Forskningsrådet

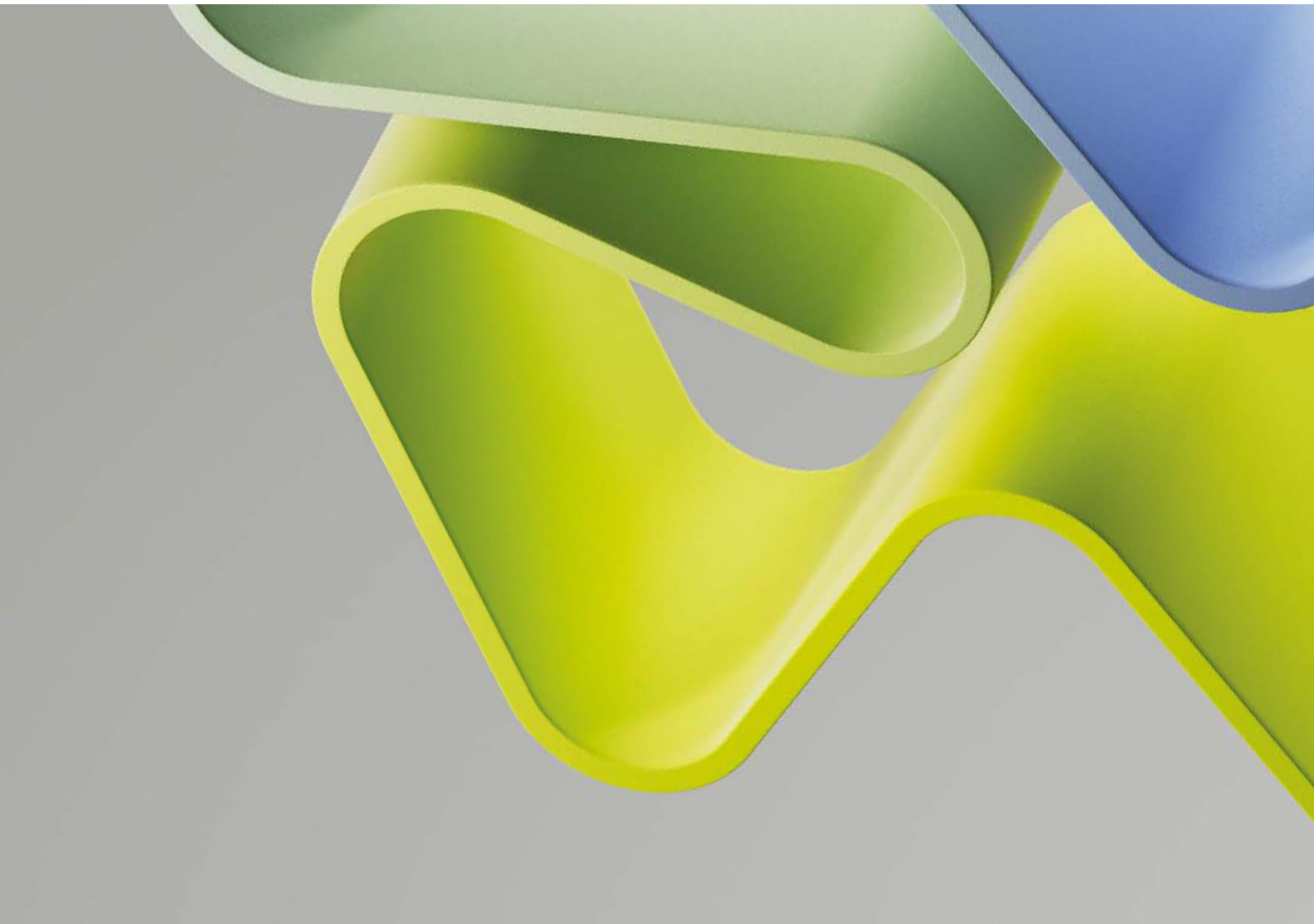
Evaluation of Life Sciences 2022-2024

Evaluation of medicine and health 2023-2024

Evaluation report

ADMIN UNIT: Institute of Basic Medical Sciences
INSTITUTION: University of Oslo (UiO)

December 2024



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Statement from Evaluation Committee Higher Education Institutions 3

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

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

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

This report is the consensus view from Committee Higher Education Institutions 3. All members of the committee agree with the assessments, conclusions and recommendations presented here.

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

Professor Søren Brunak (Chair)

Novo Nordisk Foundation Center for Protein Research, University of Copenhagen

Professor Jouni Hirvonen

University of Helsinki

Professor Ruth Palmer

University of Gothenburg

Professor Lea Sistonen

Åbo Akademi University

Associate Professor Simona Lodato

Humanitas University

Professor Ron Heeren

Maastricht University / Maastricht Multimodal Molecular Imaging Institute

Anoushka Dave, Technopolis Group, was the Committee Secretary.

Oslo, December 2024

Profile of the administrative unit

Research at the Institute of Basic Medical Sciences (IMB) is organised by and within four departments (Molecular Medicine, Nutrition, Biostatistics/Oslo Centre for Biostatistics and Epidemiology (OCBE) and Behavioural Medicine) and the Centre of Excellence (CoE) Hybrid Technology Hub, and is supported by IMB's administration and other support services. Within the departments, research is organised in research groups, with associate professors and professors as group leaders. The unit consists of about 400 employees, with 318 researchers, including professors, associate professors, researchers, postdocs, PhD students, and engineers. Among these categories, women represent a minority of professors (ca. 30%), associate professors (41%) and postdocs (41%) while they represent a majority of PhD students (66%).

The institute is comprised of 12 thematic research groups, each comprised of several principal investigators (PIs) and labs: Cardiovascular physiology, Neurophysiology, Neuroanatomy, Immunobiology, Membrane dynamics, Chromatin biology, the Hybrid Technology Hub CoE, Molecular nutrition, Clinical Nutrition, Nutritional epidemiology, Biostatistics/Oslo Centre for Biostatistics and Epidemiology (OCBE) and the Department of Behavioural Medicine as a whole.

