Forskningsrådet

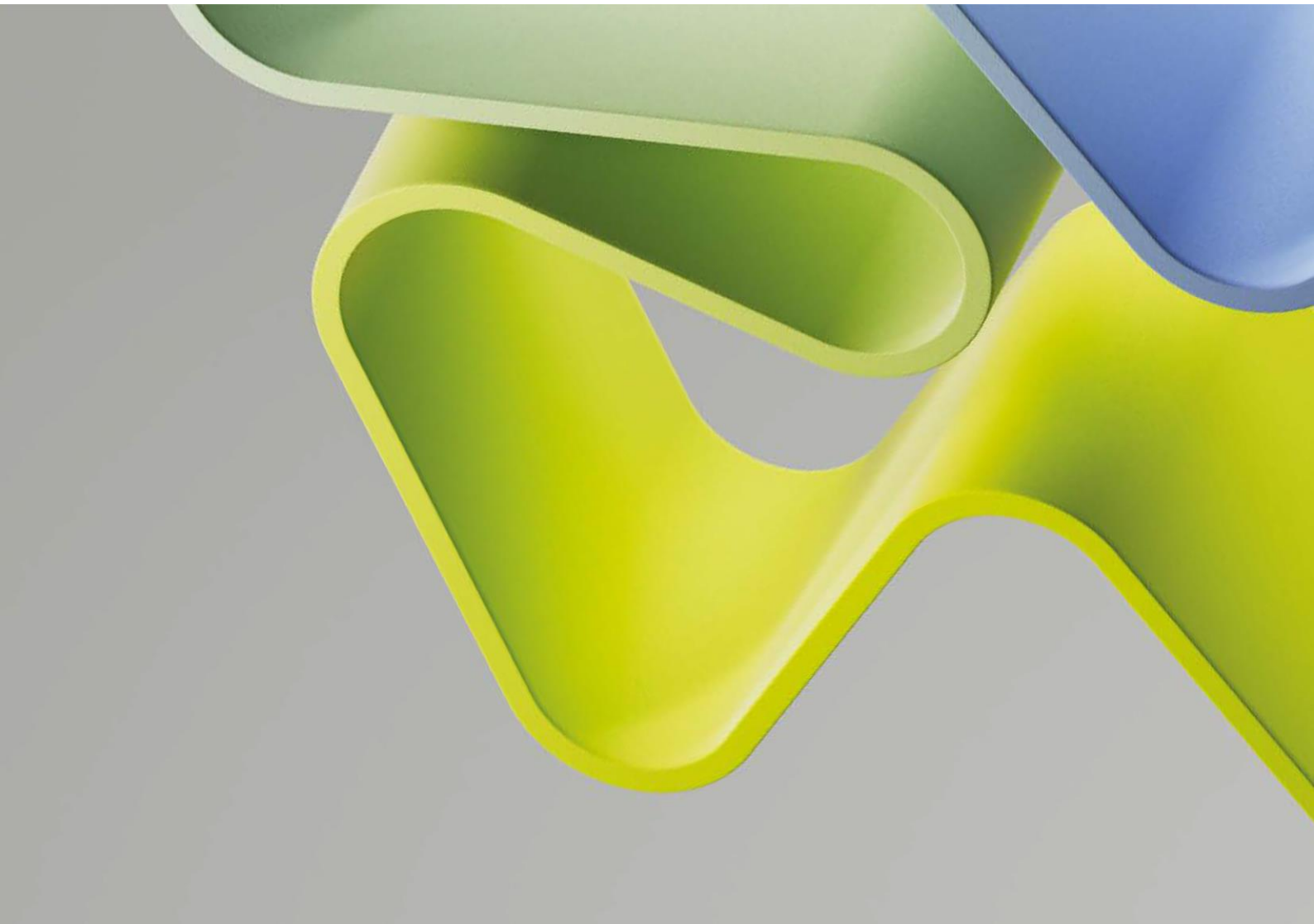
Evaluation of Life Sciences 2022-2024

Evaluation of medicine and health 2023-2024

Evaluation report

ADMIN UNIT: Division of Laboratory Medicine
INSTITUTION: Oslo University Hospital and University of Oslo

December 2024



Contents

Statement from Evaluation Committee Health Trusts 3

This report is from Evaluation Committee Health Trusts 3 which evaluated the following administrative units representing the hospital trust in the Evaluation of medicine and health 2023-2024:

- Akershus University Hospital, Akershus University Hospital (AHUS)
- Haukeland University Hospital, Haukeland University Hospital
- Division of Laboratory Medicine, Oslo University Hospital and University of Oslo
- Division of Medicine, Oslo University Hospital and University of Oslo
- Division of Radiology and nuclear medicine, Oslo University Hospital and University of Oslo
- Division of Surgery, Inflammatory Diseases and Transplantation, Oslo University Hospital and University of Oslo
- Division of Technology and Innovation , Oslo University Hospital and University of Oslo
- St. Olavs University Hospital, St. Olavs University Hospital
- Stavanger University Hospital, Stavanger University Hospital (SUH)

The conclusions and recommendations in this report are based on information from the administrative units (self-assessment), digital meetings with representatives from the administrative units, bibliometric analysis and personnel statistics from the Nordic Institute for Studies of Innovation, Research, and Education (NIFU) and Statistics Norway (SSB), and selected data from Studiebarometeret (NOKUT). The digital interviews took place in Autumn 2024.

This report is the consensus view from Committee Health Trusts 3. All members of the committee have agreed with the assessments, conclusions and recommendations presented here.

Evaluation committee Health Trusts 3 consisted of the following members:

Professor Jørgen Frøkiær (Chair), Aarhus University

Professor Geoff Bellingan,
University College London Hospitals

Associate Professor Dirk Bender,
Aarhus University

Professor Tomas Jernberg,
Danderyd Hospital

Associate Professor Tuomo Meretoja,
Helsinki University Hospital

Professor Shakila Thangaratinam ,
University of Liverpool

Professor Marie Wahren-Herlenius,
Karolinska Institutet,

Veerle Bastiaanssen, Technopolis Group, was the committee secretary.

Oslo, December 2024

Profile of the administrative unit

Research at the Division of Laboratory Medicine (KLM) is organised into smaller units within research groups, each led by scientists approved by the Head of KLM. These units, focused on specific thematic areas, operate at the department level and provide practical training for medical students, BSc and MSc students, PhD candidates, and postdocs. They are responsible for developing academic and professional skills and ensuring regulatory compliance. In terms of research staff, KLM consists of 16 professors, 102 senior physicians, one psychologist, 252 researchers and postdocs and 56 PhD students. Women occupy a minority within three groups, professors (19%), psychologists (0%) and researchers and postdocs (43%).

The Division of Laboratory Medicine is comprised of seven research groups: Department of Pharmacology (FAR), Department of Forensic Sciences (RMF), Department of Microbiology (MIK), Department of Immunology (IMM), Department of Pathology (PAT), Department of Medical Biochemistry (MBK) and Department of Medical Genetics (AMG).

KLM has followed the research strategies of Oslo University Hospital (OUS) and University of Oslo (Faculty of Medicine, UiO). In addition, the individual departments in KLM have their own separate strategies. Based on this, central in the research prioritisation at KLM is to facilitate excellence in basic/translational research, which is important to build foundations for future benefit for patients at the hospital, innovations for the society and recruit and train scientists and future laboratory medicine teachers. As part of their commitment, KLM places a strong emphasis on state-of-the-art technological infrastructure. However, there is no unified strategy or criteria in KLM regarding the allocation of research time for clinically oriented personnel driven by research motivations.

An example of the work of the administrative unit in relation to its sector is the collaboration policy of the KLM. KLM provides support for collaboration and spin-off activities, facilitating the expansion of research units. Through the policy, KLM gives support to guest research visits, personnel exchanges, and sharing materials and patent rights, ultimately contributing to outcomes measured by research excellence, innovation, and enhanced efficiency in therapy and diagnostics. Above public sector collaborations such as the Nordic Alliance of Clinical Genomics the KLM also collaborates with the private sector. Private collaboration is seen as important, particularly in developing new diagnostic tools through the recruitment of volunteers for pharmacological testing. Among other things, it can play a crucial role in cost reduction.

Based on its self-assessment, in the future, the administrative unit might take advantage of internal strengths such as the cutting-edge technology platform represented by the Regional Core facilities/National infrastructures hosted by KLM that present up-to-date instrumentation within Structure Biology, Sequencing, Proteomics, Advanced light microscopy, in addition to regional core facilities for flow cytometry, transgenic animals and iPS technology. Moreover, the administrative unit might take advantage of external opportunities. For example, KLM as an entity represents each separate clinical and forensic discipline and a unique access to relevant human material and cases. Collaborative opportunities abound, offering a chance to strengthen biobanking capabilities and foster interdisciplinary synergies among diverse medical disciplines. There are also external threats that may impact the future situation of the administrative unit. This includes challenges in keeping talents over time to secure long-term progression, especially in innovation-driven projects, due to limited funding opportunities and intense international competition in life science and rising funding costs.

Overall evaluation

The Division of Laboratory Medicine (KLM) at Oslo University Hospital and University of Oslo is the largest diagnostic division in Norway. KLM has followed the research strategies of Oslo University Hospital (OUS) and University of Oslo (Medical Faculty, UiO).

Based on the Terms of reference and herewith on the self-assessment and the interview with the leadership the evaluation committee finds that KLM overall is at scientific level which is highly mature.

Although there are differences in each department with regard to clinical and scientific disciplines, they all seem to work well together. The administrative unit stands out as a comprehensive unit where communication between the head and the leadership team of the 7 department/research groups are well aligned. This creates an important scientific atmosphere that stimulates collaboration and knowledge exchange between departments and research units and also forms a basis for exchanging infrastructure platforms and equipment.

The research portfolio spans from basic medical research and translational research to clinical studies. A successful implication is that research activity in KLM is organized into smaller research units within the research groups, led by qualified scientists approved by the Head of KLM.

KLM has attracted a number of centres of excellence. With this successful organization KLM provides a strong platform for knowledge exchange between clinical and research environments securing collaboration and sharing of knowledge between healthcare practitioners in the clinical setting. This also allows for interdisciplinary collaborations and knowledge exchange are likely to occur within and across different research groups, facilitating interdisciplinary research and innovation.

In particular, KLM stands out as a very strong unit with successful examples of how innovation is generated based on strong science which is highly relevant to society. As for most public organizations KLM is also challenged by keeping talents and recruitment to faculty positions in several specific disciplines. Overall, KLM is on the right track to maintain their strong profile in the Norwegian scientific healthcare landscape.

Recommendations

The administrative unit is recommended to develop an overall research strategy for all 7 research groups when they are moving into the new life science building. This also includes the development of appropriated action plans for all research units at KLM. This could very well be aligned with KLMs proposed separate strategy on the division level moving forward, and the new research strategy from 2024.

Productivity at the hospital in general is large – and that comes with a prize – since it is difficult to establish the flexibility among clinicians/physicians to play key roles in the scientific project. Especially in specialities where there is a shortage of personnel this is critical. The top-management at the hospital should be much more aware of this dilemma. Tools of choice to overcome this dilemma, at least in part, may be the establishment of better long-term clinical partnerships for younger physicians and the invention of part-time clinical positions with up to 50% research time to increase research motivation. It is also important to realize that many next-generation colleagues value a better work-life balance in particular among clinicians.

Recruitment of the best physicians in the coming years is a challenge and the leadership needs to set up particularly motivating programs for this. Given the complexity of the KLM and the successful implementation of many research groups the evaluation committee recommends establishing more senior consultant positions that would help bridge teaching and science in the different areas of KLM which ultimately could also help to facilitate recruitment.

Likewise high-level recruitment is very challenging, since it is difficult to identify start-up packages, which could be attractive instruments to have in KLM specific support programs.

Also, auto circulation between different departments is recommended as an important tool to keep strong scientist within KLM and will contribute to a more unified research profile within the administrative unit.

The administrative unit is also recommended to increase the possibilities for more multidisciplinary research projects between the 7 research groups in KLM and key-clinical departments especially in the biomarker field. However, it should be kept in mind that KLM also should maintain their own high level research profile and identity to avoid becoming a “mail-order” department. Finally, it is recommended to increase motivation and possibilities for international recruitment from the PhD level to top researcher level.’

Given the successful research programmes, infrastructure, core facilities and publication track record at KLM – the evaluation committee recommends that more resources are allocated for acquiring more competitive grants including ERC instruments. Biobanking is key and central for establishing strong research projects. Both practical and legal barriers should be as smooth as possible for a department like KLM to work both nationally and internationally at the very top. Funding for proper biobanking initiatives is a challenge that needs management attention.

Financial muscles are important for being able to recruit when you see a talent. This is possible with the help from Centres of Excellence (CoEs),and it is therefore also important to establish CoEs in other environments at KLM. In conclusion, focus should be on attracting more competitive funding including ERC grants.,

1. Strategy, resources and organisation of research

1.1 Research strategy

The Division of Laboratory Medicine (KLM) has followed the research strategies of Oslo University Hospital (OUS) and University of Oslo (Medical Faculty, UiO). KLM is located at Oslo University Hospital (OUS) and consists of 7 separate departments making it the largest diagnostic division in Norway. The departments in the division are Department of Forensic Sciences, Department of Medical Biochemistry, Department of Medical Genetics, Department of Microbiology, Department of Immunology and Transfusion Medicine, Department of Pathology and Department of Pharmacology. These departments are defined as the 7 research groups at KLM in this evaluation report, but overall KLM has 64 research units with a portfolio that spans from basic medical research and translational research to clinical studies.

