

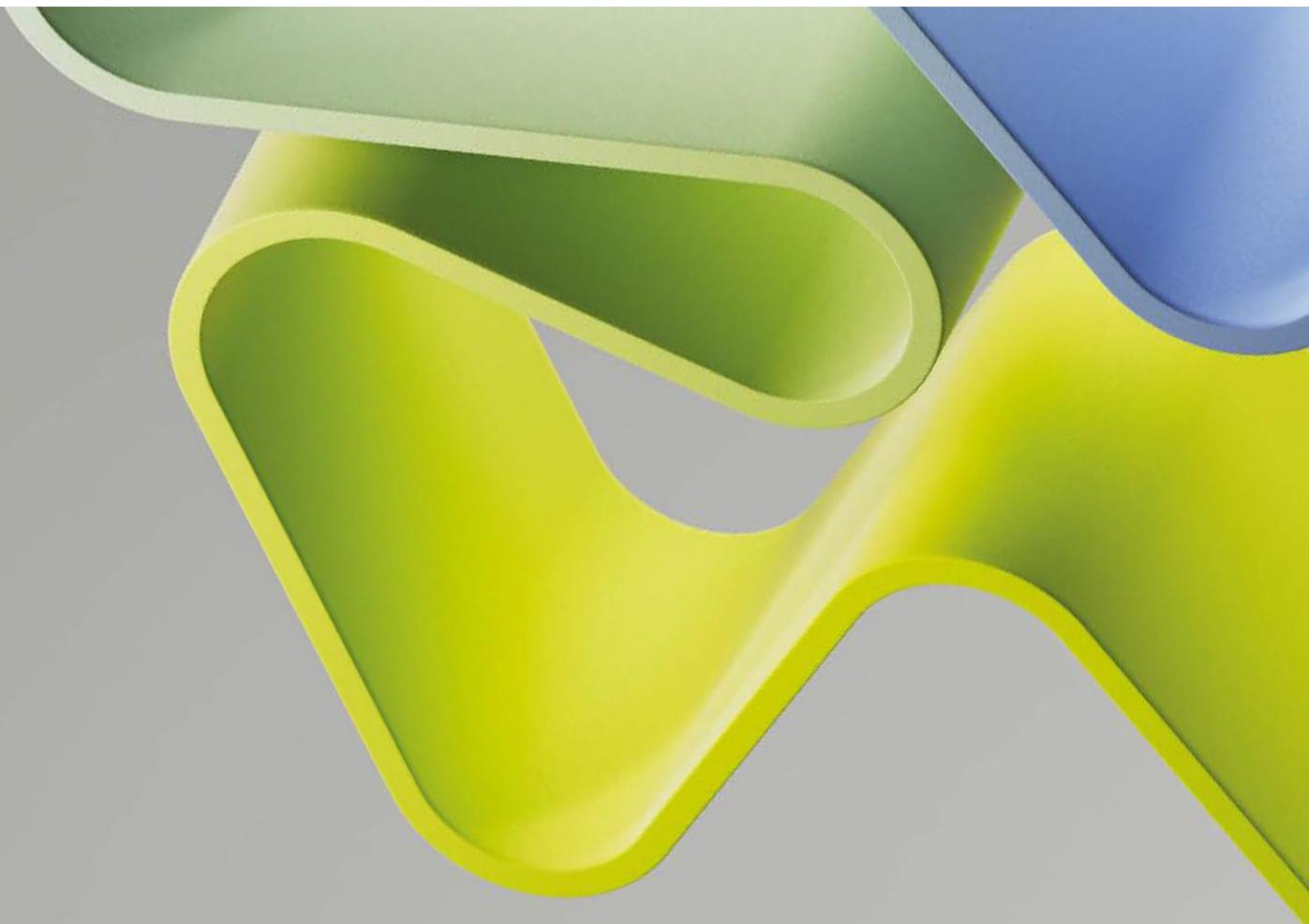
# Evaluation of Life Sciences 2022-2024

Evaluation of medicine and health 2023-2024

## Evaluation report

**ADMIN UNIT:** Faculty of Dentistry  
**INSTITUTION:** University of Oslo (UiO)

December 2024



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## Statement from Evaluation Committee Higher Education Institutions 4