IMB's societal mission is to enable and promote health in a sustainable society through interdisciplinary research, dissemination and education, by pursuing cutting-edge knowledge of mechanisms that can cause or prevent disease and developing innovative health products that serve patients and society. IMB’s main goal is to deliver groundbreaking research through the establishment and development of robust and internationally competitive research teams that underpin IMB's societal mission. The strategy to achieve IMB’s research goals will be delivered by the aforementioned four departments and a CoE. Daily management of each department is independent, yet coordinated across IMB, and includes independent scientific research, recruiting, fundraising, and scientific networking. The departments manage their own budget based on a model common to the institute. Recruitment of group leaders focuses on early-career researchers, mostly at the associate professor level. Internally funded PhD positions support interdisciplinary research (at large, but not systematically) and new hires. Furthermore, infrastructure development is supported by internal and external funding. Principal investigators (PIs) and researchers may receive targeted support for funding applications, and new action plans address career development, equality, diversity, inclusion, peer-evaluation of teaching skills, and sustainability.

National and international collaborations are essential to the unit to increase critical mass, increase visibility, facilitate access to additional research infrastructure, increase multi-disciplinarity, and enhance motivation among group leaders to strive for excellence. They contribute to high quality research, promote researcher mobility and facilitate international funding (e.g. from the EU). Examples of national collaborations include universities, university hospitals, research institutes, and health trusts. IMB has a long history of international collaborations with other universities in the Nordic countries, Europe, and with scientists in all continents. Most of these involve basic research, while others involve more applied research.

According to its self-assessment, in the future, the IMB may leverage its inclusive academic culture, strong scientific and administrative competence, secured internal funding, strategic use of resources, and international recruitment. It may also benefit from robust research infrastructure, technical support, and available facilities. However, challenges include limited global visibility, reduced external funding, and insufficient support for young

scientists. Retaining and recruiting top young talent is considered difficult due to a general lack of permanent positions and career paths in academia in Norway. Despite these challenges, societal changes and opportunities for collaboration, such as multidisciplinary projects and advancements in AI, are expected to enhance IMB’s research relevance.

Overall evaluation

The committee's evaluation of the administrative unit notes several strengths, challenges, and areas for improvement. IMB hosts a number of very strong research groups and unique infrastructures operating at high level of scientific quality. There is a large student population, with project students from undergraduate, master's and PhD programmes. The budget model, in place for over 10 years, appears to be generally well-regarded; however, the prioritisation of teaching over research drives recruitment strategies and limits flexibility. The committee also notes that in the context of unchanged budget allocations, rising infrastructure costs now place significant strain on resources. The upcoming move into a new building, while offering new research opportunities, adds uncertainty to future budgets. Current research infrastructure funding remains ad hoc, relying on applications to the university or RCN, which is unsustainable in the long term at a national level. The committee notes that the animal facility's integration into a university-wide service is a sensible solution that will improve the administrative unit's budget. IMB offers opportunities for early-career researchers to present and exchange ideas, however, a 50% teaching load in recruitment reduces the ability to recruit from the international pool of early-career researchers making the transition to independence. Recruitment of strong researchers is further hindered by the discontinuation of competitive funding packages; reinstating these or adopting similar programmes from Denmark or Sweden could enhance talent acquisition. This exacerbates the general lack of mechanisms to stimulate mobility within Norway. Nationally, the absence of a safety net for top-tier researchers, e.g. European Research Council (ERC) Starting Grant applicants within the administrative unit that received "A" rankings but were not funded, is concerning, as is the potential for delayed grant submissions due to the RCN's no-deadline model.

Regarding the administrative unit's extensive teaching duties, the committee notes that while student numbers are increasing and bringing in additional income, this growth is straining the administrative unit's physical capacity, with the current building nearing its limit. Within the administrative unit, the Biostatistics group has expanded rapidly from 35 to 70 staff over 12 years, presenting both opportunities and logistical challenges.

Overall, the committee considered that the administrative unit is well-run with a strong research environment, although there is variation across the individual research groups. To ensure future dynamism and avoid stagnation, greater focus on early-career recruitment and investment is advised, both to attract talented young researchers and to meet the responsibility of the administrative unit in nurturing the next generation of the Norwegian scientific community. Implementing starting packages with reduced teaching loads in the initial years would further support the establishment of strong research groups. Efforts to meet gender and diversity goals should be intensified, and more sustainable funding models for research infrastructure are needed to reduce reliance on competitive self-funding, which poses significant risks. The committee was impressed by the well-handled data management and accessibility, supported by a dedicated database and personnel, and these efforts should be maintained and further developed.

Recommendations

- Increase efforts to recruit externally at the early independent career stage considering this as an investment for a dynamic future research environment.
- Consider implementation of a teaching “light” strategy to allow incoming researchers to establish groups and increase attractiveness of positions for outside applicants.
- Seek out incentives/strategies to increase applications for research funding in light of the recent RCN policy changes that have removed grant application deadlines. Push for evaluation of this policy at a National level by RCN.
- Consider mechanisms for compensation for highly ranked (but not funded) ERC applications.
- Exploit the opportunities offers by the new life science building to consolidate research infrastructures and collaborative opportunities.
- Actively work for more sustainable funding models for research infrastructure to minimise reliance on competitive self-funding, which carries substantial risks.
- The committee commends the administrative unit’s effective data management and accessibility, which are supported by a dedicated database and personnel, and recommends that these efforts be sustained and further developed.

These actions will support the administrative unit’s long-term success and sustainability.

1. Strategy, resources and organisation of research

1.1 Research strategy

The administrative unit (IMB) is one of three institutes at the University of Oslo Faculty of Medicine and hosts four departments (Molecular Medicine, Nutrition, Biostatistics and Behavioural Medicine) as well as the Hybrid Technology Hub CoE and aims to perform ground-breaking basic and translational research. Overall, there is a staff of 400, including approximately 70 full and associate professors, researchers, postdocs, PhD students, engineers and technical staff and administrative personnel. The administrative unit has regularly published research strategy plans, with the current 2023-2026 plan displayed on the IMB homepage. This plan includes aims to develop internationally competitive research teams, support interdisciplinary research, increase external funding, recruitment of outstanding young researchers, high-calibre PhD supervision and effective utilisation of research infrastructure. The administrative unit has a substantial teaching remit, contributing to undergraduate, master's and PhD education programmes that train Medical and Clinical Nutrition professionals as well as medical researchers. The budget model employed means that the departmental leaders have large control over the budget, and together with the administrative unit leadership determine research strategies and recruitments.