KLM's overall scientific strategy is to facilitate excellence in basic/translational research, which is important to build foundations for future benefit for patients at the hospital, innovations for the society and recruit and train scientist and future laboratory medicine teachers. Each research group in KLM is part of the Faculty of Medicine at Oslo University and thereby part of the overall strategy which can be divided in the following objectives: Education, groundbreaking research and innovation. For the impacts associated with planned research-field, policy and society KLM provides research and service in forensic medicine, transplantation medicine, microbiology/antibiotic resistance, genetic testing and precision medicine (including precision pharmacology). The best strategy towards pursuing impact of research-field, policy making, and society domains is to ensure an optimal balance of research excellence, diagnostic development and motivation for innovation combined with recruitment and teaching of tomorrow's laboratory personnel.

The resources in the division are shared between the seven research groups, and the division as such has no funding to its disposal, except for administrative expenses. However, the physical area (lab/offices) is a critical asset and factor in regulating external funding-based research. In this respect, the division has internal guidelines for allocation and sharing of space. Priorities for new positions are made in the research groups.

which are all characterized by being para-clinical and have a broad range of collaboration with each other and with clinical departments at OUS. At the same time, KLM and all the departments are administratively organized both under OUS and University of Oslo (Medical Faculty, UiO).

KLM organizes regular meetings such as the monthly Research Advisory Board meetings, where each department, as well as temporary employee groups, are represented. The Head of Research leads the research board, and these meetings serve as a platform for departments to come together and discuss various aspects related to research, education, knowledge exchange, outreach activities, and researcher training including health research regulations. This facilitates communication and collaboration among different departments and researchers within the administrative unit.

KLM has announced an ambitious strategy for 2024-2029 which states that KLM will strengthen research as basis for future diagnostics, treatment and prevention, secure a framework for excellent research and career development, increase innovation in laboratory science and exploit research activity to build competence in laboratory science. As an important part of the new strategy KLM will secure recruitment of laboratory-trained

lecturers to the Medical Faculty and facilitate co-localization of diagnostic and research activities.

Based on the Terms of Reference the boards at KLM, Oslo University Hospital, and the Faculty of Medicine, University of Oslo, mandate the evaluation committee appointed by the Research Council of Norway (RCN) to assess the Division of Laboratory Medicine and provide a written assessment for a) Strategy, resources and organization; b) Research production, quality and integrity; c) Diversity and equality; d) Relevance to institutional and sectoral purposes, and e) Relevance to society.

The committee's evaluation

The committee finds that the KLM leadership has a strong and focused attention on creating a very strong division with corresponding strong departments which foster the best infrastructure for performing competitive research at an international level.

The committee´s recommendations

The committee recommends that the KLM leadership continue to have a close interaction at the top level and align strategies at KLM division level with strategies at department and research group level. Strengthen the collaboration between the individual departments and research groups.

1.2 Organisation of research

OUS is divided into 15 clinical divisions, which are considered administrative units in this evaluation.

Many of these divisions have activities on multiple hospital campuses. Similarly, the Faculty of Medicine organizes its activities at OUS within Klinmed, mirroring the organization of OUS. Due to this coordinated approach, the strategic research leadership is managed at the top level of the divisions. The Head of each division typically holds a shared position, overseeing both OUS and UiO activities. Additionally, each division has a common Head of Research with a shared position. Regular coordinating meetings take place among all the heads of research, led by the Director of Research, Innovation, and Education at OUS and the Head of Klinmed at UiO.

KLM is a division that combines diagnostic and research laboratory activities, with approximately a 4:1 ratio. Not all diagnostic activities are integrated with research activities. Co-locating these diagnostic activities is a strategy to facilitate research integration. The research activity in KLM is organized into smaller research units within the 7 research groups, led by qualified scientists approved by the Head of KLM. These units specialize in specific thematic areas and are organized at the department level. Education and research training activities are conducted within these departmental research units, providing practical settings for medical students pursuing research projects, BSc and MSc students from other university faculties, PhD students from the Medical Faculty of UiO, as well as other faculties and universities, and postdocs from OUS, UiO, and other hospitals/universities. The research units are responsible for imparting knowledge and skills to individuals at various stages of their academic and professional careers and also ensure compliance with legislations.

Synergies between the 7 research groups are established by knowledge exchange both within the clinical and research environments. This means that there is collaboration and

sharing of knowledge between healthcare practitioners in the clinical setting and researchers. Furthermore, interdisciplinary collaborations and knowledge exchange are likely to occur within and across different research groups, facilitating interdisciplinary research and innovation.

The research staff is employed at UiO, OUS or both. Overall, the share of research among UiO employees is in general higher than among OUS employees. The research staff consists of professors, physicians, psychologists, researchers and postdocs as well as PhD students. Research at KLM is technology driven. Here several technicians with PhD are responsible for supporting projects. OUS and UiO, particularly the Faculty of Medicine and the Institute of Clinical Medicine (Klinmed), have a close collaboration with many scientists holding shared positions.

The research groups are often located within or near the hospital, providing researchers with access to necessary infrastructure such as laboratories, equipment, core facilities, biobanks, comparative medicine, and other support services including biostatistics, clinical trial units, and administrative support from both OUS and UiO. Hereby, both organizations strive to optimize the use of limited resources and investments. Another aim is to build and strengthen interdisciplinary research environments with high standards of quality, integrity, and ethics.

To ensure dedicated time for research for employees holding joint positions as senior consultants at OUS and adjunct or associate professors at UiO Klinmed, an agreement has been established between the two institutions. This agreement stipulates that two days per week are typically allocated for research and teaching medical students at UiO, thereby safeguarding the research activities of both OUS and UiO. The specific implementation of this scheme is locally agreed upon with department heads. All scientific staff members have the right to apply for research and education leave in accordance with the regulations. After 6 years of service, individuals may be granted one year of leave, or after 3 years of service, they may be granted half a year of research leave.

The committee's evaluation:

In general, the committee finds the organisation of KLM very mature, and there is an impressive well organised collaboration between the different sections within the administrative unit. The committee finds that this is related to the high academic standards.

The committee´s recommendations

Continue to promote the interaction of the different core facilities and also the rotation of scientist in the different research groups There are ample opportunities for both incoming and outgoing researchers to benefit from research mobility. The strong research environments within several research groups have cultivated an international network, attracting partners from abroad for bilateral research exchanges. Thus, it is recommended to continue to focus on attracting programs such as the Marie Curie mobility grant, ERASMUS, and the Life Science Internationalization of Science initiative, among others, actively facilitate incoming and outgoing researchers.

1.3 Research funding

In the self-evaluation report KLM states the amount about 22% of the total budget is dedicated to research. Research funding consists of contributions from many different sources. The estimate is partly based on amounts taken directly from accounts (such as salaries for defined research positions), and partly calculated from estimated time for clinical personnel spent on R&D, including support functions in the division. KLM receives earmarked project funding from the regional health authority (Helse Sør-Øst) – Basic grants. In addition, KLM receives grants from calls and regional competition – National grants. Then there are National contract grants and international grants.

In average, about 50% of the research funding is obtained by external sources in KLM, with some differences between the groups. A future strategy for more efficient use of fundings is an increased sharing of equipment (in between University and OUS), especially when moving into the new Life Science Building

The committee's evaluation

In average KLM does very well in acquiring funding. However, the balance between public and private competitive funding is somewhat asymmetric. A future strategy for more efficient use of fundings is an increased sharing of equipment between University and OUS, especially when moving into the new Life Science Building.

The committee´s recommendations

We recommend continuing the focus on acquiring external funding both form RCN and ERC. To establish good and strong clinical research, high quality biobanks are needed, and they are very costly. Likewise, it will be important to establish a formal agreement on mutual usage of equipment between UiO and OUS to secure sharing of equipment.

1.4 Use of infrastructures

KLM is technologically very strong and hosts several advanced scientific infrastructures, many of them accredited as national infrastructures. The technological competence is nourished by strong research activity. The establishment of the research areas today has followed preceding expertise in basic biological questions that sustain into projects that aid further development of diagnostics and therapy in the short and long perspectives. In addition, this continuous investment has led to impacts and unforeseen benefits as exemplified in the impact cases. Important research pillars in KLM spans around competence on nucleic acid biology, immunology, neuroscience and cardiovascular disease.

KLM will be partly located in the new Life-Science building at UiO housing numerous key and core facilities which will make the infrastructure even stronger in the coming years.

Research groups in KLM have established expertise and advanced instrumentation in several areas. KLM research groups participate in both national and international infrastructures – areas both within biotechnology and medicine/health and are hosting several infrastructures including the Biobank Norway, where KLM has been selected as responsible division for general biobanking at OUS. KLM also hosts Norbrain, NorSeq, Norstruct, Napi and NalminThus, KLM holds a key role in at least 6 national infrastructures. Within the ESFRI roadmap, KLM participates within BBMRI ERIC and Euro-BioImaging ERIC. These participations are closely connected to NALMIN and the biobank unit at KLM.

Examples of participation in international infrastructures are the tight collaboration between UiO regional core facility for structure biology and the European Synchroton Radiation Facility.

UiO and OUS aim to manage research data according to international standards, such as the FAIR principles. The OUS OA-policy follows the "as open as possible, as closed as necessary" principle in terms of access to research data. Scientists and students are responsible for managing research data according to these principles. Supervisors of Ph.D. candidates and students have a special responsibility for ensuring that candidates and students attend courses and manage research data according to the guidelines.

The committee's evaluation

KLM has a very impressive collection of research infrastructure and with the new Life Science Building this will probably increase in the coming years.

The committee´s recommendations

The setup for housing infrastructures seems to be ideal. However, a limiting factor for KLM might the housing of even more infrastructures in the future. Likewise, the to increase the number of novel infrastructures might compromise the improvement and maintenance of those that are already available.

1.5 Collaboration

KLM, overseeing seven research groups, exhibits a robust and inclusive approach to collaboration on both national and international fronts. The collaboration policy is tailored to the nature of each collaboration, allowing the seven research groups to thrive in securing international funding, prestigious statuses such as Centres of Excellence (CoE), and various grants. Collaborations often emerge organically through the scientific networks of principal investigators, with KLM as the administrative unit refraining from direct interference in initiation. However, KLM provides support for collaboration and spin-off activities, facilitating the expansion of research units. This support extends to guest research visits, personnel exchanges, and sharing materials and patent rights, which may ultimately contribute to successful outcomes measured by research excellence, innovation, and enhanced efficiency in therapy and diagnostics.

Given its status as the largest national diagnostic division, clinical collaborations are pivotal for KLM. Clinical activities within Oslo University Hospital (OUS) and other national and international hospitals serve as catalysts for collaborations aligned with the seven disciplines within the division.

Importantly, implementation of genomic medicine and the division's response during the pandemic underscore the effectiveness of combining clinical and research expertise.

KLM also values collaborations with patient organizations, both nationally and internationally. This is highlighted in impact case 1 demonstrating how user perspectives, particularly in projects underpinning research competence transformation into clinical practice, contribute to successful outcomes.

Collaboration with the private sector is deemed essential, particularly in developing new diagnostic tools through the recruitment of volunteers for pharmacological testing. This collaboration plays a crucial role in cost reduction, exemplified in impact case 2, where precision pharmacology and validated biosimilars include patients and their samples.

Private sponsors, as demonstrated in the success of Nykode (impact case 4), further emphasize the significance of private collaborations in achieving commercial success.

In this context, KLM emphasizes that its achievements are rooted in robust research competence.

The chosen impact cases illustrate the diverse outcomes resulting from long-term investments in basic and translational research. KLM advocates for preserving such long-term investments, contrasting them with prioritizing research programs with shorter perspectives. The highlighted stories underscore the enduring benefits of sustained investment in research.

For the following ranking of national and international collaborators, which is a difficult task, KLM has chosen to consider the scientific production (measured as co-publications with the actual partner) combined with the status of excellence in research (CoE/EU-grant), as well as contribution to societal impact (including but not exclusively provided by the 5 impact cases).

The committee's evaluation

KLM interacts at many different levels – both within OUS and UiO and with many national and international collaborators. Likewise, there is ample interaction between KLM research groups and industry and society in general. Moreover, KLM overall has a very impressive track record for innovation with at least 9 successful patent applications and/or open-source tools and establishment of at least 3 start-up companies. KLM follows herewith OUS and UiO policies for IP, new patents start-up/spin-off guidelines to a very high extent. However, a too high focus on commercialisation might limit research, as important projects, which do not have obvious commercialisation perspectives on a short term, might be sub-prioritized.

The committee´s recommendations

Although it is highly impressive with the successful number of start-up companies and spin outs from KLM, the committee recommends that KLM focus on a strategy balancing independent research and commercialization of projects.

1.6 Research staff

The research staff is employed at UiO, OUS or both. The staff amounts to 445 members including both researchers and technical administrative personnel. PhD-students and researcher/postdocs (306 employees) are in general full-time researchers at UiO, the remaining 64 FTE are shared between OUS employees, corresponding to139 employees. The research staff distribution differs between research groups (departments), reflecting differences in research activity.

KLM has 18 associate professors (either full-time (5) or 20% (13)) which are categorized as researchers together with postdocs. Altogether, the gender distribution among academic positions versus all research staff in KLM is 44:64 versus 60:40 (women: men), respectively. However, there is a large variation in the different staff categories.

Overall, OUS and the Faculty of Medicine at UiO also have Action Plans for Diversity, Equality and Inclusion which are followed by KLM.

The committee's evaluation

KLM has an impressive number of active scientist and active clinicians working with research. The gender distribution is close to 50% and herewith good. However, there is an overall challenge to maintain a highly skilful staff due to competition from the private sector. Long-term clinical partnerships for younger physicians and re-invention of part-time clinical positions with up to 50% research time to increase research motivation and facilitate a better work-life balance among clinicians might counter act the competition with the private sector.

The committee´s recommendations

Based on the challenges with recruiting clinicians maintaining research activities incentives should be provided to motivate clinicians to stay in research. Here the above-mentioned clinical partnerships, policies ensuring sufficient research time and start-up packages for young researchers might be useful. Likewise, it will be very important to work on establishing funding for the necessary recruitment of both highly talented foreign scientists and maintain a recruitment of Norwegian clinician scientists within the different KLM disciplines.

