Forskningsrådet

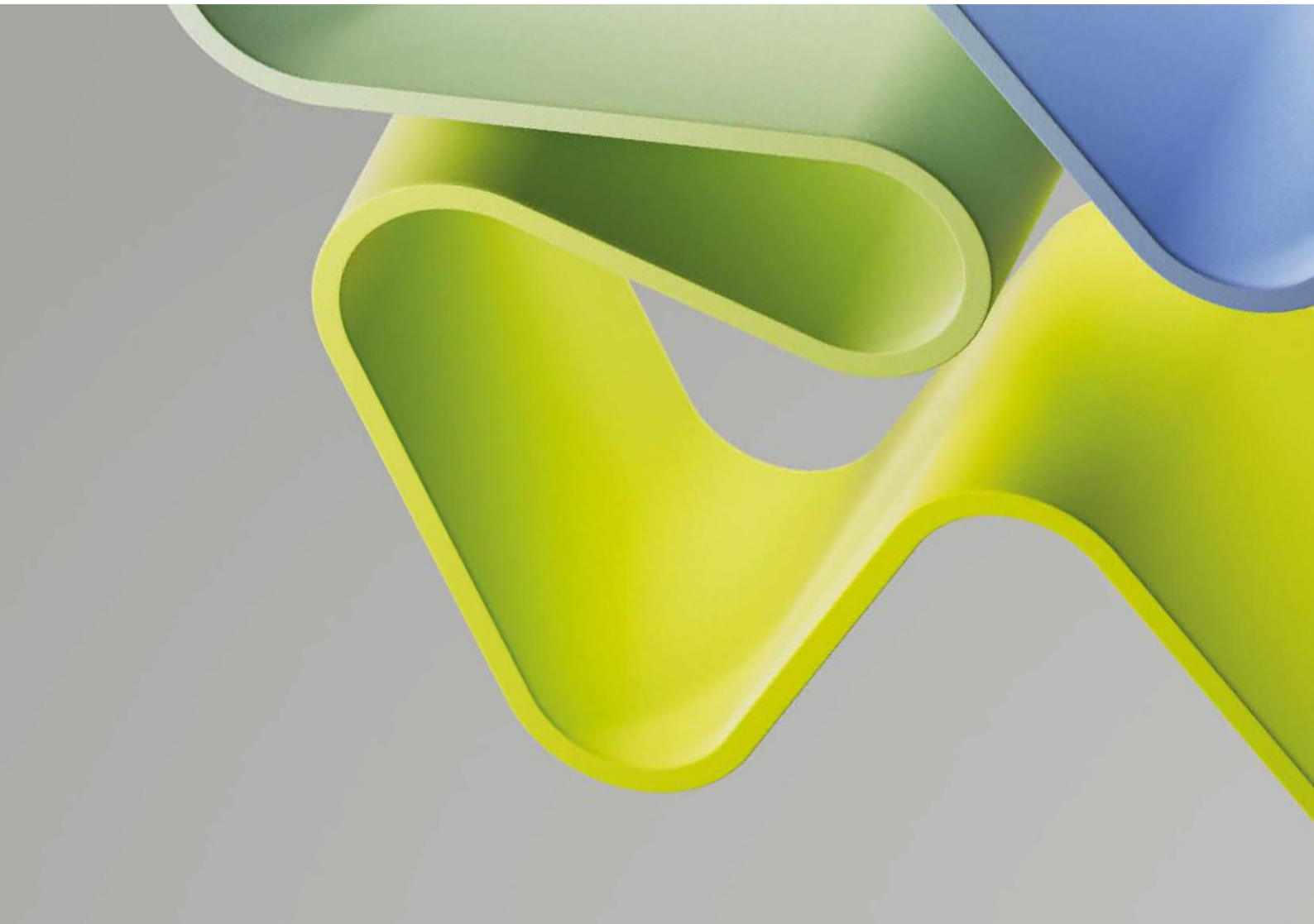
Evaluation of Life Sciences 2022-2024

Evaluation of medicine and health 2023-2024

Evaluation report

ADMIN UNIT: Department of Clinical Science I
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:

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- 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 Medicine I (K1) at the University of Bergen is responsible for teaching, research, and researcher education in various clinical disciplines. It also hosts the faculty's animal facility. The K1 has several major research groups as well as four major research centres. The K1 has about 240 employees, with women making up a majority in all positions, except professors and assistant professors where they make up approximately 30%. Among postdocs, PhD students and researchers, women account for 80%, 73% and 75% of the total numbers respectively.

K1 is comprised of an array of research groups in all medical disciplines covered by the department. The following five groups are the largest: (1) Centre for Cancer Biomarkers (CCBIO), with focus on pathology and tumour biology; (2) Bergen Multiple Sclerosis (MS) Research Group with focus on improved treatment and diagnostics of MS; (3) DECODE-PD group which aims to decipher and treat Parkinson's disease; (4) Renal Research Group (RRG) which aims to understand mechanisms in development of chronic renal failure; (5) Section of Nutrition, with a broad focus on nutrition research.

K1 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. Researchers in K1 aim to become international leaders in several areas of clinical research and state that they are committed to strengthening clinical care both in Norway and internationally, through projects that focus on impacting diagnosis and treatment of both common and rare diseases. K1 has concentrated research efforts on nurturing clinical and laboratory expertise to ensure that the science produced is both translational and patient-centred.

