Forskningsrådet

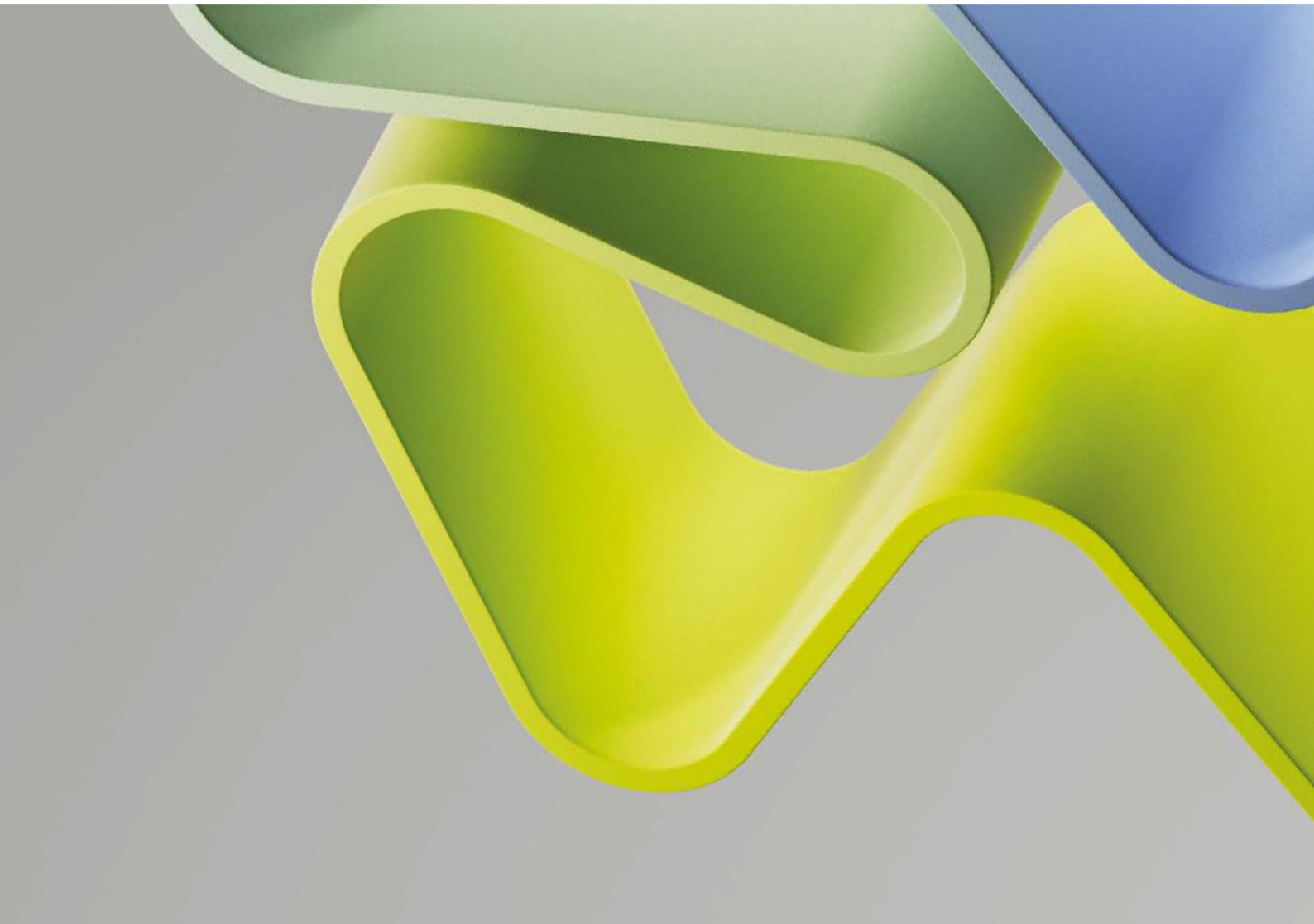
Evaluation of Life Sciences 2022-2024

Evaluation of medicine and health 2023-2024

Evaluation report

ADMIN UNIT: Department of Clinical Science II
INSTITUTION: University of Bergen (UiB)

December 2024



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Statement from Evaluation Committee Higher Education Institutions 3

This report is from Evaluation Committee Higher Education Institutions 3 which evaluated the following administrative units representing the higher education sector in the Evaluation of medicine and health 2023-2024:

- Department of Clinical medicine, UiT Arctic University of Norway
- Department of Pharmacy, UiT Arctic University of Norway
- Department of Biomedicine, University of Bergen (UiB)
- Department of Clinical Science I, University of Bergen (UiB)
- Department of Clinical Science II, University of Bergen (UiB)
- Department of Pharmacy, University of Oslo (UiO)
- Institute of Basic Medical Sciences, University of Oslo (UiO)
- Centre for Molecular Medicine Norway (NCMM), University of Oslo (UiO)

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 Higher Education Institutions 3. All members of the committee agree with the assessments, conclusions and recommendations presented here.

Evaluation Committee Higher Education Institutions 3 consisted of the following members:

Professor Søren Brunak (Chair)

Novo Nordisk Foundation Center for Protein Research, University of Copenhagen

Professor Jouni Hirvonen

University of Helsinki

Professor Ruth Palmer

University of Gothenburg

Professor Lea Sistonen

Åbo Akademi University

Associate Professor Simona Lodato

Humanitas University

Professor Ron Heeren

Maastricht University / Maastricht Multimodal Molecular Imaging Institute

Anoushka Dave, Technopolis Group, was the Committee Secretary.

Oslo, December 2024

Profile of the administrative unit

The Department of Clinical Science (K2) has 16 research groups. The research groups are located in different university and hospital buildings across the Haukeland campus. Group members are also based in Stavanger, Haugesund and Førde. All researchers are part of at least one research group. In addition, teaching staff is organised in teaching groups (17 in total). The administrative unit consists of 245 researchers, including 80 professors, 52 associate professors, and 55 PhD fellows, among others. Many of the professors and associate professors are employed in part-time positions, and in addition to the 55 PhD fellows employed by the university, several PhD fellows employed by the university hospital are enrolled in the PhD programme at the department. Women are the majority in all positions, except for professors.

