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Fit for the Medicine of the Future

A redesign of teaching and examination practices in medical schools is refocusing attention on the patient

- **Overdue reform:** A new draft of the Licensing Regulations for Physicians was completed in November 2020, but adoption has been delayed
- **Future-oriented ministerial draft bill:** The envisaged licensing regulations focus strongly on competences and primary-care medicine, and seek to give teaching and examinations more practical relevance
- **New exam formats:** New plans for final examinations would increase standardization and test practice-relevant skills
- **More communication:** Communication with patients and within medical teams is viewed as a core competence, and will be tested accordingly
- **Supportive conditions:** To ensure that acquired competences carry over to daily clinical practice, supportive underlying conditions are needed

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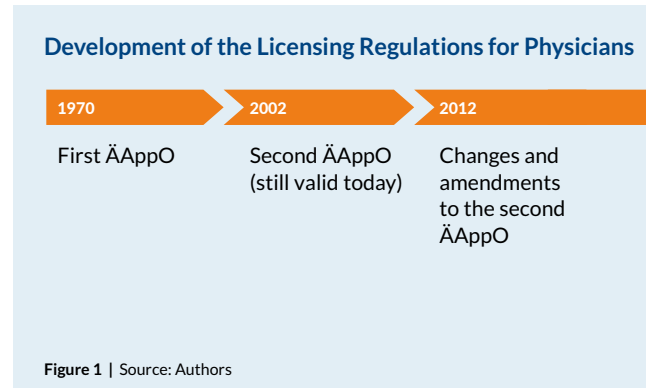


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In Germany, the Licensing Regulations for Physicians define the legal framework in which some 100,000 prospective doctors are trained at 39 medical schools. In order to stay abreast of demographic developments, changing patient needs, scientific progress and new technologies, regular changes to the Licensing Regulations for Physicians (Approbationsordnung für Ärzte und Ärztinnen, ÄAppO) are needed. Because physician-training practices shape the medicine of the future, the healthcare provision of the future must also shape medical education. The currently valid version of the ÄAppO, adopted in 2002, is slated to be replaced by a new version. The German Federal Ministry of Health (Bundesministerium für Gesundheit, BMG) presented a ministerial draft bill to this end in November 2020. The new ÄAppO is expected to be adopted during the current legislative period, and should come into force in fall 2025 (see Figure 1).

Inspiration from abroad

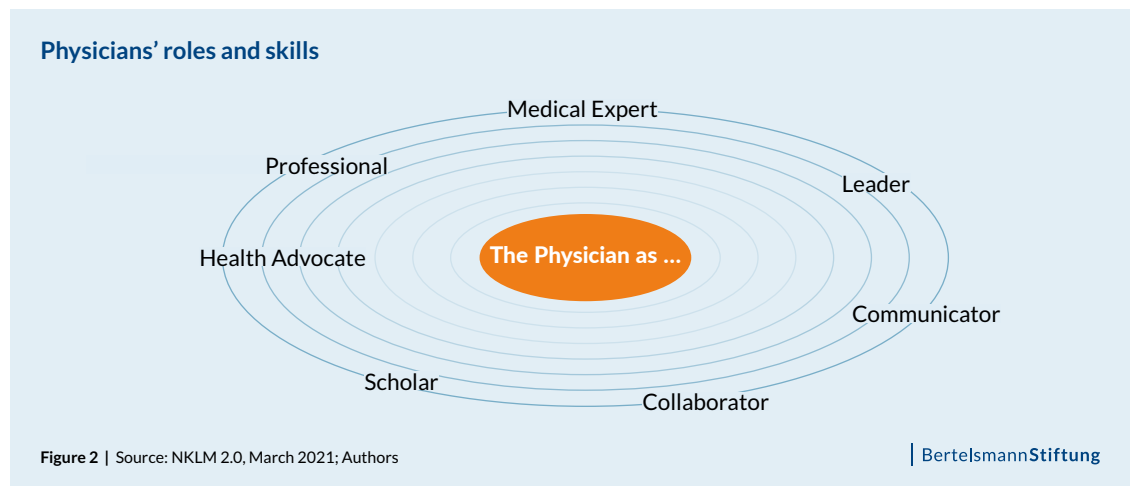
Recent decades have seen comprehensive medical-education reforms implemented in locations such as North America, Scandinavia, the Netherlands and Switzerland. For years, a myriad of expert reports, reference frameworks and learning-objective catalogues have also called for a fundamental