International, national, and regional cooperation is highly prioritised in K1. The major collaborator is the University Hospital of Bergen, reflecting the deep integration of clinical research and education. In recent years, this has been extended to include the University Hospital of Stavanger, and K1 also has extensive and very fruitful collaborations with the universities/university hospitals in Oslo and Trondheim. Internationally, their most extensive collaborations are with institutions in Sweden, Denmark, and Finland. Outside of Scandinavia, they collaborate with world-leading institutions such as King's College and Harvard Medical School. Most of the research collaborations have been established by individual groups based on common research interests. The research collaborations in K1 are mainly with established institutions in the public sector. Collaborations with the private and third sector are underrepresented and represent an arena amenable for development in the years to come.

According to its self-assessment, in the future, K1 may benefit from strong research groups in key clinical fields, skilled staff, supportive administration, and beneficial collaborations. However, it faces internal challenges like heterogeneity, small research groups, lack of full-time scientific positions, and part-time clinicians struggling to dedicate time to research. External challenges include worsening university finances, difficulty recruiting physician leaders, limited funding for rare disease research, and societal trends devaluing academic methods. Data security, fake publications, predatory journals, and security issues with researchers from red-listed countries also pose problems. Opportunities can be found in decentralised education with multiple hospitals, increased number of medical students, a focus on treatment trials, personalised medicine, and potential for more international research funding. Additionally, advancements in AI and machine learning are expected to open new research avenues.

Overall evaluation

The administrative unit is very productive as demonstrated by an impressive publication output. Despite being challenged by having to balance between medical education, innovative research, impact and patient care, it performs outstandingly. The quality of research is overall assessed as outstanding, driven by excellent researchers across all career stages.

The strengths of the departments include the breadth of topics covered, a strong and outstanding educational profile and impactful national and international academic collaborations. One of the weaknesses the committee perceived is the lack of a formalised departmental research strategy which challenges a multidisciplinary ecosystem like K1. The lack of this strategy is asynchronous with the faculty's strategic documents, thus limiting the dynamics of the ecosystem. The infrastructure (especially when considered combined with K2) is state-of-the-art for some activities, but does not seem to be embedded in a financially sustainable manner, making the ecosystem vulnerable. Addressing this could increase the attractiveness of the region for young national (and international) talent.

The committee observed that the current diversity situation does not seem well aligned with the listed institutional policies. No administrative unit-specific diversity measures are in place and the administrative unit states that it aligns with university's policies. That awareness exists, but the gender diversity in the leadership positions needs attention.

The future prospects of the department are outstanding. The strong regional fundaments and national and international research provide a solid basis for new research directions, innovations, collaborations and the attraction of new funding sources. Strengthening the local large-scale infrastructure while making it nationally available could be the basis for new strategic programmes of RCN for translational medical technologies where major international private partners could participate.

Recommendations

In this section the main recommendations of the committee are summarized in line with the terms of Reference provided by the administrative unit. More details can be found in the corresponding sections of this report.

The most important recommendation of the committee is to develop a clear forward-looking research strategy and communicate it to the different actors and stakeholders. The lack of a clear proactive research strategy and vision contributes to the expression of the lack of a 'raison-d'etre' that was indicated on several occasions in line with an absence of the evaluation of the results of the K1/K2 division. The committee recommends determining if this type of division has resulted in the intended outcome. Following that evaluation, we advise the administrative unit to develop a more recognisable profile that more clearly distinguishes K1 from K2. This profile could potentially be employed to attract additional international translational funding through targeted collaborations.

The committee also recommends the establishment of a local programme to stimulate collaboration across administrative units around selected themes. The lack of a strong K1 identity other than being the medical faculty (similar to K2) seems to hamper more interdisciplinary collaborations and visibility. A strategic reduction of the departments' heterogeneity could be used to increase focus, impact and productivity even beyond the current successes.

The committee recommends establishing a clearer separation between the three core tasks of the department, education/research/care, to reduce workload in particular for early career researchers. A career assessment approach that recognises and rewards diversity (not everybody becomes a full professor, some are better researchers, some better educators) in local academic or clinical careers could be developed to better fit the needs of the younger generation of medical researchers. This step should be designed to improve the quality of each of the key activity areas of the department: education, research, impact, leadership and patient care. UiB is well positioned to take the lead in the development of such a national programme.

One area that the committee would recommend to strategically strengthening is translational collaborations with industry through the development of a targeted departmental strategy. A more centrally driven and stimulated approach could increase the size, breadth and impact of the public-private collaborations in medical technologies and accelerate translation to patient care. The Norwegian language requirement for these types of collaborations should be abandoned as that seems counterproductive.

It is evident that K1 boasts an outstanding infrastructure. The long-term sustainability is not evident from the documentation and discussions provided. The committee recommends the development of a more sustainable long-term funding strategy for the research infrastructure in close collaboration with the faculty and other administrative units. This could include the development of distributed shared technology platforms for which increased funding is warranted.

Lastly, more emphasis on (international) talent-based personal funding schemes is recommended and the support structure for early career researchers (ECRs) should be emphasised. Recognise and reward ECRs that obtain high quality evaluations but do not get funded to help their careers forward by developing workload reduction programmes that allow these talents to further develop their strengths and alleviate some of the more mundane administrative tasks.