K2 is comprised of 16 research groups, of which nine have been included in the evaluation: Pharmacology and pharmaceutics group, Paediatric Follow-up Group, Precision Oncology Group, Oncology, Bergen respiratory research group, Mohn Centre for diabetes precision medicine, Research group for infection and microbiology, Broegelmann Research Laboratory (BRL) and Endocrine Medicine.

K2's current research strategy covers the period 2021-24 and contributes to the thematic area of health in the Norwegian long-term plan for research and higher education, and the UN's Sustainable Development Goals. It aims to provide high quality and accessibility in research and higher education, ensure healthy lives, promote well-being for all at all ages, deliver quality education, and reduce inequalities. K2 conducts research, expert guidance, and teaching at a high international level to achieve the faculty's vision "new knowledge for better health". The administrative unit's researchers focus on curiosity-driven, high-impact international research on common and rare diseases which requires advanced and expensive infrastructure, state-of-the-art methods, and specialised expertise. An important research output is high-impact publications.

K2 supports and encourages collaboration both at local, national, and international level, and its goal is to increase and improve collaboration across all levels. K2 researchers collaborate with world-leading institutions, enabling both junior and senior staff to undertake stays abroad and engage in joint proposals and projects, which in turn facilitates publications in high-profile journals. In Norway, K2 researchers collaborate with other parts of the University of Bergen (UiB) and Haukeland University Hospital. Outside Bergen, their most important national collaborators are Oslo University Hospital, University of Oslo, Helse Stavanger/Stavanger University Hospital, Norwegian Institute of Public Health and the Norwegian University of Science and Technology (NTNU). Furthermore, K2 maintains extensive partnerships with leading Nordic and international universities and collaborates with the pharma industry and private companies.

According to the self-assessment, in the future, the administrative unit may take more advantage of its state-of-the-art research infrastructure, core facilities, biomedical informatics, highly skilled staff, societally relevant research, extensive national and international collaborations, and student integration. The administrative unit may also benefit from having reasonably stable basic funding, a closely integrated laboratory and clinic, and co-location that fosters close collaboration. The administrative unit faces several challenges, including limited funding, heavy teaching loads, and a lack of full-time researchers with medical background. However, there are opportunities for growth through national and international collaborations, advancements in artificial intelligence (AI), and increased focus on personalised medicine. Improving online visibility and fostering innovation could also enhance its prospects.

Overall evaluation

Department of Clinical Science II (K2) is a large and well-established administrative unit, conducting translational and clinical research and teaching at the Faculty of Medicine, University of Bergen (UiB). Their research and educational activities are closely related with the clinicians at Haukeland University Hospital, which is instrumental for the collaborative projects requiring access to patient material, clinical data, clinical trial units, biobanks among other hospital infrastructure. Their vision is described as “new knowledge for better health”, and the research projects are curiosity driven with an aim to reach the highest possible international level. The medical fields covered by this administrative unit are many and include endocrinology, infectious and immunological diseases, oncology as well as cardiology and cardiovascular diseases. The teaching duties of the administrative unit are broad in medicine and pharmacy, odontology, dental hygienist and nutrition, and the staff is responsible for medical doctor education in Western Norway, partly at hospitals outside Bergen, i.e. Stavanger, Haugesund and Forde. This decentralised education model brings logistic challenges to the researchers and clinicians but also expands the access to patient material and clinical data.

The administrative unit hosts two research schools, Research School of Clinical Medical Research and Bergen Research School in Inflammation, and they also run four core facilities for providing services in Genomics, Flow Cytometry, Metabolomics and Health Surveys.

The evaluation committee considered the Terms of Reference, self-assessment, and an oral interview provided by the administrative unit, together with background documents provided by the Research Council of Norway (RCN) and research group evaluation reports in evaluating the Department of Pharmacy. As per the Terms of Reference, the committee has made a qualitative assessment of K2 as a whole and offered recommendations on future strategy considering available resources and competence.

Both the research and teaching activities have been of high international standard and visibility, which has attracted researchers in basic science and clinicians to successfully collaborate on the well-defined expert areas within this administrative unit.

During the current research strategy period of 2021-2024, the administrative unit has been very successful in publishing in top international journals and raising competitive external funding from national and international sources. To maintain the high-level performance in research and teaching activities, it is important to secure investments for the recruitment and retention of staff as well as the development and maintenance of state-of-the-art infrastructure.

Public outreach and societal impact of the administrative unit are already well taken care of but could be further increased and developed according to the needs of the society undergoing changes in the educational and health care sectors in Norway.

Recommendations

To ensure a positive continuation and further development of the administrative unit, the leaders of the administrative unit, together with the department and university officials should carefully consider the main concerns and threats raised in the SWOT analysis. Particular focus should be given to recruiting early-career scientists from outside Norway and in broadening the scope of collaborative initiatives beyond academia. The committee recommends developing a leadership programme in which junior and senior staff jointly take on leadership of different organisational tasks. This could also improve the gender balance within the professor category.

In terms of development of a long-term funding strategy for research infrastructure in close collaboration with faculty and other administrative units, it would be important to explore opportunities for new shared technology platforms.

More emphasis on (international) talent-based personal funding schemes is warranted and a support structure for ERC applicants should be established where candidates who are ranked at the top level but do not get funded are recognised and rewarded, thereby helping to further their careers.

1. Strategy, resources and organisation of research

1.1 Research strategy

The Department of Clinical Science II (K2) is one of five departments at the Faculty of Medicine, University of Bergen (UiB). This administrative unit comprises 16 research groups that are involved in clinical and translational research in close collaboration with clinicians, especially at Haukeland University Hospital. The administrative unit was established in 2013 as the result of reorganisation of the Faculty of Medicine, forming the Department of Clinical Science I (K1) and the Department of Clinical Science II (K2). Although both departments teach clinical disciplines, they have distinct educational responsibilities and research topics.