This report is from Evaluation Committee 4 which evaluated the following administrative units representing the higher education sector in the Evaluation of medicine and health 2023-2024:

- Faculty of Health Sciences and Social Care, Molde University College
- Faculty of Medicine and Health Sciences, Norwegian University of Science and Technology (NTNU)
- Faculty of medicine and Health Sciences, NTNU, Norwegian University of Science and Technology (NTNU)
- Department of Clinical Dentistry (IKO), UiT Arctic University of Norway
- Department of Community Medicine, UiT Arctic University of Norway
- Department of Medical Biology (IMB), UiT Arctic University of Norway
- Faculty of Health and Sport Sciences, University of Agder (UiA)
- Department of Global Public Health and Primary Care, University of Bergen (UiB)

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 4. All members of the committee have agreed with the assessments, conclusions and recommendations presented here.

Evaluation committee Higher Education Institutions 4 consisted of the following members:

Professor Anja Krumeich (Chair)  
Maastricht University

Professor John de Wit  
Utrecht University

Professor Paul Hatton  
University of Sheffield

Professor Marialuisa Lavitrano  
Milano-Bicocca University

Professor Patrik Midlöv  
Lund University

Professor Louise Torp Dalgaard  
Roskilde University

Rebecca Babb, Technopolis Group, was the committee secretary.

*Oslo, December 2024*

## Profile of the administrative unit

The research activities at the Faculty of Dentistry (DentFac) at the University of Oslo are organised across two institutes (Institute of Clinical Dentistry and Institute of Oral Biology). The faculty consists of 24 professors, 26 associate professors, five researchers, 34 PhD-students and three post-docs. Women represent a majority in all categories except among professors and post-docs, where they represent 41,6 and 33,3 percent respectively.

The Faculty of Dentistry is comprised of several research groups, of which three fulfilled the criteria set by RCN for inclusion in EVALMEDHELSE: Department of Biomaterials (Biomat), Oral physiology and cancer research group (OPCG) and understanding salivary gland function (USG).

The main strategical goals for research and innovation at DentFac are to promote independent, groundbreaking and long-term research through good, robust interdisciplinary research environments; promoting research collaboration broadly - both internally within the faculty and UiO, nationally and internationally, systematic develop and sharing of research infrastructure and data resources. The main fields of focus are bacteria in the oral cavity, craniofacial development biology, health promotion and preventative activities, and biomaterials and tissue regeneration. The latter have been in the lead related to innovations, spin offs, external funding and several publications.

The faculty operates on two parallel axes - research and teaching, both nationally and internationally. DentFac has established strong collaborations with numerous universities and research institutes in Norway and abroad. These collaborations range from basic and translational research to clinical research, and the collaborative efforts have yielded fruitful outcomes, including joint publications, the supervision of PhD candidates, and in external funding from organisations such as the Research Council of Norway (RCN) and the Horizon2020/Horizon European/Eureka (EuroStar)/EEA. The faculty is encouraging collaboration to find solutions that are in the patient's best interests. Innovative research, in collaboration with industry, is mostly done at lower TRL levels (3-5), but the research at DentFac has also resulted in several innovative solutions that are in clinical use, such as the world's most used implant (OsseoSpeed).

According to its self-assessment, in the future the administrative unit may leverage its competent faculty, efficient decision-making, holistic and translational research, and interdisciplinary collaborations. The faculty's extensive network and involvement in strategic initiatives sets the stage for exciting opportunities and fruitful collaborations. By collaborating with other university faculties, they aim to strengthen their academic position and contribute significantly to research, teaching, and innovation. However, the administrative unit faces continuous financial challenges as public funds have diversified to include regional oral health competence centres (ROK), and external research funding often prioritises specific diseases, making it difficult to secure funding for dental research. This affects their ability to attract skilled researchers and access necessary infrastructure. Finally, the administrative unit struggles with access to patient data, and fears losing decision-making authority, visibility and academic autonomy following a proposed merger with the Faculty of Medicine (MED). The administrative unit strives to overcome these obstacles by seeking alternative funding sources, establishing strategic partnerships, and exploring creative ways to optimise the use of available resources.