1.7 Open Science

Both UiO and OUS recommend that all employees choose journals that allow for open access publication. This includes Open Access journals as well as those that permit articles to be deposited and made openly available in institutional repositories. By 2024, a national repository for scientific publications will be made accessible across all sectors.

To facilitate the implementation of open access principles, the University Library offers training courses on topics such as sharing and archiving data. These courses aim to equip researchers with the necessary skills and knowledge to effectively publish and share their research outputs in open access formats. OUS actively supports the national open access publication and open access research data policies, as emphasized in its strategic documents.

During the reporting period, the relative proportion of non-open access publications from KLM has been reduced from 66% to 9.2%, with concerted increase in “Gold open access” publication from 27.6% to 50.3%.

The committee's evaluation

KLM seems to have reached a very high compliance with the strategies set out by UiO and OUH and has continuously improved the number of open access publications, which are now by far the dominating form of publication

The committee´s recommendations

The administrative unit follows all relevant OUS and UiO regulations to a high extent and the evaluators encourage the administrative unit to continue their open science strategy.

2. Research production, quality and integrity

The scientific focus of the research conducted at KLM spans from basic research to clinical research. Life science is a characteristic of the research, with particular emphasis on the seven diagnostic disciplines at the hospital; medical genetics, pharmacology, immunology and transfusion medicine, medical biochemistry, microbiology, pathology, forensic medicine; herein forensic pathology, toxicology and genetics. Approximately 70 percent of the publications from KLM have affiliations with both OUS and UiO, reflecting a close partnership.

As mentioned, KLM is technologically strong and hosts several advanced scientific infrastructures, many of them accredited as national infrastructures. The technological competence is nourished by strong research activity. The establishment of the research areas today has followed preceding expertise in basic biological questions that sustain into projects that aid further development of diagnostics and therapy in the short and long perspectives. In addition, this continuous investment has led to impacts and unforeseen benefits as exemplified in the impact cases.

Important research pillars in KLM spans around competence on nucleic acid biology, immunology, neuroscience and cardiovascular disease. For instance, expertise in basic DNA biology has enabled insight into mechanisms that are relevant throughout the medical field. Examples span from antimicrobial resistance to cancer, cardiovascular disease and neurodegeneration. The integrity of this research is exemplified by hosting and participation of several CoEs, strong publication record and high success rate for international and national grants. The development and implementation of genomic medicine has depended on competence on technological, bioinformatic and legislative topics. The scientific foci that underlie this is noncoding RNA, mental disease, cancer, as well as inheritable diseases (rare disease, cancer and metabolic). Expertise in immunology forms another research pillar in KLM, the scientific focus herein has been basic biology of antibody/antigen molecular biology, T- and B-, NK cells, germinal centre, complement system, which strong impacts in the field of coeliac disease, B-cell malignancies, (colon) macrophage in colorectal cancer. Strong bioinformatic and technological competence in this area has fostered an impressive portfolio of CoEs, K. G. Jebsen Centres as well as very successful innovations/ commercialization. Covid-19 has boosted research activity in KLM. Research activities related to RNA and extracellular vesicles are expected to increase. KLM as overarching unit follows its strategy for priorities and provide internal support to build knowledge and competence around existing resources and take responsibilities in educating standards of quality, integrity, ethics and regulations (The Health Research Act and The Act on ethics and integrity in research).

2.1 Research quality and integrity

This part includes one overall evaluation of each research group that the administrative unit has registered for the evaluation. The overall assessment of the research group has been written by one of the 18 expert panels that have evaluated the registered research groups in EVALMEDHELSE. The expert panels are solely behind the evaluation of the research group(s). The evaluation committee is not responsible for the overall assessment of the research group(s).

Department of Forensic Sciences

The research of RMF is assessed to play an outstanding role on an international level. Qualitative and quantitative output indicates excellent projects and is recognised internationally for setting standards in methodology. The research and the respective publications and dissemination work is valuable for the scientific community, but is also used by justice, police, government and society. The organisation of the research group is very well described and enables efficient daily work. The strategy of the group and the benchmarking is clearly described and helps researchers. The international incoming researchers are designed to implement new ideas and methodology from outside, which is part of the strategy of RMF. The strong interdisciplinary way in which the research groups acts is appreciated.

Department of Immunology (IMM)

The research group's organisation and composition are extremely well suited to conduct its research activities as underpinned by the research output, and the high-level awards in terms of RCN CoEs, KG Jebsen Centres, and recognition from the Federation of International Clinical Immunology Societies (FOCIS) for the programmes embedded in the Centre of Immune Regulation (a CoE). The research group has been very successful in attracting external research funding over the 5-year review period, with an increase in funding by 15%, including 2 ERC grants. The research quality of the research group is of excellent quality and is highly innovative as evidenced by 1100 scientific publications, 75 Disclosures of Inventions (DOFIs), 109 patents and an additional 19 patent families. There is an extensive track record of the group substantially contributing to societal impact in terms of education, economic growth, health and cultural development in Norway and internationally.

Department of Medical Biochemistry

The fact that the seven "units" of MBK cover a wide range of topics, including research on tumour markers, DNA repair, mitochondrial metabolism, metabolomics, endocrinology, regenerative medicine, extracellular vesicles as well as blood cell research can potentially be regarded as a strength when it comes to access to clinical samples and to the spectrum of different diagnostic methods that are associated with the different topics covered by MBK. On the other hand, however, this broad "collection" of topics could present a risk with regard to lack of integration and interaction between the individual units. In fact, the seven units seem to act rather independently and would clearly benefit from enhanced collaboration. The publication output is adequate for a group of this size; however, it could be further enhanced by increased collaboration between the units. The organisational environment might be structured according to different tasks (e.g., routine clinical diagnostics vs. basic research) to ensure that enough resources can be dedicated to developing grant applications and publishing.

Department of Medical Genetics (AMG)

The AMG group is structurally well organised and establishing synergy between research and clinical activities impacts on diagnosis, counselling and treatment of patients with Mendelian, oligogenic and multifactorial diseases. The group has been a leading force in implementing genomic medicine in Norwegian healthcare and has expertise in handling the high-capacity platforms and core facilities of the host institution to explore genomes,

transcriptomes, proteomes of patients' cells towards disclosing defects and pathomechanisms. The research team also has developed novel bioinformatics tools facilitating genetic diagnosis adopted in other Norwegian departments and an in-house platform for clinical variant interpretation serving as national resource. The group has a recognised capability of establishing collaborative national/international networks that enlarge the research goals and create mobility opportunities for young scientists. The grant records signal several international and national funds which allowed expansion of R&D units by promoting project leaders and young scientists who obtained their own funding. One potential weakness of the group is a research profiling scattered across many different types of hereditary diseases, cancer and infectious diseases, with diminished imprint on specific diseases on which they contributed relevant publications. The list of projects and relative publications reflects the multiplicity of research interests with relevant or minor weight of the research group authorship.

Department of Microbiology (MIK)

This is a large research group with an organisation and composition ideal to conduct its research activities, and a cohesive and adequate strategy for research activities, recruitment and internationalisation. The groups' benchmarks are relevant and fully achieved. Specifically, they manage to (i) win competitive research grants and publish work in good quality peer reviewed journals, (ii) develop frontline precision diagnostics and (iii) train excellent young researchers. The group has a proven ability to foster and develop independent scientists from master's students to PIs, and to attract major external funding (75% of activities funded by external grants). The funding portfolio is outstanding and includes national and international sources: in the last five years they raised 424 million NOK, an average of 85 million NOK per year. The scientific quality of this research group is outstanding. They produce groundbreaking results promoting the advancing of the research field beyond of the state of the art. They also provide convincing evidence of high-quality collaborations.

Department of Pathology (PAT)

The group is large, which is a sign of good quality given the fact that much of the funding for research is externally acquired. The organisational structure of the group means that it is well embedded in the hospital. On the technical side, the group is ambitious with advanced and state-of-the-art methodologies. The section on precision medicine is well-placed to expand its level of external funding. A weakness is the diminishing interest of students and pathologists in training for research. Moreover, the links with industry are not well developed.

Department of Pharmacology

The Department of Pharmacology (FAR) consists of the Institute of Pharmacology at UiO, and the four clinical pharmacological units of Oslo University Hospital. It is a complex organisation that successfully managed a large turn-over of research groups. It comprises University full- time researchers and part-time researchers in the clinical departments. FAR succeeded in obtaining significant competitive grant funding that predominantly comes from RCN and national grants. Based on these prerequisite conditions, the organisation manages to support excellent research, attract the required funding, academic teaching, and contribute innovation to society via start-up companies and patents. However, efforts to

provide a greater cohesiveness in terms of projects, techniques, and general knowledge sharing, e.g. institute fora for project updates may facilitate development of stronger collaborative projects and will benefit researchers training. Moreover, the key instrumentation of LC-MS/MS and laser capture microscopes does not appear to serve more than local and regional users. Overall, the outlook presented in the self-assessment is optimistic, with the largest challenge relating to future recruitment of talented staff within a small medical speciality in a country where spoken Norwegian is a requirement for tenure.

3. Diversity and equality

KLM follow closely the policies defined by OUS and UiO. Diversity, equality and inclusion are defined as a strategic matter for both OUS and UiO and for KLM there is almost a balance between males and females. Overall, OUS and the Faculty of Medicine at UiO also have Action Plans for Diversity, Equality and Inclusion which are followed by KLM.

KLM follows the general UiO/OUS rules with respect to diversity and equality.

This means a commitment by the administrative unit, that KRN will actively work towards ensuring that all employees are given equal rights and opportunities for professional development regardless of gender, ethnicity, disability, gender identity, sexual orientation, socio-economic background, age, and religion. Furthermore, an action plan for Equality, Inclusion and Diversity outlines specific measures, with the following focus areas: 1) Competence and tools; 2) Communication and language (non-discriminatory language); 3) Recruitment, inclusion and employer branding.

Likewise, the University of Oslo defines diversity, equality and inclusion (DEI) as a strategic matter. The University of Oslo is committed to these issues being a conscious element in all activities. The University of Oslo's policy for diversity, equality and inclusion is anchored in an action plan and a strategic document.

Even so close to equality, a balance between males and females is not completely achieved yet.

The committee's evaluation

There continues to be imbalance in diversity and gender in the different departments but overall, there is a true convergence in obtaining a balance in gender and diversity at KLM. In particular, among the highest academic positions, there are more men, but the proportion of women is gradually increasing.

The committee´s recommendations

The evaluators encourage the administrative unit to further work on gender balance, so that balance is achieved in all areas and sub-groups.

4. Relevance to institutional and sectorial purposes

KLM’s research strategy is to increase innovation in laboratory science. KLM benefits from the institutional support but takes active role in sorting out legislation and data sensitivity issues for the secondary use of health data. This is highlighted by KLMs Dep of Medical Genetics with implementation of novel genomics technologies, in particular next generation sequencing (impact case 3). Otherwise, the innovation and commercialization involve administration on the research group levels.

The Technology transfer office, Inven2 AS: Inven2 is one of Norway’s largest technology transfer offices, and a limited liability company owned by the University of Oslo (UiO) and Oslo University Hospital (OUS). Inven2 administers the commercial potential of inventions and work results of OUS, UiO and all the health trusts in the South-Eastern Norway Regional Health Authority. Inven2 has a broad range of expertise from different professional fields, research and industry who handle the whole value chain in innovation, clinical trials and industry cooperation.

To motivate innovation and commercialisation OUS has as a starting point a tripartite share of net income from innovation. In order to commercialize an innovation, OUS pays 1/3 of the net income from the innovation to Inven2. Of the remaining 2/3 of the innovation's net income, OUS will, as a general rule, give half as remuneration to the inventor(s), while the other half goes to clinic(s)/relevant research environments in accordance with the current guidelines.

UiO follows the practice by OUS, and more specifically, the 1/3 mentioned to research environments are administered by research group, in charge of the departmental head.

The committee's evaluation

Overall, KLM has succeeded in generating a number of spinouts, which reflect that science and innovativeness is thriving at KLM. The InVen2 initiative is very impressive and the collaboration between InVen2 and KLM has successfully established a number of innovative start-up companies.

The committee´s recommendations

The innovation is successful and might serve for other administrative units within OUS as an example. Here more efforts in communicating how to commercialize and innovate might be beneficial for the entire OUS organization. Ideally, this could become part of the future communication strategy.

4.1 Health trusts

Research groups at KLM have personnel that are dedicated to training, supervision, and education of various professionals in the medical field. This includes medical students, master and bachelor students, and PhD candidates. The division collaborates extensively with educational institutions in Norway and abroad. The academic staff at OUS often have a secondary position at the UiO were teaching and research coexist, and the aim is to enable the individual teacher to extract the applicable elements of their research (both process and results) into teaching so that it is useful for the students' learning outcomes. The faculty also carries out some educational research, but this is currently on a small scale. During the medical studies, all students work on a project assignment (20 ECT). The work gives the students insight into scientific method and critical source assessment, as well as planning,

initiating and implementing a scientific work or an innovation project. The Medical Student Research Program (MSRP) is an optional program for medical students who want to develop a research project during their medical studies. MSRP offers research funding and structured research training and admits up to 20 students per year. The students start with one full-time year and thereafter two part-time years with 50% research in parallel with the medical studies. Around 50 % of those who have completed MSRP continues to build on the research-project to a doctorate.

Many MSc, PhD and postdoc students are recruited from other faculties outside the Medical Faculty at UiO. They are recruited via networks, announcements and open calls. MSRP offers research funding and structured research training, and admits up to 20 students

annually. The yearly MD student volume at UiO is 240 and 30 MD students have been enrolled in MSRP at KLM during the reporting period, indicating around 1% attendance per year to KLM.

The committee's evaluation

The 5 impact cases demonstrate that KLM has a strong platform for capacity building both within the academic and hospital system and within the society. The impact cases span from creating knowledge on consequences on alcohol and psychoactive drug abuse, development of in-house assays for biological drugs and anti-drug antibodies, implementation of genomic medicine, transfer of knowledge to three start-up companies targeting new vaccine approaches and finally of implementation of high throughput protocols under the Covid pandemic. All the cases demonstrate very high evidence on societal responsibility.

