Forskningsrådet

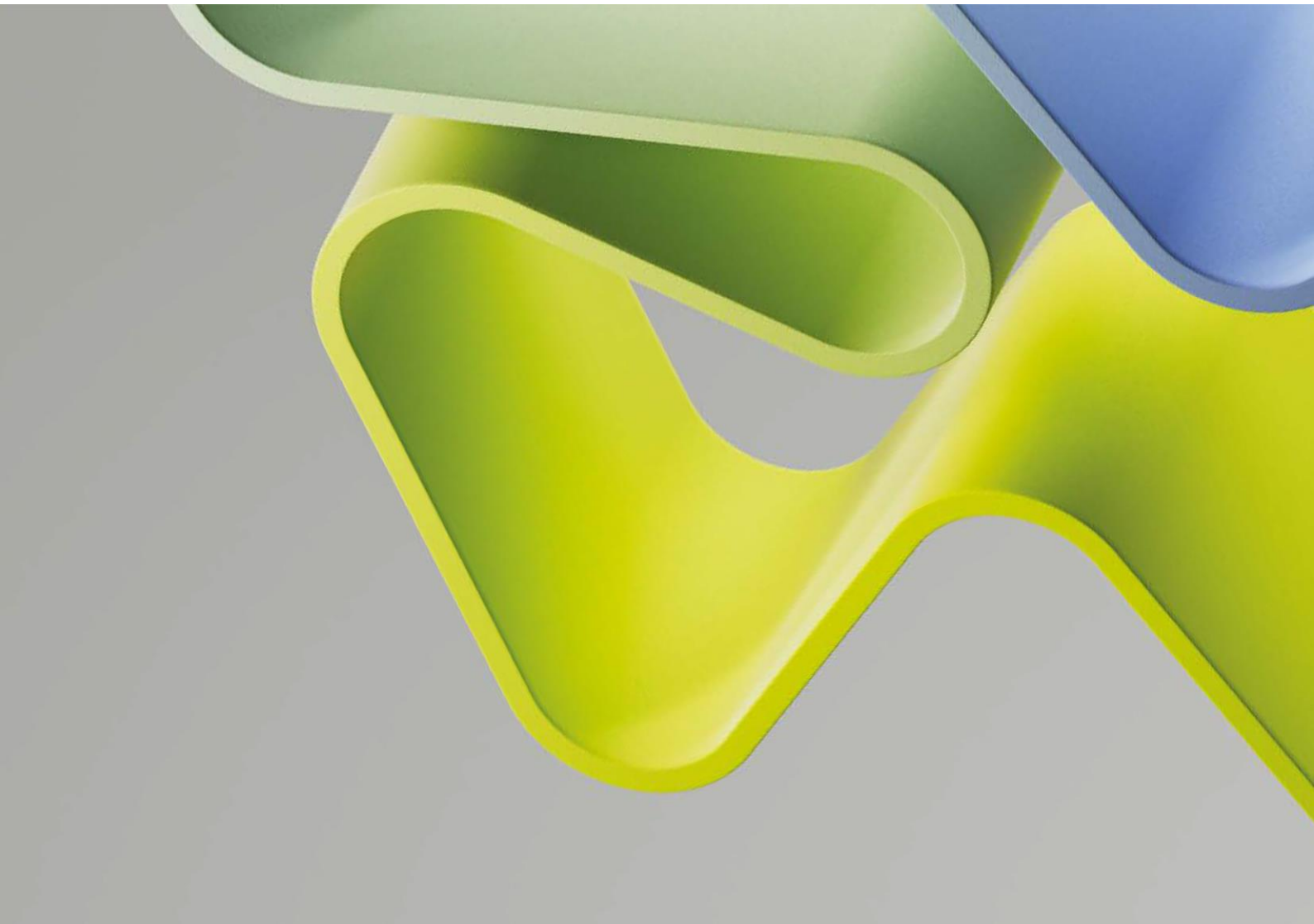
Evaluation of Life Sciences 2022-2024

Evaluation of medicine and health 2023-2024

Evaluation report

ADMINISTRATIVE UNIT: St. Olavs University Hospital
INSTITUTION: St. Olavs University Hospital

December 2024



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Statement from Evaluation Committee Health Trusts 3

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

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

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

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

Evaluation committee Health trusts 3 consisted of the following members:

Professor Jørgen Frøkiær (Chair)
Aarhus University

Professor Geoff Bellingan
University College London Hospitals

Associate Professor Dirk Bender
Aarhus University

Professor Tomas Jernberg
Danderyd Hospital

Associate Professor Tuomo Meretoja
Helsinki University Hospital

Professor Shakila Thangaratinam
University of Liverpool

Professor Marie Wahren-Herlenius
Karolinska Institute

Veerle Bastiaanssen, Technopolis Group, was the committee secretary.

Oslo, December 2024

Profile of the administrative unit

At St. Olavs Hospital, the Administrative Director holds overall responsibility for all hospital activities. Oversight for research is managed by the Medical Director, while the Head of Research, with executive authority, handles operational tasks. In terms of dedicated research staff, the hospital employs 83 researchers and postdocs, 15 study nurses, 12,5 research coordinators and 16 research advisors. Other personnel resources performing or supporting research include:

- All senior physicians (284 in 2022) have time reserved for professional updates which may be used for research.
- Specialist nurse students (189 in 2022) are paid by the hospital and expected to perform a research and/or quality project of value to the hospital as a part of their MSc-degree.
- Laboratory staff (56 MSc, 385 BSc) can be seconded to research projects and actively performs methods development, improvement and benchmarking.
- Hospital staff that starts a PhD can be given administrative leave from the hospital to be employed at the university or perform their PhD part-time while employed at the hospital.

St. Olavs hospital is the co-host of many research groups together with the Faculty of Medicine and Health Science at the Norwegian University of Science and Technology. St. Olavs hospital is the main host for nine of these research group: BRACT, Children's and Women's health, Clinical Academic Group (CAG)-Multiple myeloma centre (CAG-MYELOMA), NorHEAD, Centre for obesity research and innovation (CORI), CAG-IBD, Research group for Occupational Medicine, Warning Signs and treatment of acute suicide risk in psychiatric crises (WARNSIGN) and Trondheim sleep and chronobiology research group (SACR). Additionally, 13 research groups evaluated from the Faculty of Medicine and Health Sciences are considered "joint" under the integrated university hospital cooperation and the hospital has a significant presence in all of these.