The Department of Clinical Science II follows the strategy of the Faculty of Medicine (Strategy 2023–2030) which has four main aims: 1) To host powerful and robust research environments, 2) To obtain solid financing, 3) To serve as attractive research partners, and 4) To stimulate students to become research-active. The administrative unit lists in alphabetical order 15 different medical specialities that are covered by the researchers and their teaching curricula: 1) Cardiology, 2) Endocrinology and Endocrine Surgery, 3) Geriatrics, 4) Gynaecology and Obstetrics, 5) Haematology, 6) Immunology, 7) Infectious Medicine and Microbiology, 8) Medical Biochemistry, 9) Medical Genetics, 10) Oncology, 11) Paediatrics, 12) Pharmacy and Pharmacology, 13) Respiratory Medicine, 14) Rheumatology, and 15) Thorax and Cardiovascular Surgery. The researchers are engaged in research on a broad variety of common and rare diseases, and they aim at reaching the highest international level within many of their research areas, especially childhood diabetes and other endocrinological disease, preparedness for pandemics and other emerging threats, heart disease in women, and oncology. The ambitious and successful research performance within the administrative unit is evident from their high-quality publications and competitive external funding sources, including European Research Council and other EU programmes as well as projects funded by NIH and the Wellcome Trust. This has resulted in establishing a highly modern research environment of advanced infrastructure and expert networks, which in turn enables employment of state-of-the-art methods and technologies.

The vision of the research teaching activities of the administrative unit is “new knowledge for better health”. The administrative unit has two research schools: Research School of Clinical Medical Research and Bergen Research School of Inflammation. In addition to these local research schools, the administrative unit is a founding member of the National Graduate School in Infection Biology and Antimicrobials funded by the RCN. The teaching curriculum of the administrative unit covers education of medical doctors, master’s degree students, and PhD trainees in medicine and pharmacy. It is notable that they teach in the decentralised medical doctor education courses at affiliated hospitals in Western Norway, such as hospitals in Stavanger, Haugesund and Forde. This intimate relationship between teaching and research activities expands the repertoire of the patient samples and epidemiological data well beyond the Bergen area, thereby facilitating clinical and translational studies within their expert research fields.

The main societal impact of the administrative unit is 1) to provide both disciplinary and interdisciplinary education for health professionals, 2) to perform innovative curiosity-driven research for understanding the mechanisms of common and rare diseases as well as for developing future diagnostics and therapies, and 3) to disseminate new knowledge to the society. Specifically, the relevance to society is highlighted by their research approaches to provide evidence-based strategies for preventing, detecting and treating diseases, which is key for improved healthcare and reduced burden on the society in general.

The committee's evaluation
The Department of Clinical Science II is a translational research administrative unit where the research is intimately linked to the clinical work. This requires an extensive teaching portfolio and clinical duties, which in turn is the reason why medical doctors and pharmacists have joint positions (mostly 20% full-time equivalent with K2) with affiliated hospitals in the Bergen region and elsewhere in Western Norway. The combination of laboratory-based translational research approaches with the clinical expertise of the administrative unit is a strong asset for the researchers in their efforts to improve both diagnostics and treatment strategies for common and rare diseases. The research strategy has strongly benefited from several large and longitudinal diabetes and cardiovascular registries based in Bergen. These are a few examples of unique patient samples and databases that could be used for even more versatile analyses in future. However, intensive curiosity-driven biomedical research at the highest international level is increasingly competitive and rapidly developing, which requires considerable investments from human and material resources, including advanced infrastructure. Considering the limited funding, especially for basic research, and recruitment policies that are described as complicated and time-consuming administrative processes, the administrative unit is facing severe challenges to maintain and further develop its performance in the future.

The committee’s recommendations
Both the research and teaching activities have been of high international standard and visibility, which has attracted researchers in basic science and clinicians to successfully collaborate on the well-defined expert areas within this administrative unit. To ensure positive continuation and further development of the administrative unit, the committee recommends the leaders of the administrative unit, together with the department and university officials, to carefully consider and take strong measures to address the main concerns and threats raised in the SWOT analysis.

1.2 Organisation of research
The Department of Clinical Science II comprises 16 research groups that are involved in clinical, translational, and basic research in close collaboration with clinicians. According to the transdisciplinary nature of their activities, the research groups are distributed in several university and hospital buildings across the Haukeland campus of UiB, and they also operate outside the Bergen area at hospitals in Stavanger, Haugesund and Forde. In addition to the transdisciplinary research groups, the 17 teaching groups represent classical specialities in medicine and pharmacy, covering 15 specialities as listed in section 1.1.

The profile of research personnel at the administrative unit includes 30 full-time professors (29 full-time professors and 1 full-time associate professor) as well as 70 part-time professors (29 professors with 50-80% positions and 41 professors with 10-30% positions). Currently, the gender balance is not optimal, since only 30% of the professors are female, but the situation may improve given that 56% of the 52 associate professors are female. There seems to be no category of assistant professors in the administrative unit. It is also notable that both professors and associate professors divide their time approximately 50:50 between their teaching and research activities. Although the teaching load is considerable, the recruitment criteria for professors and associate professors are mainly based on research merits, which increases the pressure for advancement of associate professors and successful funding possibilities for all researchers within the professor category of this administrative unit. The administrative unit hosts a number of early-career researchers, including 23 postdoctoral fellows and more than 100 PhD trainees in addition to the PhD fellows employed at the university hospital, and approximately 40 PhDs graduate annually at the administrative unit.

The administrative unit participates in the UiB initiatives for researcher career opportunities and competence development through a career centre for early-stage researchers and the Momentum Career Development Programme. The early-career researchers employed by the Faculty of Medicine are obligated to participate in some teaching, supervision and/or administrative tasks. Academic staff are entitled to take a 1-year sabbatical leave after 6 years of service (3 years for female associate professors), and annually 2-3 professors are on research leave supported by UiB. The Faculty of Medicine provides mobility grants for laboratory visits of early-career researchers abroad.