The committee´s recommendations

KLM has demonstrated its societal responsibility with the five presented impact cases. Here it is important to maintain the capability for future successful initiatives. There future initiatives might be the reaction on acute situations like the Covid pandemic and/or long-term commitments in various areas. Thus, KLM should maintain it’s flexibility to quickly adjust to new challenges and try to foresee potential developments.

5. Relevance to society

Precision medicine is at the core of KLM's research and diagnostic activity. As the largest national diagnostic unit, precision diagnostics is a dedicated strategy focus for KLM: "Promote research that enables and facilitates precision medicine". Impact case 3 illustrates how genome-based diagnostic paves the way into different laboratory disciplines, including pharmacology. Personalized pharmacology also underlies impact case 2, where monitoring (biological) drugs is basis for care and cost-effective health care.

Antibiotic resistance is covered by a dedicated research area at research group MIK, and antimicrobial resistance is one of the research directions that are proposed ambitions for the new life science building at UIO-largest university building in Norway, where parts of KLM will make up more than 1/3 of the building.

Vaccine development is a strong competence platform in KLM, harboured by the research group IMM. The research activity is recognized and has formed translational research centre (K. G. Jebsen), CoE and attracted large grants. Vaccine efficacy testing was an important part of pandemic preparedness (impact case 5) by KLM. The vaccine development research has succeeded in stablishing several innovations and commercializations such as Vaccibody (later Nykode). Impact case 4 exemplifies innovation activity that include industrial cooperation.

Comments on impact case 1 - Alcohol, drugs and health
Overall aim of this impact case is to ensure better treatment, reduce complications during hospital stays, and minimize ongoing use and further damage to health by identification of harmful use of alcohol and psychoactive drugs.

From 2014-15, all Norwegian Hospitals were requested to establish systems for better identification of patients with harmful use of alcohol or other psychoactive substances. When the results from the Lovisenberg study of medical patients showed that 20 % of the patients had hazardous alcohol consumption and 30 % screened positive for one or more psychoactive medicinal substances, the Minister of Health and Care services invited the project group to a meeting. In this meeting, the group was challenged on how hospitals could implement measures to give better identification and follow up of these patients. This was also iterated in the National alcohol strategy published in 2021.

The government continues the main lines of alcohol policy and proposes several new measures to ensure that we reach the target of reducing harmful alcohol consumption.

Details of the impact involve extensive user involvement. Different user groups have been involved in designing the study and discussing the organizational and ethical considerations. Users, primarily those with experience related to problematic alcohol or drug use, contributed to the implementation study outline and to information brochures aimed at patients.

Comments on impact case 2 - Research impacting savings in health expenditures
There has been a steady increase in the cost of drugs in Norway, mainly driven by expensive biologics (antibodies). In Norway, the annual cost of antibodies for treating inflammatory diseases amounts to 1,5-2 billion NOK, while annual costs for antibody-based therapeutics for eye diseases amounts to >1.5-2 billion NOK only at OUS. Two innovations at KLM have enabled a significant cost-reduction for purchasing these types of drugs.

In-house assays for biologic drugs and anti-drug antibodies were developed and automated using existing laboratory infrastructure at the Dept of Medical Biochemistry at Oslo University Hospital from 2012. NOR-SWITCH, 2014-17 (ClinicalTrials.gov ID

NCT02148640), where switching to biosimilar infliximab was shown to be non-inferior to continued treatment with originator infliximab. NOR-DRUM, 2017-22 (ClinicalTrials.gov ID NCT03074656) where individualised infliximab treatment based on serum drug and anti-drug antibody levels was shown to be superior to standard treatment.

Biosimilars to several biologics are currently in use in Norway, which creates a beneficial competition in the annual tenders. This is the main reason we can treat twice as many patients today compared to 2017, at the same cost. When biosimilars become available, prices tend to drop to a fraction compared to prices before biosimilars were available.

The established pharmaceutical compounding of the relevant therapeutics has been implemented in several hospitals, in Norway and internationally, where it increases patient safety while reducing both the time spent per patient and associated costs. For OUS, the procedure has led to an annual cost reduction of 60 million NOK.

Comments on impact case 3 - Implementation of genomic medicine

Implementation of novel genomics technologies, in particular next generation sequencing, into mainstream healthcare has improved precision diagnostics and precision medicine. KLM is a leading provider of such services nationally.

Supported by other strong research groups in KLM focusing on genetic causes for disease, early research demonstrated clearly the potential for finding a genetic diagnosis where other diagnostic modalities failed. The impact of KLM on implementation of genomic medicine in Norway goes on four plans: 1) Precision diagnostics of genetic disorders (AMG), 2) Precision medicine in infectious diseases (MIK), 3) Precision diagnostics for cancer (PAT), and 4) Pharmacogenomics/pharmacogenetics in genome medicine.

The development of genomics technologies illustrates the initial challenges with scalability which has been solved through research and innovation activities in KLM. The technology is now leading in precision microbiology and precision cancer medicine.

Comments on impact case 4 - Fostering biotech excellence, a Case showcasing KLM's innovations and startups

This Case exemplifies innovation at KLM by presenting one chosen example (from numerous others): Innovations and three startup companies in the Biotech sector that arose from the RCN CoE Centre for Immune Regulation (CIR). The first, Vaccibody (now Nykode) was based on targeted vaccines against cancer and infectious disease, was established in 2007, currently has 200 employees, is listed on the Oslo Stock Exchange and has extensive list of trials and industrial collaborations. Nextera was based on a novel phage display technology applied in target discovery and TCR and antibody drug development in oncology and autoimmunity. Authera was based upon breakthrough understandings of complex FcRn biology and its ligands, IgG antibodies and albumin, and collaborates with a range of global biotech and pharma companies.

Research driven innovations were conducted by KLM staff and the standout as role models for how this can be achieved. A variety of targeting specificities and formats have been developed in addition to diverse antigenic cargoes, suggesting most protein antigens can be successfully expressed after Vaccibody vaccines. Further research has demonstrated the ability to influence type of vaccine immune response such as preferential cell-killing, and anti-cancer responses, or antibody subtypes. Further developments of vaccine designs are ongoing resulting in high impact publications.

The impact of Vaccibody is demonstrated both in the financial success and the successful production of numerous vaccines including the first Nykode based on targeted vaccines against cancer and infectious disease. Nextera was based on a novel phage display technology applied in target discovery and TCR and antibody drug development in oncology and autoimmunity. Authera is a pre-clinical-stage biotechnology company dedicated to the discovery and development of novel therapeutic biologics.

Comments on impact case 5 - Pandemic preparedness @KLM

KLM contributed to the very successful pandemic response in Norway: KLM was the main national provider of PCR-based Covid testing and SARS-CoV-2 whole genome sequencing. Sufficient test capacity was crucial of the pandemic management strategy (TISK strategy) and the in-house capacity to run up to 15.000 covid tests per day gave direct savings of 300 million NOK compared to commercial tests.

The strategy chosen by the government to limit spread of the SARS-CoV-2 virus in the society relied on high test capacity. The Department of Microbiology (MIK) established in-house PCR test to detect SARS-CoV-2 in February 2020. Department of Medical Genetics (AMG) in collaboration with The Norwegian Institute for Public Health (NIPH) and MIK carried out large-scale whole genome sequencing of SARS-CoV-2 samples for variant characterization. Researchers at the Department of Immunology (IMM) holds extensive competence on vaccine development. In the summer of 2021, IMM started a trial, the Coallision for Epigenic Preparedness Innovations (CEPI) -trial, to monitor SARS-CoV-2 vaccine efficacy where the study design was population-based and included 6000 immunocompromised patients in addition to 10 000 controls.

KLM made significant contributions to knowledge about COVID-19, both in terms of understanding mechanisms of disease, treatment, and complications: The Norwegian Corona Cohort study provided the Norwegian government officials with very early high-quality data on spread of SARScov-2 virus, data on risk factors for severe disease and about long-covid.

Appendices

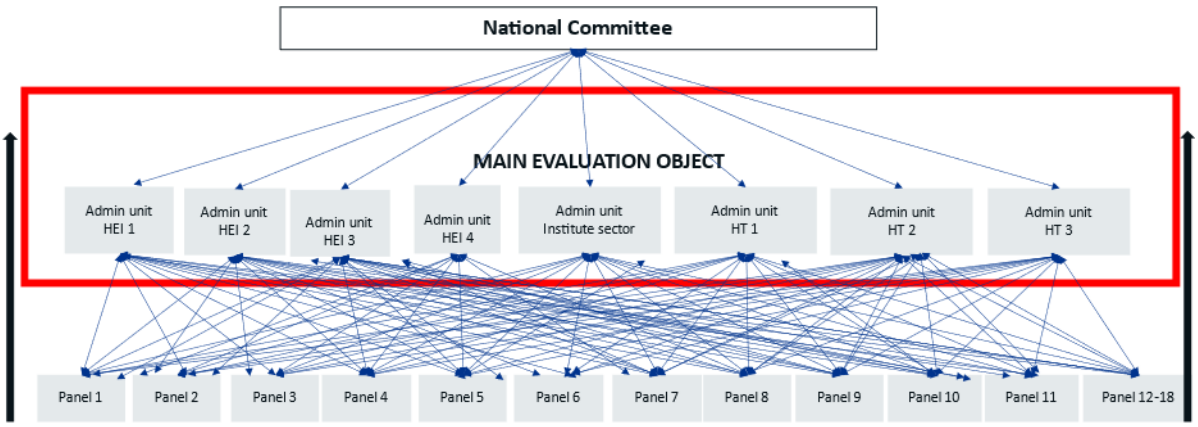
Evaluation of Medicine and health 2023-2024

By evaluating Norwegian research and higher education we aim to enhance the quality, relevance, and efficiency. In accordance with the statutes of the Research Council of Norway (RCN), the RCN evaluates Norwegian professional environments to create a solid and up-to-date knowledge base about Norwegian research and higher education in an international perspective.

The evaluation of life sciences is conducted in 2022-2024. The evaluation of medicine takes place in 2023-2024. The evaluation of biosciences was carried out in 2022-2023. The primary aim of the evaluation of life sciences is to reveal and confirm the quality and the relevance of research performed at Norwegian Higher Education Institutions (HEIs), the institute sector and the health trusts. The evaluation shall result in recommendations to the institutions, the RCN and the ministries.

Evaluation of medicine and health (EVALMEDHELSE) 2023-2024
The evaluation of medicine and health includes sixty-eight administrative units (e.g., faculty, department, institution, center, division) which are assessed by evaluation committees according to sectorial affiliation and other relevant similarities between the units. The administrative units enrolled their research groups (315) to eighteen expert panels organised by research subjects or themes and assessed across institutions and sectors.

Organisation of evaluation of medicine and health 2023-2024



The institutions have been allowed to adapt the evaluation mandate (Terms of Reference) to their own strategic goals. This is to ensure that the results of the evaluation will be useful for the institution's own strategic development. The administrative unit together with the research group(s) selects an appropriate benchmark for each of the research group(s).

The Research Council of Norway has commissioned an external evaluation secretariat at Technopolis Group for the implementation of the evaluation process.

Each institution/administrative unit is responsible for following up the recommendations that apply to their own institution/administrative unit. The Research Council will use the results from the evaluation in the development of funding instruments and as a basis for advice to the Government.

The web page for the evaluation of medicine and health 2023-2024: [Evaluation of medicine and health sciences (forskningsradet.no)]

Forskningsrådet

Se vedlagte adresseliste

Vår saksbehandler / tlf.	Vår ref.	Deres ref.	Sted
Hilde G. Nielsen/40922260	23/3056	[Ref.]	Lysaker 28.4.2023

Invitasjon til å delta i fagevaluering av medisin og helsefag (EVALMEDHELSE) 2023-2024

Vi viser til varsel om oppstart av nye evalueringer sendt institusjonenes ledelse 9. november 2021 (vedlegg 2).

Porteføljestyret for livsvitenskap har vedtatt å gjennomføre fagevaluering av livsvitenskap 2022-2024 som to evalueringer:

- Evaluering av biovitenskap (EVALBIOVIT) (2022-2023)
- Evaluering av medisin og helsefag (EVALMEDHELSE) (2023-2024)

Hovedmålet med fagevalueringen av livsvitenskap 2022-2024 er å vurdere kvalitet og rammebetingelser for livsvitenskapelig forskning i Norge, samt forskningens relevans for sentrale samfunnsområder. Evalueringen skal resultere i anbefalinger til institusjonene, til Forskningsrådet og til departementene. Den forrige fagevalueringen av biologi, medisin og helsefag ble gjennomført i 2010/2011 (vedlegg 3).

Fagevaluering av livsvitenskap retter seg mot UH-sektor, helseforetak og instituttsektor (vedlegg 4). Forskningsrådet forventer at aktuelle forskningsmiljøer deltar i evalueringene, selv om beslutning om deltagelse gjøres ved den enkelte institusjon. Videre ber vi om at deltakende institusjoner setter av tilstrekkelig med ressurser til å delta i evalueringsprosessen, og at institusjonen oppnevner minst én representant som kontaktperson for Forskningsrådet.

Invitasjon til å delta i fagevaluering av medisin og helsefag (2023-2024)

Fagevaluering av medisin og helsefag er organisert over to nivåer (vedlegg 4, side 11). Internasjonale ekspertpaneler vil evaluere forskergrupper på tvers av fag, disiplin og forskningssektorer (UH, institutt og helseforetak) etter kriteriene beskrevet i kapittel 2 i evalueringsprotokollen (vedlegg 4).

