

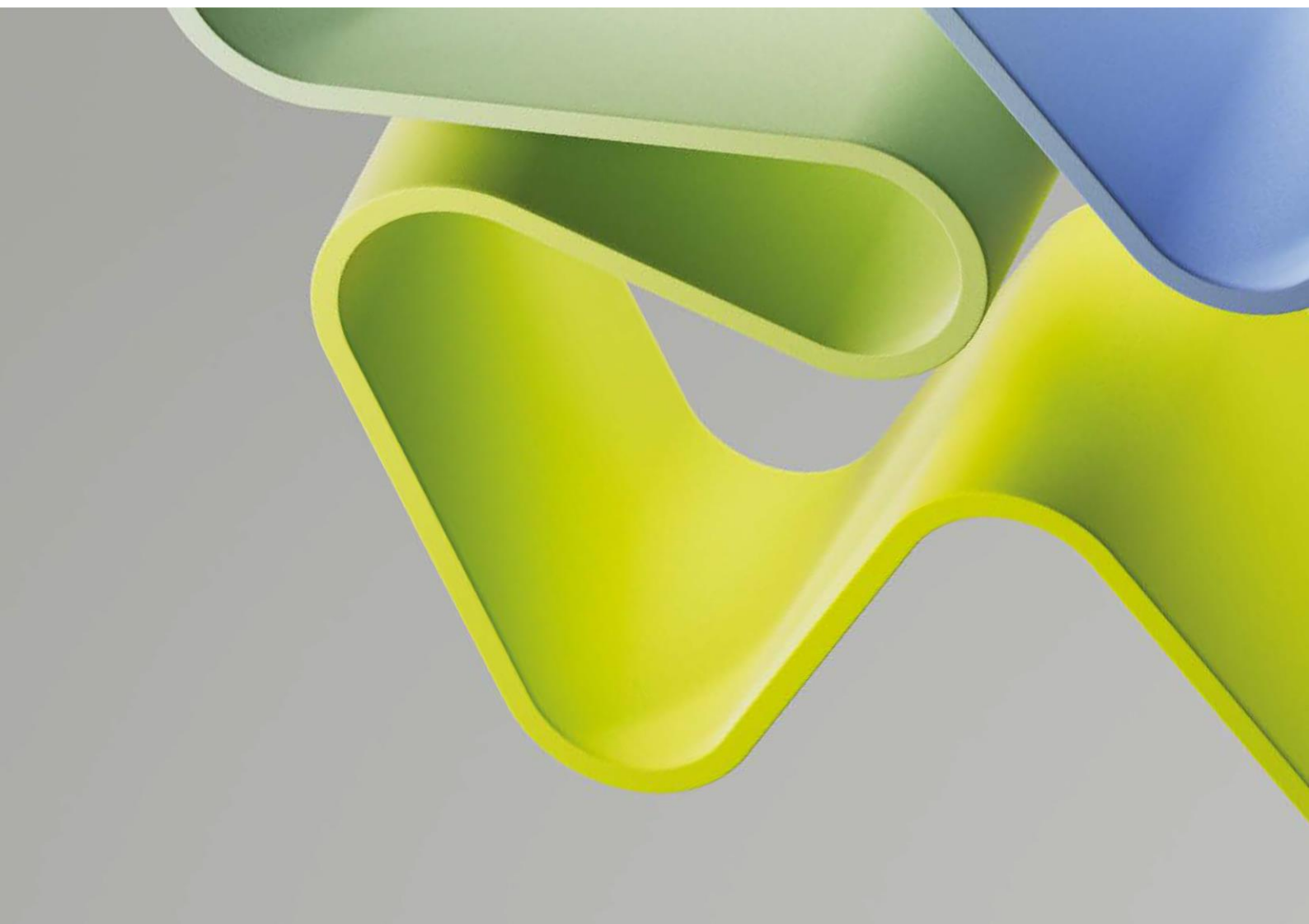
Evaluation of Life Sciences 2022-2024

Evaluation of medicine and health 2023-2024

Evaluation report

ADMIN UNIT: Department of Pharmacy
INSTITUTION: UiT Arctic University of Norway

December 2024



Contents

STATEMENT FROM EVALUATION COMMITTEE HIGHER EDUCATION INSTITUTIONS 3	4
PROFILE OF THE ADMINISTRATIVE UNIT	5
OVERALL EVALUATION	7
1. STRATEGY, RESOURCES AND ORGANISATION OF RESEARCH	9
1.1 Research strategy	9
1.2 Organisation of research	9
1.3 Research funding	10
1.5 Collaboration	11
1.6 Research staff	11
1.7 Open Science	12
2. RESEARCH PRODUCTION, QUALITY AND INTEGRITY	13
2.1 Research quality and integrity	13
3. DIVERSITY AND EQUALITY	15
4. RELEVANCE TO INSTITUTIONAL AND SECTORIAL PURPOSES	16
5. RELEVANCE TO SOCIETY	18
APPENDICES	20

