Quality assurance system for Research Education at the Faculty of Medicine, University of Oslo

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1   Objectives and structure

The quality assurance system for the research education at the Faculty of Medicine is based on UiO's system description adopted by the University Board in December 2020. The faculty's routine and function descriptions for the research education puts the requirements of UiO's system description into operation. This comes in addition to the routine description for the educational system at the faculty.

The quality assurance system for the research education, which includes 1) the medical student research programme 2) the PhD education and 3) the postdoctoral programme, shall contribute to a) high quality of the faculty's research education, b) good learning and working environment and c) society's confidence in the competence acquired through the education and programmes. The quality assurance system shall build on the faculty's unique opportunities to connect education and research, utilize the faculty's academic breadth, and contribute to use of knowledge in society.

Further information about the programmes can be found on the following websites:
The Medical Student Research Programme:
https://www.med.uio.no/english/research/student-research-programme/index.html
The PhD programme:
 https://www.med.uio.no/english/research/phd/index.html
The postdoctoral programme:
https://www.med.uio.no/english/research/postdoctoral-programme/

1.1 Objectives for the Research Education Programmes
Quality of admission
The research education programmes shall have systems to ensure recruitment of highly qualified students/candidates/postdoctoral fellows to the programmes.

Quality of implementation
The research education programmes shall offer supervision and teaching of high quality, and a stimulating and creative learning environment.

Quality of results

The research education shall educate scholars who are very good in research, education, innovation, and dissemination, and who are in demand for positions within research, education, innovation, and development or that requires such expertise.

1.2 Expected learning outcomes

The expected learning outcomes must be seen in connection with the individual programmes (the medical student research programme, the PhD programme, the postdoctoral programme). The learning outcomes for PhD are described in the national qualifications framework and in the faculty's supplementary description[1]. The learning outcomes for the medical student research programme are equivalent to the requirements for a master's degree in the qualifications framework. For postdoctoral fellowships, the learning outcomes are given in the standards for career support measures in UiO's action plan for career policy. Worth noting in the research education programmes at the Faculty of Medicine is emphasis on relevance to medical and health research, knowledge of the Health Research Act and other laws that regulate medical and health research and the importance of convergence, interdisciplinarity and collaboration in teams and networks to solve complex societal challenges.

1.2.1 Learning outcomes for the student on the Medical Student Research Programme

Knowledge:
- Has advanced knowledge within the academic field and specialized insight into a limited area of the medical student research work
- Has in-depth knowledge of the scientific theory and methods of the research field
- Can apply knowledge in new areas within the research field
- Can analyze academic problems based on the research field's history, traditions, distinctive character, and place in society

Skills:
- Can analyze existing theories, methods and interpretations in the research field and work independently with practical and theoretical problem solving
- Can use relevant methods for research and academic development independently
- Can analyze and be critical to various sources of information and use these to structure and formulate academic reasoning
- Can carry out an independent, limited research or development project under supervision and in accordance with current research ethical norms

General competence:
- Can analyze relevant academic, professional and research ethical issues

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[1]   https://www.med.uio.no/english/research/phd/structure/expected-learning-outcomes.html

- Can apply his/her knowledge and skills in new areas so as to carry out advanced tasks and projects
- Can disseminate information on extensive independent work and master the research field's language and terminology
- Can communicate about academic issues, analyses, and conclusions within the research field, both with specialists and the public
- Can contribute to new ideas and innovation processes

1.2.2 Learning outcomes for the PhD candidate

Knowledge:

- Is in the forefront of knowledge within his/her research field and masters the field's philosophy of science and methodology
- Can evaluate the appropriateness and application of different methods and processes in research and academic development projects
- Can contribute to the development of new knowledge, new theories, methods, interpretations, and forms of documentation in the field

Skills:

- Can formulate research questions, plan, and carry out research and academic development work
- Can carry out research and academic development work of high international standard
- Can handle complex academic issues and challenge established knowledge and practice in the research field

General competence:
- Can identify new relevant ethical issues and carry out his/her research with academic integrity
- Can manage complex interdisciplinary assignments and projects
- Can disseminate research and development work through recognized national and international channels
- Can participate in debates within the research field in international fora
- Can assess the need for, initiate and practice innovation

1.2.3 Learning outcomes for the postdoc

Knowledge:

- Has solid knowledge of relevant networks, contexts, and areas of application for own research, as well as Norwegian and European research policy
- Can put into practice and further develop knowledge within his/her research field and the field's methods in new projects and applied solutions
- Has knowledge of the full range of career opportunities and areas of application for own research and own research field, both inside and beyond the university system

Skills:
- Sees opportunities on how to get research funding and can take advantage of these opportunities
- Can head research projects, including projects with several (possibly international) partners and interdisciplinary projects when relevant
- Can plan and teach academic subjects close to own research competence, when relevant as part of broader topics