1. Strategy, resources and organisation of research

1.1 Research strategy

The Department of Clinical Medicine K1 is one of five departments at The Faculty of Medicine, University of Bergen (UiB). The faculty holds and operates extensive advanced research infrastructure that is made available for researchers in and outside Bergen. The Department of Clinical Medicine K1 was established in 2013 because of the reorganisation of the Faculty of Medicine. This administrative unit is responsible for teaching, research, and researcher education in various clinical disciplines, and it also hosts the faculty's animal facility. Research efforts are concentrated on nurturing clinical and laboratory expertise to ensure that the science produced is both translational and patient-centred. Team science is stimulated through team-centric organisation of research groups to ensure sufficient critical mass. Researchers in K1 aim to become international leaders in several areas of clinical research. The administrative unit as a whole has an excellent publication record and succeeds in acquiring competitive national and international grants. The department focusses on those research groups conducting high quality research in clinical science, whether large or small, and encourages them to aim for excellence in their clinical fields. Researchers are committed to strengthening clinical care both in Norway and internationally, and they do so through projects that focus on impacting diagnosis and treatment of both common and rare diseases. Research performed within the administrative unit is aligned with the goals of the Faculty and University, as well as the University Hospitals of Bergen and Stavanger. The research groups use large and unique biobanks of biological samples and epidemiological data and perform clinical and translational studies to discover underlying determinants of disease that can have direct and indirect implications for public health.

The Department of Clinical Medicine K1 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 individual research groups set their own strategic goals aligned with the above. The faculty was reorganised 12 years ago – from 8 institutes/departments to 4 or 5 – to be more streamlined, more efficient, and improve research and teaching. Research was seemingly randomly distributed across two new clinical departments without thematic or geographic co-location between disciplines in the two departments: K1 based on medical sub-disciplines i.e. neurology, pathology, psychiatry; K2 based on research themes. No overarching top-down scientific strategy or specific thematic focus is observed. Strategy seems to be driven by current interests of key researchers and available infrastructure. The areas of research are determined by the research expertise of the principal researchers and organised based on the medical sub-disciplines covered. Research and innovation are predominantly aimed at the selected medical sub-disciplines covered: Nutritional research, Renal diseases, Pathology and Neurology.

The committee's evaluation

The department lacks a formalised research strategy which challenges a multidisciplinary ecosystem like K1. The modus operandus is more reactive to the availability of research ideas, talents and funding rather than strategically, proactively pursuing selected strengths. The administrative unit is very productive as demonstrated by an impressive publication output. Despite being challenged by having to balance medical education, innovative research and patient care, it performs outstandingly. As many employees are clinicians in part-time positions and physically located at different hospitals, it negatively impacts job satisfaction and work-life balance for researchers with an academic interest. They take care

of the teaching of medical students, and often their time for research is perceived to be limited. This could be developed by more diverse career profiles within the ecosystem to recognise and reward talent. The committee recognises that K1 is faced with the challenge that funding for research on rare diseases tends to be more difficult to obtain as no specific national research programmes on these topics exist. The cooperation between administrative units within UiB's Faculty of Medicine could be improved to increase the impact of the unique Bergen ecosystem.

The committee's recommendations
Work out a forward-looking research strategy that to a higher degree would steer the direction for the department. As it is difficult to establish impactful research groups based on the workload-heavy education/research/care positions, the committee recommends establishing a clearer separation between the three tasks to reduce workload for early career researchers.

The committee recommends clearly defining the 'raison-d'etre' which could also be more educational, and less research focused. In that light, the university should evaluate the results of the K1/K2 division and determine if it has resulted in the intended outcome, as it seems in some cases the lack of clarity still persists, as it did with the committee.

The committee also recommends the establishment of a local programme to stimulate collaboration across administrative units around selected themes. The lack of a strong K1 identity other than being the medical faculty (similar to K2) seems to hamper more interdisciplinary collaborations and visibility. A strategic reduction of the departments' heterogeneity could be used to increase focus, impact and productivity even beyond the current successes.

1.2 Organisation of research

The Department of Clinical Medicine K1 has 12 sections that correspond to 18 clinical departments at the University Hospital of Bergen. A Centre of Nutrition and an animal facility serve both the Faculty of Medicine and the University Hospital. The Department is responsible for a large part of the teaching programmes for medical students, being involved in all semesters of the 6-year programme. It is also responsible for the master's programmes in nutritional science as well as postgraduate courses. The department also has a special unit for educational research. The unit performs clinical research in close collaboration with basic research environments and facilitates translational research. The research groups are located in different university and hospital buildings across the campus area in Bergen. Researchers have access to several core facility platforms with discounted user fees. The department hosts and/or participates in different research schools at the faculty.

The administrative unit provides higher education and conducts impactful sector specific research and academic development work at a high international level. The Department also disseminates knowledge of the activities and promotes an understanding of the principle of academic freedom and application of scientific methods and results in the teaching of students, in the Department's own general activity as well as at the hospitals, and at national and international levels. The focus of the Department is clinical and translational research. The aim is to perform research that improves patient care, either in diagnosis, disease understanding or treatment. The close collaboration with the University Hospitals of Bergen and Stavanger, where many researchers also have part-time positions, is therefore important for the Department's ability to achieve these aims. Finally, research results and innovations are translated by the department into clinical use to the benefit of patients and society. This is a significant strength of the administrative unit that directly

impacts welfare of patients locally, nationally, and internationally. Innovations reported occur in the area of repurposing of drugs, improved clinical treatments, novel biomarkers or improved imaging diagnostics. While this progress is innovative in nature, the commercial potential in terms of patenting can be small.