Statement from Evaluation Committee Higher Education Institutions 3

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

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

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

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

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

Professor Søren Brunak (Chair)

Novo Nordisk Foundation Center for Protein Research, University of Copenhagen

Professor Jouni Hirvonen

University of Helsinki

Professor Ruth Palmer

University of Gothenburg

Professor Lea Sistonen

Åbo Akademi University

Associate Professor Simona Lodato

Humanitas University

Professor Ron Heeren

Maastricht University / Maastricht Multimodal Molecular Imaging Institute

Anoushka Dave, Technopolis Group, was the Committee Secretary.

Oslo, December 2024

Profile of the administrative unit

The Department of Pharmacy (IFA) is organised into six research groups, whereas five are part of this evaluation. Each group has an appointed research group leader who coordinates the work in the group, including applications for external project funding, and the setup of a development plan with research objectives for the group. The administrative unit consists of 8 professors, 10 associate professors, 4 postdocs, 8 researchers, 20 PhD students, and 9 technicians. In terms of gender distribution, both genders are well-represented.

The five research groups under evaluation are Drug Transport and Delivery (DTD) which focuses on drug formulations and biopharmacy, Natural Products and Medicinal Chemistry (NPMC) which focuses on bioanalysis, Microbial Pharmacology and Population Biology (MicroPop) which focuses on antibiotic resistance and microbial evolution, Cell Signalling and targeted Therapy (CSTT) which focuses on personalised medicine, and Clinical Pharmacy and Pharmacoepidemiology (IPSUM) which focuses on the effect of deploying pharmacists in clinical settings.

IFA aligns with the university's strategic objectives to address societal challenges and promote innovation, interdisciplinary collaboration, and public outreach. The department seeks to enhance the relevance and impact of pharmaceutical research in a changing society. The strategy includes five goals with related actions. Goal 1 is to align pharmaceutical research with societal needs by assessing and adapting priorities, fostering interdisciplinary collaboration, and engaging stakeholders. Goal 2 is to sustain and expand external funding by participating in research projects, strengthening collaborations, and securing competitive grants. Goal 3 is to maintain state-of-the-art research infrastructure by upgrading facilities, ensuring access to core facilities, and participating in infrastructure projects. Goal 4 is to translate research into practical solutions for patients and society by fostering collaborations and participating in initiatives. The last goal is to engage with the public and enhance research visibility by open access publishing, practicing FAIR principles, disseminating outcomes, and participating in university activities.

IFA collaborates with a wide range of national and international partners, including universities, research institutions, health institutions, industry, government agencies, and non-governmental organisations. Collaboration efforts are aligned with the department's strategic goals, contribute to the department's mission and objectives, and are considered essential for the success of the department. According to the self-assessment, collaboration offers unique opportunities for students and researchers and is put into practice through joint projects, resource sharing, and mobility programmes. Cross-sectorial and interdisciplinary collaborations are actively fostered to address complex research questions and maximise the department's impact on society.

In the future the administrative unit may benefit from its highly qualified staff, workforce diversity, good work environment, extensive national and international collaborations, access to modern infrastructure, and beneficial location facilitating advantageous collaborations. Future challenges involve dependency on external funding, government budget cuts in the university sector, declining enrolment of students due to changing demographics, and increasing operating costs due to inflation. Additionally, recruitment of pharmaceutical staff is considered increasingly difficult, and many employees experience high teaching loads resulting from a minimum of personnel available to teach on the study programmes and time-consuming responsibilities outside of research. There are several opportunities for increased collaboration with local industries, national and international universities, the municipal health services and the Nordic countries through the university

hub NordicPOP programme. A growing demand for drug experts in an ageing society may also favour the administrative unit.

Overall evaluation

The Department of Pharmacy is a small yet forward-looking and active research and educational unit in the world's northernmost university, the University of Tromsø (UiT) – the Arctic University of Norway. The evaluation committee considered the administrative unit's Terms of Reference, self-assessment documents and oral interview, together with background documents provided by the Research Council of Norway (RCN) and research group evaluation reports, for the evaluation of the Department of Pharmacy.