Due to their diverse repertoire of research topics, the researchers belong to several regional or national thematic centres, and the administrative unit hosts four core facilities: 1) Genomics Core Facility, 2) Flow Cytometry Core Facility, 3) Metabolomics Core Facility, and 4) Research Administrative unit for Health Surveys. There are also other core facilities at the Faculty of Medicine, the services of which are available for the researchers of this administrative unit. All these services are of outmost importance for conducting and further developing the high-impact research within this administrative unit.

The administrative unit enrols the technical staff of 50 persons of which nine are involved in the core facilities listed above and ten belong to the administrative staff.

The committee's evaluation
The organisation is partly based on the seemingly random division between K1 and K2 which results in the lack of a recognisable identity for the administrative unit. The academic career opportunities and their attractiveness would benefit from an increased diversity in academic roles and closer interaction between staff members in different stages of their careers. This could for example be used to coach and stimulate junior researchers and associate professors towards a quicker transition to leadership roles.

The committee’s recommendations
The committee recommends developing a leadership programme in which junior and senior staff jointly take on leadership of different organisational tasks. This could also improve the gender balance within the professor category.

1.3 Research funding

The overall annual budget for the Department of Clinical Science II is 223 MNOK of which approximately 170 MNOK is allocated to research. Basic funding comes from the Ministry of Education and Research and totalled 111,6 MNOK in 2022, i.e. approximately 50% of the total budget. External funding from various national and international sources contributed 111,4 MNOK in 2022. A great majority (approximately 90%) of the external grants are awarded by national funding sources, including RCN, Cancer Society, Childhood Cancer Society and several private foundations. The most important international funding sources (approximately 9%) are EU (ERC), NIH, Gates, NNF. A minor funding source is commercial companies.

The basic funding covers the salaries of the permanent staff and the costs associated with teaching as well as some running costs. It is noteworthy that the basic funding has decreased since 2019. This is alarming when considering that the basic funding does not cover research infrastructure which is an increasingly important part of the research activities of the administrative unit. Furthermore, rental costs for office and laboratory space are partly covered by the Faculty of Medicine and partly by the administrative unit.

The committee's evaluation

Although the committee acknowledges that the administrative unit has been well funded, the external funding level is relatively high and the basic funding has been quite stable, there is space for improvement. The funding of important infrastructures lacks a structural component to make it sustainable for the future and is largely dependent on external funding sources. This generates a potential threat to the sustainability of the infrastructure administered and maintained by the administrative unit. Attempts should be made to increase external funding from private enterprises and companies, both national and international.

The committee's recommendations
The committee recommends developing a more sustainable long-term funding strategy for the research infrastructure in close collaboration with the faculty and other administrative units.

Explore opportunities for an increase in shared technology platforms.

More emphasis on (international) talent-based personal funding schemes is warranted and the support structure for ERC applicants should include recognising and rewarding candidates that achieve high ranking for their proposals but do not get funded.

1.4 Use of infrastructures

The Department of Clinical Science II hosts four core facilities: 1) Genomics Core Facility, 2) Flow Cytometry Core Facility, 3) Metabolomics Core Facility, and 4) Research Unit for Health Surveys. The Genomics Core Facility and provides high-throughput genomic services on genome structure, dynamics and function (Illumina NGS) and is a partner in the Norwegian Consortium for Sequencing and Personalized Medicine. The administrative unit manages the Molecular Imaging Centre that belongs to the Norwegian Molecular Imaging Infrastructure. The administrative unit also participates in two national infrastructures: Biobank Norway (Biobanking of clinical samples) and NorCRIN (Norwegian clinical research infrastructure network).

The administrative unit actively participates in several international infrastructures of European platforms (ERICs), including BBMRI (Biobanking), EATRIS (Translational medicine), and ELIXIR (Biological data and methods).

The committee's evaluation
The Genomics and imaging infrastructures contribute to the outstanding research output of the administrative unit. There are also other core facilities at the Faculty of Medicine, the services of which are available for the researchers of this administrative unit. All these services are of outmost importance for conducting and further developing high-impact research within this administrative unit.

The existing infrastructure and core technology platforms have challenges in terms of obtaining future proof funding and keeping the technological advantage the region needs.

The committee's recommendations
The committee strongly recommends a long-term strategy to further invest in infrastructural innovation programmes, including upgrading and maintenance of the equipment of the current core facilities and especially taking care of the training of the operative staff.

1.5 Collaboration

Like all active research administrative units conducting modern medical and biomedical research, the Department of Clinical Science II encourages collaborations at local, regional, national, and international level. Their strategy is also to increase and improve collaborative projects across all these categories. In the self-assessment, the collaborations with four top-level medical universities in UK are highlighted: University of Cambridge, University of Oxford, University College London, and Imperial College London. In addition, several major collaborations in other Nordic universities are listed, such as Karolinska Institutet and Uppsala University in Sweden, Rigshospitalet in Denmark, and University of Helsinki in Finland. Finally, it is worth noting that researchers in this administrative unit have long-term collaborations going on in the US, including Harvard Medical School, MIT, and Stanford University. All these collaborations have been instrumental and resulted in a myriad of high-impact publications, and they have also contributed to successful grant applications from external funding sources.

In Norway, the main collaborators are found with other administrative units of UiB and Haukeland University Hospital as well as the universities and university hospitals in Oslo and Stavanger.

The committee's evaluation

The administrative unit exhibits an impressive collaborative record, both qualitative and quantitative, with national and international partners, resulting in outstanding research output that reflects the multi- and interdisciplinary nature of the research fields represented in the administrative unit. The mix of national and international collaborations provide a healthy basis for the development of high-quality research. Collaborations with private companies seem to be underdeveloped and could be strengthened to further increase the scientific impact, both inside and outside academia.