## Overall evaluation

The Faculty of Dentistry (DentFac) at the University of Oslo is broadly comparable to world leading equivalent Schools, especially in Europe. There is much research of quality with evidence of real-world impact, covered extensively in this report. The wider responsibility at DentFac is predominantly on the delivery of the clinical undergraduate programme with some provision of a clinical postgraduate taught master's program. The panel therefore considered that applying the limited resources available for research towards a relatively large number of disparate themes was not best practice. The specific themes reflect staff interests and expertise, typically directed at recognised priorities in the field including national and global oral health challenges, or specialist interests of individual staff. While this overall scenario is common to many Dental Schools world-wide, DentFac has an unusually large number of research groups in widely varying fields (with 11 distinctive groups on the website at the time of review).

Research strategy at the University of Oslo is reasonably comprehensive at different levels of the organisation, with evidence of an effective formal structure that works well. The high level, overarching "2030" strategy for the University is publicly available, and prioritises "groundbreaking, long-term research" and strengthening global collaboration towards real world impact. Specific institutional research objectives include developing outstanding research environments, disciplinary depth and interdisciplinarity, sharing research infrastructure including data resources, and intense efforts around ethics and integrity. While in a different section of institutional strategy, a commitment to real world impact is very clear. DentFac does not publish a strategy or make one available on its web pages, but details are provided in the self-assessment documentation. These explicitly recognise institutional strategy, showing good alignment of ambition and goals. While the committee structures discussed at interview appear to work well in terms of reinforcing internal alignment and accountability, there did not appear to be terms of reference for a faculty-level research committee. Only limited information is available on the public website related to Faculty strategy. Research highlights, though, are presented here, with gaps between items typically in the range of 2 weeks to 3-month intervals.

While documents including the self-assessment referred to excellence in the context of research quality, there was little information provided on how excellence should be defined or identified. Panel interviews did not resolve this, where Faculty staff had a partial appreciation of - and no agreed definition for - the highest quality, world leading research in either qualitative or quantitative terms. Funding, publication, and translational success were all identified, but with no detail around a recognisable definition.

One long term goal – stemming from a previous NRC Evaluation – was to reduce fragmentation among disparate research groups within the DentFac. The panel impression from interview and documentation is that progress here has been relatively slow. Despite some evidence for effective cooperation, there are still at least 11 different research groups. Responses from DentFac staff suggest that progress has relied more on "bottom up" cooperation, with relatively little "top down" direction or instruction. While facilitating community-led change can be a reflection of a positive research culture, the lack of an agreed framework appears to have been a hindrance to date.

It is important to note that the self-assessment, especially the SWOT analysis, lists that having fragmented research groups and lack of strategic planning as being weaknesses of the DentFac. A strength of the research at the DentFac is the proximity between clinical dental science and translational technology facilitating interdisciplinary collaborations and real-world impact. The panel further understood from interview that the DentFac had faced

some exceptional fiscal challenges, where following a period of hard work and restraint they were only now starting to emerge. This difficult period would have made a restructure quite challenging, so the leadership are commended for maintaining high quality research and a strong reputation throughout.

Future prospects are undoubtedly good, especially if the recommendations provided here are acted upon. The focus on European collaboration is wise, as is the emphasis on interdisciplinary and translational research that has a real impact on patients, directly or with industry partners. Securing greater research funding, in particular larger collaborative awards, will fuel an upward cycle of research success that aids recruitment and retention of the very best staff as well as publishing truly world leading papers.

## Recommendations

The evaluation committee wishes to extend the following recommendations to the administrative unit.