Overall, the University and the small Department are very young, established in the 1990s. The Pharmacy Department's activity in cross-faculty projects and national and international collaborations with several RCN and EU-funded projects is notable. Due to limited resources for development, the Department of Pharmacy has actively applied for external competitive research funds, obtaining some 20 million Euros in the last ten years.

As almost 90% of the administrative unit's basic budget is spent on staff salaries for research and teaching activities, it would be very important to secure the necessary investments for staff recruitment and retention, infrastructure maintenance and development, in innovation and entrepreneurship together with industrial collaboration. In effect, there should be more room for active engagement and development of strategic research initiatives including research infrastructure developments in the long run.

Interdisciplinary collaboration and networking have been actively used as mechanisms to reach more critical mass and partnerships. In research activities, the goal has been to solve major research questions together with local/national/international partners.

Pharmaceutically relevant societal challenges like healthcare cost increase or shortages in educated workforce, especially in the northern parts of Norway, should also be tackled and resolved in the future.

The key research areas of the Department are the ageing population, increased antimicrobial resistance, and escalating occurrence of cancer. These wide and important topic areas provide obvious collaboration opportunities within the country and internationally.

Public outreach and societal impact of the Department are strong, as always in the case of pharmacy schools. Societal input in the northern Norway is of specific importance for the Department of Pharmacy at UiT.

Recommendations

- The Department should continue building up a strong local and global research portfolio with selected high-impact collaborative partners nationally and internationally.
- Resource-wise, the administrative unit needs more room and capacity to advance scientific and educational tasks in a more sustainable manner. More national and international grants are needed to build up research groups and communities with critical mass. Rebirth of the Norwegian Research School in Pharmaceutical Sciences is highly recommended.
- Although the local and national perspectives are taken into consideration well in pharmacists' education and research collaboration, longer-term recruitment and retention strategies are needed to lift the activities to the next level.
- Collaboration with local community and hospital pharmacies are strong, but industrial collaboration and innovation/entrepreneurial activities should be enhanced considerably to achieve scientifically and societally relevant research collaboration.

1. Strategy, resources and organisation of research

1.1 Research strategy

Research topics emphasised by the Department cover pharmaceutical expertise in clinical pharmacy, pharmacoepidemiology, evolution and spreading of antimicrobial resistance (AMR), new drug delivery technologies, synthesis of potential new drug candidates, bioanalytics, and signalling pathways in cancer cells. Generic goals in research activities include alignment with societal needs and challenges, emerging healthcare problems, interdisciplinary collaboration, and active engagement with stakeholders.

Active participation in local, national, and international arenas are seen as ways towards sustained and expanded research funding from outside the Department's rather modest budget from the Ministry of Health. A key collaborative partner is the University Hospital of Northern Norway in Tromsø. Collaborative participation is the lifeline of the Department with regards to the translational research, patients' participation and active public dissemination of research input.

The committee's evaluation

Close vicinity to other related faculties at Tromsø University and the University Hospital are big boosters for research and societal impact. Budgetary restrictions jeopardise not only the long-term strategic planning but also day-to-day operations. There are no strategic reserves for maintenance or upgrades, let alone new, expensive equipment and other top-class infrastructures. Recruitment in these conditions is very difficult if/when the necessary starting packages are rather modest.

The committee's recommendations

Continued partnering with local, national and international partners is a good strategy now, but hopefully in the future, domestic and international grants will help the administrative unit to have more freedom in strategic development, including development of the existing research groups and recruitment and retention of new active world-class research group leaders and professors.

In principle, the resources and opportunities in the department have been utilised well within the current framework and budget in terms of research and teaching development. Deeper research focus, perhaps with some new initiatives and topics would lift the administrative unit to the next level in national and international standing.

1.2 Organisation of research

Research of the Pharmacy Department is organised as five research groups with a group leader in each group: Cell signalling and targeted therapy, Drug transport and delivery, Clinical pharmacy and pharmacoepidemiology, Microbial pharmacology and population biology, and Natural products and medicinal chemistry. Active engagement including joint research seminars and regular meetings are easily arranged within the compact Department.

Staff consisting in total of some 60 members allocate about 50% of their time and resources on research-related activities, and the other 50% for the teaching. The Department of Pharmacy has its own building in the university campus, which is expected to enable close interaction and lower barriers between the subunits and research groups.