Pre-award research support services at the Faculty of Medicine include research advisors and financial officers. Post-award services provide a legal team, a communication section, the technology transfer office (TTO) VIS, innovation officers, the biomedical incubator building Eitri, a general data protection officer, a career centre for early career scientists and the University Library. Responsibility for outreach activities lies mainly with the individual researchers, but with support from the communication advisors at faculty level. The administrative unit offers career development programmes for PhDs and post-doctoral researchers.

The committee's evaluation
The research is largely organised along the prevailing themes of the different sections and centres of excellence. 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 as confirmed by the leadership in the interview. The organisational structure does offer excellent opportunities to increase programmatic dynamics. This by itself could be a strategic choice, but is not expressed as such by the administrative unit. The academic career opportunities and attractiveness would benefit from an increased diversity in academic roles and closer interaction between staff members at different points of their careers. This could for example be used to coach and stimulate assistant and associate professors towards a quicker transition into leadership roles.

The committee’s recommendations
The committee recommends the administrative unit to develop a more recognisable profile that more clearly distinguishes K1 from K2 and can be used to attract translational funding. This profile should capitalise on the research strengths already present in redefined and rejuvenated focus areas of the research programme. The development of a leadership programme in which junior and senior staff jointly take on leadership of different organisational elements and tasks would be useful.

1.3 Research funding
The overall budget for the Department of Clinical Medicine is 115 MNOK which comes from two main sources. Basic funding comes from the Ministry of Education and Research and was 69 MNOK in 2022. External grants contributed 46.7 MNOK in 2022. In addition, the University of Bergen provides significant indirect resources for research advisors, library services, legal assistance, and other administrative support. These resources are not included in the basic funding for the administrative unit. Of the total funding, approximately 77 MNOK is allocated to permanent staff salaries. Basic funding is not considered sufficient to cover all housing costs and research infrastructure. This implies that a significant need for soft or grant-based funding exists, but the diverse appointment (education/research labelling) make it difficult to reach that target.

The committee's evaluation
The committee recognises that the basic funding is not sufficient to cover all salaries of permanent project managers, technical staff and administrative personnel. The administrative unit has successfully increased international funding in 2023 from the 4-year average of 2.9 MNOK to 3.8 MNOK which is a commendable achievement. This constitutes ~4% of its total research funding which implies that the administrative unit is predominantly dependent on national funding and relatively little international funding. The infrastructural

funding lacks a structural component to make it sustainable for the future and is heavily dependent on soft funding. This is evaluated as a potential threat to the sustainability of the infrastructure administered by the administrative unit.

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

Explore opportunities for an increase in shared technology platforms.

More emphasis on (international) talent based personal funding schemes is recommended and the support structure for ECRs should be emphasised. Recognise and reward ECRs that obtain high quality evaluations but do not get funded to help their careers forward.

1.4 Use of infrastructures

The Faculty of Medicine has developed a strategy for research infrastructure and its own roadmap for research infrastructure in line with the Norwegian Roadmap. In collaboration with the Faculty of Medicine, the Department of Clinical Medicine K1 actively takes part in proposals for the "Norwegian roadmap for research infrastructure". In these efforts, the Department works closely with relevant departments at the University Hospital of Bergen. A national brain biobank research infrastructure has been proposed for future research in collaboration with the hospital departments of Neurology, Pathology and Psychiatry. The gastroenterology research group is a member of the Norwegian roadmap for research infrastructures (NORMOLIM, NORBIOIMAGING). The Renal Research Group is member of NorCRIN/NorPedMed (www.norcrin.no).

Research infrastructure is primarily consolidated around core facilities that service several departments. The administrative unit aims to contribute to the research community with up-to-date infrastructure, and a fundamental principle is that the infrastructure should be available in the best possible way for all researchers, regardless of departmental affiliation. Core facilities are anchored in and operated by a department on behalf of the faculty. There is an approved operational model that involves a user fee for internal users, constituting approximately 25% of the actual costs. The faculty has a dedicated committee that advises leadership and the departments on matters related to core facilities and other advanced infrastructure. The Department of Clinical Medicine hosts the Animal Facility infrastructure. Two research groups are part of European ESFRI infrastructures. The gastroenterology group is an EATRIS member, and the renal research group is a member of ECRIN.

The Department of Clinical Medicine follows the University of Bergen Policy for Open Science which promotes open access to research data and the FAIR principles in national and international networks and collaborations. The data management plans (DMP) are employed to support good data handling practice throughout the whole research data life cycle and includes management of ethical aspects and sensitive data. The university library offers resource pages on open science and DMPs, as well as webinars and tailored courses by request.

The committee's evaluation
The department boasts outstanding access to core research facilities and infrastructure. The animal facility is broadly used by a wide variety of researchers. "Omics" and imaging infrastructure contributes the outstanding research output of the unit. The department is developing new infrastructural opportunities along the lines of the NeuroSysBio centre of excellence. The existing infrastructure, animal facilities and core technology platforms are faced with challenges in future, proofing funding and keeping the technological advantage the region needs.

The committee’s recommendations
Develop a clearer sustainable reinvestment, maintenance and infrastructural innovation programme, with a focus on future-proof technologies.