- Defining excellence in terms of research quality is a high priority, and this should include consideration of wider research strategy. It is recommended that the DentFac agrees on a definition for excellent research (e.g. in terms of publication quality, or changes in policy or clinical practice), where this definition should be at least partly based on elements that can be measured or judged (but still remain DORA compliant, as crude metrics are not an indicator of quality). A stronger, more usable definition of excellent research and other related objectives within the DentFac strategy will be beneficial in identifying the strongest researchers and thematic groups, important in also responding to many of the wider recommendations from this review.
- The DentFac has a relatively large number of thematic research groups. While all, to varying degrees, generate notable research, there are differences in terms of output number and quality, research grant success, interdisciplinarity, collaboration including with industry, and impact including clinical / public health. It is recommended that the research leadership play a more active role in defining more closely integrated research structure with far fewer identifiable groups, encouraging even greater collaboration. This recommendation does not preclude community-based identification of themes – indeed co-production is generally the best way to approach amalgamation or cohesion – but it is strongly recommended that DentFac leadership proactively lead the process including dialogue. There are several approaches that would be effective in reducing to a minimum of six and ideally closer to four themes, given the similarities to other world leading Dental Schools some comparative analysis would be helpful here.
- The Committee strongly recommend coalescing smaller groupings around fewer, larger themes. The process to achieve this should balance community engagement with sound leadership, it should certainly align with institutional and DentFac strategies, and it should take into account recognised metrics or indicators of both excellent research and high-quality impact. Final decisions on measuring research success should though be compliant with the Declaration on Research Assessment (DORA).
- Irrespective of the precise future themes to be defined, it is important to consider a number of key factors that should be present in varying degrees in each theme established. These include world leading research (evidenced primarily by peer reviewed publications in recognised, field leading journals, with citations from similarly high calibre groups around the world), the ability to win competitive grant funding as appropriate for the field/theme, a critical mass of active researchers at all levels (from PhD student to Professor, with technical support available as appropriate), and ideally some forms of potential or demonstrable impact arising from the work. Evidence for all of these indicators was not provided in the self-assessment, but public information showed that each of the 11 current themes varied greatly. To summarise, the DentFac are strongly encouraged to reduce the number of thematic research groups a high priority at the earliest opportunity, and benchmark the quality of these enlarged DentFac research using established indicators (examples given above).
- With respect to staffing, the Committee recognises the need to provide the broad teaching portfolio necessary for training clinical dentists. However, it is not necessarily a given to have active research across all teaching domains. Therefore, the recommendation is to focus local investments on the strongest research themes identified following the exercise above. This will build greater critical research mass, aiding staff retention and recruitment, and contributing to an “upwards cycle” of research excellence, success and impact.

- Finally, both national and global research are fiercely competitive arenas. While it is very positive that the DentFac makes contributions to many wider thematic fields, it is important to continue to also make specific contributions to research that address challenges in oral and dental health. The DentFac is recommended to put some resources into explaining the need for oral and dental research, highlighting both unmet clinical needs and opportunities (for industry and government) to apply new knowledge.

# 1. Strategy, resources and organisation of research

## 1.1 Research strategy

The self-assessment describes alignment of the DentFac and institutional strategies, but this is not reflected in all elements of the self-assessment or public documents. The terms of reference are reasonably detailed and coherent, and the main fields for research and innovation are also clear. There is ample evidence that some of the publications arising from the DentFac research are world leading in terms of quality and the impression they make on the field globally. However, not all of the work of the DentFac is focussed solely on oral and dental challenges, indeed some of the strongest publications are not related to dental research. Thus, there is a mismatch between DentFac and institutional strategy. While some of this relates to differences between a large institution and a dedicated Dental department, there are clearly opportunities for greater alignment.

### The committee's evaluation

With respect to research impact, some thematic areas are undoubtedly more effective than others. Overall, though, the DentFac delivers real world impact in a number of domains, including in medical technologies (frequently with industry), on evidence-based healthcare, and on national policy related to both oral and general health. The DentFac reported challenges around recruitment related to a difficult financial situation, although the panel heard that this is easing following a period of effective leadership. That recognised, the DentFac reported that new appointments were made in the light of strategic need, usually dominated by teaching priorities but also influenced by research strategy. The panel also gained the strong impression that the DentFac were committed to building a diverse research community in every sense, recognising that this was both the right thing to do and a means of building a resilient, talented community.