The committee's evaluation

The administrative unit is largely following its outlined 2023-2026 research strategy while navigating present-day budget constraints. The budget model reorganisation implemented 10 years ago provides a more transparent model that rewards success in external grant applications. This positive aspect is countered by the teaching-driven nature of the funding model that practically limits freedom of recruitment options to the IMB based on research strategy alone. Overall, the administrative unit hosts a number of groups with strong research production and high international visibility, while providing a high level of basic and advanced level research education. However, their operational model with 50% teaching does not facilitate external recruitment at the more junior PI level, which is an important factor in developing a dynamic research environment for the future. The administrative unit hosts several infrastructures that present diverse financial challenges, from maintenance of infrastructure machine parks to recruitment/retainment of skilled personnel. Infrastructure support is currently dependent on competitive external funding, which brings with it an inherent risk of budget insecurity. The administrative unit also hosts the Norwegian Transgenic Center (NTS), a core animal facility specialising in advanced transgene technology, which was presented as a budgetary challenge in the self-assessment and that will now become part of the overall University of Oslo infrastructure. This would appear to represent a good solution for IMB. Within the near future, projected 2026, the administrative unit will partially relocate to the new Life Science Building which will provide both challenges and opportunities in their research objectives and infrastructure commitments. While the final details regarding the new Life Science Building are unclear, the administrative unit appears to be pro-actively engaged in this endeavour, while understandably raising concerns regarding unknown future budgetary implications of this large-scale reorganisation of the Oslo Research landscape.

The committee's recommendations

The administrative unit can be considered rather successful within the Norwegian research environment. They should discuss ways to modify their research strategy pro-actively, considering:

- recruitment of external younger stage PIs, particularly since the administrative unit is one of the larger Norwegian platforms for the development of basic medical research.
- rewards for e.g. high scoring but non-funded ERC applications, as an extension of their career development strategy for younger scientists.
- continued reorganisation of infrastructures to optimise maintenance and future development.

1.2 Organisation of research

Research activities at the administrative unit are led by Professors and Associate Professors who run research groups. It currently hosts one ERC Advanced grant. Research is mainly organised in four Departments of varying strength. The research portfolio spans from basic science such as chromatin biology and membrane dynamics to neural function and nutrition research. The portfolio also includes metabolic and other research topics at the Hybrid Technology Hub Center of Excellence (HTHCoE) as well as support and research into Biostatistics and Epidemiolgy (OCBE). Individual groups hold solid to excellent publication records, and the administrative unit as a whole publishes regularly in highly respected journals. Group leaders split their time between research and teaching, with some taking on added responsibilities like module leadership or head of education roles, although the roles of other teaching staff are less defined. Group leaders engage in 50% teaching across the board and there are no 100% teaching roles. Collaboration between groups is actively encouraged and the administrative unit actively attempts to foster synergies, hosting group leader seminars and workshops twice a year, along with biannual retreats. Research staff benefit from support services, including an animal facility, biostatistics and epidemiology support, and IT assistance. The biostatistics department is substantial and also serves research groups outside the administrative unit. Recruitment for group leaders primarily occurs at the Associate Professor level, and positions are advertised with 50% teaching. Additionally, 5-8 internal PhD stipends are awarded annually through competitive selection. Career development opportunities for early-stage researchers are supported through the IMB Action Plan (2023-2026), which includes grant writing and career planning, and this is supplemented by additional University of Oslo programmes. Research mobility is supported through leadership courses, sabbaticals (as per UiO guidelines), international exchanges, and available funding.

The committee's evaluation

The administrative unit as a whole appears to function well as a research and teaching unit, with a degree of autonomy at the research group and departmental levels. While efforts have been made to ensure gender balance, there is room for improvement at senior levels. Issues such as teaching and administrative load appear to be more problematic in some research groups. Research groups that prioritise regular seminars, mentoring and mobility are performing strongly. Present budgetary restraints and teaching requirements appear to drive external recruitment strategy more than research considerations, which is concerning.

The committee's recommendations

- Consider ways to reward quality over quantity in publication output.
- The evaluation committee encourages the administrative unit to continue awarding internal PhD stipends competitively.
- Encourage mobility, both nationally and internationally, at all levels.
- Stimulate efforts to apply for grants, both nationally and internationally
- Consider strategies to recruit external researchers at a more junior level.

1.3 Research funding

The administrative unit has average annual core budget of 352 MNOK (approx. 56% of total budget), which together with the external funding component comes to approx. 630 MNOK total. This includes strong EU funding, in particular as part of the EU Flagship Human Brain Project, RCN project funding to PIs and generous grants from the Throne Holst Nutrition Research Foundation to nutrition research projects. There is also significant funding from the Norwegian Cancer Society. The unit therefore achieves external funding levels well above the UiO target of 25%. Core funding comprises fixed amounts, with a performance related component. The administrative unit also holds an ERC grant at the Advanced level and has been successful in the Junior ERC grant category, with funded grants as well as grants awarded category A but non-funded.

The committee's evaluation

Overall, the administrative unit has a large core budget, however, according to the self-assessment and discussion during interview, this is no longer sufficient to cover basic costs. Although IMB is successful in supplementing core funding with substantial external funding, both nationally and internationally, there is significant budget insecurity, particularly involving infrastructure, ranging from demand for high-end technology investments and maintenance to investment in teaching infrastructures. While some research groups at the administrative unit are very successful in attracting external funding, there are areas identified in the Research group evaluation reports that require stimulation. The fact that two young researchers have recently been scored as Category A but not funded in the ERC Starting Panels, suggests that the strategies in place to stimulate grant applications among the researchers at the administrative unit are effective. However, it is disappointing that there are no mechanisms in place to practically reward such efforts and develop research programmes that are clearly highly regarded at an international level.

