demonstrated when awarded his or her degree. With this proposal, we also want to encourage a development towards ensuring that the education will give every student the chance to achieve his or her individual potential.

Figure 2 Medical education from a systems perspective



Källa: The Lancet Commission, 2010.

Teaching and types of examination must be based on the expected learning outcomes of students, i.e., what a student must know when being examined, rather than on a traditionally subject-based structure. The learning environment that is to support the stu-

dent's efforts to achieve the necessary learning outcomes should be determined by the needs of society, the expected skills of the licensed doctor and by the format of examination. This systems perspective of medical education is summarised in Figure 2 above, and is of key importance for our proposals.

According to the Inquiry, good examination methods, continual assessments of students' performance and regular feedback will provide security for students in their future professional role. The Inquiry regards cooperation between the universities and county councils as necessary in creating the conditions for this.

On learning in the health and medical services and introduction to the profession

It is important to regard medical education as life-long learning from the first day of medical studies until the end of professional life. The conditions for students' learning in the health and medical services need to be strengthened, and we propose that the participation in medical education programmes of the principals of health and medical services be clearly stipulated in the Health and Medical Services Act.

The different phases of life-long learning should be planned so that they build further on each other. This, we believe, is particularly important for the first period after the doctor has gained a licence to practise. The future role as a doctor is also affected by the increasing global mobility of patients, populations and health and medical services staff. With a well-considered and individually-adapted introduction into the health and medical services, patient safety and the quality of care are improved. This particularly applies to the large group of doctors with foreign degrees in medicine and Swedish licences to practise. At the same time it is important to make it clear that an introduction also needs to be seen as an opportunity for learning in the health and medical services, via knowledge from those who have recently undergone medical education in Sweden and doctors with experience from health services in other countries.

The principals of the health and medical services, the National Board of Health and Welfare, HEIs and the professional organisations should together take a position on the way in which such an introduction to working in the health and medical services could be

developed and designed. We believe that it is important for the introduction to be flexible and able to be adapted on the basis of an individual doctor's previous knowledge, experience and needs.

Learning within the health and medical services is of key importance and ultimately, it is the responsibility of the head of a service to ensure that the workplace for which he or she is responsible is developed into a good learning environment. Participation, continual professional development and active and involved management are of crucial importance in creating a learning environment at a workplace. At the same time, experience shows that learning within the health and medical services is not easy. In daily life, it may be difficult to give priority to the time required for reflection in order to change and improve.

Support for implementation

The proposals for extending the scope of the degree of Master of Science in Medicine, and the adjusted requirements for granting licences to practise in combination with the new learning outcomes, place demands on more intensive development efforts within the universities that are currently entitled to award the degree of Master of Science in Medicine (professional qualification). This may be a matter of changes in syllabi, developed examination methods, and continual policy intelligence in close collaboration with representatives of the health and medical services. In this connection, both a national and a global perspective are vital. The challenge lies in agreeing on what should be prioritised for the prospective doctor, and in focusing on learning directed at skills, understanding and coherence.

We believe that central government should support the introduction of the new medical education and propose that the Government appoint a consultative group tasked with drawing up a strategy for enhancing cooperation between HEIs, the health and medical sector and other stakeholders.

Impact of the proposals

Our proposals aim at creating medical education that better corresponds with the future needs of the health and medical services, medical research and the knowledge society. The new learning outcomes of the Master of Science in Medicine, with their greater stress on key professional skills and knowledge of quality assurance and patient safety should, in the longer term, contribute to safer and more efficient health and medical services. Greater opportunities for a more rapid process towards specialist doctors could also be a cost-saving factor for central government and society.

Patients and principals of health and medical services

The new education in medicine will have a range of positive consequences, both for patients and for principals of the health and medical services. The new learning outcomes highlight communicative skills, a scientific approach and knowledge of patient safety and quality in health and medical services.

With the HEIs' responsibility for medical education until the student is awarded the degree and the licence to practise, the prospects for a high-quality, scientifically-based education throughout the entire process leading to full registration improve. At the same time, the proposals are conditional on the forms of cooperation between the health and medical services and the HEIs being developed and intensified. We also consider it important for the supervisory skills that are now available in the health and medical services to be made use of when new arenas for student learning are developed.

The Inquiry's proposals mean that the obligation of county councils to provide internship placements will be abolished. Initially, these proposals may have certain consequences in the services where interns have been an important resource.

The prospective doctors

The statutory rights of prospective doctors have been a major point of departure for our work. Without the requirement for internship after the degree, students will be more able to predict when they can receive their licences to practice, compared with today. The proposal means that the degree of Master of Science in

Medicine increases in scope, but that the total period leading to the licence to practise is shortened.

The Inquiry considers that the proposal meets the minimum requirements for medical education in the Directive (2005/36/EC) of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications. After six years of training and the receipt of a licence to practise, a Swedish doctor can thus begin specialist employment in another country within the EU/EEA. This will mean that doctors with a Swedish Master of Science in Medicine will have equal opportunities for an international career, compared with students in most of the other EU/EEA countries and several other places in the world.

For a medical student following the normal course of studies and receiving full financial support for students, indebtedness will increase somewhat. We consider that the proposals will affect the financial security of medical students in the event of illness and unemployment to a small extent, compared with the situation at present.