The goals of the administrative unit are laid down in the strategy of emphasis on patient-oriented research, healthcare service research, global health research and innovations that contribute to increased quality, with a focus on patient safety and cost-effectiveness, and a comprehensive approach to patient care. To achieve its strategy, St. Olav's Hospital aims to lead in testing and implementing new medical technologies, evaluating personalised experimental treatments in collaboration with industry partners, and swiftly translating research results into clinical practice. The hospital also prioritises sustainability in healthcare by avoiding ineffective treatments. Increasing patient participation in research is a key objective. With Central Norway Regional Health Authority being the only region to establish a shared medical record across primary and specialist care, St. Olav's is uniquely positioned to include patients from various healthcare sectors in clinical studies. Additionally, its strong integration with NTNU, a top university for technological innovation, further enhances its capacity for cutting-edge research and development.

The work of the administrative unit in relation to its sector is connected to its official obligation, both by law and by decree from the government, to orient its activity towards patient treatment and research. Among other things, St. Olav's Hospital plays a national leading role in the development and implementation of new medical technologies. One administrative unit pioneers the integration of cutting-edge technology in patient care, with seven operating rooms serving as testbeds. Six of these operating theatres, spread across different clinics, actively test and implement new technologies in real-time patient treatments. One operating room function as a full-scale testbed for modelling workflows and environments. This approach has positioned St. Olav's as an early adopter of minimally

invasive and computer-assisted surgery, significantly advancing patient care and surgical precision. Moreover, in terms of co-authorship, the national share of co-authorship of St. Olav's Hospital is approximately 94% and the international share is 53%. On a national level, the main collaborators in co-publications are the NTNU with 1774 co-publications followed by the Oslo University hospital and the University of Oslo with 520 and 505 respectively. Internationally, the main co-publishing institutions are Karolinska Institutet, the Karolinska University Hospital and the Copenhagen University Hospital with 176, 117 and 91 co-publications respectively.

Based on its self-assessment, in the future, the administrative unit might take advantage of internal strengths such as the close collaboration with NTNU with a value chain from basic research to RCTs and the outstanding infrastructure for testing medical devices on humans. It might also take advantage of external opportunities such as the greater focus from funding authorities on RCTs with drugs and medical devices and the increased focus on research-based innovation in healthcare area. Challenges which may impact the future situation of the administrative unit include weak external funding and lack of qualified personnel.

Overall evaluation

The overall strategy of St. Olavs hospital for 2012–2022 has been solid and effective. Evaluation of the unit is mainly based on the Terms of reference and herewith on the self-evaluation report, an interview and additional available material. The outlined goals and strategies for the future in the self-assessment are sound and well in line with their focus on sector-specific objectives, contributing to a sustainable health care. The hospital is well organized into centres for clinics, research, and education, including co-location with the university (NTNU).

One of the major strengths and a key factor for success is the close collaboration with the university at all levels. Researchers at St. Olav's hospital have access to most necessary infrastructures for their research by themselves, through national, international engagement and through collaboration with NTNU. The organisational environment to support the research, the research quality and the societal impact among the describe research groups have been graded from good to excellent. The impact cases illustrate that the unit has had a societal impact according to their aims, by developing new diagnostic methods and treatment strategies, including the repurposing of a drug, but also by proving already established treatments as ineffective.

A possible future strength of St. Olav's hospital is the initiated collaboration with the surrounding municipalities and primary care, which is essential if the hospital will focus on sustainability in healthcare and emphasize patient-oriented and healthcare services research and make more innovative use of health data. Also, when leveraging health data, an infrastructure of advanced epidemiology and biostatistics is important.

There is also room for improvement. The committee could not identify a specific document detailing the unit's future research strategy, including more information on priorities, planned activities, and methods for follow-up. For many clinicians the workload is high and there is a risk that it limits time for research. Although there are career opportunities, there are challenges to motivate younger individuals to start and continue with research. The clinics are heterogeneous in size and research activity, and the smaller clinics appear to have more difficulties to develop research. The overall funding from the hospital and for national assignments seems adequate. But the grants received through national and international competitions appear to be limited. There is also room for more international collaboration at unit level and collaboration with industry. The number of on-going clinical studies stated at the interview was relatively low, and there seems to be administrative problems and lack of research nurses. Although, the hospital is working on open science issues in an appropriate way, there is a discrepancy between the hospital's ambitions and the actual level of user involvement at some research groups.

The unit should have a strong capacity to achieve future goals using the outlined strategies together with recommendations in this report.

Recommendations

The unit is recommended to develop a research strategy specific for St. Olav's hospital that is well anchored in the organization, ideally in partnership with the university. This strategy should also outline the criteria and processes for setting priorities, planned activities, and methods for ongoing follow-up and evaluation. It is essential, that the hospital works with strategies to make sure there are time for research for clinicians and that this is carefully followed. There is a need for strategies to encourage young individuals to start and to continue with research. There is also a need for a strategy to support the development of research in the smaller clinics with less research activity.

The hospital should work on strategies to improve external funding, both national and international (EU) grants. The hospital should continue the work of securing necessary infrastructures for their researchers. To leverage on the rich availability of health-data, access to advanced epidemiology and biostatistics necessary either as an infrastructure or as a collaboration is recommended.

The hospital should increase the already started collaboration with the surrounding municipalities and primary care, as this should be essential for some of the future focus areas. The hospital should try to initiate more international collaboration on a unit level, if possible, together with NTNU, and with a top-ranked research organization.

The hospital should work out a strategy to increase collaboration and partnerships with industry. The hospital needs to ensure that its ambitions for user involvement are implemented effectively at the research group level. The evaluation committee also recommend that the hospital develop strategies to increase innovation activity. Since the hospital has the ambition to be a leading hospital in developing and implementing medical technology in health care, the conditions and incentives for innovation needs to be further improved. Although important infrastructures to perform clinical research are in place, the hospital needs to identify bottlenecks to increase the number of clinical studies and fulfil their strategic goals.