1.5 Collaboration

The Department of Clinical Medicine K1 prioritises international, national, and regional cooperation with the aim of fulfilling the ambitions of the University of Bergen. The international scientific collaborations focus on several institutions with high visibility in the field. The driving force behind most collaborations are individual researchers, who also define the size of the collaboration. The biggest collaborator of the department is the Bergen University Hospital and now collaboration has been expanded to the University Hospital of Stavanger. It is remarkable that while the number of publications with international co-authors is high, the percentage of papers with top 10% international institutions is relatively low with a unit author share of only 0.7%. This potentially indicates that only a limited number of collaborations have the administrative unit as the main driver. The number of publications with international top institutions is 16 out of 497 in the year 2022 and differs markedly from the K2 department which could be attributed to a stronger focus on education. Collaborations are predominantly within the sector.

The committee's evaluation
The department exhibits an outstanding collaborative record with >60% of the publications that include international collaborators that reflect the interdisciplinary nature of the field of clinical medicine. The mix of national and international collaborations provides a healthy basis for the development of high-quality research. The regional focus is both a strength and a weakness. Researchers are appropriately stimulated to look across the boundaries of their own institution. Collaborations with private institutions and companies seem to be underdeveloped and could be strengthened to increase exonymic impact on top of scientific impact.

The committee’s recommendations
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 collaboration. The Norwegian language requirement for these types of collaborations should be abandoned as that seems counterproductive.

1.6 Research staff

The administrative unit encompasses 240 persons spread across the different academic functions, including education, as well as organisational and research support. As the unit is responsible for decentralised medical education, and a large number of our positions are dedicated to clinical education, which is a major focus of unit and staff. With 148 Professor/Associate Professor (internal and external) positions, 62 teachers/researchers and the 45 support staff, the administrative unit is considered academically heavy. The administrative unit has 25 PhD students internally and 105 PhD students externally employed, i.e. approximately 1 PhD student per academic senior staff member.

The committee's evaluation
The distribution of 130 PhD position over 148 Professor/Associate Professor supervision amounts to approximately 1 PhD student per high-level academic supervisory position. This one-on-one supervisory structure provides direct guidance. As a substantial focus is placed on medical education, the staff workload does not seem excessively high. The administrative unit consists of many relatively small research groups. The gender

distribution up to the professor level is more or less in line with the national average in medical research. At the Professor/Associate Professor level the reported female participation of ~33% is well below the national average reported by NIFU. The teaching load for staff is relatively high, resulting in little time to devote to research. While the research output is commendable, an improved education/research balance could be explored.

The committee's recommendations
Initiate a proactive programme to improve gender diversity in leadership positions.

1.7 Open Science
UiB has open access (OA) publishing deals with several academic publishers that will cover the cost of publishing open access. The administrative unit K1 adheres to the UiB policies and takes appropriate advantage of this agreement. This has resulted in 91% of the publications being available through an open access strategy. Recent scholarly articles are made available at the university's institutional repository BORA (Bergen Open Research Archive) in accordance with the University's rights retention policy. Other publications are made available in accordance with the copyright owner and publishers' archiving policies. No specific policy for the administrative unit exists as the UiB policies are functioning well. The administrative unit adheres to the University of Bergen's Policy for Open Science, which is based on the EU's, Research Council of Norway's and the Norwegian government's open-science principles that state that research and research processes are to be "as open as possible, as closed as necessary". The goal of the University of Bergen is that data resulting from research activity should be made readily available for reuse in accordance with FAIR principles.

The committee's evaluation
The administrative unit has optimally developed their open access policies and OA has increased from 30% in 2013 to 91% in 2022. No administrative unit-specific awareness programmes or strategy for FAIR data usage exists although the administrative unit recognises the challenges that come with adherence to legal regulations on personal privacy, information security, business secrets and intellectual property rights (IPR). The committee supports use of the established university-funded curated institutional research data archive, Dataverse NO for storage of patient sensitive data. This is an essential element of open clinical research and education in clinical medicine. Open science with respect to open innovation is not discussed but could be an opportunity for translational research in close collaboration with companies active in the development of medical technology or diagnostics.

The committee's recommendations
Expand the open science policy with open innovation to increase the (funding) opportunities for innovative public-private partnerships.

2. Research production, quality and integrity

The administrative unit is responsible for a broad research palette across the medical sciences. K1 boasts an outstanding publication record with a far-reaching impact that surpasses both the world average (100) and the Norwegian average (115). This is a testimony of their commitment and success in striving for research excellence. The percentage of highly cited papers is well above average across the breadth of clinical and fundamental research topics covered. Productivity and quality are overall high – above national average – and match internationally renowned institutions in the field.
Ethical policies follow UiB's guidelines in addition to the national and international research ethics guidelines. Additional training is offered in research ethics through seminars for PhD supervisors, courses for PhD candidates in Research Ethics, Laboratory Animal Science and Good Clinical Practice. Preventive measures to reduce and correct scientific misconduct are in place following faculty and central guidelines to promote good research practice. Overall, the administrative unit has made highly impactful contributions to the chosen research areas and is managing ethical training and monitoring to the best of its abilities.

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).