### The committee's recommendations

- The Committee recommends that the DentFac seeks to align closely with institutional research strategy and goals, and demonstrates this alignment with a short, written document (ideally with a non-confidential public version available). While aspects of the strategy presented in the self-assessment showed alignment and appeared reasonable, the DentFac strategy is not yet sufficiently detailed to be useful in defining priorities, and therefore does not help researchers to “coalesce” around a smaller number of thematic priorities. A new, detailed strategy should be comprehensive, and also therefore consider governance and improvements to accountability.
- The Committee recommends that the DentFac - in facing up to the need for changes - value their existing strengths including high quality researchers, and elements of a positive research culture including embracing the value of a diverse research community.

## 1.2 Organisation of research

The organisation of research is relatively straightforward, and apart from the relatively large number of distinctive thematic groups it is similar to comparable institutions internationally. The DentFac is organised in two departments located at two separate addresses, which could potentially pose a challenge for defining more focused research themes. The organisation of PhD student support is a particular strength, which was discussed in some detail at the interview. This is likely to contribute to the effective education of PhD students

into being effective researchers and qualified future employees in a variety of settings, through which the DentFac thereby provides societal added value. There are elements of research organisation, though, that were not described in detail in the self-assessment, including infrastructure (with very few details provided elsewhere, including in Section 2.2 Infrastructure).

### **The committee's evaluation**

The DentFac continues to have a relatively large number of thematic research groups. While all, to varying degrees, generate notable research, there are differences in terms of output number and quality, research grant success, interdisciplinarity, collaboration including with industry, and impact including clinical/public health.

### **The committee's recommendations**

- The Committee strongly recommend coalescing smaller groupings around fewer, larger themes. The process to achieve this should balance community engagement with sound leadership, it should certainly align with institutional and DentFac strategies, and it should take into account recognised metrics/indicators of both excellent research and impact.

## **1.3 Research funding**

The self-assessment shows a healthy research income into the DentFac, overall, which is sufficient to sustain a high-quality programme. The scenario they describe is certainly similar to the UK (and others), with a fall in core institutional funding that means external research funders are needed to support research. It was noted that where core funding is available, this is distributed internally through a combination of equal shares and added payments intended to reward and stimulate "research excellence". One consequence of reduced governmental funding were delays recruiting to posts, sometimes leaving posts unfilled with a negative impact on available research time (where clinical teaching is understandably the priority in a dental setting).

### **The committee's evaluation**

The committee were impressed with the research income, in particular the ability of some groups to secure large national and European awards to support multidisciplinary teams with an ambitious programme, as well as with the number of successful collaborations with industrial partners. Distinctive research that could only be performed in a clinical setting was identifiable.

### **The committee's recommendations**

- It is recommended that the DentFac continues to prioritise securing external income, with a focus on larger, collaborative projects that are most likely to lead to excellent research (in terms of recognised high-quality publications, and/or a high likelihood of real-world impact, and more generally supporting a sustainable, long-term programme). It was noted that the DentFac believed its diverse research focus was a positive feature in attracting funding. The committee recommends that consolidation around a smaller number of broader, recognisable research themes would retain diversity. Furthermore, make the resulting research themes more robust and able to support larger or more advanced projects, while also making them easier to manage and direct. Retention of the almost unique ability to deliver clinical and translational studies with innovation potential is strongly recommended.

Indeed, any consolidated thematic clusters should seek where possible to include clinical researchers to maintain this key ability.

#### **1.4 Use of infrastructures**

Relatively few details of infrastructure use appear in the self-assessment, however, in general, the DentFac has in house access to necessary infrastructure, often funded through external grants. The DentFac participates in the UiO VDI initiative facilitating access to computational resources for analyzing structural or image data. The DentFac is a partner of the European Excite X-ray facilities (INFRAIA), and has access to ESRF Grenoble and Elettra Sincrotrone Trieste, but is not a partner in the European (ESFRI) infrastructures.