1. Strategy, resources and organisation of research

1.1 Research strategy

St. Olav's Hospital is the fourth largest hospital in Norway, with approximately 12,000 employees. Since 2002, it has been run by the Norwegian state, and between 2002 and 2013, the hospital was recognized as a university hospital and largely rebuilt into centres for clinics, research, and education, including co-location with the university (NTNU).

According to the self-assessment, to achieve the goal of having internationally competitive research that improves patient care, the strategies from 2012 to 2022 have been to (1) enhance collaboration with the university and other hospitals, (2) increase collaboration with industry, (3) focus research on implementing new medical equipment, (4) facilitate rapid transfer from preclinical and translational research to clinical research, and (5) utilize regional health data. The hospital appears to have been successful in collaborating with the university to create an integrated university hospital. Although there has been some collaboration with industry, there is still room for improvement. During this period, the unit established a centre for testing medical equipment and a research support centre for experimental treatments. Additionally, it has leveraged health data and biological samples in research.

In addition to continuing this work, the goals for the unit from 2023 to 2026 focus on sustainability in healthcare. The strategies emphasize patient-oriented research, healthcare services research, global health, and innovations that enhance quality, patient safety, cost-effectiveness, and a holistic approach to patient care.

The main activities in the action plan include (1) following up on the national action plan for clinical trials, (2) ensuring active patient involvement in the design of health services, (3) promoting research in under-researched areas of healthcare, (4) facilitating national and international cross-sector cooperation, (5) ensuring research is clinically relevant, (6) maintaining highly competent regional research support, (7) fostering innovative uses of health data, and (8) increasing external funding.

According to the Terms of Reference, the unit, as a Norwegian university hospital, is required to fulfil conditions related to teaching and research activities. This requires documented activity in basic, translational, and clinical research. The hospital asks the committee to pay special attention to its collaboration with NTNU and how it has enhanced research. Additionally, the hospital requests that the committee evaluate the impact of St. Olav's research on patient treatment.

There is no description of how follow-up on the strategy will be conducted or which indicators will be measured. Furthermore, there is a lack of detail on how priorities are established.

The committee's evaluation

The overall strategy for 2012–2022 has been solid and appears to have been effective. The outlined goals and strategies for the future are also sound. The close collaboration with the university is likely a key factor in the success for both parties.

However, among the documents on research strategy, the committee could not identify a specific document detailing the unit's future research strategy, including more information on priorities, planned activities, and methods for follow-up.

The committee´s recommendations

The unit is recommended to develop a research strategy specific for St. Olav's hospital that is well anchored in the organization, ideally in partnership with the university. This strategy should also outline the criteria and processes for setting priorities, planned activities, and methods for ongoing follow-up and evaluation.

1.2 Organisation of research

The Deputy Executive Director is responsible for the research department, but the Head of Research serves as the operational leader. In addition to staff functions, the research department consists of several key units: a research project support function (which handles applications, contracts, data management, monitoring, study organization, and statistical support), clinical research facilities (such as biobanking), the Centre for Medical Device Technology and Innovation (which includes the NorTRIALS Centre for medical devices), and the Health Data Centre of Mid-Norway, which provides storage facilities for the region's shared electronic health record (EHR) system. The Centre for Minimally Invasive Therapy, featuring hybrid imaging capabilities in collaboration with Oslo University Hospital, is also part of St. Olav's Hospital.

There are 17 clinics, which serve as administrative units for both healthcare and research. The chiefs of these clinics are responsible for operations. Clinics with significant research activities have research committees led by a designated manager. Most research groups are integrated with NTNU (Norwegian University of Science and Technology), with researchers holding joint positions. Translational research and research education are typically conducted by the university, while clinical research, including trials, is led by the hospital.

Several forums facilitate collaboration between the hospital and the university. Senior management from both institutions meet formally twice a year, while research management teams have more informal meetings.

The synergistic effects of this organizational structure include the benefits of combined positions, clinical academic groups, and shared infrastructure from both the university and the hospital. Additionally, researchers who conduct work outside their primary clinical field contribute to interdisciplinary learning, which sparks new ideas.

Regarding research staff, there are 385 physicians, of whom 284 are senior physicians actively engaged in research. In addition, there are 83 individuals classified as researchers and postdocs. For early-career researchers, there are opportunities for PhD candidate-, postdoc-, and research positions lasting 2-4 years, funded through competitive grants from the hospital, the Central Norway Regional Health Authority, and the university. These positions typically involve split appointments, such as 50/50, 50/70, or 100/20. Permanent research positions are offered by the university in the form of tenured professorships. Additionally, there are mobility stipends, and senior consultants have the option to take sabbaticals.

While it is challenging to measure research engagement precisely, the hospital has established indicators to assess the extent to which employees are involved in research activities. These indicators include: (1) the time employees dedicate to research, (2) the number of employees with part-time research positions, (3) the number of combined clinical and research positions, (4) the time clinicians spend away from clinical duties to conduct research, funded either internally or externally, and (5) senior medical consultant leave

allocated for research purposes. According to self-assessment, all these indicators have shown an upward trend between 2012 and 2020, though no specific figures are provided.

The committee's evaluation

The hospital appears to be well organized into centres for clinics, research, and education, including co-location with the technical university (NTNU), which serves goals and strategies well. The collaboration with the university is strongest on a research group level. But there seems to be formal collaboration on all levels with common resources, funding structures and infrastructure although note clearly described.

For many clinicians the workload is high and there is a risk that it may limit time for research. During the interview, although there are career opportunities, clear challenges emerged in motivating younger individuals to both start and continue with research.

The clinics are heterogeneous in size and research activity, and the smaller clinics appear to have more difficulties to develop research.

The committee´s recommendations

The hospital should work with strategies to make sure there are time for research for clinicians and that this is carefully followed and monitored. There is a need to focus on the next generation and develop strategies to encourage young individuals to start and to continue with research. There is also a need for a strategy to support the development of research in the smaller clinics with less research activity.

1.3 Research funding

The hospital spends 135 million NOK (1% of its annual budget) on research and receives an additional 144 million NOK annually for national assignments, infrastructure, and development. National grants amount to approximately 33 million NOK, while international grants total around 1.3 million NOK. Additionally, the hospital secures approximately 10 million NOK per year through research contracts.