Panelrapporten(e) for forskergruppene vil inngå i bakgrunnsdokumentasjonen til forskergruppen(e)s administrative enhet (hovedevalueringsobjektet i evaluering), og som vil bli evaluert i internasjonale

sektorspesifikke evalueringskomiteer. Evalueringskriteriene for administrative enheter er beskrevet i kapittel 2 i evalueringsprotokollen (vedlegg 4).

Innmelding av administrative enheter og forskergrupper – frist 6. juni 2023

Administrative enheter (hovedevalueringsobjektet i evalueringen) – skjema 1

Forskningsrådet inviterer institusjonene til å melde inn sine administrative enhet/er ved å fylle ut skjema 1. Definisjonen av en administrativ enhet i denne evalueringen er å finne på side 3 (kap 1.1) i evalueringsprotokollen (vedlegg 4). Ved innmelding av administrativ/e enhet/er anbefaler Forskningsrådet institusjonene til å se innmelding av administrativ enhet/er i sammenheng med tilpasning av mandat for den administrative enheten (Appendix A i evalueringsprotokollen).

Forskergrupper – skjema 2

Forskningsrådet ber de administrative enheter om å melde inn forskergrupper i tråd med forskergruppedefinisjonen (kap 1.1) og minimumskravene beskrevet i kapittel 1.2 i evalueringsprotokollen. Hver administrative enhet melder inn sin/e forskergruppe/r ved å fylle ut Skjema 2. Vi ber også om at forskergruppene innplasseres i den tentative fagpanelinndelingen for EVALMEDHELSE (vedlegg 5).

Forskningsrådet vil ferdigstille panelstruktur og avgjøre den endelige fordelingen av forskergruppene på fagpaneler *etter* at alle forskergrupper er meldt inn. Mer informasjon vil bli sendt i slutten av juni 2023.

Invitasjon til å foreslå eksperter – skjema 3

Forskningsrådet inviterer administrative enheter og forskergrupper til å spille inn forslag til eksperter som kan inngå i evalueringskomitéene og i ekspertpanelene. Hver evalueringskomité vil bestå av 7-9 komitémedlemmer, mens hvert ekspertpanel vil bestå av 5-7 eksperter.

Obs. Det er to faner i regnearket:

- FANE 1 – forslag til medlemmer til evalueringskomitéene. Medlemmene i evalueringskomitéene skal inneha bred vitenskapelig kompetanse, både faglig kompetanse og andre kvalifikasjoner som erfaring med ledelse, strategi- og evalueringsarbeid og kunnskapsutveksling.
- FANE 2 – forslag til medlemmer til ekspertpanelene. Medlemmene i ekspertpanelene skal være internasjonalt ledende eksperter innen medisin og helsefaglig forskning og innovasjon.

Utfylte skjemaer (3 stk):

- innmelding av administrative enhet/er (skjema 1)
- innmelding av forskergruppe/er (skjema 2)
- forslag til eksperter (skjema 3)

sendes på epost til evalmedhelse@forskningsradet.no **innen 6. juni 2023.**

Tilpasning av mandat – frist 30. september 2023

Forskningsrådet ber med dette administrative enheter om å tilpasse mandatet (vedlegg 4) ved å opplyse om egne strategiske mål og andre lokale forhold som er relevant for evalueringen.

Forskningsrådet

Tilpasningen gjøres ved å fylle inn de åpne punktene i malen (Appendix A). Utfylt skjema sendes på epost til evalmedhelse@forskningsradet.no innen 30. september 2023.

Digitalt informasjonsmøte 15. mai 2023, kl. 14.00-15.00.
Forskningsrådet arrangerer et digitalt informasjonsmøte for alle som ønsker å delta i EVALMEDHELSE.

Påmelding til informasjonsmøtet gjøres her: Fagevaluering av medisin og helsefag (EVALMEDHELSE) - Digitalt informasjonsmøte (pameldingssystem.no) .

Nettsider
Forskningsrådet vil opprette en nettside på www.forskningsradet.no for EVALMEDHELSE hvor informasjon vil bli publisert fortløpende. Her kan dere lese om Fagevaluering av biovitenskap (EVALBIOVIT) 2022-2023. Fagevaluering av medisin og helsefag vil bli gjennomført etter samme modell.

Spørsmål vedrørende fagevaluering av medisin og helsefag kan rettes til Hilde G. Nielsen, hgn@forskningsradet.no eller mobil 40 92 22 60.

Med vennlig hilsen
Norges forskningsråd

Ole Johan Borge	Hilde G. Nielsen
avdelingsdirektør	spesialrådgiver
Helse	Helse

Dokumentet er elektronisk godkjent og signert og har derfor ikke håndskrevne signaturer.

Kopi
Helse- og omsorgsdepartementet
Kunnskapsdepartementet

Vedlegg
1. Adresseliste
2. Nye fagevalueringer – varsel om oppstart november 2021
3. Erfaringer med oppfølging av fagevaluering av biologi, medisin og helsefag 2010/2011
4. Fagevaluering av livsvitenskap 2022-2024 – Evalueringsprotokoll
5. Tentativ panelinndeling EVALMEDHELSE mai 2023
6. Skjema 1 – Innmeldingsskjema Administrative enheter
7. Skjema 2 – Innmeldingsskjema Forskergrupper
8. Skjema 3 – Forslag til internasjonale eksperter til evalueringskomiteene og ekspertpanelene
9. Appendix A – word format

The Research Council of Norway

Evaluation of life sciences in Norway 2022-2023

LIVSEVAL protocol version 1.0

By decision of the Portfolio board for life sciences April 5., 2022

The Research Council of Norway
Visiting address: Drammensveien 288
P.O. Box 564
NO-1327 Lysaker

Telephone: +47 22 03 70 00
Telefax: +47 22 03 70 01
post@rcn.no
www.rcn.no

The report can be downloaded at
www.forskningsradet.no/publikasjoner

Oslo, 5 April 2022

ISBN 978-82-12-Klikk her for å fylle ut (xxxxx-x). (pdf)

1 Introduction

Research assessments based on this protocol serve different aims and have different target groups. The primary aim of the evaluation of life sciences is to reveal and confirm the quality and the relevance of research performed at Norwegian Higher Education Institutions (HEIs), and by the institute sector and regional health authorities and health trusts. These institutions will hereafter be collectively referred to as Research Performing Organisations (RPOs). The assessments should serve a formative purpose by contributing to the development of research quality and relevance at these institutions and at the national level.

1.1 Evaluation units

The assessment will comprise a number of *administrative units* submitted for evaluation by the host institution. By assessing these administrative units in light of the goals and strategies set for them by their host institution, it will be possible to learn more about how public funding is used at the institution(s) to facilitate high-quality research and how this research contributes to society. The administrative units will be assessed by evaluation committees according to sectoral affiliation and/or other relevant similarities between the units.

The administrative units will be invited to submit data on their *research groups* to be assessed by expert panels organised by research subject or theme. See Chapter 3 for details on organisation.

Administrative unit	An administrative unit is any part of an RPO that is recognised as a formal (administrative) unit of that RPO, with a designated budget, strategic goals and dedicated management. It may, for instance, be a university faculty or department, a department of an independent research institute or a hospital.
Research group	Designates groups of researchers within the administrative units that fulfil the minimum requirements set out in section 1.2. Research groups are identified and submitted for evaluation by the administrative unit, which may decide to consider itself a single research group.

1.2 Minimum requirements for research groups

1) The research group must be sufficiently large in size, i.e. at least five persons in full-time positions with research obligations. This merely indicates the minimum number, and larger units are preferable. In exceptional cases, the minimum number may include PhD students, postdoctoral fellows and/or non-tenured researchers. *In all cases, a research group must include at least three full-time tenured staff*. Adjunct professors, technical staff and other relevant personnel may be listed as group members but may not be included in the minimum number.

2) The research group subject to assessment must have been established for at least three years. Groups of more recent date may be accepted if they have come into existence as a consequence of major organisational changes within their host institution.
3) The research group should be known as such both within and outside the institution (e.g. have a separate website). It should be able to document common activities and results in the form of co-publications, research databases and infrastructure, software, or shared responsibilities for delivering education, health services or research-based solutions to designated markets.
4) In its self-assessment, the administrative unit should propose a suitable benchmark for the research group. The benchmark will be considered by the expert panels as a reference in their assessment of the performance of the group. The benchmark can be grounded in both academic and extra-academic standards and targets, depending on the purpose of the group and its host institution.

1.3 The evaluation in a nutshell

The assessment concerns:

- research that the administrative unit and its research groups have conducted in the previous 10 years
- the research strategy that the administrative units under evaluation intend to pursue going forward
- the capacity and quality of research in life sciences at the national level

The Research Council of Norway (RCN) will:

- provide a template for the Terms of Reference[1] for the assessment of RPOs and a national-level assessment in life sciences
- appoint members to evaluation committees and expert panels
- provide secretarial services
- commission reports on research personnel and publications based on data in national registries
- take responsibility for following up assessments and recommendations at the national level.

RPOs conducting research in life sciences are expected to take part in the evaluation. The board of each RPO under evaluation is responsible for tailoring the assessment to its own strategies and specific needs and for following them up within their own institution. Each participating RPO will carry out the following steps:

1) Identify the administrative unit(s) to be included as the main unit(s) of assessment
2) Specify the Terms of Reference by including information on specific tasks and/or strategic goals of relevance to the administrative unit(s)

[1] The terms of reference (ToR) document defines all aspects of how the evaluation committees and expert panels will conduct the [research area] evaluation. It defines the objectives and the scope of the evaluation, outlines the responsibilities of the involved parties, and provides a description of the resources available to carry out the evaluation.

3) The administrative unit will, in turn, be invited to register a set of research groups that fulfil the minimum criteria specified above (see section 1.2). The administrative unit may decide to consider itself a single research group.
4) For each research group, the administrative unit should select an appropriate benchmark in consultation with the group in question. This benchmark can be a reference to an academic level of performance or to the group's contributions to other institutional or sectoral purposes (see section 2.4). The benchmark will be used as a reference in the assessment of the unit by the expert panel.
5) The administrative units subject to assessment must provide information about each of their research groups, and about the administrative unit as a whole, by preparing self-assessments and by providing additional documentation in support of the self-assessment.

1.4 Target groups

- Administrative units represented by institutional management and boards
- Research groups represented by researchers and research group leaders
- Research funders
- Government

The evaluation will result in recommendations to the institutions, the RCN and the ministries. The results of the evaluation will also be disseminated for the benefit of potential students, users of research and society at large.

This protocol is intended for all participants in the evaluation. It provides the information required to organise and carry out the research assessments. Questions about the interpretation or implementation of the protocol should be addressed to the RCN.

2 Assessment criteria

The administrative units are to be assessed on the basis of five assessment criteria. The five criteria are applied in accordance with international standards. Finally, the evaluation committee passes judgement on the administrative units as a whole in qualitative terms. In this overall assessment, the committee should relate the assessment of the specific tasks to the strategic goals that the administrative unit has set for itself in the Terms of Reference.

When assessing administrative units, the committees will build on a separate assessment by expert panels of the research groups within the administrative units. See Chapter 3 'Evaluation process and organisation' for a description of the division of tasks.

2.1 Strategy, resources and organisation

The evaluation committee assesses the framework conditions for research in terms of funding, personnel, recruitment and research infrastructure in relation to the strategic aims set for the administrative unit. The administrative unit should address at least the following five specific aspects in its self-assessment: 1) funding sources, 2) national and international cooperation, 3) cross-sector and interdisciplinary cooperation, 4) research careers and mobility, and 5) Open Science. These five aspects relate to how the unit organises and actually performs its research, its composition in terms of leadership and personnel, and how the unit is run on a day-to-day basis.

To contribute to understanding what the administrative unit can or should change to improve its ability to perform, the evaluation committee is invited to focus on factors that may affect performance.

Further, the evaluation committee assesses the extent to which the administrative unit's goals for the future remain scientifically and societally relevant. It is also assessed whether its aims and strategy, as well as the foresight of its leadership and its overall management, are optimal in relation to attaining these goals. Finally, it is assessed whether the plans and resources are adequate to implement this strategy.

2.2 Research production, quality and integrity

The evaluation committee assesses the profile and quality of the administrative unit's research and the contribution the research makes to the body of scholarly knowledge and the knowledge base for other relevant sectors of society. The committee also assesses the scale of the unit's research results (scholarly publications, research infrastructure developed by the unit, and other contributions to the field) and its contribution to Open Science (early knowledge and sharing of data and other relevant digital objects, as well as science communication and collaboration with societal partners, where appropriate).

The evaluation committee considers the administrative unit's policy for research integrity and how violations of such integrity are prevented. It is interested in how the unit deals with research data, data management, confidentiality (GDPR) and integrity, and the extent to which independent and critical pursuit of research is made possible within the unit. Research integrity relates to both the scientific integrity of conducted research and the professional integrity of researchers.

2.3 Diversity and equality

The evaluation committee considers the diversity of the administrative unit, including gender equality. The presence of differences can be a powerful incentive for creativity and talent development in a diverse administrative unit. Diversity is not an end in itself in that regard, but a tool for bringing together different perspectives and opinions.

The evaluation committee considers the strategy and practices of the administrative unit to prevent discrimination on the grounds of gender, age, disability, ethnicity, religion, sexual orientation or other personal characteristics.

2.4 Relevance to institutional and sectoral purposes

The evaluation committee compares the relevance of the administrative unit's activities and results to the specific aspects detailed in the Terms of Reference for each institution and to the relevant sectoral goals (see below).

Higher Education Institutions

There are 36 Higher Education Institutions in Norway that receive public funding from the Ministry for Education and Research. Twenty-one of the 36 institutions are owned by the ministry, whereas the last 15 are privately owned. The HEIs are regulated under the Act relating to universities and university colleges of 1 August 2005.

The purposes of Norwegian HEIs are defined as follows in the Act relating to universities and university colleges[2]

- provide higher education at a high international level;
- conduct research and academic and artistic development work at a high international level;
- disseminate knowledge of the institution's activities and promote an understanding of the principle of academic freedom and application of scientific and artistic methods and results in the teaching of students, in the institution's own general activity as well as in public administration, in cultural life and in business and industry.