Bergen Multiple Sclerosis (MS) Research Group

The Bergen Multiple Sclerosis (MS) Research Group provides an outstanding environment for supporting the production of world-leading research which is comparable to the best work internationally in this area. Its strategy for achieving this is cohesive and comprehensive. The contribution to education is excellent. The group has developed an extensive network of external collaborators, both nationally and internationally, to support the mobility of staff, and the production of high-quality research. The group has played a very considerable role in terms of societal contribution through robust clinically oriented research; educational programmes for clinicians, researchers and people affected by MS; and active engagement of its members with both professional and patient organisations, and health authorities; thereby directly influencing patient care.

Centre for Cancer Biomarkers

The main strength of this group is the ability to carry out relevant translational studies with cancer related biomarkers at a highly significant level. Their publications are also relevant with significant scientific quality. 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. Linking the different units in a cooperative strategy would also be of importance. They should be also taking care in attracting more industry funded clinical trial or interventional studies based upon biomarkers. The societal impact of their research is high. However, some improvement must be done on how to involve patients and patient advocacy groups in the planning and development of future studies.

DECODE-PD
DECODE produces very high-quality work. There are some organisational concerns related to centralised leadership which may limit the leadership opportunities for senior researchers. So too does the reliance on non-permanent staff positions potentially limit the work undertaken. There is no explicit report of mentorship schemes to support early and mid-career researchers. Similarly, there appears limited involvement in users throughout the research process. The group makes a positive contribution to education, supervising a growing number of students across all levels of education.

Section of Nutrition
The panel evaluated the research group of Nutrition as having an adequate organisational environment for supporting excellent science. The quality of the research is internationally excellent, with group members playing a considerable role in the research process. The group's contribution to economic and societal development is on par with what is expected from groups in the same research field, and societal partners seem to have considerable involvement in the research process. The group have set clear research goals, and ambitious but realistic metric-based benchmarks. The Research group seems very well organised for their research and teaching activities, with access to relevant facilities on the research group, Department or Faculty level. However, the panel felt that access to core funding would allow this group to grow their research, and research-based activities as part of teaching, more effectively. Despite being a small-sized group (4.5 FTE), and despite operating without any core funding, they have a very healthy grant income, and a good publication record in good impact journals. The group have a recognised track record in nutrition research, and in nutrition education. The group expresses an ambition to grow their research income, output and impacts. In order to achieve this the group would benefit from participating in, or leading on, more extensive national and international research collaborations, across senior scientists. The majority of research grants is held by one person in this group, but to grow as a research group there needs to be more of a concerted effort, across staff, to generate funding and research impact. The group shows clear evidence of impact generation, on the national level, by contributing to the Nordic Nutrition Recommendations 2023, but other opportunities to generate societal and/or economic impact are perhaps more underexploited.

Renal Research Group (RRG)
The research environment is outstanding enabling the production of excellent research. The group take a leading role in several major projects and plays a very considerable role in the research process through to publication. The output profile of the group indicates a quality that is outstanding in terms of originality, significance and rigour. The group have made a very considerable real-life societal impact and has very considerable user involvement across its research portfolio.

3. Diversity and equality

The administrative unit’s actions to protect against discrimination and ensure equal treatment and opportunities for its employees are satisfactory and follows the institutional models. 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 and stimulate workplace wellbeing.

The committee's evaluation
The handling of the diversity area seems to be adequate, mostly aligned with institutional policies and no unit specific measures are in place. Gender diversity in the leadership positions needs attention as indicated earlier. The current situation does not seem well aligned with the listed institutional policies.

The committee’s recommendations
While institutional policies are in place, it is recommended to evaluate the administrative unit employees’ awareness of these policies through questionaries or topical townhall meetings within the administrative unit.

4. Relevance to institutional and sectorial purposes

The Department of Clinical Medicine K1 at the University of Bergen plays a pivotal role in the region, advancing healthcare through its sector-specific focus on clinical research and education. Together with the Department of Clinical Chemistry K2, it shapes the institutional clinical science landscape with a strong regional and national impact. The department's mission focusses on higher education, sector specific research and academic development work at a high international level. It is one of the largest medical educational institutions in western Norway. Bergen is well positioned as a hub for medical advancements and biomedical technology development. Moreover, the department's focus on translating research into clinical practice has the potential lead to cost-effective healthcare solutions, ultimately reducing the financial burden on the healthcare system. The current practice for innovation and commercialisation relies heavily individual research group leaders and them contacting the TTO (VIS Innovation) and the faculty's innovation advisor if they have identified innovation potential. K1 has a dedicated innovation leader part of the Department's management team and the Faculty of Medicine's Innovation Leader Forum. The forum is led by the Vice-Dean for Innovation. This approach follows common practice in many hospitals and is supported by the University of Bergen's administration.

The committee's evaluation
The committee positively supports the department's efforts to increase focus and awareness of the opportunities of innovation and commercialisation to improve patient care. The efforts to motivate the research staff in achieving these goals are commendable. The economic impact could be further amplified by strengthening connections with the private sector and startup stimulation programmes on top of the local hospital focus, ensuring that research findings and innovative technologies are commercialised effectively. This goes hand-in-hand with the attractiveness of the department for a more diverse group of (bio)medical professionals. Thus, while the department strongly contributes to the sustainable growth of the medical ecosystem, ample opportunity remains to enhance its role as a catalyst for broader economic development in the region. The innovation route starts with individual talented researchers that themselves have interest and time to make an economic impact. Relying (almost exclusively it seems) on the individual researchers to start the innovation chain might not be the most efficient way given the high workload of these individuals in education, research and funding acquisition.