The committee's evaluation

Funding from the hospital and for national assignments seems to be adequate. However, the grants received through national and international competitions appear to be limited. This is also apparent in the evaluation of the individual research groups. Additionally, research contracts, including those from industry, are relatively small compared to the described opportunities.

The committee´s recommendations

The hospital should work on strategies to improve external funding, both national and international (EU) grants. There is a need for support from dedicated personnel for large international grants, such as Horizon-projects.

1.4 Use of infrastructures

St. Olav’s Hospital participates in NorCRIN (the Norwegian Clinical Research Infrastructure Network), which works to harmonize Norwegian research under Good Clinical Practice (GCP).

The Center for Medical Devices, Technology, and Innovation at St. Olav's Hospital conducts its own research and also oversees several significant national collaborations, such as NorMIT in partnership with Oslo University Hospital and NorTrials Medical Devices.

St. Olav's Hospital was the first in Norway to establish a biobank infrastructure, replacing project-based biobanks. St. Olav's has been instrumental in creating several nationwide, disease-specific biobank collections, focusing on protocols with broad consents, national standards for material and data collection, and strict quality measures. The hospital also participates in Biobank Norway.

St. Olav's has been an active partner in the European Clinical Research Infrastructure Network (ECRIN) and served as the main contact when it hosted NorCRIN. It participates in BBMRI-ERIC through Biobank1 and Biobank Norway and is involved with EATRIS and ELIXIR through cooperation with NTNU.

Employees have access to infrastructures associated with the hospital, either through the research department or core facilities shared with NTNU. These infrastructures are funded by fees, though they operate on a non-profit basis.

All trials conducted at St. Olav's are registered in a searchable public database, typically ClinicalTrials.gov or the Clinical Trials Information System. All research projects are required to have a Data Management Plan (DMP) that addresses the FAIR principles.

The committee's evaluation

St. Olav´s hospital has actively contributed to the national collaboration regarding infrastructures. Researcher at St. Olav's hospital have access to the most essential infrastructures for their research through national, international engagement and through collaboration with NTNU

The committee´s recommendations

The hospital should continue the work of securing necessary infrastructures for their researchers. To leverage on the rich availability of health-data, access to advanced epidemiology and biostatistics is necessary either as an infrastructure or as a collaboration.

1.5 Collaboration

St. Olav's hospital has a very close collaboration with the university. About 370 individuals have combined positions at the hospital and the university. The university units are co-located with the clinics and there are several joint committees for research and educational issues. The university is represented in the hospital board by its president and the CEO of the hospital are in the faculty board. Technical and administrative support are provided across organizational borders and all infrastructures are available for researchers regardless of organization and some infrastructure serve both research and patient care.

The Clinical Academic Groups (CAG) are groups from both the hospital and the university that focus on certain clinical research issues. Of 28 research groups taking part in EVALMEDHELSE, 20 shares resources from both the hospital and the university.

There is also an initiated collaboration between the hospital, university and the surrounding municipalities. Shared EHRs are used and promising projects concerning the care of the elderly frail have been funded and launched.

The Gemini Collaboration represents a model for strategic research coordination between parallel research groups at NTNU, SINTEF, University of Oslo, St. Olav's Hospital and NTNU Social Research. SINTEF coordinates the Gemini Collaboration.

There is also collaboration on treatment, education and research between hospitals in the Middle Norway Health Region.

Together with the NTNU, St. Olav's hospital has several agreements through "Memorandum of understanding" with several international collaborators, such as Yale university, Kathmandu University and Karolinska Institutet.

Other collaborations include (1) the Norwegian centre for minimally invasive image guided therapy and medical technologies (NorMIT) which is a collaboration between the Future Operating Room (FOR) at St. Olav's hospital and the Intervention centre at Oslo University Hospital. (2) KlinBeForsk is a collaboration between all four regional health trusts to enable large nationwide multicentre studies and have calls for 150-200 million NOK per year, where each project can receive up to 20 million NOK. St. Olav's is currently sponsor of eight such studies. (3) CONNECT is a consortium with 28 partners, including university hospitals, health regulatory entities and pharmaceutical companies with the intention to ensure infrastructure and collaboration on diagnostics, clinical trial and implementation of precision medicine. (4) St. Olav's one of six university hospitals participating in NorCRIN which is a collaboration and national infrastructure to strengthen clinical research in Norway by guidance, procedures, courses and better coordination. (5) The hospital is also active part in creating and using disease specific collection at Biobank Norway.

The committee's evaluation

The collaboration with the university is one of the major strengths of St. Olav's hospital. Collaboration with the surrounding municipalities and primary care is under development and must be essential if the hospital will focus on sustainability in healthcare and emphasize patient-oriented research, healthcare services research, and a holistic approach to patient care.

St. Olav's hospital collaborates extensively on a regional and national level. But international collaboration is done in a much lower extent and seems to be based on collaboration by individual research groups and mainly with the Nordic universities. There is room for more international collaboration at unit level. The collaboration with industry can be improved, as the research contracts with industry are still on a relatively low level.

The committee´s recommendations

The hospital should increase the already started collaboration with the surrounding municipalities and primary care, as this should be essential for some of the future focus areas. The hospital should try to initiate more international collaboration on a unit level, if possible, together with NTNU, and with a top-ranked research organization. The hospital should work out a strategy to increase collaboration and partnerships with industry.

1.6 Research staff

Regarding research staff, there are 385 physicians, of whom 284 are senior physicians actively engaged in research. In addition, there are 83 individuals classified as researchers and postdocs. There are about 80 professors and senior lecturers at the hospital. The proportion of men and women is similar among senior physicians, but women are more highly represented in other categories. Among the highest academic positions, there are

more men, but the proportion of women are gradually increasing. There is a somewhat lower proportion of researchers and post-docs compared to other university hospitals, which may reflect a stronger focus on clinically oriented research. The proportion of PhDs and age structure are similar to other university hospitals.

The committee's evaluation

The structure and distribution of research staff is similar to other university hospitals except for a somewhat lower proportion of researchers and post-docs which might be explained by more clinically oriented research. During the interview, recruitment problems of younger researchers emerged, which appears to be a general problem in Norway.

The committee´s recommendations

The hospital should develop strategies to attract younger individuals to research and make them continue also after an initial PhD.