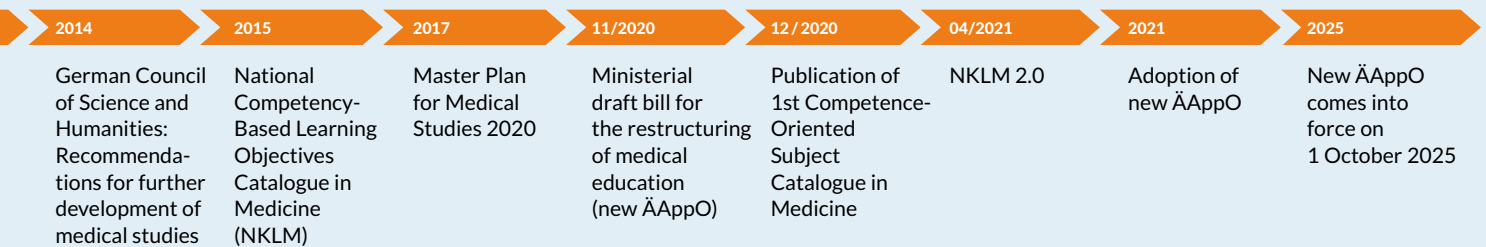


redesign of medical studies in Germany. Authors of such documents have argued that medical education should be made more scientific and more practice-oriented, while also better preparing students for the tasks they will be carrying out in their daily working lives. Moreover, these observers say that communication and listening should be given greater weight as key elements in the practice of medicine. In 2014, the German Council of Science and Humanities, in its recommendations for revisions to Germany’s system of medical education, identified the need to remove the traditional orientation toward medical specialties in favor of training focused on medical roles and competences. Numerous national learning-objective catalogues for medical training, including the National Competency-based Learning Objectives Catalogue in Medicine (NKLM), have been structured around these diverse physician roles (see Figure 2).

The Master Plan for Medical Studies 2020 sets the course

In March 2017, the then-serving federal and state ministers for health and science, along with the



(Approbationsordnung für Ärzte und Ärztinnen, ÄAppO)

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governing-coalition parliamentary groups in the German Bundestag, adopted the Master Plan for Medical Studies 2020. This sets the course for training the next generation of medical professionals. It draws on recommendations issued by the German Council of Science and Humanities and the German Council of Health, and is also based on experiences gained in model study programs. It includes 37 specific measures aimed at promoting patient-oriented care.

“From the start, students develop skills relevant to working as a physician, come into closer contact with patients and gain practical clinical experience from an earlier date. They can communicate well with patients, and work effectively with healthcare professionals from other specialist areas. Future physicians will also be better and more effectively able to deal with current research findings, applying them in their daily medical practices,” says the Master Plan for Medical Studies 2020.

Key aspects of the master plan have already been implemented in the 14 model study programs, which differ from the regular course of study on the basis of paragraph 41 of the current Licensing Regulations for Physicians. Each has also been granted special exemptions at the state level. However, there are significant differences in teaching and examination practices within the various model study programs, and between the model and regular study programs. Some proven approaches from the model study programs are to be adopted by all medical schools under the new Licensing Regulations for Physicians, and performance standards are to be made more comparable overall. A total of 14 of the 37 measures contained in the master plan require changes in the Licensing Regulations for Physicians to be implemented.

Ministerial draft bill provides for more practical relevance

The BMG’s ministerial draft bill on the revision of the Licensing Regulations for Physicians, presented in November 2020, entails a fundamental change in the structure of medical education. It would refocus teaching on physician competences; introduce more practical relevance; eliminate the separation between pre-clinical and clinical sections; and introduce new, more modern examination formats. But after the Bundesrat rejected the draft bill on 7 May 2021, progress toward final passage has now come to a standstill. Several days earlier, the 124th German Medical Assembly called on the federal government and the Bundesrat to conclude the revision of the regulations as swiftly as possible. Medical students at the conference also appealed for rapid action.