- Can supervise less experienced researchers, including master level students and PhD candidates, in their research training

General competence:

- Can reflect on ethical and scientific theoretical dilemmas in own and others' research and discuss these reflections with students and peers in a nuanced manner
- Can disseminate his/her own and others' research results in relevant subject areas to a wider audience, including decision-makers and other social actors
- Can participate in debates etc. in own field of knowledge also where such debates span several disciplines, sectors or involve various social actors
- Can translate research results into applied solutions and further develop innovations (where relevant)
- Can take ownership of and manage his/her own career development, define realistic and achievable career goals, and adapt to different work contexts

1.3 The structure of the Quality Assurance System

The quality assurance system shall be based on academic activity and research-based knowledge regarding learning and education. The quality assurance system shall contribute to develop the quality of education and the learning environment by:

- Establishing a broad knowledge base for quality work
- Ensuring input from students on the medical student research programme, PhD candidates, postdocs, and other stakeholders
- Identifying and collecting data to support quality assessment
- Facilitating collegiate involvement and interaction

The quality assurance system covers all research education[2] offered at the faculty. It shall ensure regular assessments of quality and development measures in respect of both individual educations and research educational activities as a whole. It shall allow for local adaptation of quality work based on academic requirements, the organization of the programmes/education and different educational levels. It shall also promote sharing experiences and dissemination of good practice.

The quality assurance system shall enable the faculty to regularly and systematically assess whether the objectives and ambitions of its research educational activities and learning environment are realised. These objectives will be incorporated into the faculty's strategic and annual plans and in their programme- and course descriptions.

The quality assurance system has three main components as described below.

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[2] Research education includes the medical student research programme, the PhD programme, and the postdoctoral programme.

1.3.1 Common system description

A framework provision that places responsibilities and specifies requirements for quality work and evaluation of quality of education.

1.3.2 Routine descriptions and descriptions of mandates/functions

The routine descriptions specify:

- How the activities are carried out
- Who is responsible for the implementation
- How the results are processed
- Who (which roles) are responsible for the follow-up

The routine descriptions are available on the faculty's website.

In addition, there are mandates/functional descriptions for heads of education and formal bodies for quality of education that lays out the responsibility for implementation and follow-up of activities in the quality assurance system.

1.3.3 Sharing experiences

All levels shall contribute towards joint and local initiatives that facilitate sharing experiences and learning at individual and organisational level.

2 Responsibilities and involvement

The quality assurance work is part of the ordinary governance and management structure and is based on existing procedures, arrangements, and bodies.

The dean has the overall responsibility for the content of the faculty's research education programmes, quality, and personnel, including heads of postgraduate studies, programme council members, heads of programmes and course managers for the faculty's courses. The heads of institute (department) are responsible for ensuring that the institutes (departments) have heads of postgraduate studies and course managers for the institutes' (departments') courses. An overview can be found on the faculty's website[3].

The heads of postgraduate studies at the institutes (departments) are responsible for

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[3] The pro-dean for research is the head of postgraduate studies (FUL-MED) for the medical student research programme and the PhD programme. The vice-dean for postgraduate studies is the head of postgraduate studies (FUL-MED) for the postdoctoral programme. There are heads of postgraduate studies for the PhD education at the Institute of Basic Medical Sciences, Institute of Clinical Medicine and Institute of Health and Society. The Medical Student Research Programme is managed by a separate programme manager, while the heads of the PhD programme and the postdoctoral programme are the pro-dean for research and the vice-dean for postgraduate studies. The programme council for research education consists of the Council for Research Education where heads of postgraduate studies, programme managers, section manager for research education, team leader for research education, a student representative, PhD candidates and postdocs participate.

the PhD education and must act as a link between candidates, supervisors, academic environment, institute (department) and faculty.