1.7 Open Science

The hospital’s plan is that all publications will be open access. The hospital has been dedicated regarding this work and today, the vast majority of articles are either published as open access or archived in an open-access database. The policy is that all data should be collected following FAIR data principles.

For user involvement, the hospital has a dedicated program with three strategies: (1) a central user committee that discusses policies and strategies, (2) user panels within each clinic for research relevant to those clinics, and (3) collaboration with patient interest groups, which may also participate in research.

All researchers are required to collect data in accordance with GCP, maintain an updated data management plan, and adhere to FAIR data principles.

The committee's evaluation

The hospital is working with open science in an appropriate way and the vast majority of published articles follow the recommendation of open science.

The evaluation committee feels that there is a discrepancy between the hospital’s ambitions for user involvement and the actual level of user involvement at the research group level.

The committee´s recommendations

The hospital should continue their dedicated work regarding open science. But the hospital needs to ensure that its ambitions for user involvement are implemented effectively at the research group level.

2. Research production, quality and integrity

St. Olav’s Hospital conducts a broad range of research, including basic, translational, and clinical studies. One focus area has been the integration of basic and clinical research, with groups that have succeeded in this integration being designated as Clinical Academic Groups. Another focus is the development and implementation of new medical technology; in 2005, a dedicated unit—now called the Centre for Medical Devices, Technology, and Innovation—was established. This unit also hosts the NorTrials unit for clinical studies involving medical devices.

According to the hospital policy, integrity violations should be reported in the hospital’s quality assurance system, and a dedicated committee addresses these issues. The research department is responsible for an internal review of approximately 10% of all projects each year. All new clinical researchers and PhD students are offered research courses covering relevant laws and regulations.

2.1 Research quality and integrity

This part presents the overall evaluation of each research group that this administrative unit has registered for the evaluation. These evaluations of the research groups have been written by one of the 18 expert panels that have evaluated the registered research groups in EVALMEDHELSE. The panels carry the sole responsibility for their evaluations. The evaluation committee is not responsible for the assessments at research group level.

Biological Research in Addiction and Clinical Toxicology (BRACT)

BRACT is a spatially fragmented research group. This organisation is not the most favourable for high quality research. Tools to promote cohesion and scientific leadership of the group do not seem to be in place either. The group has to its credit a number of projects, publications, completed and on-going PhD thesis and dissemination activities. However, its dynamism remains limited, hampered in particular by its lack of geographical cohesion, and its scientific influence is too local. Overall, the group's activities suffer from a chronic lack of funding, which severely limits its activity and the scientific influence it could aspire to give the societal importance of its research topics.

Centre for Obesity Research and Innovation (CORI)

Strengths of the Centre for Obesity Research and Innovation are its clearly defined strategy and highly relevant contribution to public health. The research group has a very strong funding portfolio, with a good mix of sustained public and private funding. Other strengths concern the group’s regional and national leadership in the discipline (in both research and education), the good national and international links including involvement in multinational trials, the excellent contribution to education, good quality research outputs (internationally competitive), excellent public and patient outreach, the clear role for patients in co-creation of research and the very supportive infrastructure. Weaknesses concern the fact that the key staff are, at most, only 50% engaged in research, the small size of the group and the need for more external funding.

Children's and Women's Health

This is a very heterogenous group which has to commended for world class performance in Neonatology and Ultrasound including patents and company spin-offs in ultrasound. Other specialties and more domestic covering care areas, e.g. in oncology. The strategic goals are ill defined, while the expertise in brain injury and cognitive function has a tremendous potential to generate synergies across specialities. The strengths should be highlighted in the evaluation's national assessment of the area.

Clinical Academic Group Multiple Myeloma Center (CAG-MYELOMA)

This research group exists for >30yrs as the "Center for Myeloma Research" based in Trondheim (University –Norwegian University of Science and Technology NTNU/ research lab located in St. Olav University Hospital) and was, in 2021, awarded the status of Clinical Academic Group (CAG). They are organised in 4 work packages (WP 1-4) led by 4 professors (2 female; 50% research), 2 of whom are associated professors. In addition, there are a 0.4 scientist, 1.3 Physician, 1 post doc and 11 PhD students (most female); there are 8 physicians (15% research). There is a WP1 Clinical Research; WP2 Translational Research; WP3 Basic Research and WP4 Educational program. There is one central University Hospital (St. Olav's) and several regional network hospitals. The main goal of the group is to improve the treatment of patients with devastating plasma cell cancer multiple myeloma by exploring basic aspects of the disease as well as participation in current state of the art treatment in clinical trials, biobanking and patients' free access to innovative non reimbursed therapies. They categorize their research in 1/3 clinical, 1/3 translational and 1/3 basic. They educate physicians and health care providers. There is a less-than-optimal funding policy by the local health trust. Their benchmark equals their strategy which is confusing. It involves a strong cooperation between hospital and NTNU, integrate research in clinical practice, shorten the time for innovative therapies from efficacy to clinical implication, a knowledge hub for clinically and academically relevant research and research groups in the region of Middle Norway together with a strategic collaboration internationally. The group has a lot of regional, national and international collaborations. The several ongoing projects clearly show the intention of this group to take the lead in myeloma research. There is a lot of literature output in high impact peer-reviewed journals although not a lot in 2021-2022 and not always as main contributors. Educational program for nurses in a lot of regional centres and seminars for patients from Norway. 750 followers on Facebook.

Clinical Academic Group: Precision Medicine in Inflammatory Bowel Diseases (CAG)-IBD at St. Olavs hospital & IKOM, MH-Faculty, NTNU

The CAG-IBD is a well-organised, well-staffed department for clinical research. Benchmarks are relevant and represent an added value for the department. National and International collaboration is good. The supporting infrastructures are good but should be improved. To increase the scientific level additional effort should be put in place to achieve top rank level.

Norwegian Centre for Headache Research (NorHead)

The organisational environment at NorHead is adequate for supporting the production of excellent research. The research group has published in international journals with the most rigorous standards. The quality of the research is internationally excellent with an

outstanding role of the research group in the research process. The first dimension of societal impact scores high because of the societal and cultural impact this unit has on the formation of resources and care of patients.