The committee's recommendations

- Develop strategies to maintain a constant level of competitive grant applications to RCN.
- Consider strategies to reward efforts by researchers applying for external funding. For example, ERC applications Ranked A (but not funded) could receive some support from the administrative unit. One tool could be to reward with points that count during the yearly attribution of internal PhD stipends to group leaders, a system that is already based on competitive project application and evaluation.
- Continue to encourage and stimulate interdisciplinary research funding applications with both internal and external collaborators

1.4 Use of infrastructures

The administrative unit acts both as user and provider in advanced research infrastructures. It actively participates in several national and international research infrastructures, covering equipment, service and support infrastructures. As a key partner in NORBRAIN, the administrative unit hosts crucial national neurotechnology infrastructure, including two-photon microscopes. IMB also engages with European and international infrastructures, hosting Norway's node for EBRAINS, a digital research infrastructure for brain science from the EU’s Flagship Human Brain Project. The administrative unit is also an active member of the NuGO consortium, which is an Association of Universities and Research Institutes focusing on nutritional research. Through the Hybrid Technology Unit, it also participates in the SUMO consortium funded by the European Innovation Council Pathfinder Challenges programme, which aims to develop *in vitro* organ models. Researchers additionally access resources through ELIXIR3, NorSeq, NALMIN, and NAPi, with supplementary infrastructures spanning electron microscopy, imaging, metabolomics, and biobanks. In

addition, the administrative unit also hosts the Norwegian Transgenic Center (NTS), a core facility that provides advanced transgenic technology for animal research. It also hosts the Oslo Centre for Biostatistics and Epidemiology that provides biostatistical expertise to researchers, providing 14,000 hours of advice annually to institutions such as the University of Oslo, Oslo University Hospital, Norway's National Institute of Public Health, and the Cancer Society. The administrative unit is committed to the FAIR principles (Findable, Accessible, Interoperable, and Reusable) to enhance research transparency and reproducibility, with NORBRAIN and EBRAINS both actively adhering to these standards. All research conducted at the administrative unit is expected to comply with FAIR, ensuring broader accessibility and utility of data across projects.

The committee's evaluation
The administrative unit is heavily involved in both national and international life science infrastructures, from important animal facilities to specialised resources with international impact, such as NORBRAIN. The Oslo Centre for Biostatistics and Epidemiology (OCBE), provides essential biostatistical expertise to the administrative unit as well as additional institutions, mainly in the Oslo research environment. NTS offers advanced transgenic technology to support animal research but poses significant budgetary challenges, which appear to have been recently resolved in the form of bringing this facility to the university level (above the administrative unit). Certainly, it is important that such expertise is maintained for the Oslo medical research environment. Generally, infrastructure management at the administrative unit faces financial challenges related to equipment maintenance and staff recruitment, which is exacerbated by reliance on external funding. Additional challenges and opportunities arise with the integration of some part of the administrative unit in the new Life Science Building by 2026 that will require significant effort in pursuit of the best solutions for the administrative unit and the extended research environment. How these challenges are met will be important in shaping the administrative unit's research capabilities and infrastructure resilience over the coming years.

The committee's recommendations
The administrative unit hosts an impressive range of national and international infrastructures. As noted by the administrative unit itself and discussed by the evaluation committee, the challenges associated with maintaining infrastructure in today's research climate are substantial. The administrative unit is encouraged to:

- Continue proactively working to maximise effectiveness of infrastructure and data management during the upcoming move into the new Life Science Building while seeking out synergies with other units.
- Work for more resilient long-term funding models for key infrastructures.

1.5 Collaboration
The administrative unit has numerus established collaborations that are both at the national and international level. In total, 10 national and 10 international collaborations are reported. Cumulatively, these collaborations act as an important catalyst for both research excellence and external funding, such as from the EU. The administrative unit reports a significant increase in co-authored publications over the past decade. OUS is the strongest collaborator, reflecting a long-term relationship in which infrastructure and expertise are shared, and as such is the administrative unit's most frequent collaborative publication partner. The administrative unit hosts several centres of excellence, including HTHCoE, SmartSense, and NOR-Eden. The administrative unit is also a partner in various initiatives such as CoE CanCell, NORBRAIN, the Norwegian Transgene Center Core Facility, and CoE Integreat. Additionally, IMB collaborates through research schools such as TNNN, Norheart, NORBIS, NRSN, and NurtiNOR. On the innovation front, it coordinated the RCN-

funded Centre for Research-based Innovation, BigInsight, which partners with Norwegian companies. Internationally, the administrative unit is involved in projects like Horizon 2020 (RESUER, Longitold, and Co.CREATE), collaborations with developing countries, and the EU Flagship Human Brain Project.

The committee's evaluation
The administrative unit is engaged in numerous collaborations across the research portfolio and this appears to be actively encouraged within the unit. This is driven by excellent research at the level of independent research groups and also through the larger infrastructures that the administrative unit is involved with both nationally and internationally. The existing collaboration landscape plays an important role in bringing in external funding to the administrative unit as well as in stimulating the research activities at the administrative unit. As the administrative unit itself notes, and the committee concurs, maintaining and extending this is critical for visibility and to strengthen research excellence and multidisciplinary research.

The committee's recommendations
The administrative unit is already highly collaborative at the local, national and international level. The unit is encouraged to:

- Work to maintain a high level of collaboration, both nationally and internationally.
- Promote interdisciplinary collaborations.
- Use the upcoming partial move to the new Life Science Building to actively seek out new and stimulating collaborative ventures.
- Encourage collaborative applications at the EU level including the EU Synergy grant programme.

1.6 Research staff
The administrative unit has a staff of 400, including approximately 70 full and associate professors, researchers, postdocs, PhD students, engineers and technical staff and administrative personnel. There is a good overall gender balance, however, senior positions (Associate and Full Professor) are still more male dominated. This is noted by the administrative unit in their self-assessment. In comparison, there is a larger percentage of PhD students. The administrative unit employs a strong contingent of PhD students (68 in 2022), and postdocs (51 in 2022), in addition to other research categories and technician/engineers. The research support staff, include staff in the animal facility, biostatistics and IT support groups. PhD students are primarily funded by external competitive funding and 5-8 internal PhD stipends per year are awarded based on competition.

The committee's evaluation
Overall, the composition of the research staff is supportive of a competitive basic and translational research environment. The lower number of females in senior positions is notable, but the administrative unit is actively working to correct this, and female colleagues are encouraged to apply for more senior positions. The employment of staff at the junior group level from outside the administrative unit is difficult to achieve with the overriding practical focus on covering teaching commitments, which risks impact on the research environment.