Meeting places and arenas for strategic discussions on the quality of education among actors in the quality assurance work are the Council for Research Education (the programme council for research education) (Figure 1)), the forum for heads of postgraduate studies (*Forskerutdanningslederforum)* (the academic exchange and cooperation committee for heads of postgraduate studies), meetings with course leaders (course managers) and meetings with elected student representatives, PhD candidates and postdocs. Students, PhD candidates and postdocs must be represented.
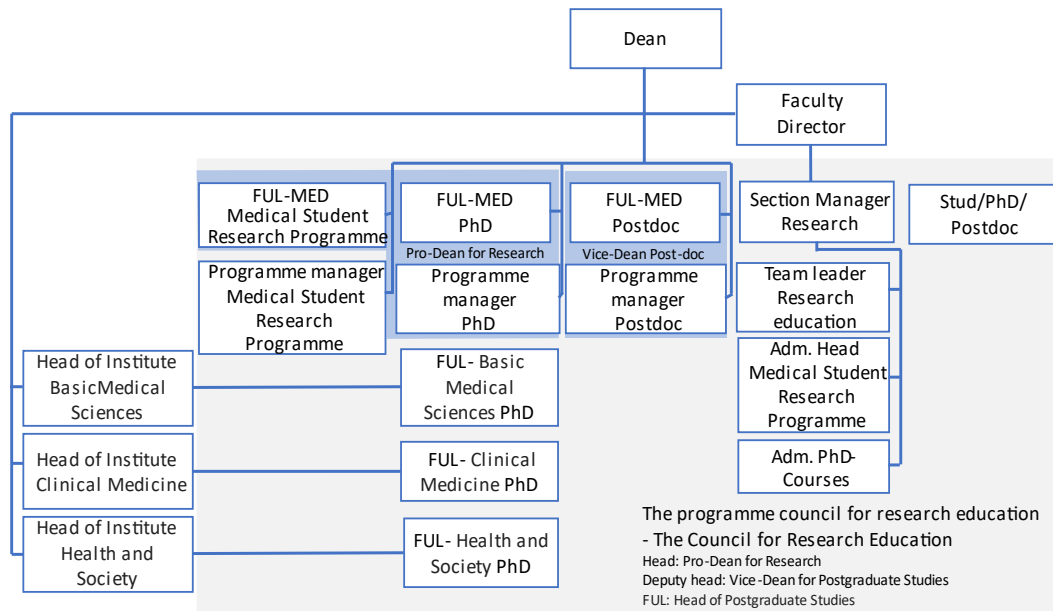

Figure 1

The programme council for research education (the Council for Research Education) is composed of people with roles as indicated in the rectangles placed in the gray field. The blue lines indicate formal leadership for the participants in the programme council. The light blue background indicates roles currently held by the same person. FUL: Heads of Postgraduate Studies; MED: the Faculty of Medicine; IMB: Institute of Basic Medical Sciences; Klinmed: Institute of Clinical Medicine; Helsam: Institute of Health and Society.

The administration at the faculties and institutes (departments) provide support for the academic management and the academic development work. Supplementary information about the Council for Research Education can be found on the link below:

https://www.med.uio.no/english/about/organization/committees/council-for-research-education/index.html

2.1 Roles and governing bodies:

2.1.1 Heads of postgraduate studies at faculty level

The heads of postgraduate studies at faculty level are the vice-dean for postgraduate studies and the pro-dean for research. They are responsible for the management, development, and coordination of the faculty's programme portfolio for the Medical Student Research Programme, the PhD and postdoctoral programmes and are the driving forces of the faculty's quality assurance work.

Typical tasks are as follows:
- manage and coordinate the work on following up the faculty's strategy and annual plans
- initiate faculty quality development processes
- be a link between the faculty management and the heads of postgraduate studies at institute (department) level
- be the faculty's representative in UiO's joint collegiate bodies

Job description pro-dean for research (in Norwegian):

https://www.med.uio.no/om/organisasjon/ledelsen/stillingsbeskrivelse-forskningsdekan.html

Job description vice-dean for postgraduate studies will be available on the faculty's website.

2.1.2 Heads of postgraduate studies at institute (department) level and forum for heads of postgradutate studies (*Forskerutdanningslederforum*)

Heads of Postgraduate Studies at institute (department) level have an overall and coordinating responsibility for collaboration between the institutes (departments) and the faculty regarding the research education and are the driving forces of the quality assurance work.

Typical tasks are as follows:
- manage the work involved in following up the institute's (department's) strategy and annual plans for research education
- facilitate the development of the collegiate community between supervisors, course leaders and candidates in research education
- manage academic development projects in collaboration with the Council for Research Education
- ensure good information exchange between faculty and institute (department), and serve as a link between administrative and scientific employees at the institute (department)

Detailed information about the mandate of Heads of postgraduate studies can be found on the website below:
https://www.med.uio.no/english/about/organization/committees/council-for-research-education/mandate-for-heads-of-postgraduate-studies.html

More detailed information about the forum for heads of postgraduate studies (*Forskerutdanningslederforum*) will be available on the faculty's website.

2.1.3 Programme manager and programme council

The unit responsible for a programme is the programme owner and appoints the programme council (Figure 1) and programme manager in accordance with UiO's rules and regulations. The programme council and the programme manager are responsible for ensuring:

- comprehensiveness and coherence in the programme, and a good connection between learning objectives, teaching methods, evaluation and assessment methods and learning outcomes
- that the programme is quality assured and further developed
- that any need for improvement is assessed and that measures are initiated and followed up
- that students/PhD candidates/postdocs receive information about the evaluation results.