The committee’s recommendations

The committee acknowledges the high value of the long-term and broad collaboration that has been and continues to be the key for the successful research performance of the administrative unit. A similar performance is highly recommended for the future.

Develop a departmental strategy to increase collaborations with industry and other (international) private partners ideally in medical technologies. If this is more centrally driven it could increase the size and impact of the collaborations.

The Norwegian language requirement for these types of collaborations should ideally be dropped as that seems counterproductive.

1.6 Research staff

The research staff consists of 30 full-time professors (29 full-time professors and 1 full-time associate professor) as well as 70 part-time professors (29 professors with 50-80% positions and 41 professors with 10-30% positions). No category of assistant professors is indicated. Both professors and associate professors divide their time approximately 50:50 between their teaching and research activities. The administrative unit hosts 23 postdoctoral fellows and more than 100 PhD trainees in addition to the PhD fellows employed at the university hospital, and annually approximately 40 PhDs are produced. In addition to the research staff, the administrative unit enrols a technical staff of 50 persons of which nine are involved in the core facilities and ten are administrative staff.

The committee's evaluation
The ratio of early-career researchers to professors and associate professors at the administrative unit seems appropriate and ensures efficient supervision capacity. However, the teaching load is heavy on some academic staff, which limits their time to be devoted to research and supervision. The gender distribution up to the professor category seems to be in line with the national average in medical research but the number of female professors is low and should be increased in future.

The committee's recommendations
The committee recommends the administrative unit to further develop a fellowship programme for early-career researchers to be trained in excellent research groups abroad where they can fully focus on their research projects free from teaching or administrative duties. In addition, a proactive programme for gender diversity in leadership positions could be initiated. This is an important point to be improved when the recruitment policy is revisited and possibly revised.

1.7 Open Science

The University of Bergen (UiB) has an Open Science policy that is based on the guidelines from EU, RCN and Norwegian government. Accordingly, the research and research processes are to be "as open as possible and as closed as necessary". The administrative unit follows guidelines of the Data Protection Officer at UiB to perform the data management so that the data protection and privacy issues are appropriately controlled and in accordance with FAIR- principles.

Researchers are encouraged to publish in Open Access (OA) journals whenever possible and they are trained by the UiB Library on OA publication and research data. The library also has some funding for publication fees in OA journals. Manuscripts submitted since December 2022 are available in Bergen Open Research Archive (BORA).

The committee's evaluation
The administrative unit has optimally developed their OA policies and the share of their Gold OA publications has increased from 27% to 50% during 2013-2022. The share is likely to increase in future. However, as pointed out in the self-assessment, high-quality OA journals are not always available in all research fields covered by the researchers in this administrative unit. This is a major concern and requires a change in scientific publishing policies, which is an issue well beyond this specific administrative unit.

The committee's recommendations
The committee recommends expansion of the open science and OA publication policy where and when applicable.

2. Research production, quality and integrity

According to the committee, the quality of the research conducted within the administrative unit is internationally excellent, both in quality and quantity. However, the repertoire of research fields covered by the administrative unit is very diverse, ranging from cardiology and respiratory systems to endocrinology, pharmacology as well as toxicology, which at least partly explains why the scientific contributions are not uniform. The administrative unit has set clear research goals, and ambitious but realistic metric-based benchmarks. The panel acknowledges that the administrative unit has been very successful with recruiting skilled researchers and that the external funding level has been high. A major challenge for the forthcoming years is to secure the funding level, especially when the basic funding seems to be declining in Norway. The recruitment policy for internationally renowned research staff is another threat for the continued success of the administrative unit. Nevertheless, the administrative unit expresses an ambition to maintain and grow their research funding, output and impact. To this end, the administrative unit would greatly benefit from participating in, or leading on, more extensive national and international research collaborations, involving many European state-of-the-art infrastructure platforms.

2.1 Research quality and integrity

This section presents the overall assessment of each research group that the administrative unit has entered in the evaluation. Each overall assessment has been written by one of the 18 expert panels that were responsible for evaluating the research groups entered in EVALMEDHELSE. The evaluation committee had no involvement in the evaluation of the research group(s).

Research group: Bergen respiratory research group (G7)

Strengths of the Bergen Respiratory Research Group are their clear strategy and appropriate benchmarks, the good funding portfolio – a good mix of public and private funding and the fact that funding has increased significantly (by 50%) over the last 5 years. The research group also has good national and international links, provides a good contribution to education and has excellent quality outputs that are nationally leading and internationally competitive. Finally, the group has played a role in national guidelines, shows clear evidence of disciplined leadership and is a leading respiratory group nationally. Weaknesses relate to the fact that there is no statement on whether the benchmarks are reached, over half of the income is from the host institutions and there is no mention of public and patient outreach in the self- assessment. There is also a lack of evidence of patient involvement in research design and conduct (co-creation). Staff and PhD students have high clinical loads which restricts research activity, and the research group is geographically spread.

Research group: Broegelmann Research Laboratory (BRL)

The level of research of the Broegelmann Research Laboratory is of the highest quality, given the size of the group and its financial resources. Unfortunately, the report lacks clear information on many aspects. This makes it difficult to judge the number of outcomes, and resources. This is a clear shortcoming of the group’s self-assessment.

Research group: Centre for Pharmacy (Pharmacology and pharmaceutics group)

The Centre for Pharmacy is a central focus point at UoB for pharmacological research at the border between medical and pharmaceutical science. This is a very good central and bridging position, which could be further strengthened in the coming years. The research output is at a high national and international level but will be even higher after reorganisation of the group. The group could focus more on the clinical pharmacology or pharmacokinetics, while the field of pharmaceutics (which is more related to formulation and galenical work) could be reduced. Focusing on the central position of pharmacology /

pharmacokinetic is required. It would be helpful for the research group if the central administration of UoB could support the group for powering the infrastructure and research. The overall strategy of the group is interesting, but it remains unclear how pharmacology and pharmaceutics will be integrated in one research group. No detailed information is given regarding which strategies are planned for the next recruitment of professors. In particular, it remains unclear who is expert in pharmaceutics (which is part of the designation of the research institution – pharmacology and pharmaceutics). For successful research, the organisation of the group seems suitable, but in the medium-term, the next recruitments will be crucial to establish a strong research environment.