The committee's evaluation

The current five research groups are well-designed and complement each other in a reasonable manner. Obviously, in a relatively small unit there is a rather thin personnel structure and limited resource circumstances at times. However, the strong bonds and co-location within the administrative unit are strengths, but leave the Department vulnerable to changes in individual circumstances, if somebody leaves or is not able to contribute.

The committee's recommendations

The Department, and the research groups, should have strategic resources for recruiting new "hungry talents" and providing them with lucrative starting packages to kick-start their career development. Having a greater number of multi-/interdisciplinary research topics locally, nationally, and internationally is highly recommended.

1.3 Research funding

The total Ministry of Education budget for the Department of Pharmacy is around 49 MNOK annually. More than 90% is allocated to staff salaries, leaving very little room for other developmental manoeuvres. Even worse, this allocated Ministry budget has been on a decreasing trend lately. As per mathematical calculations, 36% of the budget is allocated for research purposes. 18-32% of the total budget in recent years is from external competitive funding. Regional level grants are often supporting the national and international grants.

The committee's evaluation

Relatively nice success in external competitive funding helps the finances of the Department to some extent (18-32% of total budget), but this value is still, however, rather low in national and international comparison. The list of individual grants (international, national) is also rather limited overall. More pharmaceutical sciences-oriented grants from the RCN are strongly desired by the UiT Department of Pharmacy.

The committee's recommendations

Lack of resources for research is evident in the Department. As the trend has been declining over the past years, rethinking of higher resource allocation towards pharmacy disciplines should be considered by the Norwegian Government. The administrative unit should at least try to get more support and resources from the Faculty and the UiT. Also, they need to actively apply to the national and international funding organisations to have a higher external funding share.

1.4 Use of infrastructures

Rather little is stated in the self-assessment report about the administrative unit's own research infrastructures. The committee wonders if perhaps the infrastructures are dealt with more at the university level, where the Department and research groups have joint infrastructures at their disposal. These infrastructures cover, for example, a genomics support centre, core facility for biobanks, advanced microscopy core facility, preclinical PET core facility, NMR laboratory and proteomics/metabolomics core facility.

The Department of Pharmacy in Tromsø is not a partner in national or international roadmaps for research infrastructures. Infrastructural collaborations are thus assumed to be

largely local. The university's own core facilities are the most important sources for research infrastructures.

Data infrastructure sharing using FAIR principles is important, but in the cases of sensitive health data, Data Privacy Impact Assessments (DPIA) are used for each project.

The committee's evaluation

The need for specific Department- and group-level infrastructures is unclear based on the self-assessment documentation. However, university-level core facilities and larger scale infrastructures and equipment seem to be in place, whether they are accessible to or accessed by the administrative unit or not.

The committee's recommendations

Utilisation of local and collaborative national and international infrastructures via established networks is pivotal for research success and more demanding efforts towards scientific excellence. Research group-specific research infrastructures should be readily available in the Department's own premises.

1.5 Collaboration

The Department of Pharmacy in Tromsø collaborates widely nationally and internationally. The collaboration is in the form of joint projects, sharing of (infrastructural) resources, mobility programmes, and cross-sectorial and interdisciplinary research activities including shorter- and longer-term research visits of the Department's scientists.

As stated earlier, the key collaborative partner locally is the University Hospital of Northern Norway in Tromsø. Collaborative participation is the lifeline of the Department with regard to translational research, patients' participation and active public dissemination of research input.

The committee's evaluation

Industrial collaboration and entrepreneurship / innovation activities are scarce, at least based on the information in the self-assessment documentation. On a positive note, local and regional grants and collaborations, especially with the University Hospital, provide more room for everyday collaborative activities in research and in education.

The committee's recommendations

The committee recommends that the administrative unit should continue pursuing active, well-developed and fruitful research collaborations with good spirit and enthusiasm also in the future. This has been a successful recipe for the administrative unit's research efforts in the past and will most probably also continue in the future.

1.6 Research staff

Equal gender balance among the 60ish staff members (18 professors and associate professors) is a sign of modern staff structure. International influence and personnel share is high especially in the early career stages. Difficulties in recruiting top-level scientists in Tromsø and keeping them in the North has been a challenge for the Department.

A research group leader development programme and career development meetings are available for postdoctoral fellows and associate professors in the Department. There is a

sabbatical system for staff members with at least four years of service. Mobility grants are also available for networking or open visits.

The committee's evaluation

It must be noted that recruitment and retention of highly talented staff and students is more difficult in the remote northern areas than in the more central parts of the country. However, recruitment of talented international scholars has been very active in UiT and in the Department. Here, a special thanks is directed towards the generous social benefits in the northern parts of Norway.