The programme council should consist of people active in the implementation and further development of the programme. Programme management functions for the PhD programme and the postdoctoral programme are currently handled by the pro-dean for research and the vice-dean for postgraduate studies. The Medical Student Research programme has a separate programme manager who handles the professional management of the programme (mandate for the manager of the Medical Student Research programme will be available on the faculty's website). The programme council should as a rule be led by one of the programme managers (normally the PhD programme).

2.1.4 Course managers

The unit responsible for a course is the course owner and appoints a course manager. The course manager is responsible for ensuring that:

- the course is quality assured and further developed in line with the requirements
- any needs for improvement are assessed and that measures are initiated and followed up
- students/PhD candidates/postdocs receive information about the evaluation results.

2.1.5 Students/PhD candidates/postdocs

Students, PhD candidates and postdocs participate in the quality assurance work by participating in evaluations, through being represented in UiO's collegiate bodies and various ad hoc committees. Students also participate through student democracy and through student bodies at all levels.

3 Knowledge base for quality assurance work

3.1 Course evaluation

- The Council for Research Education determines, evaluates, and updates the course evaluation form
- The faculty administration summarizes results from the course evaluation and sends the results to the course manger, lecturers, heads of postgraduate studies, and student representatives, PhD candidates and students on the Medical Student Research Programme
- Course evaluations are collected and summarized in a separate database that enables comparison over time. The faculty administration operates this database
- The Council for Research Education annually reviews the overall course portfolio based on the course evaluations and reports to the dean

3.2 Evaluations from students/PhD candidates/postdocs

3.2.1 Development dialogues

- Development dialogues must be conducted annually between student/
- candidate/postdoc and supervisor where various aspects of the supervision is discussed
- Templates for development dialogues are prepared, evaluated, and corrected by the Council for Research Education
- The first development dialogue is held at the start of the period on the Medical Student Research Programme/PhD programme/Postdoc programme and takes the form of a start-up dialogue where planning of the collaboration and clarification of expectations are discussed. Supervisor and student/candidate or project manager and postdoc review the programme's learning objectives and discuss learning requirements based on the learning objectives
- The next dialogue is held after 6 months with focus on progress and collaboration
- The dialogues are reported on a separate form and archived by the student/candidate/postdoc and the supervisor as a basis for follow-up[4]

3.2.2 Mid-term evaluation

Applies to the Medical Student Research Programme and the PhD programme.

- The principal supervisor is responsible for organizing mid-term evaluations for his/her students on the Medical Student Research Programme and his/her PhD candidates. The mid-term evaluation is an open seminar at the department/ research group. The procedure is described on the faculty's website for the Medical Student Research Programme (in Norwegian) (https://www.med.uio.no/forskning/forskerlinjen/oppbygging/midtveisevaluering-rutinebeskrivelse.html) and the PhD programme (https://www.med.uio.no/english/research/phd/mid-term-evaluation/).
- The Council for Research Education annually reviews the following four points and reports to the faculty/institutes (departments):
    1. How many mid-term evaluations have been held?

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[4] In addition to development dialogues PhD candidates and postdocs must annually conduct one-to-one work dialogues with their immediate section manager (see One-to-one work dialogue – information for employee - For employees - University of Oslo (uio.no); (see also Career plans and annual career development interviews with postdocs at the Faculty of Medicine - For employees - University of Oslo (uio.no) for post-docs)

2. How many discrepancies have been reported?

3. What are the discrepancies and measures implemented?

4. How many discrepancies have been processed and completed?

3.2.3 Candidate survey - «exit poll»
- The faculty sends a questionnaire to all students/candidates/postdocs after completing a programme with questions about how satisfied he/she is with different parts of the programme.
- The Council for Research Education prepares, evaluates, and corrects the questionnaire.
- A questionnaire is also sent to candidates 5 years after completing public defence. The survey maps the situation in the labour market (Do candidates have relevant jobs?), the education's perceived relevance in relation to the job situation and research and development activity after completing a PhD degree.
- The Council for Research Education reviews the questionnaire results and prepares a report presented to the dean.

3.3 **Periodic programme evaluation**
- An external evaluation of the programmes must be carried out within a six-year period.
- The focus of the evaluation is admission, process and quality of results and it must be based on the quality development plan.
- The evaluation panel shall consist of representatives from higher education, including a foreign representative and a representative of the Medical Student Research Programme/PhD candidates/postdocs. In addition, there must be at least one representative from working life outside higher education.

4 Further development of the educational system

The faculty and institute (department) management systematically follow up and facilitate further development of the research educational system. This includes both the individual educational programmes and the educational system as a whole.

The Council for Research Education has a special responsibility for assessing and following up the results from the programme and course evaluations. The follow-up shall in particular take care of the programmes in the period between each periodic programme evaluation. The results of the follow-up must be documented in minutes, reports or in other ways.