Research Group for Occupational Medicine

AMA has good clinical, local, and even national relevance and has good visibility at these levels. However, to reach the benchmarks, hard work would be needed to keep the research group alive and produce good quality research with scientific publications. Especially anchoring a full-time professor should be a key target to have a clear leadership role for research.

Trondheim Sleep and Chronobiology Research Group (SACR)

SACR is overall a very good to excellent research group. Its particular strengths are:

- Strong integration into the host institution and organisational environment
- Co-funding of research activities
- Lead institution for sleep research within Norway
- A very good research income and publication record

Current weaknesses are:

- Limited international collaborations
- Limited engagement with external stakeholders, such as industry partners
- Limited public outreach activities
- Limited policy engagement

Warning Signs and treatment of acute suicide risk in psychiatric crises

The Warnsign project is well established and functional in terms of its clinical partners and collaborative structures. The research strategy is very clear and focussed on the prediction of suicidal crises and interventions for “high-risk populations” as main pillars. The benchmarks indicated in the self-assessment do not meet usual benchmark definitions (see recommendations). The research topic (i.e. identifying and treating high risk populations with an acute or near-term risk of suicide) is of highest clinical and societal importance.

3. Diversity and equality

St. Olav’s Hospital is part of the 'Inclusive Work Agreement' between the government, employer organizations, and trade unions, to guarantee access to work for everybody and no discrimination. St. Olav’s is required to investigate any reported suspicions of discrimination, and the hospital issues an annual statement on discrimination and equality. The gender distribution among researchers at different levels shows an equal proportion of men and women.

The committee's evaluation

There are policies and practices in place to prevent discrimination. The proportion of men and women is similar among senior physicians, but women are more highly represented in other categories. Among the highest academic positions, there are more men, but the proportion of women is gradually increasing.

The committee´s recommendations

The committee has no further recommendations regarding diversity and equality.

4. Relevance to institutional and sectorial purposes

St. Olav’s sector-specific aims can be summarized as follows:

- To improve existing treatments and diagnostics
- To ensure the quality of current treatments and diagnostics
- To develop new evidence-based treatments and diagnostics

Basic research is also an essential responsibility of university hospitals. However, the potential for translation into clinical practice is a core criterion for internal funding of such research.

St. Olav has taken a national lead in developing and implementing medical technologies. The Centre for Medical Devices, Technology, and Innovation—including the FOR unit with seven operating rooms used as testbeds for new technology—plays a leading role in this effort.

Regarding innovation and commercialization, NTNU Technology Transfer AS (TTO) was established in 2003 to secure, manage, develop, and sell property rights to knowledge, ideas, and inventions created within the hospital.

Research staff are encouraged to pursue innovation and commercialization in their daily work. For successful commercialization, researchers receive a percentage of the profit, with support provided by TTO. Additionally, the Regional Centre for Healthcare Innovation supports innovation development. The unit can demonstrate several examples of successful innovations.

The committee's evaluation

The hospital appears to have focus on appropriate sector-specific objectives. They also have a support structure for innovation and commercialization. However, despite ambitions the reported national indicator of innovation activity is relatively low and decreasing.

The committee´s recommendations

The evaluation committee recommends the hospital to develop strategies to increase innovation activity.

Since the hospital has the ambition to be leading a leading hospital in developing and implementing medical technology in health care, the conditions and incentives for innovation needs to be further improved.

4.1 Health trusts

St. Olav's Hospital has shifted its focus from simply 'increasing the number of patients enrolled in clinical studies' to a more specific goal of achieving a 15% annual increase in enrolment. One approach to this goal has been to allocate additional resources to clinical research by enhancing funding opportunities and administrative support.

Through its commitment to clinical research and innovation, St. Olav's Hospital contributes to the development of new diagnostic methods, treatments, and healthcare technologies. It achieves this by leveraging its integration with the university and applying novel concepts from basic research. The hospital also collaborates with industry partners, while the NorMIT infrastructure increases its capacity to test new technologies.

St. Olav's Hospital frequently leads or participates in clinical studies aimed at developing new clinical methods, as well as reducing the use of ineffective ones.

The research at the hospital contributes to the quality of the education by securing that it is up to date regarding current knowledge.

Medical students are required to complete a three-month research assignment as part of their education and are integrated into a research group during this period. Additionally, there is an optional research program for medical students that extends their studies by one year, roughly equivalent to half of a PhD degree. Students can also complete their final bachelor's projects and master's theses within a research group at the hospital.

The committee's evaluation

The work at St. Olav's hospital contributes towards development, assessment and implementation of new diagnostic methods, treatment, and healthcare technologies. Some of the impacts cases illustrate this.

However, the number of on-going clinical studies stated at the interview was relatively low, and there seems to be administrative problems and lack of research nurses.

The committee's recommendations

Although important infrastructures to perform clinical studies are in place, the hospital needs to identify bottlenecks to increase the number of clinical studies and fulfil their strategic goals.

5. Relevance to society

St. Olav's hospital contributes to the Norwegian Long-term plan for research and higher education, societal challenges more widely, and the UN Sustainable Development Goals by focusing on:

- Technological innovations that give effective treatment for less resources and relieve medical staff of administrative or time-consuming work.
- Studies on cost-effectiveness of treatment and studies to eliminate non-effective treatment
- Repurposing of commonly used drugs for new indications.
- Showing non-inferiority of less resource-demanding treatments.
- Implementing a shared electronic medical record to streamline treatment and care across the health services and expand the cooperation with local municipalities.
- Engaging patients and healthcare policy makers about preventive measures and treatments.
- Improving research data quality and prolonged storage of data for further study

Comments on impact case 1 - Candersartan as a migraine prophylactic treatment
A series of studies showing that ACE-inhibitors and ARB have prophylactic effects on migraine, which have had an impact on treatment guidelines.

It started with that one of the researchers noticed that his migraine improved after starting anti-hypertensive treatment with Lisinopril. He then demonstrated the prophylactic effect in a placebo-controlled trial published in BMJ 2001, and this was followed by another study testing candesartan against placebo, published in JAMA, that also showed positive effects on recurrence of migraine. Finally, a comparison with the present drug -of-choice were published 2013, showing no difference between candesartan and propranolol. At, the moment, a comparison between 8 and 16 mg of candesartan is on-going and will soon be presented.

The references are well-performed trials of which 2 of them are in very high-impact journals.