#### **The committee's evaluation**

The DentFac engages relatively little in national and European research infrastructure programmes or facilities, in part due to the nature of some research but also potentially because of lack of opportunities. Only superficial details of local infrastructure were provided in the self-assessment, but links to specific facilities were provided elsewhere and in the public domain. Overall, the DentFac appear to have sound, sustainable research facilities, this was also discussed in the panel interviews.

#### **The committee's recommendations**

- The Committee encourages the DentFac to continue to manage their internal infrastructure well, maintaining sound technical support. where technical staff are given leadership and responsible roles, and where they are recognised and rewarded for their contributions to research success. The DentFac should continue to support larger, shared infrastructure within the University and more widely, where this is appropriate for their work.

#### **1.5 Collaboration**

The self-assessment and accompanying evidence, alongside evidence in the public domain, show that the DentFac is highly collaborative both nationally and internationally. This is a further indicator of a positive research culture, where international collaboration in particular is associated with adding value to the DentFac environment while generating outputs that are more highly cited, and increasing the potential for impact (especially where the consortium includes clinical and/or industry partners).

#### **The committee's evaluation**

The Committee agree with the self-assessment on the basis of evidence available and discussions at the panel interview and consider the collaborative activity to represent a DentFac strength. There is evidence that multi- and interdisciplinary collaboration is closely associated with grant funding success and the highest quality publications that attract international attention (as evidenced by citations).

#### **The committee's recommendations**

- The Committee recommends that – where appropriate - the DentFac continues with this highly collaborative approach, especially internationally (e.g. European), and embed this in a revised strategy (recommended elsewhere in this report).

## **1.6 Research staff**

The majority of the permanent staff are educated dentists with postgraduate specialisation, with a balanced composition of different categories of positions and with almost equal gender distribution. The DentFac has a clear strategy of offering positions as research students to promote the progression of dentists into research, PhD or post-doctoral studies.

### **The committee's evaluation**

During the panel interview it was noted, as described above, that teaching loads for the staff had increased due to budget shortages, which could be a threat to research productivity and excellence. Moreover, challenges also exist with regard to recruiting skilled replacements for leaving staff.

### **The committee's recommendations**

- It is commended that the DentFac has focus on maintaining research opportunities for dentist students to promote a resource for future recruitments. Moreover, the DentFac should have a strong focus on ensuring sufficient research-time for the scientific staff.

## **1.7 Open Science**

The DentFac have provided brief details in the self-assessment, including reference to national guidelines and University policies. They also note the importance of adherence to the rules imposed by funding bodies, in particular the European Commission and NRC.

### **The committee's evaluation**

The Committee noted some examples of good practice, in particular relating to open access publication and depositing manuscripts in the University's research archive (DUO). This archive also included all masters' and doctoral theses. However, there is less focus on other pillars of Open Science, such as FAIR Data, Research Integrity, Next Generation Metrics, Future of Scholarly Communication, Citizen Science, Education and Skills, Rewards and Incentives, and the European Open Science Cloud.

### **The committee's recommendations**

- The DentFac were commended for their positive approach to open science. The only recommendation from the Committee was that the "English language" functionality of the DUO archive should include the names of the research communities (as English is increasingly the international language of research, and this would increase ease of use for an international audience).
- The DentFac is recommended to emphasise additional aspects of good practices in Open Science.