“The revision of the Licensing Regulations for Physicians is long overdue – it adapts yesterday’s medical studies to the medicine of tomorrow.”

Lucas Thieme, President of the German Medical Students’ Association

Criticism from the federal states

While there is consensus regarding the revisions to the content of studies, the states used the Bundesrat decision to note critically that there had not yet been a calculation of the reform’s additional costs. They urged that they be included more directly in the process of determining the additional organizational and staff expenses, as well as the related financing needs. Two previously

published estimates have come to widely varying conclusions. While the German Association of Medical Faculties has estimated an increase in costs of 15 percent to 18 percent per study place, the Interinstitutional Working Group for the Economics of Education and Examination has calculated only a 3 percent to 4 percent increase.

Thus, the Bundesrat has requested that an appropriate cost calculation be performed by the National Regulatory Control Council. It is clear that the planned reform will require major restructuring of medical schools, future teaching practices and teaching hospitals. From our point of view,

however, policymakers should also take into account the fact that between €200,000 and €400,000 in public funds, depending on the institution, are already expended today for each study place in medical schools. Thus, it would seem logical not only to provide additional resources, but also to redistribute the current funds on the basis of the reform approaches – as laid out in the Master Plan for Medical Studies 2020.

Examinations influence teaching and learning

A further criticism of the ministerial draft bill is that the planned regulation and standardization of teaching and examinations will interfere with doctrinal freedom. Here it is important to balance the special nature of medical education as both a scientific study and a course of professional training. The new Licensing Regulations for Physicians call for physicians who have completed their studies to be able to engage in their medical practice independently and self-reliantly. Proof of this capability is to be provided by the state examinations. The federal government’s legislative competence for medical examinations is thus

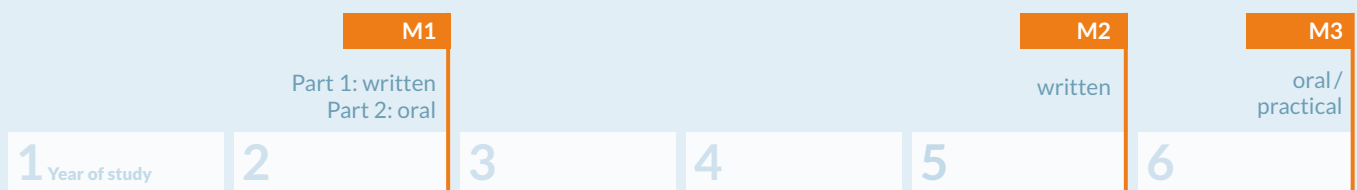
Key content elements of the new Licensing Regulations for Physicians

- Focused on competences
- More training with practical relevance
- Stronger focus on general medicine
- Examinations designed to test practical skills

Source: Explanatory statement accompanying the ministerial draft bill on the restructuring of medical education

Comparison of ÄAppO state medical examinations, 2002 and 2020

Status in 2002 – according to the current version of the current Licensing Regulations for Physicians (ÄAppO)



Status in 2020 (planned) – according to the ministerial draft bill on the Licensing Regulations for Physicians



M: Section of state medical examination; OSCE: Objective Structured Clinical Examination
 Figure 3 | Source: IMPP final project report 2021, authors’ presentation

intended to ensure that graduates are of a uniform level of quality, and that standards for safe patient care are being set regardless of the place of study.

Previously, examinations focused heavily on factual knowledge. Under the draft of the Licensing Regulations for Physicians, the paradigm shift in training toward competence-based lesson content would also be reflected in the examinations, with new formats designed to test the practical skills in particular, among other changes. In addition, the oral/practical component of the examination is to be more rigorously standardized.

IMPP specifies exam content

In the state treaty signed by all of Germany's federal states, the determination of testing contents in state medical examinations is a task assigned to the German National Institute for State Examinations in Medicine, Pharmacy and Psychotherapy (Institut für Medizinische und Pharmazeutische Prüfungsfragen, IMPP). The IMPP produces the so-called subject catalogues that specify examination content. With the IMPP's publication of the first Competence-Oriented Subject Catalogue in December 2020, and the revised version of the National Competency-Based Learning Objectives Catalogue in Medicine (NKLM 2.0) in April 2021, it took important steps toward the implementation of the master plan.