Research group: Endocrine Medicine (Endo)
The level of research of the Endocrine Medicine research group is reasonable. The group is not well described as a group. It appears as if several research groups or even individual researchers are incorporated into this network, but the strategy, the description of the infrastructure and the organisation of the group are not clear. The report lacks clear information on many aspects of the self-assessment questions, which makes it difficult to easily judge the quality of the group. For example, it is difficult to understand the real entity of the funding received by the Endocrine Medicine Unit. While the text under the heading “Research group´s resources” reports several notable grants, both national and international, Table 2, that should report these funding in detail, reports completely different information. On the same line, the choice of publications in Table 5 does not fully reflect the quality of the papers actually produced in the observation period. One has to open the provided link to fully appreciate the scientific production.

Research group: Infection and Microbiology
As evidenced by their leadership of high-impact publications (including nature medicine) and several international grants, the Infection and Microbiology research group should be considered world-class in terms of research quality. Their influence on WHO guidelines indicates their strong contribution to societal impact. This is despite a light technological environment (which explains the essential need for the group to externally collaborate). The organisation does, however, facilitate good clinical integration and cohort support.

Research group: Mohn Center for diabetes precision medicine (PRESISE-DIA)
This is a high-quality group that is conducting world-leading research and producing outputs that are of the highest standard. The research environment is outstanding and enables the group to lead on and conduct pioneering studies that is at the forefront of their scientific discipline that extends across the globe. The output profile is of outstanding quality with some landmark studies published in a range of high-profile multi-disciplinary and top-tier speciality journals. The group have made an extensive contribution to the economic and societal development in Norway and internationally and has active user involvement across their research activities. The grading shows the performance of the group is of high quality and well-balanced across all dimensions.

Research group: Oncology
The main strength of this group is the ability to carry out and publish excellent quality translational research contributing to improve the knowledge based on well stablished technologies: ctDNA, organoids as cancer models, DNA methylation, single cell genomics, among others. They refer also to a very relevant clinical trial on the use of PARP inhibitors in triple negative breast cancer developed as a national academic trial, which has been published in a very high impact factor journal. The researchers of this group have a strong leadership and a good level of collaboration with other national groups. To make this sustainable, it may be critical that they open themselves for a more international network of cooperation. Their main weakness is the scarcity of internationally funded projects. The societal impact of their research is clear; however, some improvement must be done on

haw to involve patients and patient advocacy groups in the planning and development of future studies.

Research group: Paediatric Follow-up Group (PFUG)
This is an excellent research group which has to be commended for world class performance in clinical studies. Their objective is the development of safe medicines for children. They pursue this by a unique culture and practice of clinical studies, constituting an international paragon. The scientific productivity is high, and the scientific quality is very good as judged by their many high-impact journals. The funding per professor is average. The contribution to their universities in Bergen and Stavanger is excellent. However, the relation to the paediatric hospitals in Bergen and Stavanger is ill defined. Leadership positions in the health care system should not be considered solely time-consuming but as a prerequisite of translational medicine. This excellent group with international leadership will be able to develop novel models for physician/scientist career options respecting work life balance. The strategic goals should also include evaluation of the impact of research on child health in Norway. They need to define the grand challenges in the field and how to address them with which priorities. The strengths should be highlighted in the evaluation's national assessment of the area.

Research group: Precision Oncology Group
This is an outstanding research group with a focus on identifying mechanisms involved in the etiology, diagnosis, prognosis and potential novel therapeutic targets in cancer. The group has built a comprehensive collection of methodologies and biological resources, including patient biobanks, samples, and patient-derived cell and xenograft lines that have generated high- quality research output and involvement in several important studies and clinical trials. With a solid support by the host institution and a strong funding portfolio, the group has been able to produce high-quality research published in high-impact journals. The engagement in educational activities from undergraduate and master's students to postdoc level makes the group well integrated in the Medical Faculty at the host institution. The group has had a great societal impact by holding several patents and introducing new compounds as well as being initiators of spin-off company for commercialization of research innovations. The group is encouraged to continue to work for long-term internal funding to ensure an increasing number of permanent academic positions.

3. Diversity and equality

The administrative unit's actions to protect against discrimination and ensure equal treatment and opportunities for its employees are well taken care of and follow the institutional guidelines. This includes the University of Bergen's action plan for diversity, inclusion and equality 2023-2025, the policy for bullying, harassment and conflict, ethical guidelines for relationships between supervisors and students or candidates as well as a tailored equality action plan of the faculty of medicine. The latter is intended to stimulate employees to express their vision to ensure diversity, equality, and inclusion. The presence of a Health, Safety and Environment (HSE) action plan 2023-2026 targets diversity, openness, and inclusion as measures to ensure that the University develops a culture in which health, safety, the environment, and emergency preparedness are preventative and health-promoting as well as stimulate workplace wellbeing.

The committee's evaluation
The diversity and equality issues do not seem be concerning, as the administrative unit adequately follows institutional policies. Gender diversity in the leadership positions requires constant attention and should be improved whenever imbalance is noted.

The committee's recommendations
Although the institutional policies are adequately followed, the administrative unit should raise the employees' awareness of these policies by using anonymously filled questionaries and/or by arranging in-person meetings.

4. Relevance to institutional and sectorial purposes

The main objective of the administrative unit of the Department of Clinical Science K2 at the University of Bergen is to contribute to the research-based knowledge within their focus areas as described in the self-assessment. The administrative unit conducts high-quality research, guidance, and teaching according to the vision “new knowledge for better health”. Together with the Department of Clinical Medicine K1, the administrative unit is an essential part of the institutional clinical science landscape with a strong regional and national impact.

