The experience of implementing independent examination of medical school graduates in Kazakhstan

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Over the long period, graduate knowledge assessment has been carried out by the educational organizations themselves, i.e. by higher educational institutions (HEI), and mechanisms of external quality control did not exist. Such a system of assessment excluded objectivity in quality assessment of graduates’ training. In the Republic of Kazakhstan, pilot-implementation of independent examination of internship students within all the specialties (general medicine, surgery, obstetrics and gynecology, general medical practice, pediatrics, pediatric surgery, stomatology) has been started since 2010 and since 2011 this procedure has been carried out with residency students as well. The article presents the overview of the first experience in the conduct of independent examination of graduates’ knowledge of the medical higher educational institutions across Kazakhstan. Analysis of the computer-based testing results has revealed improvements in the academic performance of the internship and residency students’ in addition to enhanced sense of responsibility by faculty’s teaching staff. Therefore, independent examination can be considered as a basis for further development of external assessment of academic performance in medical education.

Keywords: Independent assessment, graduates, medical higher educational establishments

Introduction

In a modern society education can be viewed as a commercial product, which is required to be competitive and economically effective. Certainly, education quality serves as the basis for education competitiveness.

Quality of the specialist’s professional training in higher educational institution is the ability of educational system to satisfy the need of labor market in experts with relevant qualification providing that competitive knowledge and skills are obtained. With the purpose of solving these tasks a number of normative-legal acts were adopted in our country:


These documents have served as the basis for large-scale reforms in the educational system of our country, the necessity for which was apparent long ago. The content of medical education curricula and material-technical base of the educational institutions did not consider the increased requirements to the specialist training and worldwide educational trends in medical and pharmaceutical institutions.
There was a problem with quality of training and further professional development of medical and pharmaceutical professionals. Imperfection of the regulatory-legal base governing the admission policies, training and quality control in the system of medical and pharmaceutical education, which would take into account specifics of medical education in particular, was one of the underlying reasons for the problem. The causes of it were the inadequate requirements for admission, training and assessment of trainees’ knowledge in medical educational institutions.

The ways of solving these problems have been indicated in the annual, 2012 Message of the President to the people of Kazakhstan, where the independent system of confirming qualifications has been mentioned, ‘the State should not provide educational services and assess their quality simultaneously.’

Objective assessment of graduates will provide a realistic picture of training level in the medical higher education institutions across the country; enable to reveal strengths and weaknesses of medical education; facilitate the enhancement of competitiveness of the offered educational services, and accordingly, will enhance the quality level of specialist training as well.

Current state of the problem

In past the assessment of graduates’ knowledge was carried out by educational organizations, i.e. higher education institutions (HEI), in Kazakhstan and mechanisms of external quality control did not exist. Objectivity was excluded under such a system of assessment of graduates’ training.

As international experience in medical education proves, the quality control remains strictly centralized despite of increasing levels of decentralization.

As the North American model of medical education was chosen as a basis for the reformation of the medical education system in the country, practice of these countries has been studied.

In the USA and Canada the system of assessment of trainee’s achievements is designed not only to reveal the ability to accumulate the actual knowledge, but also the ability to use the knowledge in solving different problems of future professional activity.

As far as back in 1915, after realizing that the American medical education lagged behind that of European and that this fact contributed to low quality of medical services, the National Board of Medical Examiners (NBME) was founded, which was a unique phenomenon not only for American system of medical education, but also for the worldwide educational field as a whole. The NBME’s mission was to ensure the correspondence of medical competencies to the requirements of effective and safe medical treatment based on the enhancement of knowledge and experience of medical professionals. Up to the present, the search for optimal assessment tools has been undertaken and since 1999 the computer-oriented model of illness simulations, the model of using standard patients for determining the competency level, i.e. knowledge and skills as well as communication skills, have been developed and implemented.

From 1992 till 1994 the United States Medical Licensing System (USMLE) had been developed and implemented, which was a special examination procedure for obtaining American medical license that enabled the American medical education to attain leading positions in preparing competitive medical specialists. The leading role in this process belongs to NBME, which has been designing examination programs for medical schools since 1960 on the basis of evaluation of achievements in the field of traditional-basic and clinical disciplines. These programs are available for all schools across the USA and Canada. They ensure the
standardization of tests and their confidentiality. These programs are carried out in cooperation with the Committee on Medical Education (LCME).

The main directions of NBME’s activities are the following:

- examination of students, residency students, and practicing doctors;
- designing tests for other countries as well;
- provision of medical schools with tests;
- ensuring the cooperation between state bodies and doctors and collaboration with hospitals in the sphere of assessing doctors’ qualifications (in cases of conflict situations);
- ensuring the conduct of the licensing procedure at the international level;
- providing licensing consultations to organizations, and
- planning and conduct of scientific research.