In line with these purposes, the Ministry for Research and Education has defined four overall goals for HEIs that receive public funding. These goals have been applied since 2015:

1) High quality in research and education
2) Research and education for welfare, value creation and innovation
3) Access to education (esp. capacity in health and teacher education)
4) Efficiency, diversity and solidity of the higher education sector and research system

The committee is invited to assess to what extent the research activities and results of each administrative unit have contributed to sectoral purposes as defined above. In particular, the committee is invited to take the share of resources spent on education at the administrative units into account and to assess the relevance and contributions of research to education, focusing on the master's and PhD levels. This assessment should be distinguished from an

[2] https://lovdata.no/dokument/NLE/lov/2005-04-01-15?q=universities

assessment of the quality of education in itself, and it is limited to the role of research in fostering high-quality education.

Research institutes (the institute sector)

Norway's large institute sector reflects a practical orientation of state R&D funding that has long historical roots. The Government's strategy for the institute sector[3] applies to the 33 independent research institutes that receive public basic funding through the RCN, in addition to 12 institutes outside the public basic funding system.

The institute sector plays an important and specific role in attaining the overall goal of the national research system, i.e. to increase competitiveness and innovation power to address major societal challenges. The research institutes' contributions to achieving these objectives should therefore form the basis for the evaluation. The main purpose of the sector is to conduct independent applied research for present and future use in the private and public sector. However, some institutes primarily focus on developing a research platform for public policy decisions, others on fulfilling their public responsibilities.

The institutes should:

- maintain a sound academic level, documented through scientific publications in recognised journals
- obtain competitive national and/or international research funding grants
- conduct contract research for private and/or public clients
- demonstrate robustness by having a reasonable number of researchers allocated to each research field

The committee is invited to assess the extent to which the research activities and results of each administrative unit contribute to sectoral purposes and overall goals as defined above. In particular, the committee is invited to assess the level of collaboration between the administrative unit(s) and partners in their own or other sectors.

The hospital sector

There are four regional health authorities (RHFs) in Norway. They are responsible for the specialist health service in their respective regions. The RHFs are regulated through the Health Enterprises Act of 15 June 2001 and are bound by requirements that apply to specialist and other health services, the Health Personnel Act and the Patient Rights Act. Under each of the regional health authorities, there are several health trusts (HFs), which can consist of one or more hospitals. A health trust (HF) is wholly owned by an RHF.

Research is one of the four main tasks of hospital trusts.[4] The three other mains tasks are to ensure good treatment, education and training of patients and relatives. Research is important if the health service is to keep abreast of stay up-to-date with medical developments and carry out critical assessments of established and new diagnostic methods,

[3] Strategy for a holistic institute policy (Kunnskapsdepartementet 2020)

[4] Cf. the Specialist Health Services Act § 3-8 and the Health Enterprises Act §§ 1 and 2

treatment options and technology, and work on quality development and patient safety while caring for and guiding patients.

The committee is invited to assess the extent to which the research activities and results of each administrative unit have contributed to sectoral purposes as described above. The assessment does not include an evaluation of the health services performed by the services.

2.5 Relevance to society

The committee assesses the quality, scale and relevance of contributions targeting specific economic, social or cultural target groups, of advisory reports on policy, of contributions to public debates, and so on. The documentation provided as the basis for the assessment of societal relevance should make it possible to assess relevance to various sectors of society (i.e. business, the public sector, non-governmental organisations and civil society).

When relevant, the administrative units will be asked to link their contributions to national and international goals set for research, including the Norwegian Long-term Plan for Research and Higher Education and the UN Sustainable Development Goals. Sector-specific objectives, e.g. those described in the Development Agreements for the HEIs and other national guidelines for the different sectors, will be assessed as part of criterion 2.4.

The committee is also invited to assess the societal impact of research based on case studies submitted by the administrative units and/or other relevant data presented to the committee. Academic impact will be assessed as part of criterion 2.2.

3 Evaluation process and organisation

The RCN will organise the assessment process as follows:

- Commission a professional secretariat to support the assessment process in the committees and panels, as well as the production of self-assessments within each RPO
- Commission reports on research personnel and publications within life sciences based on data in national registries
- Appoint one or more evaluation committees for the assessment of administrative units.
- Divide the administrative units between the appointed evaluation committees according to sectoral affiliation and/or other relevant similarities between the units.
- Appoint a number of expert panels for the assessment of research groups submitted by the administrative units.
- Divide research groups between expert panels according to similarity of research subjects or themes.
- Task the chairs of the evaluation committees with producing a national-level report building on the assessments of administrative units and a national-level assessments produced by the expert panels.

Committee members and members of the expert panels will be international, have sufficient competence and be able, as a body, to pass judgement based on all relevant assessment criteria. The RCN will facilitate the connection between the assessment levels of panels and committees by appointing committee members as panel chairs.

3.1 Division of tasks between the committee and panel levels

The expert panels will assess research groups across institutions and sectors, focusing on the first two criteria specified in Chapter 2: 'Strategy, resources and organisation' and 'Research production and quality' The assessments from the expert panels will also be used as part of the evidence base for a report on Norwegian research within life sciences (see section 3.3).

The evaluation committees will assess the administrative units based on all the criteria specified in Chapter 2. The assessment of research groups delivered by the expert panels will be a part of the evidence base for the committees' assessments of administrative units. See figure 1 below.

The evaluation committee has sole responsibility for the assessments and any recommendations in the report. The evaluation committee reaches a judgement on the research based on the administrative units and research groups' self-assessments provided by the RPOs, any additional documents provided by the RCN, and interviews with representatives of the administrative units. The additional documents will include a standardised analysis of research personnel and publications provided by the RCN.

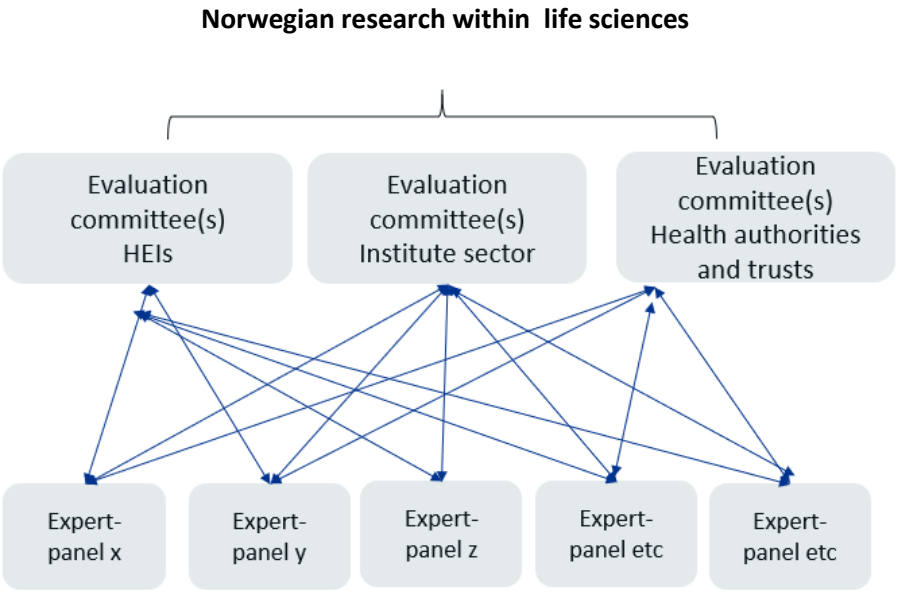


Figure 1. Evaluation committees and expert panels

The evaluation committee takes international trends and developments in science and society into account when forming its judgement. When judging the quality and relevance of the research, the committees shall bear in mind the specific tasks and/or strategic goals that the administrative unit has set for itself including sectoral purposes (see section 2.4 above).

3.2 Accuracy of factual information

The administrative unit under evaluation should be consulted to check the factual information before the final report is delivered to the RCN and the board of the institution hosting the administrative unit.

3.3 National level report

Finally, the RCN will ask the chairs of the evaluation committees to produce a national-level report that builds on the assessments of administrative units and the national-level assessments produced by the expert panels. The committee chairs will present their assessment of Norwegian research in life sciences at the national level in a separate report that pays specific attention to:

- Strengths and weaknesses of the research area in the international context
- The general resource situation regarding funding, personnel and infrastructure
- PhD training, recruitment, mobility and diversity
- Research cooperation nationally and internationally
- Societal impact and the role of research in society, including Open Science

This national-level assessment should be presented to the RCN.

Appendix A: Terms of References (ToR)

[Text in red to be filled in by the Research-performing organisations (RPOs)]

The board of [RPO] mandates the evaluation committee appointed by the Research Council of Norway (RCN) to assess [administrative unit] based on the following Terms of Reference.

Assessment
You are asked to assess the organisation, quality and diversity of research conducted by [administrative unit] as well as its relevance to institutional and sectoral purposes, and to society at large. You should do so by judging the unit's performance based on the following five assessment criteria (a. to e.). Be sure to take current international trends and developments in science and society into account in your analysis.

a) Strategy, resources and organisation
b) Research production, quality and integrity
c) Diversity and equality
d) Relevance to institutional and sectoral purposes
e) Relevance to society

For a description of these criteria, see Chapter 2 of the life sciences evaluation protocol. Please provide a written assessment for each of the five criteria. Please also provide recommendations for improvement. We ask you to pay special attention to the following [n] aspects in your assessment:

1. …
2. …
3. …
4. …

…

[To be completed by the board: specific aspects that the evaluation committee should focus on – they may be related to a) strategic issues, or b) an administrative unit's specific tasks.]

In addition, we would like your report to provide a qualitative assessment of [administrative unit] as a whole in relation to its strategic targets. The committee assesses the strategy that the administrative unit intends to pursue in the years ahead and the extent to which it will be capable of meeting its targets for research and society during this period based on available resources and competence. The committee is also invited to make recommendations concerning these two subjects.

Documentation
The necessary documentation will be made available by the life sciences secretariat at Technopolis Group.

The documents will include the following:

- a report on research personnel and publications within life sciences commissioned by RCN
- a self-assessment based on a template provided by the life sciences secretariat
- [to be completed by the board]

Interviews with representatives from the evaluated units
Interviews with the [administrative unit] will be organised by the evaluation secretariat. Such interviews can be organised as a site visit, in another specified location in Norway or as a video conference.

Statement on impartiality and confidence
The assessment should be carried out in accordance with the *Regulations on Impartiality and Confidence in the Research Council of Norway*. A statement on the impartiality of the committee members has been recorded by the RCN as a part of the appointment process. The impartiality and confidence of committee and panel members should be confirmed when evaluation data from [the administrative unit] are made available to the committee and the panels, and before any assessments are made based on these data. The RCN should be notified if questions concerning impartiality and confidence are raised by committee members during the evaluation process.

Assessment report
We ask you to report your findings in an assessment report drawn up in accordance with a format specified by the life sciences secretariat. The committee may suggest adjustments to this format at its first meeting. A draft report should be sent to the [administrative unit] and RCN by [date]. The [administrative unit] should be allowed to check the report for factual inaccuracies; if such inaccuracies are found, they should be reported to the life sciences secretariat no later than two weeks after receipt of the draft report. After the committee has made the amendments judged necessary, a corrected version of the assessment report should be sent to the board of [the RPO] and the RCN no later than two weeks after all feedback on inaccuracies has been received from [administrative unit].

Appendix B: Data sources

The lists below shows the most relevant data providers and types of data to be included in the evaluation. Data are categorised in two broad categories according to the data source: National registers and self-assessments prepared by the RFOs. The RCN will commission an analysis of data in national registers (R&D-expenditure, personnel, publications etc.) to be used as support for the committees' assessment of administrative units. The analysis will include a set of indicators related to research personnel and publications.

- **National directorates and data providers**
- Norwegian Directorate for Higher Education and Skills (HK-dir)
- Norwegian Agency for Quality Assurance in Education (NOKUT)
- Norwegian Agency for Shared Services in Education and Research (SIKT)
- Research Council of Norway (RCN)
- Statistics Norway (SSB)

National registers

1) R&D-expenditure
    a. SSB: R&D statistics
    b. SSB: Key figures for research institutes
    c. HK-dir: Database for Statistics on Higher Education (DBH)
    d. RCN: Project funding database (DVH)
    e. EU-funding: eCorda
2) Research personnel
    a. SSB: The Register of Research personnel
    b. SSB: The Doctoral Degree Register
    c. RCN: Key figures for research institutes
    d. HK-dir: Database for Statistics on Higher Education (DBH)
3) Research publications
    a. SIKT: Cristin - Current research information system in Norway
    b. SIKT: Norwegian Infrastructure for Bibliometrics
    (full bibliometric data incl. citations and co-authors)
4) Education
    a. HK-dir/DBH: Students and study points
    b. NOKUT: Study barometer
    c. NOKUT: National Teacher Survey
5) Sector-oriented research
    a. RCN: Key figures for research institutes
6) Patient treatments and health care services
    a. Research & Innovation expenditure in the health trusts
    b. Measurement of research and innovation activity in the health trusts
    c. Collaboration between health trusts and HEIs
    d. Funding of research and innovation in the health trusts
    e. Classification of medical and health research using HRCS (HO21 monitor)

Self-assessments

1) Administrative units
    a. *Self-assessment covering all assessment criteria*
    b. Administrative data on funding sources
    c. Administrative data on personnel
    d. Administrative data on the division of staff resources between research and other activities (teaching, dissemination etc.)
    e. Administrative data on research infrastructure and other support structures
    f. SWOT analysis
    g. Any supplementary data needed to assess performance related to the strategic goals and specific tasks of the unit

2) Research groups
    a. *Self-assessment covering the first two assessment criteria (see Table 1)*
    b. Administrative data on funding sources
    c. Administrative data on personnel
    d. Administrative data on contribution to sectoral purposes: teaching, commissioned work, clinical work [will be assessed at committee level]
    e. Publication profiles
    f. Example publications and other research results (databases, software etc.) The examples should be accompanied by an explanation of the groups' specific contributions to the result
    g. Any supplementary data needed to assess performance related to the benchmark defined by the administrative unit

The table below shows how different types of evaluation data may be relevant to different evaluation criteria. Please note that the self-assessment produced by the administrative units in the form of a written account of management, activities, results etc. should cover all criteria. A template for the self-assessment of research groups and administrative units will be commissioned by the RCN from the life sciences secretariat for the evaluation.