The committee's recommendations
The unit should continue to work for a well-balanced staff composition, and consider the gains to be made through external recruitments at a more junior level.

1.7 Open Science

The administrative unit follows the University of Oslo Open Science Strategy and Policies, which clearly promote and recommend open availability in publication. According to the self-assessment report, 99% of current publications are in Open Access format. The NIFU data provided documents a Gold Open Access of 51.6%, compared with a National Average of 35.3%; and a not open access rate of 1.8%, compared with a national average of 17.0%. IMB also contributes to open science by co-ordination of the EBRAINS national infrastructure, which is a FAIR infrastructure platform and part of the Human Brain Project. The administrative unit also has a well organised data management plan that is actively implemented. Research data such as genomic sequence data, computer programmes and algorithms are archived in publicly accessible databases.

The committee's evaluation

The administrative unit has a well planned and executed open science strategy, which is clear from the data provided in the self-assessment and the additional data made available for evaluation. According to the NIFU report, there has been a substantial shift in open access publishing over the last decade. The financial implications of a high level of open access publications for the administrative unit’s budget are unclear. The data management plan at the level of the research groups appears to be actively implemented, with personnel assigned to maintaining this effectively.

The committee's recommendations

No recommendations, other than that the administrative unit should continue to be proactive in open access.

2. Research production, quality and integrity

The research portfolio of the administrative unit spans from basic to translational research. The portfolio also hosts the HTHCoE as well as support and research into Biostatistics and Epidemiology (Oslo Centre for Biostatistics and Epidemiolgy, OCBE). Research activities at the administrative unit are led by Professors and Associate Professors who run research groups. It currently hosts one ERC Advanced grant. Research is mainly organised in four Departments of varying strength. Individual groups hold solid to excellent publication records, and the administrative unit as a whole publishes regularly in highly-respected journals. The publications output in descending order is primarily in the research fields of Biomedicine, Biosciences, Nutrition, Public, Environmental and Occupational Health, Neurology and Multidisciplinary Natural Sciences (NIFU Report, Figure 1.2). Publication output has increased substantially from 2013 to 2022 (from 119 – 446 publications), with mean citation scores above the national average, and modified author shares also increased (NIFU report, Figure 1.1). This information suggests that research activities at the administrative unit have been growing strongly over this time. Importantly, the trend in these figures continues upwards. The administrative unit currently has close to fully compliant Open Access publishing (NIFU report, Figure 1.3), reflecting a substantial shift in Open Access publishing over the last decade. The administrative unit's policy for research integrity follows the University of Oslo guidelines and regulations.

2.1 Research quality and integrity

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

Research group Cardiovascular physiology

The Cardiovascular Physiology research group consists of several successful PIs with a variety of expertise. The group is supportive and well organised with good leadership, although collaboration within the group has been limited. The group contributes extensively to teaching and training of research students and overall, their contribution to the host institution is excellent. Although the group produces high quality, internationally recognised research and has been successful in terms of grants, they are struggling with much time spent writing grants with a rather low success rate. Loss of talent to industry is also seen as a threat. More international and national collaborations may be useful for the group, to secure access to advanced models and methods and improve the potential for EU funding. Societal impact is adequate but could be improved.

Research group Chromatin biology (CHROBIO)

Considering the size of the research group and its funding resources, CHROBIO has been performing very well in an internationally competitive field of research. Although the group is relatively small, its composition and research strategy are suitable to conduct the outlined activities, including obtaining funding and internationalisation. However, one PI seems to dominate in the funding portfolio (5 of the 10 projects listed) and publications (6 last authorships of the 10 publications listed), which leaves the research group vulnerable in terms of sustaining the group's high-level research performance if that PI decides to leave. The projects also seem quite diverse and without focussed activity it may be difficult to reach the top international level in chromatin-associated gene regulation.

Research group Clinical Nutrition
This is an internationally recognised group where the research environment is very strong enabling the production of excellent research. The group take a leading role in major research 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 internationally excellent in terms of originality, significance and rigour but falls short of the highest standards of excellence. The group have made a very considerable real-life societal impact in Norway and has active user involvement across its research portfolio. The grading shows the performance of the group is well-balanced and consistent across all the dimensions.

Research group Department of Behavioural Medicine
This is an impressive research group that delivers in relation to its aims and objectives. It is well and innovatively organised and contributes a lot to medical education and research in Norway. The level of funding is very strong, as are its publications and user involvement. It stands out for taking into account the complexity of biopsychosocial aspects of health and illness.

Research group Hybrid Technology Hub Center of Excellence (HTHCoE)
HTHCoE is an excellent group with a well-defined focus and drive for scientific excellence, as well as capability to attract talent and train next generation researchers. HTHCoE has secured significant external funding from various sources. It has patented innovations and published excellent publications in international high-quality journals. HTHCoE can be compared to other Scandinavian centres of excellence, which also follow the same template i.e. a competitive call for seed funding to enable the initial set-up, complemented by additional fundraising and institutional support for sustaining the activities. Owing to the nature of the funding scheme (for establishing a centre of excellence), HTHCoE has carefully considered the exit and contingency plans.

Research group Immunobiology
The research group is small but productive and conducts excellent science. The group actively contributes to teaching and has a somewhat modest societal impact. However, the level of user involvement in research is unclear. The group has a good funding portfolio and has an ambitious goal of obtaining 80% of external funding for activities. International collaborations have been forged and these contribute to the group reputation. However, international funding is limited. Given the small size of the group, there is a risk that group members spread too thin across the various aspects they have to participate in, including in terms of teaching load.

Research group Membrane dynamics
The panel acknowledges that the self-assessment report is very well structured. The SWOT analysis is realistic, carefully considered and describes well the current situation of MemDyn. The strengths and opportunities are obvious, but positive performance and development are severely challenged by recent changes in the composition of the research group, especially with some PIs leaving and new young PIs joining. Consequently, the three threats listed, i.e. changes in the team composition, compromised future funding opportunities, and ageing infrastructure, might jeopardise the exceptionally successful performance level and high quality research that MemDyn has achieved to date.