## 2. Research production, quality and integrity

### Introduction

Research at the DentFac has focused on four broad areas: bacteria in the oral cavity, craniofacial developmental biology, health promotion and preventive activities, and biomaterials and tissue regeneration. The research theme related to oral bacteria is carried out at the Institute of Oral Biology, having access to a specialised diagnostic laboratory for oral bacteria and has, among other topics, a special focus on biofilm formation. The research theme for craniofacial developmental biology, also at the Institute of Oral Biology, has a focus on the role of microRNAs. Research falling under the theme on health promotion and preventive activities take place at both of the institutes of the DentFac, and is closely related to the education programs for dental hygienist, dentists, and dental specialists. Research in biomaterials and tissue regeneration takes place at the Institute of Clinical Dentistry and has a focus on bone graft materials and translational science bridging laboratory and clinical research. The DentFac follows the standards for research integrity as defined by the University of Oslo, which is also taught at a university course on research integrity covering legislation, guidelines and norms. The DentFac approach to transparency, project monitoring, and research ethics were discussed at the panel interviews. Overall, the panel were impressed at both the attitude and practical approach to these important subjects, indicating a positive research culture in the leadership team and among those interviewed.

### 2.1 Research quality and integrity

This part includes one overall evaluation of each research group that the administrative unit has registered for the evaluation. The overall assessment of the research group has been written by one of the 18 expert panels that have evaluated the registered research groups in EVALMEDHELSE. The expert panels are solely behind the evaluation of the research group(s). The evaluation committee is not responsible for the assessment of the research group(s).

#### Research Group: Oral Physiology and Cancer Research Group

The Oral Physiology and Cancer Research Group (OPCG) aims to identify oral cancer related biomarkers through comprehensive basic research using in vitro models and clinical specimens and to test and validate the identified biomarkers for future translational applications. However, the lack of several key pieces of equipment along with lack of staff support in areas like bioinformatics and statistics are detrimental to the group as well as limited financial resources. These aspects are key reasons for the low score on organisational dimension. Furthermore, the research group is one out of only three established research groups in Norway (one at the University of Bergen, and the other at the UiT, The Arctic University of Norway) which have a main focus on oral cancer research. However, the few listed publications of national level indicate limited research output. This fact coupled with the lack of any international, industrial or RCN funding are main reasons for the low score in this area. Finally, the societal impact of the research group is potentially high, but at the moment limited. The group is very strong in teaching, and they have two best-teacher awards. However, there is no evidence of any patents or critical contributions to the wider community, hence the low score.

#### Research group: The Biomaterials group

The research of the Biomaterials group is organised around a balance of core funding and project-based initiatives. Core funding provides the stability and continuity necessary for long term research goals, while project-based funding allows for exploring innovative and often high-risk ideas. The department has been at the forefront of biomaterials research, contributing significantly to the field with numerous publications (>35 in 2023) and PhD

graduates, >5000 followers on social media, and appearances in podcasts, national TV and radio. The group has direct links with healthcare and five of their inventions are now in clinical use. Their regenerative approach not only has direct clinical benefits but significant implications in healthcare since it reduces antibiotic use. A possible weakness would be their small size and limited options for succession planning.

### **Research group: Understanding salivary gland function**

The goals and strategy of the research group Understanding Salivary Gland Function (USGF) are focused and clinically relevant and there is good progress in some areas. Given the size of the group, productivity (publications, graduated PhDs) is good. Reports are published in journals of reasonably good quality (impact). However, the group is very small and lacks appropriate resources to work long-term or develop the research program. This significantly reduces grading in the organisational dimension. A more sustainable structure would provide the necessary basis for maintaining and improving research output and quality. This is to some extent handled by extensive collaboration with other groups, especially with the Norwegian Dry Eye Clinic. RCN has previously stated that research in the field is too unfocused. It should be considered to form a larger research lab constellation with groups that can work more closely together and support each other and jointly promote their linked fields of research. The project aiming at a novel product for treating dry mouth symptoms is interesting also in a societal perspective. No convincing examples or documentation of the group's efforts to involve users in the research process is provided.

### **The committee's comment to the assessment of the research group(s).**

The expert panels' evaluations of the research groups highlight the strengths and weaknesses also pointed out by the DentFac in its self-assessment, where strengths are related to the interdisciplinary science involving biomaterials and/or patients, while weaknesses are related to the small sizes of some of the research groups, making them vulnerable to losing expertise when staff is leaving or PhD students graduate. Moreover, the scientific output of the smaller sized groups is also a weakness, which could be aggravated by high teaching loads.