The committee's recommendations
The committee recommends that the TTO establish an innovation outreach programme where they actively scout for innovations at the department(s) and possibly reduce the workload of the individual researchers. This could increase the economic impact and potentially reduce the time to market of innovations. The department leadership team could develop and regulate interaction with the TTO by providing opportunities for business developers and business scouts to attend a bi-annual lecture at departmental seminars to expose the business developers to research innovations and establish stronger lines of communication between the TTO and the work floor.

4.1 Higher education institutions
The Department of Clinical Medicine has a strong role in PhD-based higher education and is one of the departments with the highest number of awarded PhD degrees. Embedded in the Faculty of Medicine, this constitutes approximately 22% of the faculty's PhD students. The department is involved in the master 's programme with medical research as the leading activity area. The research focus allows the department to offer many project

possibilities for master's students. At the master's level, the department's resources are attributed to the integrated master's programme in medicine. Dedicated master 's programmes in clinical nutrition and human nutrition are specifically offered by the department.

The committee's evaluation

The department's emphasis on outstanding educational activities is reflected in the large and growing number of medical students in collaboration with the different hospitals involved. The education focus has a positive impact on the local economy through the attraction of students, researchers and other professionals to the region. The department also boasts the highest number of students admitted to the medical student research programme. The committee is positively impressed with the resulting reduction in time spent to complete a PhD and the relatively young age of the enrolled students upon completion of the programme.

The committee's recommendations

The committee recommends further investments in the PhD student stimulation programme to accelerate the career development and increase (international) career opportunities for the graduates.

5. Relevance to society

The department has developed a strong contribution to the Norwegian Long-term plan for research and higher education as is evidenced by the various impact cases that demonstrate strong interdisciplinary focus on innovation and advanced learning. The encouragement and emphasis on interdisciplinary translational medicine is positively evaluated by the committee. The provided impact cases combined highlights from the multiple sclerosis group, Parkinson Disease group, renal research group and Centre for Nutrition. The breadth of research addresses important topics in health and disease, are well aligned with both societal challenges and the focus on rare diseases is commendable. The strategic choices are at the heart of the Sustainable Development Goals (SDGs) of good health and well-being as well as quality education for all and address some of the major European societal challenges. The department's knowledge dissemination activities strongly contribute to its societal relevance. The committee observed in discussion that the development of a more external focus could potentially increase the translational impact further.

Comments on impact case 1 – Clinical nutrition
Disease-related malnutrition among hospitalised patients was investigated by members of the nutritional group in close collaboration with the regional hospitals. The underpinning research focussed on the improvement of guidelines and recommendations for prevention and treatment through the development of a clinical decision-making system to reduce the prevalence of the condition.

The Nutrition group's epidemiological and clinical nutritional research has resulted in the first Norwegian nutritional register for hospitalised patients and a large case-control study at Haukeland University Hospital. It revealed nutritional key factors and their impact on increased morbidity, mortality, length of stay/health care costs. This research impacted clinical practice and provided new innovative instruments for clinical professionals such as new definitions of ICD-10-codes for malnutrition in Norway.

The research has impacted the Norwegian guidelines for disease related malnutrition during hospital care in Norway.

Comments on impact case 2 – Digitisation of the Norwegian Kidney Biopsy Registry and kidney pathology services
Digital pathology technologies utilise modern digital slide scanners embedded in a state-of-the-art digital infrastructure with a multipurpose image database. This enables the use of advanced 'omics' techniques on formalin-fixed paraffin-embedded kidney biopsies for translational clinical research. One focus of the underpinning research was the digitisation and study of non-neoplastic kidney biopsies.

The Renal Research Group (RRG) has developed, digitised and deployed a national kidney biopsy registry since 2012. An essential recent innovative element is the integration of the registry as part of a digital pathology service to, among others, enable the future incorporation of broad 'omics' data within RRG. The registry enables the preservation of rare biopsy materials for fundamental clinical research and assists in the development of national standards for nephrology-pathology collaborations across the boundaries of scientific domains and disciplines.

The research has impacted local and national digital renal pathology research and augmented the national renal registry. It has resulted in an essential element of Norwegian national clinical research infrastructure with string links to international integrative digital pathology.

Comments on impact case 3 – High-efficacy multiple sclerosis therapy to a sustainable cost to the society

The underpinning research facilitated academic trials in Norway and Scandinavia to establish improved treatment strategies of available therapies. One highlight of the impact case was the discovery of high efficacy from the off-label rituximab treatment. The finding, in close collaboration with Swedish researchers, led to gradual usage increase as well as systematic implementation of drug dosing and dosing interval recommendations. The researchers also reached out to international pharmaceutical industries, which enhanced impact.

The Bergen Multiple Sclerosis Research Group facilitated Norwegian participation in large clinical trials in the domain of MS research and pioneered early implementation of new personalised therapies. The research of the group aims to provide improved and personalised treatments for multiple sclerosis (MS).

The MS research group implemented rituximab in national treatment guidelines which impacted the Norwegian Health Technology Assessment (HTA) of MS-therapy. The group's contribution to the Multiple Sclerosis International Federation (MSIF) initiative to include MS medication on the WHO's list of essential medicines impacted global therapy access for patients.