Research group Molecular Nutrition
Although the group has a reasonably well-developed capacity to attract external funding, over recent years this capacity has slowed down, especially with regard to international funding. This is possibly due to a reduction in the manpower in this group. Funding from private parties (industry) is not well developed. Not all group members are eligible to apply for some of the national funding programmes (e.g. Research Council of Norway grants) which presents a major threat to maintaining the funding levels of the group. The

educational tasks are performed well and taken seriously by the group. This effort is well aligned with the goals of the institution. The output in terms of scientific publications is good, but not excellent. The level of user involvement in the research was unclear.

Research group Neuroanatomy
The Neuroanatomy self-assessment report portrays a well-organised group engaging in wide ranging activities and making significant contributions to research at a high national and international level. In addition, members of the group make extensive contributions to

teaching, as well as to national administration and management roles. The panel has a broadly positive impression on the group and views its future as secure. However, despite the high volume of papers published in the review period the group should now try to focus on quality and impact over quantity, in order to improve their contribution. The societal impact of the research group's activities can also be improved through more targeted interactions and engagement with the public and other users. It is hoped that the Neuroanatomy research group will go from strength to strength at the onset of its 2nd century of contributions. The thoughtful SWOT analysis outlined the many challenges (and opportunities) they face. The group makes a very significant contribution to the education of students at the University, providing training for the next generation of doctors, dentists and nutritionists. A specific weakness highlighting the scope for improvements in PI track records who are overstretched with teaching and administrative duties was one that resonated with the panel. Efforts to remedy this through constructive dialogue with the institution are encouraged.

Research group Neurophysiology
The NEUROPHYS group has produced a very clear and structured self-assessment report written with a palpable enthusiasm and confidence in future achievements. The group's overall strategy is well detailed and convincing. UiO provides a very good level of support for the group. Research quality is demonstrably high on all relevant measures. The group is excellent in securing funding with a diverse portfolio of funding sources (national and European grants, charity funds and private sector). The group has many excellent collaborations including with industry and health care/patient organisations.

Research group Nutritional epidemiology
The overall assessment of the research group by the panel is that the research is sufficient to achieve international recognition.

The main goals for the research group are to develop and evaluate innovative dietary assessment methodology and infrastructure, to improve the insight on how specific dietary components influence various health outcomes in observational and intervention studies, and to develop diet- related preventive strategies targeting key determinants of diet in a life-course and sustainability perspective. However, from the self-assessment it is not clear for the panel which methodological competences are present and which competences are lacking. In addition, the research group plays a major role in teaching at different levels at the University of Oslo.

The research group has a longstanding history of developing and quality assuring various dietary assessment methods, such as paper based and digital food frequency questionnaires, food diaries, and a digital 24-hour dietary interview module. This work does not only benefit the own research group but also other research groups, within as well as outside the Department. By extension, it should also provide good opportunities for increased involvement in international collaborations. This will most probably give the research group the possibility to increase their ambition regarding annual published papers in high impact journals.

Research group Oslo Centre for Biostatistics and Epidemiology (OCBE)
This is a well-established group within biostatistics and epidemiology. It has a strong biostatistical profile, but its epidemiological profile is somewhat weaker. The group has substantial funding and its work is very relevant to University of Oslo. Its strengths are a large international and national network and access to the unique Norwegian research infrastructure, including high-performance computer platforms, national registries and biobanks, as well as prospective cohorts. The group has developed large national and international networks.

The group's research output is 200 papers to date. Its broad portfolio likely reflects its key role in providing biostatistical expertise to clinicians and public health researchers. Several papers focus on the group's own research within biostatistics. These papers are of high international scientific quality. The group contributes particularly to the Norwegian research infrastructure and to the academic infrastructure at both the University of Oslo and the Oslo University Hospital but is recognized beyond the Norwegian research environment.

The group provides 14,000 "advising hours" per year, corresponding to the work of 10 persons annually. The group also provides advice to the National Institute of Public Health in Norway, as well as to the Cancer Society. The self-assessment provides little information on user involvement.

3. Diversity and equality

The administrative unit outlines its strategic framework in publicly available documents from the University of Oslo, the Medical Faculty and the administrative unit itself. The administrative unit's webpage clearly presents its social mission, vision, and values, that focus on diversity and equality. Their action plan includes measures to promote gender balance in recruitment and increase cultural awareness among employees, who are encouraged to attend relevant training courses. To support inclusivity, the administrative unit offers language courses that aim to integrate non-Norwegian speakers. A system called "SPEAK UP" has been put in place for employees to report harassment as part of the administrative unit's commitment to a respectful, inclusive and supportive workplace environment.

The committee's evaluation
The administrative unit appears to be constructively working to address diversity and gender equality. While efforts have been made to ensure gender balance, there is room for improvement at senior levels, and work must continue in this area. In order to foster a highly competitive and interactive research environment, it is important to increase participation of non-Norwegian employees. Thus, it is commendable that newly recruited staff are offered Norwegian language classes, although this seems only to be sponsored for newly hired professors/associate professors. This is particularly important for the more mobile segment of staff, such as PhD students and postdocs.

The committee's recommendations

- Continue to work for gender equality and diversity in senior positions.
- Work to maximise active participation of non-Norwegian staff across the administrative unit's activities.
- Maintain a zero tolerance of harassment in the workplace.

4. Relevance to institutional and sectorial purposes

The administrative unit engages in high-level research on health and disease, contributing significantly to the broader knowledge base in these areas. The unit is focused on the education of master's (hosting the Clinical Nutrition programme), medical and PhD students, aligning with sector-specific goals to prepare skilled researchers and medical practitioners. Research and teaching efforts impact the public health sector, basic and clinical research areas, and industry by advancing applied research and providing new insights. Group leaders within the administrative unit are active researchers and 20% have an adjunct position at Oslo University Hospital. Expertise in biostatistics and epidemiology supports research efforts within the administrative unit and provides valuable resources to the wider research community. The administrative unit is also active in the area of innovation, which has become more prevalent in recent years.