The committee's recommendations

Although difficult, recruitment of highly motivated and talented scientists and guaranteeing them a supportive environment and resources is most probably the easiest and most efficient way to compete in the global competition for scientific excellence. A friendly and professional working community is a positive start towards these goals.

1.7 Open Science

The UiT Department of Pharmacy produced 46 publications in 2022 (three-year average (48), with a modified author share of 19.2 (21.9). Out of these, the share of open access publications including Gold open access has reached 98%. A principle for publications in Norway's universities is to publish as openly as possible, with high success reached as of today. Share of 10% most cited publications of the administrative unit was 13.3% with a mean normalised citation score of 122. Collaboration-wise, the share of the Department's national co-publishing in 2022 was 50% (39.5%) and international co-publishing was 41.3% (55.6%).

Open access publications and access to research data follow the FAIR principles in UiT. Transparency is expected to enhance quality positively. Use of national digital sources is important for UiT and its Department of Pharmacy.

The committee's evaluation

Achieving 98% open access in publications is a remarkable figure also in international comparison. It really seems that the university level framework and practices are helpful in reaching these ambitious goals in open access publishing.

The committee's recommendations

The evaluation committee congratulates the administrative unit for this great achievement and wishes good luck in maintaining the good work with regards to the open science publication activities.

2. Research production, quality and integrity

As shown above, the unit produces 40-50 publications annually. Key research areas, as described earlier, are focused on antibacterial compounds and preventing the development of AMR. This group has the highest collaboration base and most abundant external research funding followed by research groups working on clinical pharmacy and pharmacoepidemiology and antimicrobial and anticancer topics. Other major topics are nanotechnological drug delivery, new pharmaceuticals from marine sources, and proteomics, metabolomics, lipidomics, and doping analysis.

Overall, the administrative unit would prefer more national investments in pharmaceutical basic research. This could pave the way towards, for example, ERC grants and other EU-funded projects. Recently, there was an active national Norwegian Graduate School in Pharmaceutical Sciences (NFIF). Restarting that could perhaps help further advancement of Norwegian pharmaceutical sciences particularly in terms of collaboration and research.

Good research practices and ethical guidelines are clearly in effect based on the university-level documents.

2.1 Research quality and integrity

This section presents the overall assessment of each research group that the administrative unit has entered in the evaluation. Each overall assessment has been written by one of the 18 expert panels that were responsible for evaluating the research groups entered in EVALMEDHELSE. The evaluation committee was not involved in the evaluation of the research group(s).

Research group: Cell Signalling and Targeted Therapy (CSTT)

CSTT is a small group consisting of two professors and their research teams that focus on basic cancer research. CSTT has limited resources to conduct internationally high-level research, which is reflected in its fairly modest output, including 6 projects and 5 publications in journals with good international reputation. However, CSTT is internationally recognised in its specific focus area, with international collaborations, invited presentations (European Molecular Biology Organization [EMBO] conference) and a filed patent. According to CSTT, recruitment is a major challenge to developing a sustainable research programme. Another major challenge is declining funding opportunities for basic science research.

Research group: Clinical Pharmacy and Pharmacoepidemiology (IPSUM)

The IPSUM group focuses on an important research area within the area of pharmacy, both for the University of Tromsø and the Norwegian society. Challenges are its broad research strategy and lack of clear benchmarks. As the group is small and has limited external funding, it is vulnerable to instability. Publications cover important areas, such as antibiotic prescribing, antibiotic resistance, and applied epidemiology and have relatively low citation rates. Projects are broad and not interrelated. Many are descriptive and of limited originality. A number of the group's research areas, such as use of antibiotics and antibiotic resistance, are critically important. The research and training provided by the group, as described above, are important for the University of Tromsø, public health agencies, and clinicians. The self-assessment provided little information on user involvement.

Research group: Drug Transport and Delivery

Projects of the research group are exciting, and mainly based on formulation work. The research of the group is innovative on formulation and transport issues of small molecules and investigates mostly cell-free systems for transportation and permeability. The organisation of the research groups is focused around one strong group leader. Career development within the group seems to be an important issue. The publication output is high, the data published are of relevance and internationally recognised. The societal contribution in the non-academic sector could be improved.

Research group: MicroPop-Microbial Pharmacology and Population Biology

The group achieves a high international standard considering the group size. The group produces high quality science at an international level. An important strength is the link to hospitals and medical microbiology groups, which potentiate the translational value of their research. The group has a small size compared to other “research groups” in this evaluation, and that represents a potential weakness. MicroPop is actively looking for funding opportunities to form a research centre of excellence together with the University of Oslo. If they manage to achieve this goal the viability of the group would be guaranteed. This would be vital for the group, since the low amount of core funding received by the group represents the main risk for their viability.