Annually about 8 million US dollars are spent on designing and improvement of tests and on tactics of analysis of cases with unethical doctors (State program for development, 2010).

**Problem resolution and discussion**

Unified external independent control and monitoring the quality of educational services in the medical educational institutions can exert considerable influence on improvement of educational quality.

In 2010 the realization of the Concept on the Reform of the Medical and Pharmaceutical Education developed by the Ministry of Health of the Republic of Kazakhstan in 2006 within the framework of the State Program for Reforming and Developing Health Care of the Republic of Kazakhstan for 2005-2010 was completed. According to the results of five-year period, certain work has been performed to achieve quality in training of health care professionals in accordance with the main directions and mechanisms of the Concept. One of the most important components of the program document are found to be the new standards of training of medical specialists that focus on international standards and that require a new approach to planning, organizing, and ensuring of educational process, particularly, implementation of the integrated and module training, innovative methods of teaching and the trainee-oriented knowledge assessment, promoting formation and development of the basic competencies of higher medical educational institutions’ students all over the country.

When implementing the State Program on the Development of Health Care of the Republic of Kazakhstan ‘Salamatty Kazakhstan (Healthy Kazakhstan)’ for 2011-2015 the Concept on the Development of Medical Education of the Republic of Kazakhstan for 2011-2015 has been approved as well as its implementation has been started by the Ministry of Health of the Republic of Kazakhstan with the aim of further improving medical education in Kazakhstan. The main objective of the Concept is achieving medical and pharmaceutical educational quality corresponding to the best international practice that will contribute to effective development of national health care. Achievement of high international standards for the medical and pharmaceutical education, which will finally serve for effective development of national health care, is considered to be the result of the implementation of the Concept.

In 2010 within the framework of enforcement of the fundamental program documents and the legislation of the Republic of Kazakhstan in order to rise requirements to the final certification and assessment of training quality of graduates of medical higher educational institutions, the Ministry of Health of the Republic of Kazakhstan in association with the Republican Center for Innovative Technologies of Medical Education and Science commenced a pilot introduction of the independent examination of internship graduates within all the specialties
(therapy, surgery, obstetrics gynecology, pediatrics, children's surgery, the general medical practice, odontology), and since 2011 this procedure has been carried out with residency students as well. There had been created a test-question bank for final certification of internship and residency students. The pilot testing was performed in all medical higher educational institutions and then for the first time an independent examination for internship and residency graduates was held. 60% of right answers was defined as the minimum pass level for the graduates.

As the result of introduction of trial testing, a significant improvement in the internship students’ academic performance was achieved over the last two years. Comparative analysis of the testing results has revealed progress in the graduates’ theoretical knowledge. This is due to quality of the test bank and to enhancing sense of responsibility of both the internship students and the teachers. Percentage of unsatisfactory results of the academic year of 2009-2010 (40%) reduced till 7.2% in 2010-2011.

Assessment of residency students was carried out in two stages. At the first stage, the certification board checked residency students’ portfolio in order to define the level of mastered practical skills in the course of residency training. The main remark made for portfolio checking was full non-compliance to the list of practical skills in accordance with the Core Curriculum for Residency Education. The second stage assumed the conduct of the unified test.

Following the results of testing, 12.1% of residency students scored more than 86 points ("excellent"), 41.6% - from 70 to 85 points ("good"), 33.3% - 60-69 points ("satisfactory") and 13% - scored less than 59 points ("unsatisfactory").

For the indicator analyses specialties with the greatest number of residency students - "oncology" (17), "pediatrics" (26) and "dermatovenerology" (13) were chosen among other specialties.

The GPA in "Pediatrics" was - 73,03 points.
The GPA in "Oncology" was - 75 points.
The GPA in "Dermatovenerology" was - 77 points.

**Conclusion**

Analysis of the computer-based testing results showed that an independent examination, practical skills assessments of internship and residency students can become an effective tool for independent assessment of the graduates’ knowledge of higher educational institutions. Accordingly, the carried out certification procedure can be taken as the basis for further development of the external assessment of attainments in medical education. The great importance is in enhancing responsibility of the faculty for the training quality. It is necessary to keep on further training and educating testologists and experts.

**References**


Concept for Development of Medical and Pharmaceutical Education of the Republic of Kazakhstan for 2011-2015 (approved by the order of the acting Minister of Health of the Republic of Kazakhstan dated 12.08.2011 No.534) [Koncepciya razvitiiya medicinskogo i farmaceuticheskogo obrazovaniya Respubliki Kazahstan na 2011-2015 gody], in Russian