The committee's evaluation

The administrative unit has impact in the Norwegian health sector on many levels. Other than research and education, research staff at the administrative unit seem highly motivated in innovation and commercialisation efforts, as demonstrated by 70 Declarations of Invention submitted to Inven2 since 2012. Additionally, projects have received funding through SPARK, and in 2022, ten researchers at the administrative unit secured support from Growth House, which was newly established in that year. The administrative unit actively supports these activities by offering information sessions, seminars, and other interventions that encourage innovation, helping to foster a culture of entrepreneurship and practical application among researchers. Of note, young researchers are encouraged to join initiatives like SPARK Norway and the School of Health Innovation, where they gain practical skills and mentorship in developing and commercialising new health solutions. These practices foster an entrepreneurial mindset and support the translation of research into impactful health innovations.

The committee's recommendations

- Continue to stimulate innovative efforts.
- Actively maintain a strong research environment for basic research discoveries.
- Foster opportunities for clinical translation.

4.1 Higher education institutions

The administrative unit focuses on education at the undergraduate, Master's, and PhD levels (with 68 PhD students in 2022). Group leaders within the unit are actively involved in teaching and contribute to the education of students in medicine and clinical nutrition. Additionally, the administrative unit offers statistical education and advisory services to PhD students and researchers across the Oslo region. The administrative unit is engaged in research schools, serving either as lead or partner in national research schools and specialised PhD courses. It also fosters collaboration opportunities for students. At the master's level, the unit oversees a five-year master's programme in Clinical Nutrition, which includes an independent research project in the final year during which students are fully integrated into a research group. Between 2012 and 2022, the programme graduated 234 MSc students in Clinical Nutrition, some of whom have pursued PhD studies. Medical students also undertake project assignments within the administrative unit. Furthermore, the administrative unit supports a Medical Student Research Programme enabling medical students to develop and carry out research projects, with some participants continuing on to PhD studies.

The committee's evaluation
The administrative unit has a broad educational remit, from undergraduate programmes to specialised master’s and PhD courses. The administrative unit’s high percentage of international researchers contributes to create a more global academic environment for those students in higher education programmes. Overall, the administrative unit makes a strong contribution to the medical and clinical nutrition programmes, as well as producing master’s and PhD level graduates. The numbers of master’s and PhD level students are good in relation to the administrative unit’s size and make up. Finally, the contribution to statistical education for PhD students and other researchers by the administrative unit is an important one.

The committee's recommendations
Work to maintain and improve collaborative opportunities and an international research environment for PhD students. The committee has no other recommendations.

5. Relevance to society

The administrative unit actively generates new knowledge and insight that advance research, education, and the broader understanding of health and disease. Innovation activities appear to be encouraged in the administrative unit's staff. The case studies submitted by the administrative unit illustrate how past and ongoing research has impacted society in the areas of medical disease as well as mental and physical health and wellness. Generally, the research contributes societal challenges and globally towards UN Sustainable Development Goals 3 (Good health and well-being) and 4 (Quality education). Research publishing activities cover a wide spread of peer-reviewed journals and additional forums, including the top tier of scientific publication. In several instances, illustrated by the impact cases, research activities have resulted in increased public awareness and well as adoption of national guidelines that have had direct impact on Norwegian society. Importantly, the administrative unit contributes substantially to the training of Medical and Clinical Nutrition professionals as well as the next generation of Norwegian medical postgraduate researchers.

Comments on Impact case 1 – 4D epigenetics of adipose tissue stem cells.
This case describes a strong body of basic research defining basic mechanisms underpinning adipogenesis. Work in the Chromatin Biology research group over the last decade has focused on investigating genomic organisation and metabolic function in the context of adipogenesis. These studies have resulted in consistent strong publication of research findings that have provided mechanistic insight into pathology underlying lamin A-linked lipodystrophies. This case provides evidence of strong basic research at the administrative unit, linking spatial chromatin organisation with pathology. Of note, this work has generated publicly available epigenetics datasets for adipogenesis together with bioinformatics pipelines that can be applied. Public dissemination in the scientific field is strong, with regular speaker invitations both nationally and internationally.

Comments on Impact case 2 – The role of sleep in brain waste clearance.
Following a unique initial 2012 finding identifying the glymphatic system, researchers at the administrative unit have focused on roles of astrocytes in sleep and brain function and their importance in understanding brain health. Researchers in the administrative unit continue to publish strongly in this area and are particularly strong in vivo modelling and imaging techniques. The impactful characterisation of the glymphatic system in the clearance of waste products from the brain continues to have strong potential for impact in treatment and understanding of human brain disorders. Publicity surrounding these findings has also increased public awareness of sleep as important for brain health.

Comments on Impact case 3 - Prevention of non-communicable diseases (NCDs) by promoting a healthy diet among children.

This impact case builds on the investigation into prevention of non-communicable diseases though a healthy diet that has been a long-term focus of the administrative unit. The cumulative effect of these studies on dietary habits and interventions in children have provided important information regarding the Norwegian dietary habits landscape. The administrative unit has made numerous impactful publications in the area, that have had significant societal impact in public health. Findings have been used in the development of national strategy documents and have led to changes in dietary interventions in Norway's population, such as kindergarten serving of fruit and vegetables and other initiatives that are ongoing. The research efforts have led to an increased awareness of dietary risks for public health that begin in younger years, in particular regarding western diets and cardiovascular disease.

Comments on Impact case 4 - Well-being among students and professionals.

Impact case 4 is underpinned by two epidemiology studies: NORDOC and NORVET. The long term NORDOC study of Norwegian medical students and doctors has resulted in a large number of PhDs being awarded. A similar study, NORVET, was carried out among Norwegian veterinarians. These studies examined work stress in medicine and vet trainees and have resulted in intervention schemes: RCT of Mindfulness and Villa Sana, which have been shown to have effect in long-term studies. Through these studies, the group has identified factors that can be improved during training to reduce stress. Senior investigators at the administrative unit have authored textbook chapters and are recognised experts in the area.

Comments on Impact case 5 - Models for the management of the COVID pandemics in Norway.

This impact case describes research of high societal importance that supported the Norwegian strategy in dealing with the COVID19 pandemic. Here the Oslo Centre for Biostatistics and Epidemiology worked closely with the National Institute for Public Health to continuously model the evolving pandemic situation and advise the public, healthcare and political sector. OCBE took part as a member of the Oslo COVID-modelling group and contributed with research projects involving approximately 15 researchers in modelling epidemics and developing modelling methods that were implemented during the course of the pandemic. This resulted in numerous publications from the administrative unit and they continue to analyse these data and to prepare for future pandemics. It is clear that the research of the administrative unit has had a substantial societal impact as a result of its efforts during this unique global event in which Norway had one of the lowest mortality rates in Europe.