The NKLM describes the competences and learning objectives that all medical students should acquire or achieve, thus creating a common curriculum. In the future, it is to be anchored in the Licensing Regulations for Physicians in a binding way, and regularly revised. The NKLM and the subject catalogue play an essential role in defining the specific content of study. They allow for the coordination of learning objectives, lesson contents and examination contents.

Combination of different testing formats

One important change in the planned new state medical examination system is the newly conceived third section, the oral/practical M3 final exam (see Figure 3). According to the ministerial draft bill – and as already agreed upon in the master plan – this is to consist of two sub-components: the patient examination, and the objective structured clinical examination. The draft in turn provides for two parts within the first sub-component, made up of eight elements each in the areas

Examination of the patient

First part of the oral/practical M3 final examination

	PART 1 Inpatient	PART 2 Outpatient
	Internal medicine/ Surgery	General medicine/ Primary care
Two examiners in the inpatient area	Medical history	Medical history
	Examination	Examination
	Intra-professional communication	Intra-professional communication
	Evidence-based handling of a clinical problem	Evidence-based handling of a clinical problem
	Clinical decision-making and documentation	Clinical decision-making and documentation
	Interprofessional communication	Interprofessional communication
	Evidence-based patient report	Evidence-based patient report
	Patient report in simple language	Patient report in simple language
		Two examiners in the outpatient area

Figure 4 | Source: Ministerial draft bill for the restructuring of medical education, authors' presentation

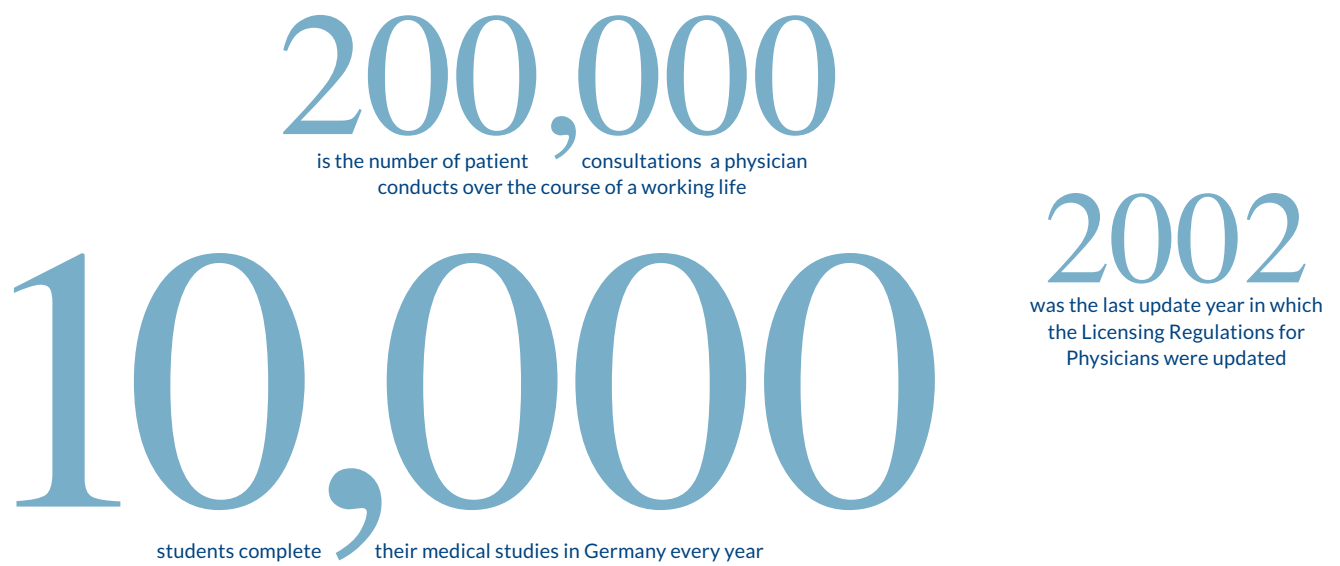
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of inpatient and outpatient care. Each student's performance is to be observed by two examiners, and evaluated on the basis of a standardized survey form (see Figure 4).