Table 1. Types of evaluation data per criterion

Evaluation units / Criteria	Research groups	Administrative units
Strategy, resources and organisation	Self-assessment Administrative data	Self-assessment National registers Administrative data SWOT analysis
Research production and quality	Self-assessment Example publications (and other research results)	Self-assessment National registers
Diversity, equality and integrity		Self-assessment National registers Administrative data
Relevance to institutional and sectoral purposes		Self-assessment Administrative data
Relevance to society		Self-assessment National registers Impact cases
Overall assessment	*Data related to:* *Benchmark defined by administrative unit*	*Data related to:* *Strategic goals and specific tasks of the admin. unit*

Evaluation of Medicine and Health (EVALMEDHELSE) 2023-2024

Self- assessment for administrative units

Date of dispatch: **15 September 2023**
Deadline for submission: **31 January 2024**

Institution (name and short name):_____
Administrative unit (name and short name): _____
Date:_____
Contact person:_____
Contact details (email):_____

Content

Introduction

The primary aim of the evaluation is to reveal and confirm the quality and the relevance of research performed at Norwegian Higher Education Institutions (HEIs), the institute sector and the health trusts. These institutions will henceforth be collectively referred to as research performing organisations (RPOs). The evaluation report(s) will provide a set of recommendations to the RPOs, the Research Council of Norway (RCN) and the responsible and concerned ministries. The results of the evaluation will also be disseminated for the benefit of potential students, users of research and society at large.

You have been invited to complete this self-assessment as an administrative unit. The self-assessment contains questions regarding the unit's research- and innovation related activities and developments over years 2012-2022. All submitted data will be evaluated by international evaluation committees. The administrative unit´s research groups will be assessed by international expert panels who report their assessment to the relevant evaluation committee.

Deadline for submitting self- assessments to the Research Council of Norway – 31 January 2024
As an administrative unit you are responsible for collecting completed self-assessments for each of the research groups that belong to the administrative unit. The research groups need to submit their completed self-assessment to the administrative unit no later than 26 January 2024. The administrative unit will submit the research groups' completed self-assessments and the administrative unit's own completed self-assessment to the Research Council within 31 January 2024.

Please use the following format when naming your document: name of the institution and short name of the administrative unit, e.g. *NTNU_FacMedHealthSci* and send it to evalmedhelse@forskningsradet.no within 31 January 2024.

For questions concerning the self-assessment or EVALMEDHELSE in general, please contact RCN at evalmedhelse@forskningsradet.no.

Thank you!

Guidelines for completing the self-assessment

- Please read the entire self-assessment document before answering.
- The evaluation language is English.
- Please be sure that all documents which are linked to in the self- assessment are in English and are accessible.
- The page format must be A4 with 2 cm margins, single spacing and Calibri and 11-point font.
- The self-assessment follows the same structure as the evaluation protocol. In order to be evaluated on all criteria, the administrative unit must answer all questions.
- Information should be provided by link to webpages i.e. strategy and other planning documents.
  - Provide information – provide documents and other relevant data or figures about the administrative unit, for example strategy and other planning documents.
  - Describe – explain and present using contextual information about the administrative unit and inform the reader about the administrative unit.
  - Reflect – comment in a reflective and evaluative manner how the administrative unit operates.
- Data on personnel should refer to reporting to DBH on 1 October 2022 for HEIs and to the yearly reporting for 2022 for the institute sector and the health trusts. Other data should refer to 31 December 2022, if not specified otherwise.
- Questions in 4.3c should **ONLY** be answered by administrative units responsible for the Cand.med. degree programme, cf. Evaluation of the Professional programme in Medicine (NOKUT).
- It is possible to extend the textboxes when filling in the from. **NB!** A completed self- assessment cannot exceed 50 pages (pdf file) excluding question 4.3.c. The evaluation committees are not requested to read more than the maximum of 50 pages. Pages exceeding maximum limit of 50 pages **might not** be evaluated.
- Submit the self- assessment as a pdf (max 50 pages). Before submission, please be sure that all text are readable after the conversion of the document to pdf. The administrative unit is responsible for submitting the self-assessment of the administrative unit together with the self-assessments of the belonging research group(s) to evalmedhelse@forskningsradet.no within **31 January 2024.**

Please note that information you write in the self- assessment and the links to documents/webpages in the self- assessment are the only available information (data material) for the evaluation committee.

In exceptional cases, documents/publications that are not openly available must be submitted as attachment(s) to the self- assessment (pdf file(s)).

1.Strategy, resources and organisation

1.1 Research strategy

Describe the main strategic goals for research and innovation of the administrative unit. You may include the following:

- How are these goals related to institutional strategies and scientific priorities?
- Describe how the administrative unit's strategies and scientific priorities are related to the "specific aspects that the evaluation committee should focus on" indicated in your Terms of Reference (ToR)
- Describe the main fields and focus of research and innovation in the administrative unit
- Describe the planned research-field impact; planned policy impact and planned societal impact
- Describe how the strategy is followed-up in the allocation of resources and other measures
- Describe the most important occasions where priorities are made (i.e., announcement of new positions, applying for external funding, following up on evaluations)
- If there is no research strategy – please explain why

Table 1. Administrative unit`s strategies

For each category present up to 5 documents which are most relevant for the administrative unit. Please delete lines which are not in use.

Research strategy		
No.	**Title**	**Link**
1		
2		
3		
4		
5		
Outreach strategies		
No.	**Title**	**Link**
1		
2		
3		
4		
5		
Open science policy		
No.	**Title**	**Link**
1		
2		
3		
4		
5		

1.2 Organisation of research

a) Describe the organisation of research and innovation activities/projects at the administrative unit, including how responsibilities for research and other purposes (education, knowledge exchange, patient treatment, researcher training, outreach activities etc.) are distributed and delegated.

b) Describe how you work to maximise synergies between the different purposes of the administrative unit (education, knowledge exchange, patient treatment, researcher training, outreach activities etc.).

1.3 Research staff

Describe the profile of research personnel at the administrative unit in terms of position and gender. Institutions in the higher education sector should use the categories used in DBH, https://dbh.hkdir.no/datainnhold/kodeverk/stillingskoder.

RCN has commissioned reports from Statistics Norway (SSB) on personnel for the administrative units included in the evaluation. These reports will be made available to the units early November 2023.

Only a subset of the administrative units submitted to the evaluation is directly identifiable in the national statistics. Therefore, we ask all administrative units to provide data on their R&D personnel. Institutions that are directly identifiable in the national statistics (mainly higher education) are invited to use the figures provided in the report delivered by Statistics Norway. Please delete lines which are not in use.

Table 2. Research staff

	Position by category	**No. of researcher per category**	**Share of women per category (%)**	**No. of researchers who are part of multiple (other) research groups at the admin unit**	**No. of temporary positions**
No. of Personell by position	Position A (Fill in)				
	Position B (Fill in)				
	Position C (Fill in)				
	Position D (Fill in)				

1.4 Researcher careers opportunities

a) Describe the structures and practices to support researcher careers and help early-career researchers to make their way into the profession.

b) Describe how research time is distributed among staff including criteria for research leave/sabbaticals (forskningstermin/undervisningsfri).

c) Describe research mobility options.

1.5 Research funding

a) Describe the funding sources of the administrative unit. Indicate the administrative unit´s total yearly budget and the share of the unit's budget dedicated to research.

b) Give an overview of the administrative unit's competitive national and/or international grants last five years (2018-2022).

Table 3. R&D funding sources
Please indicate R&D funding sources for the administrative unit for the period 2018-2022 (average NOK per year, last five years).

For Higher Education Institutions: Share of basic grant (grunnbevilgning) used for R&D[1] **For Research Institutes and Health Trusts: Direct R&D funding from Ministries (per ministry)**	
Name of ministry	NOK

National grants (bidragsinntekter) (NOK)	
From the ministries and underlying directorates	
From industry	
From public sector	
Other national grants	
Total National grants	
National contract research (oppdragsinntekter)[2] (NOK)	
From the ministries and underlying directorates	
From industry	

[1] Shares may be calculated based on full time equivalents (FTE) allocated to research compared to total FTE in administrative unit

[2] For research institutes only research activities should be included from section 1.3 in the yearly reporting

From public sector	
Other national contract research	
Total contract research	
International grants (NOK)	
From the European Union	
From industry	
Other international grants	
Total international grants	
Funding related to public management (forvaltningsoppgaver) or (if applicable) funding related to special hospital tasks, if any	
Total funding related to public management/special hospital tasks	
Total all R&D budget items (except basic grant)	

1.6 Collaboration

Describe the administrative unit's policy towards national and international collaboration partners, the type of the collaborations the administrative unit have with the partners, how the collaboration is put to practice as well as cross-sectorial and interdisciplinary collaborations.

- Reflect of how successful the administrative unit has been in meeting its aspirations for collaborations
- Reflect on the importance of different types of collaboration for the administrative unit: National and international collaborations. Collaborations with different sectors, including public, private and third sector
- Reflect on the added value of these collaborations to the administrative unit and Norwegian research system

Table 4a. The main national collaborative constellations with the administrative unit
Please categorise the collaboration according to the most important national partner(s): 5-10 institutions in the period 2012-2022. Please delete lines which are not in use.

National collaborations

Collaboration with national institutions – 1 -10	
Name of main collaboration or collaborative project with the admin unit	
Name of partner institution(s)	
Sector of partner/institution(s)/sectors involved	
Impacts and relevance of the collaboration	

Table 4b. The main international collaborative constellations with the administrative unit
Please categorise the collaboration according to the most important international partner(s): 5-10 international institutions in the period 2012-2022. Please delete lines which are not in use.

International collaborations

Collaboration with international institutions – 1-10	
Name of main collaboration or collaborative project with the admin unit	
Name of partner institution(s)	
Sector of partner/institution(s)/sectors involved	

Impacts and relevance of the collaboration	

1.7 Open science policies

a) Describe the institutional policies, approaches, and activities to the Open Science areas which may include the following:

- Open access to publications
- Open access to research data and implementation of FAIR data principles
- Open-source software/tools
- Open access to educational resources
- Open peer review
- Citizen science and/or involvement of stakeholders / user groups
- Skills and training for Open Science

b) Describe the most important contributions and impact of the administrative unit's researchers towards the different Open Science areas cf. 1.7a above.

c) Describe the institutional policy regarding ownership of research data, data management, and confidentiality. Is the use of data management plans implemented at the administrative unit?

1.8 SWOT analysis for administrative units

Instructions: Please complete a SWOT analysis for your administrative unit. Reflect on what are the major internal Strengths and Weaknesses as well as external Threats and Opportunities for your research and innovation activities/projects and research environment. Assess what the present Strengths enable in the future and what kinds of Threats are related to the Weaknesses. Consider your scientific expertise and achievements, funding, facilities, organisation and management.

Internal	**Strengths**	**Weaknesses**
External	**Opportunities**	**Threats**

2. Research production, quality and integrity

2.1 Research quality and integrity

Please see the bibliometric analysis for the administrative unit developed by NIFU (available by the end of October, 2023).

a) Describe the scientific focus areas of the research conducted at the administrative unit, including the unit's contribution to these areas.

b) Describe the administrative unit's policy for research integrity, including preventative measures when integrity is at risk, or violated.

2.2 Research infrastructures

a) Participation in national infrastructure

Describe the most important participation in the national infrastructures listed in the Norwegian roadmap for research infrastructures (Norsk veikart for forskningsinfrastruktur) including as host institution(s).

Table 5. Participation in national infrastructure

Please present up to 5 participations in the national infrastructures listed in the Norwegian roadmap for research infrastructures (Norsk veikart for forskningsinfrastruktur) for each area that were the most important to your administrative unit.

Areas in roadmap	Name of research infrastructure	Period (from year to year)	Description	Link to website

b) Participation in international infrastructures

Describe the most important participation in the international infrastructures funded by the ministries (Norsk deltakelse i internasjonale forskningsorganisasjoner finansiert av departementene).

Table 6. Participation in international infrastructure

Please describe up to 5 participations in international infrastructures for each area that have been most important to your administrative unit.

Project	Name	Period (from year to year)	Description	Link to infrastructure

c) Participation in European (ESFRI) infrastructures

Describe the most important participation in European (ESFRI) infrastructures (Norske medlemskap i infrastrukturer i ESFRI roadmap) including as host institution(s).

Table 7. Participation in infrastructures on the ESFRI Roadmap
Please give a description of up to 5 participations that have been most important to your administrative unit.

Social sciences and the humanities				
Name	**ESFRI-project**	**Summary of participation**	**Period (from year to year)**	**Link**

d) Access to research infrastructures
Describe access to relevant national and/or international research infrastructures for your researchers. Considering both physical and digital infrastructure.

e) FAIR- principles
Describe what is done at the unit to fulfil the FAIR-principles.

3. Diversity and equality

Describe the policy and practices to protect against any form of discrimination and to promote diversity in the administrative unit.

Table 8. Administrative unit policy against discrimination
Give a description of up to 5 documents that are the most relevant. If the administrative unit uses the strategies, policies, etc. of a larger institution, then these documents should be referred to.
Please delete lines which are not in use.

No.	**Name**	**Valid period**	**Link**
1			

4. Relevance to institutional and sectorial purposes

4.1 Sector specific impact

Describe whether the administrative unit has activities aimed at achieving sector-specific objectives or focusing on contributing to the knowledge base in general. Describe activities connected to sector-specific objectives, the rationale for participation and achieved and/or expected impacts. Please refer to chapter 2.4 in the evaluation protocol.