Research group: Natural products and medicinal chemistry

The research group in Natural Products and Medicinal Chemistry has managed to establish itself as a major contributor to the strategies of the Arctic University. Much of this is based on their unique combination of knowledge and abilities to provide high quality analytical support to other groups. To make the research group more sustainable it would be important to initiate a more strategic recruitment of younger staff and to further secure necessary infrastructure e.g. high-resolution mass spectrometry and NMR. The research group could also gain from having a more strategic plan for societal impact and outreach activities to their stakeholders.

3. Diversity and equality

The administrative unit is carefully following the promotion of equality, gender balance, and diversity among the staff and students. The number of male and female professors is practically equal. Employees with different scientific backgrounds, nationalities, religion or sexual orientation are treated with respect and dignity.

Also, the occupational health service is actively engaged in diversity and equality matters, for example on the adaptation of working conditions to the staff's needs. Speak up campaigns and working environment surveys ("ARK") are regular in the administrative unit.

The committee's evaluation

It seems that the University's and Department's practices and attitudes are at appropriate levels, showing well-developed recruitment processes in the administrative unit.

During the interviews, it became clear that the foreign staff members and female scientists are very well treated in the Department. This is even though Norwegian language skills are needed in higher level positions in teaching and research.

The committee's recommendations

The evaluation committee encourages the Department to continue the good and open work in the areas of diversity and equality related matters.

4. Relevance to institutional and sectorial purposes

The self-assessment lists high quality research and education; research and education for innovation, welfare and value creation; and good access to education as the most important sectors for specific impact.

A specific feature of pharmacy education in Tromsø is that the degree already qualifies the degree holder to perform some relevant working tasks in pharmacies, hospital pharmacies etc. This has proved positive for the employment and career-development of pharmacists in northern Norway.

Students in the unit are of highly diverse and multicultural origin. In addition to difficulties to recruit qualified staff members in the north, the same applies also to the limited pool of candidates for the recruitment of highly skilled students.

The Department of Pharmacy wishes to collaborate with industry, with some local actors already active in the field. As for innovations and commercialisation, “there is progress to be made” – a direct quote from the self-assessment report. Few concrete innovation and industrial collaboration activities have been listed in the document. However, the university does have an action plan for innovation and entrepreneurship.

The committee's evaluation

Active collaboration locally, nationally and internationally has raised this little Department somewhat above its size in terms of research achievements and recognitions. However, there is clearly room for improvement and more activities in these topics and areas. Hopefully staff and personnel hours will allow for this.

The committee's recommendations

Research, research-based education, and societal impact are the key determinants of academic institutions including universities. Balance between these three will determine the focus, including the prerequisite circumstances for top level research performed by top-level scientists. Despite extremely important societal impact, an administrative unit should not forget striving towards top-level science.

4.1 Higher education institutions

Since 1996, the Department of Pharmacy in the Arctic University of Norway has been an extremely important institution to produce trained pharmacists for northern Norway. Fostering of new knowledge and skills is integral to the advancement of societal and health related topics, which is of course the specific educational task of pharmacy units worldwide. Master's students of the Department participate actively in the research group's topics and contribute also, thereby, to research publications and other dissemination of educational and research activities, while simultaneously improving the expected health outcomes and reducing the costs of healthcare through their work as pharmacists.

The committee's evaluation

In remote locations, like northern Norway, academic institutions have important roles beyond their size and impact in the global competition for research excellence. The Department of Pharmacy at UiT is a model example of an administrative unit fulfilling these tasks in a comprehensive way.

The committee's recommendations

It is important to gain as high a status in research excellence as possible. However, the local and national role of an academic educational unit is sometimes equally important. The Department of Pharmacy at UiT is recommended to strive for the best possible outcomes in both of these important tasks.

5. Relevance to society

As listed in the self-assessment, high-quality research and education are important parts of the Department's activities. Locally, access and participation in higher education and international level research are important ways of improving the research outcomes. As mentioned above, the development of healthcare activities is of utmost importance for societal improvements in northern Norway.

The key activities relevant to society have been listed in the self-assessment document as:

1. Strengthening quality and collaboration, 2. Ensuring access and participation to higher education, and 3. Bench to bedside research and improving healthcare.