The Bergen area substantially contributes to the medical advancements and biomedical technology development in Norway. Moreover, their focus on translating research into clinical practice has the potential to lead to innovative and cost-effective healthcare solutions, which aims at improving the quality and reducing the financial burden on the entire healthcare system.

The administrative unit encourages innovation and has appointed an innovation leader who is part of their leadership team and the Innovation Leader Forum. The students and researchers participate in and contribute to innovation courses, e.g. Innovation and Entrepreneurship. Dedicated innovation advisors are involved in guiding the processes in IPR issues and in the early phases of commercialisation processes. These actions follow the common practice in many hospitals and are supported by the University of Bergen’s administration.

The committee's evaluation
Although the administrative unit provides support for increasing opportunities of innovation and commercialisation to improve patient care, more emphasis could be directed towards these efforts to reach the goals described in the self-assessment. The economic impact could be further amplified by strengthening collaboration with entrepreneurs, both nationally and internationally. This way the administrative unit would increase its visibility and attractiveness, which in turn would facilitate and widen both the recruitment and funding opportunities.

The committee’s recommendations
The administrative unit is encouraged to increase its economic impact through engaging with the private sector in their geographical region and also beyond, both nationally and internationally. The translational and clinical research activities are of high societal impact and of high scientific standard, which should promote wide interest among investors worldwide.

4.1 Higher Education Institutions

Specifically, the education is organised in programmes of medicine and pharmacy, odontology, dental hygiene, and nutrition. In addition, K2 offers courses for MSc degrees in immunology and vaccinology.

The administrative unit is organised in 17 teaching groups, and it hosts two research schools, i.e. Research School of Clinical Medical Research and Bergen Research School in Inflammation. Moreover, the administrative unit is also a founding member of the National Graduate School in Infection Biology and Antimicrobials that is funded by RCN.

K2 and its sister department, K1, form one of the largest medical educational institutions in Western Norway. The strong emphasis on educational activities is reflected in the large and growing number of medical students being trained in collaboration with the local and regional hospitals.

The committee's evaluation
The administrative unit’s impact and contribution to (bio)medical education are strong. It is also obvious that the research and teaching staff dedicate a major part of their efforts to maintain and further develop high-standard research-based education within the focus areas of the administrative unit. This is clearly challenged by the great variety of courses that have to be delivered by individuals who are also responsible for a major part of the scientific research conducted within the administrative unit.

The committee’s recommendations
Since the educational duties of the administrative unit are many and cover a broad variety of (bio)medical disciplines, thereby limiting the time that the research staff can dedicate for cutting-edge research, a critical evaluation of teaching priorities for course planning and implementation is warranted.

5. Relevance to society

In line with the Norwegian Long-term plan for research and higher education, the administrative unit contributes to the thematic area of health, according to the vision “new knowledge for better health”. The main societal impact of the administrative unit is 1) to provide both disciplinary and interdisciplinary education for health professionals, 2) to perform innovative curiosity-driven research for understanding the mechanisms of common and rare diseases as well as for developing future diagnostics and therapies, and 3) to disseminate new knowledge to the society.

In line with the UN Sustainable Development Goals (SDG), the administrative unit contributes to ensure 1) healthy lives and well-being for all at all ages (SDG3), 2) quality education (SDG4), and 3) reduced inequalities (SDG10).

Comments on impact case 1: Catching the Rhythms (2015-2022)
This impact case study on measuring free hormones (adrenal steroids) within their target tissues, is an example of translational research in endocrinology based on the comprehensive registries and biobank samples that are derived from carefully phenotyped patients. Together with their international multi-disciplinary collaborators, representing clinical experts and specialists in biochemistry and clinical chemistry as well as mathematicians and engineers, the members of the Endocrine Medicine group have been developing simple and cost-effective methods to monitor hormone rhythms in a clinical setting. For this purpose, they were funded by the EU Horizon-2020 programme. In 2023, the 24-hour continuous adrenocortical hormone profiles of healthy subjects were published in Science Translational Medicine where the paper was also highlighted by an editorial. More papers are in progress, which indicates that this line of research is very topical and of high interest within the international endocrinological community and beyond.

Comments on impact case 2: Changing Clinical Practice in Childhood Diabetes by Precision Medicine (2012-2022)
This impact case describes novel disease mechanisms in childhood diabetes which is still poorly understood despite substantial research efforts worldwide. Childhood diabetes is mostly type 1 (T1D) and characterised by an autoimmune destruction of insulin-producing beta-cells in the pancreas. In contrast, type 2 diabetes (T2D) is a multi-factorial and heterogeneous disease, which is mostly associated with obesity and other metabolic syndromes developed later in life. However, there seem to be additional types of diabetes, including Maturity-Onset Diabetes of the Young (MODY) that has a very broad range of onset from 6 months to 25-35 years of age. PRECISE-DIA, which is a large centre and clinical unit with 67 researchers, representing experts in clinical medicine, genomics, epigenetics, statistical genetics, bioinformatics, proteomics, biochemistry, structural biology, stem cell biology and animal models, has a long-standing goal to reveal the mechanisms underlying the different subtypes of MODY, which are key for providing much needed knowledge to formulate new diagnostic and prognostic strategies for patient care in childhood diabetes. The research strategy relies on precision medicine, including both precision diagnosis and precision treatment. This research programme has wide impact on the development of basic science, translational research and clinical practices in Norway and beyond, as indicated in research papers published in international top journals, including both general and specialty journals, and outreach to hospitals and patient organisations as well as various media, e.g. local and national newspapers and broadcasting channels. Overall impact of this programme is clearly excellent.