Comments on impact case 4 – NAD-replenishment therapy as a disease modifying strategy for neurodegeneration

Researchers explored the downstream impact of impaired mitochondrial respiration in Parkinson's Disease, which was hypothesised to lead to aberrant nicotinamide adenine dinucleotide (NAD) metabolism. An indirect study of NAD metabolism was performed where the state of histone acetylation (largely regulated by NAD-dependent enzymes such as sirtuins) was targeted. The surprising findings that the Parkinson's Disease brain is characterised by genome-wide increased histone acetylation and dysregulation of gene expression, were plausibly linked to decreased NAD-dependent deacetylation.

Building on their underpinning research, the group proposed NAD-replenishment therapy as a potential disease-modifying strategy. These findings have nominated NAD-therapy as a neuroprotective strategy for Parkinson's Disease and have led to multiple ongoing trials, and significant intellectual property and commercialisation endeavours.

A new therapy to increase the NAD level in the human brain using oral nicotinamide ribose was discovered which potentially has a large impact on neuroprotective therapy. The clinical trials, filed intellectual property, and publications have or will generate social (patients), economic (pharma market) and scientific (publication) impact across the board. This is a beautiful example of how to add value to scientific research and the time needed to make optimised and long-term impact.

Appendices

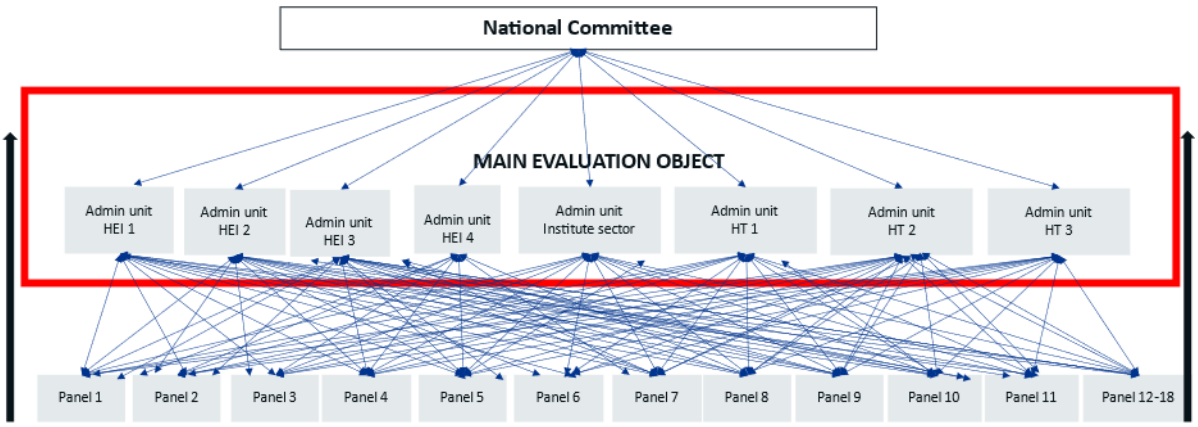
Evaluation of Medicine and health 2023-2024

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
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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.

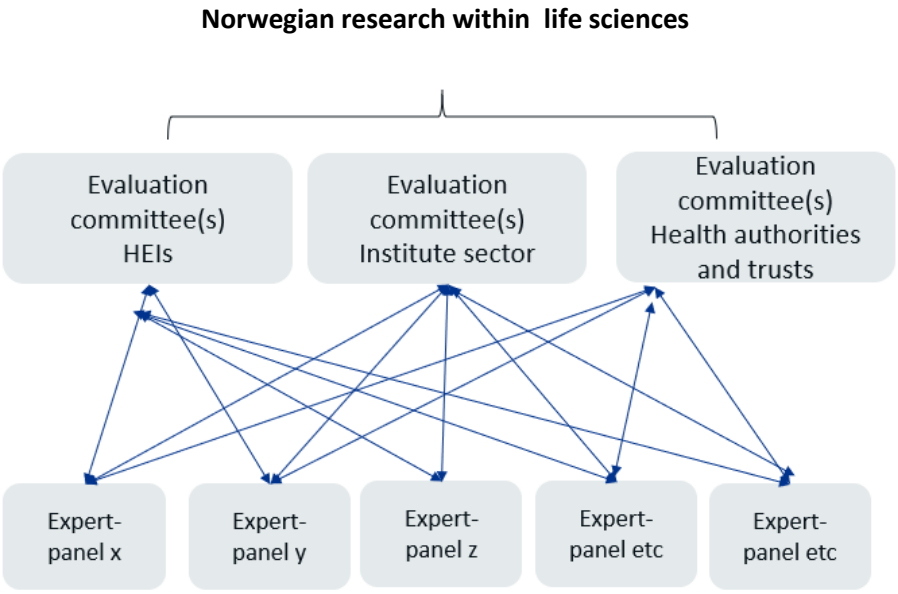

Figure 1. Evaluation committees and expert panels

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 I	Bergen Multiple Sclerosis Research Group	Panel 3b-1
UiB	Department of Clinical Science I	Centre for Cancer Biomarkers CCBIO	Panel 3a-2
UiB	Department of Clinical Science I	DECODE-PD	Panel 3b-1
UiB	Department of Clinical Science I	Renal research group (RRG)	Panel 3b-2
UiB	Department of Clinical Science I	Section of Nutrition	Panel 4b

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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