The selected impact cases of the Department of Pharmacy are: "Audit and feedback to increase adherence to antibiotic prescribing guidelines", and "Change in the national guidelines for storage time of injection after opening and transfer to non-original containers" (see also later). The two impact cases represent cases of important safety and efficacy improvements of pharmaceutical and medical applications. Both are important areas and stand out also on levels of national and international research collaboration and funding. The examples are well chosen, but give only a snapshot picture of the research activities in the Department.

Comments on impact case 1: Audit and feedback to increase adherence to antibiotic prescribing guidelines

Antibiotic treatment optimisation programmes were developed against community-acquired pneumonia and acute exacerbations of chronic obstructive pulmonary disease. To maintain the benefits reached, continuous follow-ups are needed (antibiotic stewardship) by a trained pharmacist.

The highly multidisciplinary clinical intervention study was performed in the University Hospital in Tromsø in three phases: pre-intervention audit phase, feedback intervention phase, and post intervention audit. Appropriate antibiotic prescribing was found to be beneficial for the treatment outcomes through the interdisciplinary collaboration. This work led to two research articles in international journals and to www-addresses for Norwegian professionals and patient groups.

The project's impact, in addition to procedural development and patient benefits, has been to show the importance of a pharmacist as an integral part of the health care team and healthcare chain.

Comments on impact case 2: Change in the national guidelines for storage time of injection after opening and transfer to non-original containers

Safe handling of medications needs to be assured in order to assure the safety of these procedures. The group's work has aided in adjusting national guidelines in line with international guidelines and resulted in changed clinical practices with regards to storing of injectable drug formulations.

Specific knowledge of microbiological, chemical and physical stability of sterile and non-sterile pharmaceutical products is especially important for parenteral dosage forms, for example liposomal productions for nutritional and cancer medication purposes. Stability issues including potential interactions of the formulation ingredients are important parameters for the safety and efficacy of the products. The research in the Department contributed to one set of reference guidelines and six relevant research articles.

Norwegian drug formulation and safety guidelines have been thoroughly updated in 2021-2023. The impact case has been part of this process to improve the safety of medications and harmonise the guidelines with other national formularies in the Nordic countries.

Appendices

Evaluation of Medicine and health 2023-2024

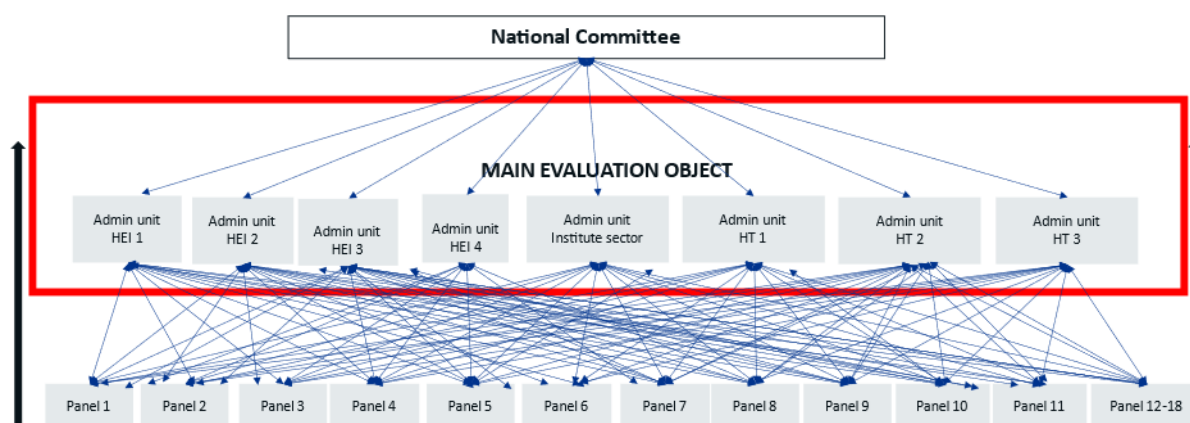
By evaluating Norwegian research and higher education we aim to enhance the quality, relevance, and efficiency. In accordance with the statutes of the Research Council of Norway (RCN), the RCN evaluates Norwegian professional environments to create a solid and up-to-date knowledge base about Norwegian 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 \(forskingsradet.no\)](https://forskingsradet.no/evaluering-av-medisin-og-helsevitenskap)

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.

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

Digitalt informasjonsmøte 15. mai 2023, kl. 14.00-15.00.

Forskningssrådet 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

Forskningssrådet vil opprette en nettside på www.forskningssradet.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@forskningssradet.no eller mobil 40 92 22 60.