It is obvious that these studies have had impact on today's guidelines and how these patients are treated. During this time period, there has been a lack of good treatment options, and these studies have most likely been important.

Comments on impact case 2 - Effect of spinal cord burst stimulation vs placebo stimulation on disability in patients with chronic radicular pain after lumbar spine surgery: A randomized clinical trial
This study demonstrated no effect of spinal cord burst stimulation when compared with placebo.

50 patients with chronic radiculopathy after lumbar spine surgery were randomized to spinal cord burst stimulation vs. placebo with a cross-over design. There were no differences in primary or secondary outcomes.

The use of spinal cord burst stimulation after lumbar spine surgery has been increasing and been a lucrative business for the manufacturers of these instruments, placebo-controlled studies have been lacking. This study seriously questioned the use of spinal cord burst stimulation and has received a lot of attention. It does not only question spinal cord burst stimulation but also highlights the importance of placebo-controlled trials when it comes to this type of treatments.

Comments on impact case 3 - Improving healthcare delivery by targeting sleep and circadian systems

Novel research how technology (digital CBT, chronotherapy and support from AI) will improve insomnia and its consequences. The research will most likely have a clinical impact in the future, although limited so far.

Studies examining how technology can be used to target the sleep-wake system and improve outcome in different diseases and populations. Fully automated digital cognitive behavioural therapy (d-CBT) is tested in several RCTs to examine how the intervention influences sleep-wake disruption and its consequences. The effects of Chronotherapy (use of light (frequency and timing), wake-therapy and sleep-wake stabilization therapy) are studied in mental disorders. Two similar wards are used where light environment can change and patient outcome can be followed by radar. Ai-techniques are used to identify responders and those who need other interventions.

The research has had a large impact in the field of research, which is expanding, and the research group has a large collaboration network. The research will most likely have a clinical impact in the future.

Comments on impact case 4 - High-dose, twice-daily (BD) thoracic radiotherapy (TRT) prolongs survival in limited stage small cell lung cancer (LS-SCLC)

This research has through RCTs, and registry-studies demonstrated that high-dose BD TRT improves survival in LS-SCLC and the implementation of these findings have substantially improved outcome in these patients in Norway.

The research group has performed important RCTs showing that BD TRT improves survival compared with QD TRT in patients with LS-SCLC, and that a higher dose BD TRT is more effective than a lower. The group has also studied the effects in a frail population and the effects of implementing the RCT results in a real-world practice.

Concurrent chemo and radiotherapy have been standard therapy for LS-SCLC since 1990s. BID TRT was early shown better than QD TRT. However, because of toxicity and logistics, patient did not receive it. The research performed at St. Olav’s hospital has changed how patients with LS-SCLC are treated in Norway and in other countries and it has improved their outcome substantially.

Comments on impact case 5 - Fraxinus – Open-Source Software for planning bronchoscopy in lung cancer diagnostics

The current open-source software is in early-stage clinical testing. Many have shown great interest in this software a future impact may be significant.

The research group has developed an open-source software for planning bronchoscopy in lung cancer diagnostics.

Fraxinus is an open-source software for planning bronchoscopy and increase the success-rate for biopsy sampling. There are systems for navigation on the market, but these are expensive and complex to take into use. Fraxinus can be a cheaper and simpler system for bronchoscopy planning and biopsy sampling. The current open-source software is in early-stage clinical testing. Many have shown great interest in this software a future impact may be significant.

Appendices

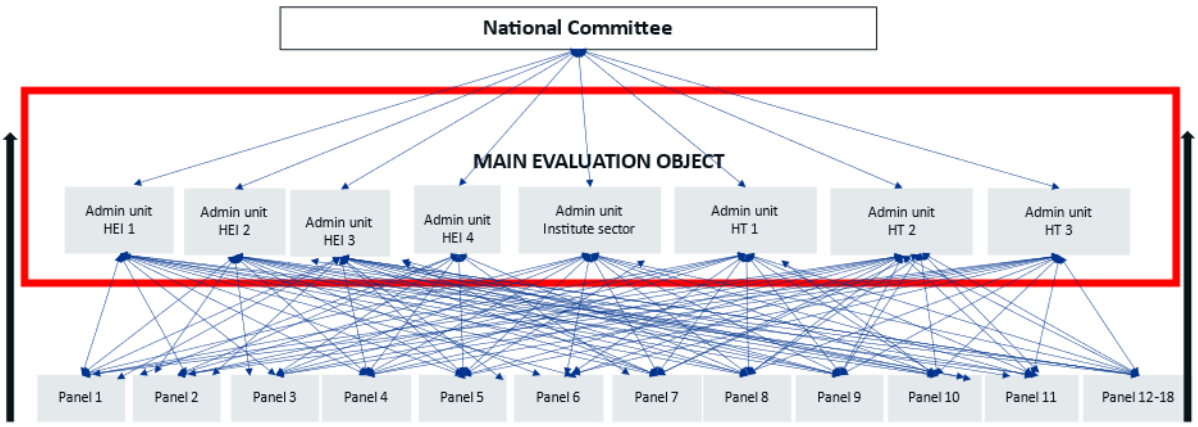
Evaluation of Medicine and health 2023-2024

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

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

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

Organisation of evaluation of medicine and health 2023-2024



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

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

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

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

Forskningsrådet

Se vedlagte adresseliste

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

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

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

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

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

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

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

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

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

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

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

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

Administrative enheter (hovedevalueringsobjektet i evalueringen) – skjema 1

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

Forskergrupper – skjema 2

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

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

Invitasjon til å foreslå eksperter – skjema 3

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

Obs. Det er to faner i regnearket:

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

Utfylte skjemaer (3 stk):

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

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

Tilpasning av mandat – frist 30. september 2023

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

Forskningsrådet

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

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

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

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

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

Med vennlig hilsen
Norges forskningsråd

Ole Johan Borge	Hilde G. Nielsen
avdelingsdirektør	spesialrådgiver
Helse	Helse

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

Kopi
Helse- og omsorgsdepartementet
Kunnskapsdepartementet

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

The Research Council of Norway

Evaluation of life sciences in Norway 2022-2023

LIVSEVAL protocol version 1.0

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

The Research Council of Norway
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Oslo, 5 April 2022