- Alternatively, describe whether the activities of the administrative unit are aimed at contribution to the knowledge base in general. Describe the rationale for this approach and the impacts of the unit's work to the knowledge base.

4.2 Research innovation and commercialisation

a) Describe the administrative unit's practices for innovation and commercialisation.

b) Describe the motivation among the research staff in doing innovation and commercialisation activities.

c) Describe how innovation and commercialisation is supported at the administrative unit.

Table 9. Policies for innovation including IP policies, new patents, licenses, start-up/spin-off guidelines
Describe up to 5 documents of the administrative unit's policies for innovation, including IP policies, new patents, licenses, start-up/spin-off guidelines, etc., that are the most relevant. If the administrative unit uses the strategies, policies, etc. of a larger institution, then present these documents. Please delete lines which are not in use.

No.	Name	Valid period	Link
1			

Table 10. Administrative description of successful innovation and commercialisation results
Please describe up to 10 successful innovation and commercialisation results at your administrative unit in the period 2012-2022. Please delete lines which are not in use.

No.	Name of innovation and commercial results	Link	Description of successful innovation and commercialisation result.
1			

4.3 Higher education institutions

a) Reflect how research at the administrative unit contributes towards master and PhD-level education provision, at your institutions and beyond.

b) Describe the opportunities for master students to become involved in research activities at the administrative unit.

c) **ONLY** for administrative units responsible for the Cand.med. degree programme, cf. Evaluation of the Professional programme in Medicine (NOKUT).

- Reflect on how research at the administrative unit contributes towards the quality of the Cand.med. degree programme at your institutions and beyond.
- Describe the different opportunities for students on the Cand.med. degree programme to become involved in research activities at the administrative unit, and the extent to which students use those opportunities.

4.4 Research institutes

a) Describe how the research and innovation activities/projects at the administrative unit contribute to the knowledge base for policy development, sustainable development, and societal and industrial transformations more generally.

b) Describe the most important research activities with partners outside of research organisations.

4.5 Health trusts

a) Reflect on how the administrative unit's clinical research, innovation and commercialisation contribute towards development, assessment and implementation of new diagnostic methods, treatment, and healthcare technologies.

b) Reflect on how research at the unit contributes towards the quality of relevant education programme at your institutions or beyond.

c) Describe the different opportunities for students on relevant educational programmes to become involved in research activities at the administrative unit, and the extent to which students use those opportunities.

5. Relevance to society

Reflect on the administrative unit's contribution towards the Norwegian Long-term plan for research and higher education, societal challenges more widely, and the UN Sustainable Development Goals.

5.1 Impact cases

Please use the attached template for impact cases. Each impact case should be submitted as an attachment (pdf) to the self-assessment.

Impact case guidelines

Each case study should include sufficiently clear and detailed information to enable the evaluation committee to make judgements based on the information it contains, without making inferences, gathering additional material, following up references or relying on members' prior knowledge. References to other sources of information will be used for verification purposes only, not as a means for the evaluation committee to gather further information to inform judgements.

In this evaluation, impact is defined as an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia.

Timeframes

- The impact must have occurred between 2012 and 2022
- Some of the underpinning research should have been published in 2012 or later
- The administrative units are encouraged to prioritise recent cases

Page limit

Each completed case study template will be limited to **five pages** in length. Within the annotated template below, indicative guidance is provided about the expected maximum length limit of each section, but institutions will have flexibility to exceed these so long as the case study as a whole remains no longer than **five pages** (font Calibri, font size 11). Please write the text into the framed template under the sections 1–5 below. The guiding text that stands there now, can be deleted.

Maximum number of cases permitted per administrative unit

For up to 10 researchers: one case; for 10 to 30 researchers: two cases; for 30-50 researchers: three cases; for 50-100 researchers: four cases, and up to five cases for units exceeding 100 researchers.

Naming and numbering of cases

Please use the standardised short name for the administrative unit, and the case number for the unit (1,2,3, etc) in the headline of the case. Each case should be stored as a separate PDF-document with the file name: [Name of the institution and name of the administrative unit] [case number]

Publication of cases

RCN plans to publish all impact cases in a separate evaluation report. By submitting the case the head of the administrative units consents to the publication of the case. Please indicate below if a case may not be made public for reasons of confidentiality.

If relevant, describe any reason to keep this case confidential:

Please write the text here

[Name of the institution and name of the administrative unit] [case number]

Institution:
Administrative unit:
Title of case study:
Period when the underpinning research was undertaken:
Period when staff involved in the underpinning research were employed by the submitting institution:
Period when the impact occurred:

1. Summary of the impact (indicative maximum 100 words)
This section should briefly state what specific impact is being described in the case study.

2. Underpinning research (indicative maximum 500 words)
This section should outline the key research insights or findings that underpinned the impact, and provide details of what research was undertaken, when, and by whom. This research may be a body of work produced over a number of years or may be the output(s) of a particular project. References to specific research outputs that embody the research described in this section, and evidence of its quality, should be provided in the next section. Details of the following should be provided in this section:

- The nature of the research insights or findings which relate to the impact claimed in the case study.
- An outline of what the underpinning research produced by the submitted unit was (this may relate to one or more research outputs, projects or programmes).
- Dates of when it was carried out.
- Names of the key researchers and what positions they held at the administrative unit at the time of the research (where researchers joined or left the administrative unit during this time, these dates must also be stated).
- Any relevant key contextual information about this area of research.

3. References to the research (indicative maximum of six references)
This section should provide references to key outputs from the research described in the previous section, and evidence about the quality of the research. All forms of output cited as underpinning research will be considered equitably, with no distinction being made between the types of output referenced. Include the following details for each cited output:
- Author(s)
- Title
- Year of publication
- Type of output and other relevant details required to identify the output (for example, DOI, journal title and issue)
- Details to enable the panel to gain access to the output, if required (for example, a DOI or URL).

All outputs cited in this section must be capable of being made available to panels. If they are not available in the public domain, the administrative unit must be able to provide them if requested by RCN or the evaluation secretariate.

4. Details of the impact (indicative maximum 750 words)
This section should provide a narrative, with supporting evidence, to explain:

- How the research underpinned (made a distinct and material contribution to) the impact;
- The nature and extent of the impact.

The following should be provided:
- A clear explanation of the process or means through which the research led to, underpinned or made a contribution to the impact (for example, how it was disseminated, how it came to influence users or beneficiaries, or how it came to be exploited, taken up or applied).

- Where the submitted administrative unit's research was part of a wider body of research that contributed to the impact (for example, where there has been research collaboration with other institutions), the case study should specify the particular contribution of the submitted administrative unit's research and acknowledge other key research contributions.
- Details of the beneficiaries – who or what community, constituency or organisation has benefitted, been affected or impacted on.
- Details of the nature of the impact – how they have benefitted, been affected or impacted on.
- Evidence or indicators of the extent of the impact described, as appropriate to the case being made.
- Dates of when these impacts occurred.

5. Sources to corroborate the impact (indicative maximum of ten references)

Institution	Administrative unit	Name of research group	Expert panel
Oslo University Hospital	Division of Laboratory Medicine	Department of Forensic Sciences (RMF)	Panel 1b
Oslo University Hospital	Division of Laboratory Medicine	Department of Immunology (IMM)	Panel 2a
Oslo University Hospital	Division of Laboratory Medicine	Department of Medical Biochemistry (MBK)	Panel 2b
Oslo University Hospital	Division of Laboratory Medicine	Department of Medical Genetics (AMG)	Panel 2c
Oslo University Hospital	Division of Laboratory Medicine	Department of Microbiology (MIK)	Panel 2a
Oslo University Hospital	Division of Laboratory Medicine	Department of Pathology (PAT)	Panel 2b
Oslo University Hospital	Division of Laboratory Medicine	Department of Pharmacology (FAR)	Panel 1b

Scales for research group assessment

Use whole integers only – no fractions!

Organisational dimension

Score	Organisational environment
5	An organisational environment that is outstanding for supporting the production of excellent research.
4	An organisational environment that is very strong for supporting the production of excellent research.
3	An organisational environment that is adequate for supporting the production of excellent research.
2	An organisational environment that is modest for supporting the production of excellent research.
1	An organisational environment that is not supportive for the production of excellent research.

Quality dimension

The quality dimension consists of two judgements: 1) Research and publication quality, and 2) Research group's contribution. The first judgement is defined as follows:

Score	Research and publication quality	Supporting explanation
5	Quality that is outstanding in terms of originality, significance, and rigour.	**The quality of the research is world leadin**g in terms of quality, and is comparable to the best work internationally in the same area of research. The publications submitted provide evidence that the work of the group meets the highest international standards in terms of originality, significance, and rigour. Work at this level should be a key international reference in its area.
4	Quality that is internationally excellent in terms of originality, significance and rigour but which falls short of the highest standards of excellence.	**The quality of the research is internationally excellent**. The research is clearly of an international standard, with a very good level of quality in terms of originality, significance, and rigour. Work at this level can arouse significant interest in the international academic community, and international journals with the most rigorous standards of publication (irrespective of the place or language of publication) could publish work of this level.
3	Quality that is recognised internationally in terms of originality, significance and rigour.	**The quality of the research is sufficient to achieve some international recognition.** It would be perceived nationally as strong and may occasionally reach an internationally recognised level in terms of originality, significance and rigour. Internationally recognised journals could publish some work of this level.
2	Quality that meets the published definition of research for the purposes of this assessment.	The international academic community would deem the research to be nationally acceptable, but below world standards. Legitimate nationally recognised peer-reviewed journals could publish work of this level.
1	Quality that falls below the published definition of research for the purposes of this assessment[1].	**The quality of the research** is well below international level, and is unpublishable in legitimate peer-reviewed research journals.

[1] A publication has to meet all of the criteria below:

Societal impact dimension

The societal impact dimension is also composed of two judgements, defined as presented in the table below.

Score	Research group's societal contribution, taking into consideration the resources available to the group	Score	User involvement
5	The group has contributed extensively to economic, societal and/or cultural development in Norway and/or internationally.	5	Societal partner involvement is outstanding – partners have had an important role in all parts of the research process, from problem formulation to the publication and/or process or product innovation.
4	The group's contribution to economic, societal and/or cultural development in Norway and/or internationally is very considerable given what is expected from groups in the same research field.	4	Societal partners have very considerable involvement in all parts of the research process, from problem formulation to the publication and/or process or product innovation.
3	The group's contribution to economic, societal and/or cultural development in Norway and/or internationally is on par with what is expected from groups in the same research field.	3	Societal partners have considerable involvement in the research process, from problem formulation to the publication and/or process or product innovation.
2	The group's contribution to economic, societal and/or cultural development in Norway and/or internationally is modest given what is expected from groups in the same research field.	2	Societal partners have a modest part in the research process, from problem formulation to the publication and/or process or product innovation.
1	There is little documentation of contributions from the group to economic, societal and/or cultural development in Norway and/or internationally.	1	There is little documentation of societal partners' participation in the research process, from problem formulation to the publication and/or process or product innovation.

Methods and limitations

Methods

The evaluation is based on documentary evidence and online interviews with the representatives of Administrative Unit.

The documentary inputs to the evaluation were:

- Evaluation Protocol Evaluation of life sciences in Norway 2022-2023
- Administrative Unit´s Terms of Reference
- Administrative Unit's self-assessment report
- Administrative Unit's impact cases
- Administrative Unit's research groups evaluation reports
- Panel reports from the Expert panels
- Bibliometric data (*NIFU Nordic Institute for Studies of innovation, research and education*)
- Personnel data (*Statistics Norway (SSB)*)
- Funding data – The Research Council´s contribution to biosciences research (*RCN*)
- Extract from the Survey for academic staff and the Student Survey (*Norwegian Agency for Quality Assurance in Education (NOKUT)*)

After the documentary review, the Committee held a meeting and discussed an initial assessment against the assessment criteria and defined questions for the interview with the Administrative Unit. The Committee shared the interview questions with the Administrative Unit two weeks before the interview.

Following the documentary review, the Committee interviewed the Administrative Unit in an hour-long virtual meeting to fact-check the Committee's understanding and refine perceptions. The Administrative Unit presented answers to the Committee's questions and addressed other follow-up questions.

After the online interview, the Committee attended the final meeting to review the initial assessment in light of the interview and make any final adjustments.

A one-page summary of the Administrative Unit was developed based on the information from the self-assessment, the research group assessment, and the interview. The Administrative Unit had the opportunity to fact-check this summary. The Administrative Unit approved the summary without adjustments. ***(Adjust the text if the AU asked for corrections. Include the AU request and explain what adjustments were made).***

Limitations

(Choose one of the three options below and delete the others. Feel free to elaborate slightly if necessary. For example, if you choose option 3, explain the missing information. Note that the Committee can provide detailed feedback and suggestions on improving the evaluation in the Memorandum to the RCN. This section has to remain concise and only summarise whether the information was or was not sufficient.)

(1) The Committee judged the information received through documentary inputs and the interview with the Administrative Unit sufficient to complete the evaluation.

(2) The Committee judged that the Administrative Unit self-assessment report was insufficient to assess all evaluation criteria fully. However, the interview with the Administrative Unit filled gaps in the Committee's understanding, and the information was sufficient to complete the evaluation.
(3) The Committee judged that the Administrative Unit’s self-assessment report was insufficient to assess all evaluation criteria fully, and some information gaps remained after the interview with the Administrative Unit.

Forskningsrådet

Norges forskningsråd
Besøksadresse: Drammensveien 288
Postboks 564
1327 Lysaker

Telefon: 22 03 70 00
Telefaks: 22 03 70 01

post@forskningsradet.no
www.forskningsradet.no

Publikasjonen kan lastes ned fra
www.forskningsradet.no/publikasjoner

Design: [design]
Foto/ill. omslagsside: [fotokreditt]

ISBN 978-82-12-04079-3 (pdf)