The second part of the M3, objective structured clinical examination (OSCE), is to consist of 10 stations, in a predetermined sequence. At each station, the exam-takers will have 10 minutes to perform practical clinical tasks for simulated patients in the areas of internal medicine, surgery, general medicine and a chosen specialty. Due to their direct relevance to practice, these new formats enable an assessment of communicative, intra- and interprofessional, scientific and practical clinical knowledge and skills, while also including the patient's perspective.

Communication skills must be learned and tested

Successful doctor-patient communication is considered a core diagnostic and therapeutic measure in the practice of medicine. Conversations with



patients have a significant influence on the physician–patient relationship, the success of treatment and patient satisfaction. A physician will conduct around 200,000 patient consultations over the course of a professional lifetime. Conversations with patients and within medical teams are thus a critical aspect of a medical professional’s daily working life. Communication and attentive listening form the basis for correct diagnoses and patient-oriented treatment. If the physician does not conduct a consultation successfully, this can even lead to incorrect treatment and inadequate therapeutical decisions.

“An understanding is slowly emerging that a physician’s communication techniques must be learned just as carefully as the use of a scalpel.”

Christian Grah, *Der Pneumologe*, 2016

The importance of communicative competencies has long been underestimated, and they have not been sufficiently taught or tested at German universities. The conduct of medical consultations was adopted as a subject for the state medical examination only with the first revision of the Licensing Regulations for Physicians in 2012. Teaching and testing of physician–patient communication was thereafter made obligatory within the medical education system for the first time. The NKLM also places considerable weight on communicative competence. This is evident in its

portrayal of the physician in the communicator’s role, among other things.

Today, it is taken for granted that communication skills will be taught at medical schools. However, there are significant differences with regard to the extent of such teaching, as well as in the methods used. According to the ministerial draft bill for the new Licensing Regulations for Physicians, tasks deriving from everyday physician activities will in the future be tested in a standardized way. Communicative competences play an important role here, along with joint decision-making with the patients, the transfer of responsibility for a patient’s care to other physicians or nurses, the ability to write a patient report, and the ability to provide adequate information to the patient.

Project focuses on decision-making and physician documentation

This is where the IMPP project funded by the Bertelsmann Stiftung comes in, called “Review of clinical and participatory decision-making and physician documentation capabilities in the state medical examination.” Its focus on “participatory decision-making” and “language comprehensible to the patient” is meant to place a stronger focus on the patient in both the education and care settings, while supporting the implementation of new elements of the oral/practical examination according to the revised Licensing Regulations for Physicians.

Teaching and testing shared decision making

One requirement for shared decision making is that physicians weigh the advantages and disadvantages of treatment options in conjunction with their patients. To this end, treatment-relevant information must first be communicated in a comprehensible way; the physician must ascertain the patient's life situation, expectations and preferences; and they must make the decisions together. This must be taught and learned, and in the future is also to be tested in the second part of the M3, the application-oriented course examination.

In real and simulated care situations, the examiners assess students' competence on the basis of checklists. This allows theoretical medical knowledge and practical skills to be tested at the same time. In the project supported by the Bertelsmann Stiftung, the IMPP has developed relevant rules for important communication competences, as well as centrally created examination tasks, including case vignettes and tasks for the test-takers, scripts for the people playing simulation roles, sample solutions, and evaluation forms for the examiners. These materials allow the state examination to test medical students' skills in these areas in an objective way, with the results comparable across Germany.

Learning to write evidence-based and comprehensible patient reports.

Given the extreme daily time pressures in the medical field, everyone involved needs precise, comprehensible and structured information. The patient report is an important means of communication, whose content, form and structure has not to date been systematically taught or tested. Inadequate communication with patients and between healthcare professionals can lead to medication errors, the implementation of avoidable procedures and services, hospital readmissions, and even life-threatening situations. Thus, in the future, test-takers examining patients should also draft an evidence-based patient report, in simple language, that is suitable for intra-professional circulation. In the project funded by the Bertelsmann Stiftung, the IMPP developed a quality standard and a standardized evaluation form for integrating the patient report into the examination of the patient in the context of the M3 test.