Appendices

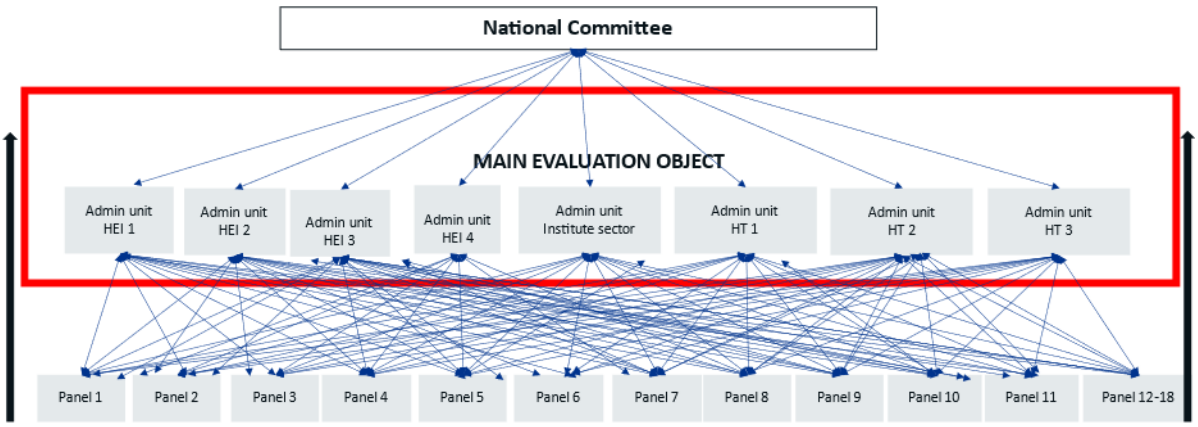
Evaluation of Medicine and health 2023-2024

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

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

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

Organisation of evaluation of medicine and health 2023-2024



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

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

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

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

Forskningsrådet

Se vedlagte adresseliste

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

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

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

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

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

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

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

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

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

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

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

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

Administrative enheter (hovedevalueringsobjektet i evalueringen) – skjema 1

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

Forskergrupper – skjema 2

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

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

Invitasjon til å foreslå eksperter – skjema 3

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

Obs. Det er to faner i regnearket:

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

Utfylte skjemaer (3 stk):

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

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

Tilpasning av mandat – frist 30. september 2023

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

Forskningsrådet

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

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

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

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

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

Med vennlig hilsen
Norges forskningsråd

Ole Johan Borge	Hilde G. Nielsen
avdelingsdirektør	spesialrådgiver
Helse	Helse

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

Kopi
Helse- og omsorgsdepartementet
Kunnskapsdepartementet

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

The Research Council of Norway

Evaluation of life sciences in Norway 2022-2023

LIVSEVAL protocol version 1.0

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

The Research Council of Norway
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The report can be downloaded at
www.forskningsradet.no/publikasjoner

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.

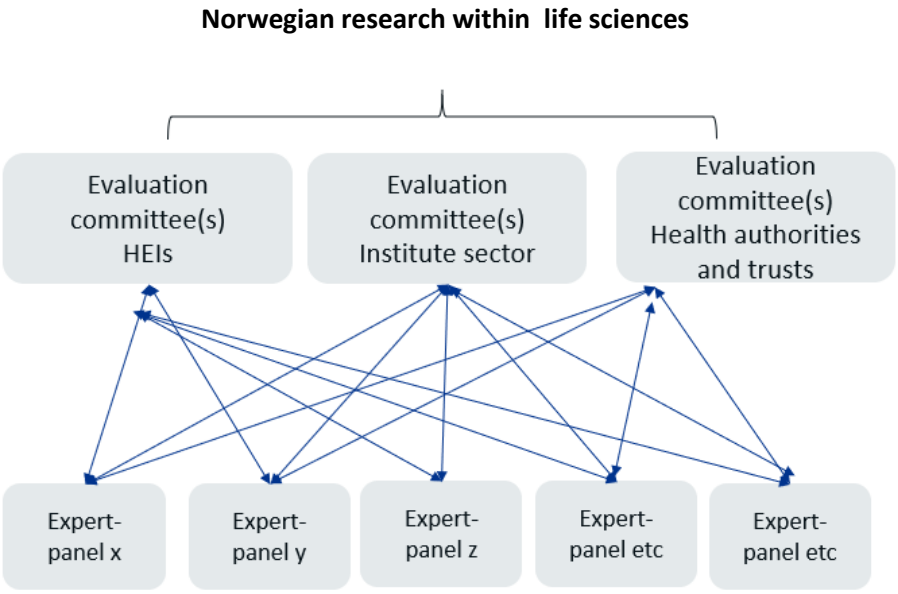

Figure 1. Evaluation committees and expert panels

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
UiO	Institute of Basic Medical Sciences	Cardiovascular physiology	Panel 1a
UiO	Institute of Basic Medical Sciences	Chromatin biology	Panel 2b
UiO	Institute of Basic Medical Sciences	Clinical Nutrition (C-Nutr)	Panel 3b-2
UiO	Institute of Basic Medical Sciences	Department of Behavioural Medicine	Panel 4f
UiO	Institute of Basic Medical Sciences	Hybrid Technology Hub CoE (Center of Excellence)	Panel 2b
UiO	Institute of Basic Medical Sciences	Immunobiology	Panel 2b
UiO	Institute of Basic Medical Sciences	Membrane dynamics	Panel 2b
UiO	Institute of Basic Medical Sciences	Molecular nutrition	Panel 2b
UiO	Institute of Basic Medical Sciences	Neuroanatomy	Panel 1b
UiO	Institute of Basic Medical Sciences	Neurophysiology	Panel 1b
UiO	Institute of Basic Medical Sciences	Nutritional epidemiology	Panel 4b
UiO	Institute of Basic Medical Sciences	Oslo Centre for Biostatistics and Epidemiology (OCBE)	Panel 4e

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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