Med vennlig hilsen
Norges forskningsråd

Ole Johan Borge
avdelingsdirektør
Helse

Hilde G. Nielsen
spesialrådgiver
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

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

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www.forskningsradet.no/publikasjoner

Oslo, 5 April 2022

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

1 Introduction

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

1.1 Evaluation units

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

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

<i>Administrative unit</i>	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.
<i>Research group</i>	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 Reference¹ 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 colleges²

- 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 sector³ 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 (RHF) in Norway. They are responsible for the specialist health service in their respective regions. The RHF 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 (HF), 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 main 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.

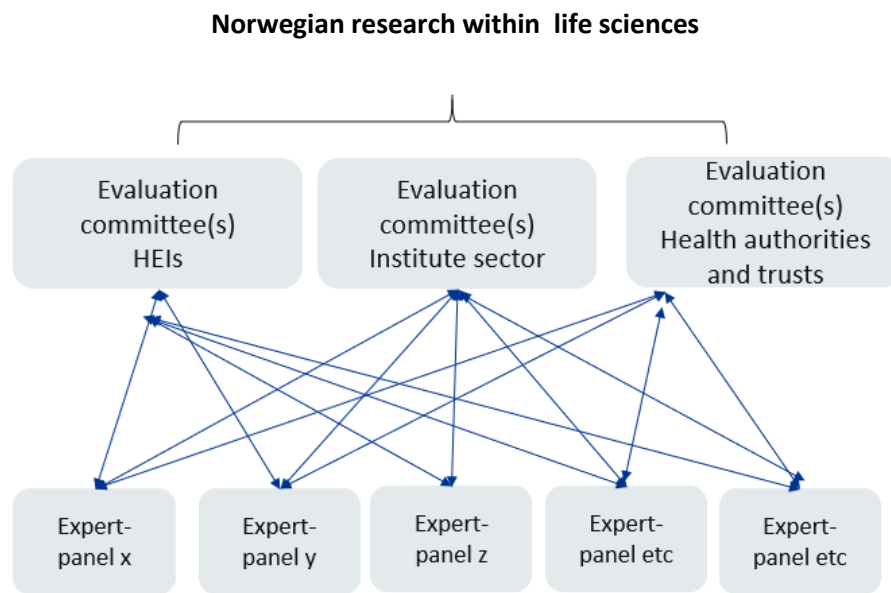


Figure 1. Evaluation committees and expert panels

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

Criteria \ Evaluation units	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	<i>Data related to: Benchmark defined by administrative unit</i>	<i>Data related to: Strategic goals and specific tasks of the admin. unit</i>



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.....	3
Guidelines for completing the self-assessment	4
1. Strategy, resources and organisation.....	5
1.1 Research strategy	5
1.2 Organisation of research	7
1.3 Research staff	7
1.4 Researcher careers opportunities	8
1.5 Research funding.....	8
1.6 Collaboration	9
1.7 Open science policies	11
1.8 SWOT analysis for administrative units.....	11
2. Research production, quality and integrity	12
2.1 Research quality and integrity.....	12
2.2 Research infrastructures	12
3. Diversity and equality	13
4. Relevance to institutional and sectorial purposes	14
4.1 Sector specific impact.....	14
4.2 Research innovation and commercialisation	14
4.3 Higher education institutions.....	15
4.4 Research institutes	15
4.5 Health trusts	15
5. Relevance to society	16
5.1 Impact cases	16

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 form. **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 infrastruktur 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
UiT	Department of Pharmacy	Cell Signaling and targeted Therapy (CSTT)	Panel 2b
UiT	Department of Pharmacy	Clinical Pharmacy and Pharmacoepidemiology (IPSUM)	Panel 4e
UiT	Department of Pharmacy	Drug Transport and Delivery	Panel 1b
UiT	Department of Pharmacy	Microbial Pharmacology and Population Biology (MicroPop)	Panel 2a
UiT	Department of Pharmacy	Natural Products and Medicinal Chemistry (NPMC)	Panel 1b

Scales for research group assessment

Use whole integers only – no fractions!

Organisational dimension

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

Quality dimension

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

Score	Research and publication quality	Supporting explanation
5	Quality that is outstanding in terms of originality, significance, and rigour.	The quality of the research is world leading 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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Publikasjonen kan lastes ned fra
www.forskningsradet.no/publikasjoner

Design: [design]

Foto/ill. omslagsside: [fotokreditt]

ISBN 978-82-12-04104-2 (pdf)