A patient report written in layperson's language helps to provide comprehensive information to

How were the examination formats developed?

With the participation of experts from various health specialties, and in cooperation with the non-profit initiative "Was hab' ich?" (What do I have?), the IMPP developed instruments for assessing student performance to be used in the planned new examination formats. In a multi-stage process, evaluation forms were designed for recording student skills in the areas of clinical and shared decision making, physician documentation, and the patient-friendly communication of healthcare procedures. Testing of the instruments took place in inpatient and outpatient settings at university clinics, general-medicine teaching practices, and workshops with students and examiners from various specialties and medical schools.

Source: IMPP Final Project Report 2021

the patient, and can even help improve their health literacy. A study associated with the non-profit "Was hab' ich?" initiative demonstrated that the written preparation of comprehensible patient reports also improved physicians' oral communication skills. Thus, working jointly with the initiative in the context of the project, the IMPP has also developed a grid that can be used in evaluating a comprehensible patient report.

Asking students taking the state medical examination to generate a patient report in lay language highlights the importance of producing written communications comprehensible by laypeople as a part of the daily healthcare routine.

The success of physician-patient communication is also influenced by the healthcare system's complex underlying conditions. For example, in 2003 the German Council of Health noted: "The fact that patient-centered consultations often do not take place, or do so only under considerable time pressure, is partly due to the organizational and economic conditions underlying medical care in Germany." It is to be hoped that the physicians trained in the future will work under structural and economic conditions that allow more time for conversations and a more patient-oriented manner of working.

Recommended actions

Adopting and implementing medical education system reforms

The planned new Licensing Regulations for Physicians place a significantly higher focus on physicians' acquisition of communicative competences. Given the importance of written and oral communication in physicians' day-to-day activities, this is a very welcome step. According to surveys, young healthcare professionals also want more time for conversations with patients, and a more patient-centered practice of medicine overall. They want to work in interdisciplinary and interprofessional teams. In many respects, the reform of the Licensing Regulations for Physicians is overdue.

Rapidly adapt and adopt the licensing regulations

- The German Federal Ministry of Health and the federal states must rapidly draw up an independent and valid calculation of the additional costs per study place associated with the reform. The federal states should ask medical schools to finance the additional costs through a (partial) redistribution of current funds. The federal government and the federal states should agree on a fair and sustainable allocation of the costs.
- The federal states should swiftly carry out a capacity-planning process.

Prepare for the new requirements

- The medical schools should continue to make preparations on the basis of the requirements contained in the new Licensing Regulations for Physicians, and train their teaching staffs and examiners accordingly.
- Students can or should also prepare themselves for the new lesson content and examination formats.
- Teaching stations and model practices should be established in preparation for professional activities and state examinations.

Strengthen patient-centered treatment and participation at all levels

- This includes easily accessible, trustworthy information; effective strategies for promoting health literacy; better cross-specialty cooperation; close cooperation between outpatient and inpatient care facilities; and corresponding structural and economic conditions.

SPOTLIGHT HEALTHCARE is an initiative of the "Improving Healthcare – Informing Patients" program at the Bertelsmann Stiftung. Published several times a year, SPOTLIGHT HEALTHCARE addresses topical issues and challenges in healthcare. The Bertelsmann Stiftung is committed to promoting a healthcare system relevant to public needs. Through its projects, the Stiftung aims to ensure the provision of needs-based and sustainable, high-quality healthcare, in which patients are empowered by access to readily understandable information. This issue of SPOTLIGHT HEALTHCARE is a product of the "Patient with Impact" (www.patient-mit-wirkung.de) project.

With the "Review of clinical and shared decision-making and physician documentation capacities in the state medical examination" project module, the Bertelsmann Stiftung has supported the IMPP in developing new examination topics and formats based on the Master Plan for Medical Studies 2020 and the NKLM. The goal is to give communicative competences the weight in the state medical examination that they deserve, given their importance in the daily course of healthcare. Additional information can be found in the IMPP's final project report (www.impp.de).

Further information at

www.patient-mit-wirkung.de
www.bertelsmann-stiftung.de

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