Comments on impact case 3: Heart Disease in Women (2002-2022)
This impact case focuses on cardiovascular diseases, including sex differences in valvular heart disease (aortic valve stenosis), the effect of hypertension on the aorta, aortic valve and the heart muscle, non-obstructive coronary artery disease in women, role of inflammation for heart disease in women, and sex differences in hypertensive and obese heart disease. The long-term research programme has led to multiple international collaborations and publications in the top journals within the field of hypertension and cardiology. In 2020, they also established the Centre for Research on Cardiac Disease in Women at UiB, which has clearly expanded their research, training and conference activities. According to the national official report that was published in 2023, this programme has the potential to reform the current health professional education programmes and healthcare services, which in turn has a broad impact on the entire society.

Comments on impact case 4: Pandemic Preparedness: the COVID-19 Case (2020-2022)
This impact case on the COVID-19 pandemic is based on 30-year bench-to-bedside research that has been conducted as a collaboration between clinicians and experimental scientists who have been involved in clinical trials (phase I-IV), placebo controlled randomised clinical trials and prospective longitudinal cohort studies within the fields of immunology and infection diseases, before the pandemic broke out in February 2020. The epidemiological, clinical and immunological findings regarding the infections caused by SARS-CoV-2 and its variants, ranging from short-term to long-term symptoms, such as in long COVID, have emphasised the need for comprehensive healthcare services. This is evident when developing and coordinating anti-viral clinical trials and rehabilitation of long COVID intervention studies. In addition to a multitude of scientific publications, the impact case has provided knowledge for national and international advisory organisations involved in educating the general public, which is fundamental to recognise the knowledge-based information from disinformation. The work also has impact on future pandemic preparedness, and they have established a national network focusing on research strategies to prevent post-sequelae complications after viral infections.

Appendices

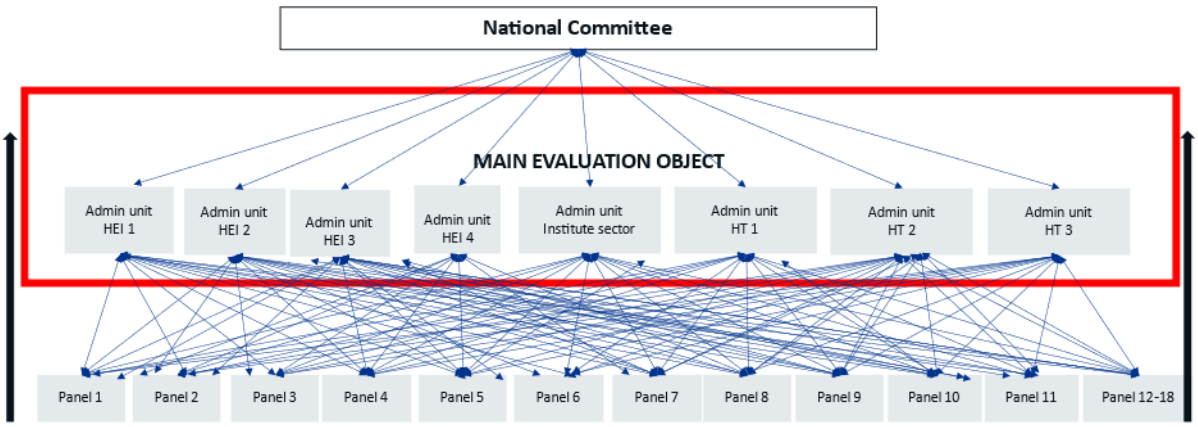
Evaluation of Medicine and health 2023-2024

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
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Oslo, 5 April 2022

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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.

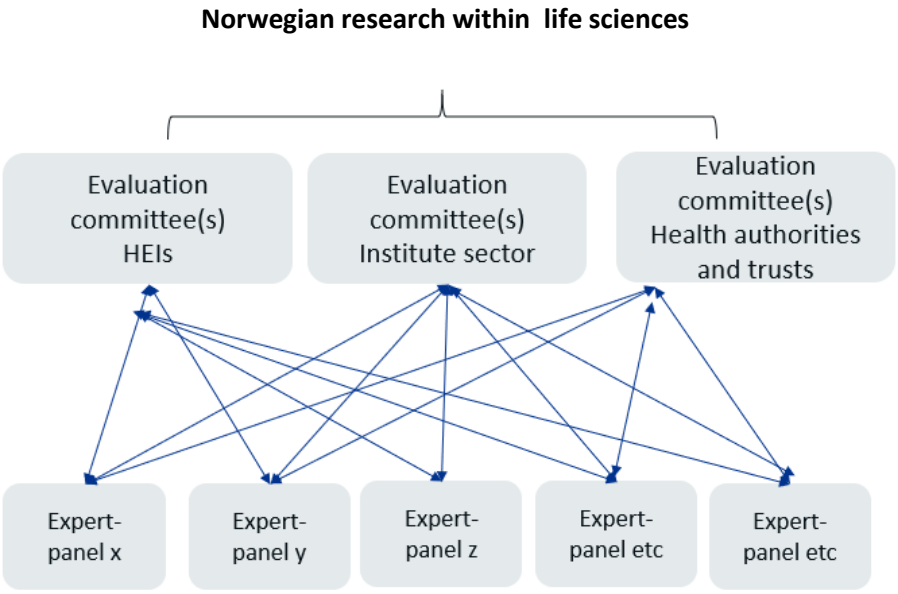

Figure 1. Evaluation committees and expert panels

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
UiB	Department of Clinical Science II	Bergen respiratory research group	Panel 3b-2
UiB	Department of Clinical Science II	Broegelmann Research Laboratory (BRL)	Panel 3b-3
UiB	Department of Clinical Science II	Endocrine Medicine (Endo)	Panel 3b-3
UiB	Department of Clinical Science II	Mohn Center for diabetes precision medicine	Panel 3b-2
UiB	Department of Clinical Science II	Oncology	Panel 3a-2
UiB	Department of Clinical Science II	Paediatric Follow-up Group	Panel 3a-1
UiB	Department of Clinical Science II	Pharmacology and pharmaceutics group	Panel 1b
UiB	Department of Clinical Science II	Precision Oncology Group	Panel 3a-2
UiB	Department of Clinical Science II	Research group for infection and microbiology	Panel 3b-3

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.

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