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1 Introduction

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

1.1 Evaluation units

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

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

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

1.2 Minimum requirements for research groups

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

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

1.3 The evaluation in a nutshell

The assessment concerns:

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

The Research Council of Norway (RCN) will:

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

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

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

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

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

1.4 Target groups

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

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

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

2 Assessment criteria

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

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

2.1 Strategy, resources and organisation

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

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

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

2.2 Research production, quality and integrity

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

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

2.3 Diversity and equality

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

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

2.4 Relevance to institutional and sectoral purposes

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

Higher Education Institutions

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

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

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

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

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

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

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

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

Research institutes (the institute sector)

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

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

The institutes should:

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

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

The hospital sector

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

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

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

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

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

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

2.5 Relevance to society

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

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

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

3 Evaluation process and organisation

The RCN will organise the assessment process as follows:

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

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

3.1 Division of tasks between the committee and panel levels

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

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

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

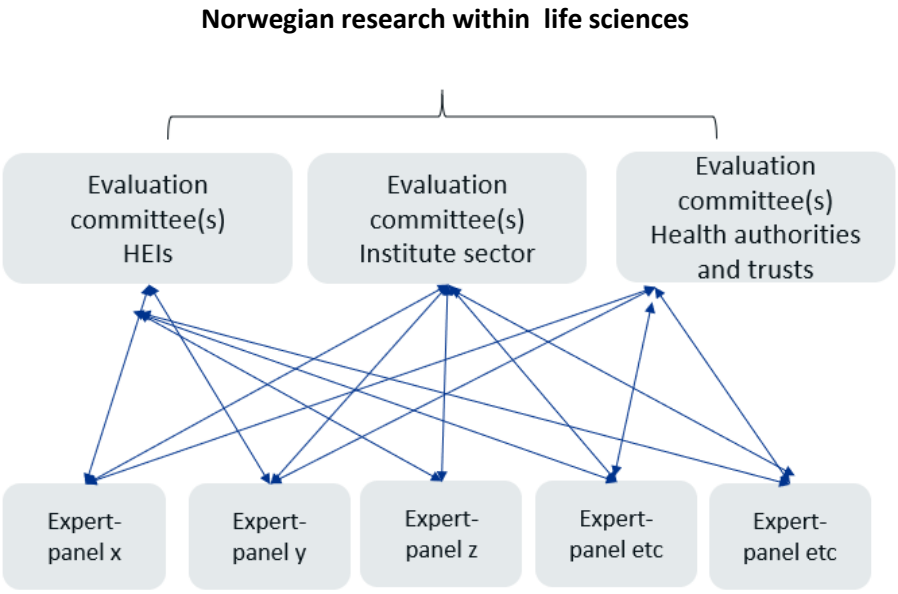

Figure 1. Evaluation committees and expert panels

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

3.2 Accuracy of factual information

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

3.3 National level report

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

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

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

Appendix A: Terms of References (ToR)

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

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

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

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

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

1. …
2. …
3. …
4. …

…

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

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

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

The documents will include the following:

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

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

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

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

Appendix B: Data sources

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

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

National registers

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

Self-assessments

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

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

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

Table 1. Types of evaluation data per criterion

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

Evaluation of Medicine and Health (EVALMEDHELSE) 2023-2024

Self- assessment for administrative units

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

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

Content

Introduction

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

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

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

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

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

Thank you!

Guidelines for completing the self-assessment

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

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

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

1.Strategy, resources and organisation

1.1 Research strategy

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

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

Table 1. Administrative unit`s strategies

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

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

1.2 Organisation of research

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

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

1.3 Research staff

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

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

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

Table 2. Research staff

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

1.4 Researcher careers opportunities

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

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

c) Describe research mobility options.

1.5 Research funding

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

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

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

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

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

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

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

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

1.6 Collaboration

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

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

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

National collaborations

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

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

International collaborations

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

Impacts and relevance of the collaboration	

1.7 Open science policies

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

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

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

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

1.8 SWOT analysis for administrative units

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

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

2. Research production, quality and integrity

2.1 Research quality and integrity

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

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

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

2.2 Research infrastructures

a) Participation in national infrastructure

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

Table 5. Participation in national infrastructure

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

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

b) Participation in international infrastructures

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

Table 6. Participation in international infrastructure

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

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

c) Participation in European (ESFRI) infrastructures

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

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

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

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

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

3. Diversity and equality

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

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

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

4. Relevance to institutional and sectorial purposes

4.1 Sector specific impact

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

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

4.2 Research innovation and commercialisation

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

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

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

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

No.	Name	Valid period	Link
1			

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

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

4.3 Higher education institutions

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

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

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

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

4.4 Research institutes

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

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

4.5 Health trusts

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

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

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

5. Relevance to society

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

5.1 Impact cases

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

Impact case guidelines

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

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

Timeframes

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

Page limit

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

Maximum number of cases permitted per administrative unit

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

Naming and numbering of cases

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

Publication of cases

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

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

Please write the text here

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

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

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

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

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

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

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

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

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

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

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

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

Institution	Administrative unit	Name of research group	Expert panel
St. Olavs Hospital	St. Olavs Hospital	Biological Research in Addiction and Clinical Toxicology (BRACT)	Panel 1b
St. Olavs Hospital	St. Olavs Hospital	Centre for obesity research and innovation (CORI)	Panel 3b-2
St. Olavs Hospital	St. Olavs Hospital	Children's and Women's health	Panel 3a-1
St. Olavs Hospital	St. Olavs Hospital	Clinical-Academic Group (CAG)-IBD: Precision Medicine	Panel 3b-3
St. Olavs Hospital	St. Olavs Hospital	Clinical Academic Group (CAG)-Multiple myeloma center (CAG-MYELOMA)	Panel 3a-2
St. Olavs Hospital	St. Olavs Hospital	NorHEAD	Panel 3b-1
St. Olavs Hospital	St. Olavs Hospital	Research group for Occupational Medicine	Panel 4f
St. Olavs Hospital	St. Olavs Hospital	Trondheim sleep and chronobiology research group (SACR)	Panel 5a
St. Olavs Hospital	St. Olavs Hospital	Warning Signs and treatment of acute suicide risk in psychiatric crises (WARNSIGN)	Panel 5a

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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