### **3. Diversity and equality**

The DentFac provided a brief overview of their policy and practices in the self-assessment, and this subject was discussed further at panel interview. Generally, the DentFac aligned well with institutional policy in this area, directed at establishing and maintaining a positive workplace culture that brings out the best in individuals, teams and community. Equality, diversity and inclusion (EDI) featured in the institutional strategy, and was reflected by key documents referred to in the self-assessment.

#### **The committee's evaluation**

The committee were impressed with the commitment to core principles around EDI, and the evidence of implementation and progress. Moreover, the recognition that diversity could be viewed in many ways in addition to classical definitions was welcome, for example providing training and development for non-academic as well as academic staff, and monitoring EDI across the whole DentFac community. It was noted that diversity was to some degree stratified, with for example many more junior female staff and students and fewer at the most senior levels (although even here it was around 50:50, with women holding key roles in DentFac and research leadership).

#### **The committee's recommendations**

- Overall, the Committee were impressed, and recommend that the DentFac maintain this positive, effective approach to maintaining diversity for the benefit of the workforce and the research they conducted.

## 4. Relevance to institutional and sectorial purposes

The DentFac provides education of healthcare personnel in dentistry and dental care, as well as training specialists and academic personnel in these fields. The University dental clinic plays a key role in the clinical education of undergraduate dental students, as well as postgraduate students and specialists in dentistry. The DentFac is committed to meet both the sector-specific aims through its high-quality dental education as well as through clinically related research benefitting dental care, improving prevention and treating dental disease.

DentFac scientists have been engaged in numerous studies, collaborating with national and international research groups and companies to develop biomaterials for dental use. Some of their inventions are among the most used in their field (e.g. bone implant, mouth wash). Close collaborations exist between the DentFac and companies and the DentFac has extensive experience with innovation and commercialisation, especially with focus on the use of biomaterials. Both development, modification and clinical testing of various substances has taken place at the DentFac, which is recognised for evidence- and innovation-based research and teaching.

Research at DentFac has, to a large degree, focus on being clinically relevant and has focus on results being used commercially. Scientists at the DentFac have demonstrated considerable interests in innovation and commercialisation, holding more than 20 patents, have developed other dental products and have made spin-out companies (Corticalis and Labrida). Thus, the general motivation for innovation and commercialisation is high, but varies across different research groups.

The UiO has principles for Innovation and Commercialisation to facilitate, followed by DentFac, which also has its own strategy. However, information about the DentFac's support for innovation is not given.

### **The committee's evaluation**

The Committee finds that DentFac lives up to sector specific objectives regarding education in dental health at all levels from dental hygienists to post-graduate specialisations. Innovation and commercialisation is in clear focus at DentFac, as evidenced by its strategy as well as by patents, products and spin-out companies.

### **The committee's recommendations**

- As part of a higher education institution, DentFac has a clear contribution to achieving the sector specific objectives and goals for higher education institutions with focus on dental health. The Committee recommends continuing building strong partnerships with industry for developing novel treatments for dental disease and to engage in building collaborative research projects. The Committee recommends developing a robust research communication strategy, including building and maintaining a clearly defined homepage featuring regular press releases, social media engagement, and newsletters, which should highlight key research outcomes and their implications for impact.

#### **4.1 Higher education institutions**

The DentFac provided a precis of institutional and sectoral purposes in the self-assessment. The DentFac educates dentists, dental hygienists, and provides post-graduate educational specialization for dentists, in addition to research training and PhD education. The DentFac provides opportunities for masters' students to become involved in research activities through several types of dedicated scholarships.

#### **The committee's evaluation**

The self-assessment and publicly available documents demonstrate a vibrant learning environment that is informed by the research of the DentFac. While the focus is understandably on educating clinical dentists, there are also postgraduate taught and postgraduate research students, with all students having opportunities to experience research appropriate for their level and programmes. The DentFac also appear to recognise the importance applying EDI principles in education and training, and they recognise the interplay between effective educational programmes and research/innovation is important (e.g. for societal welfare). The Committee further agreed that carrying out research in close proximity to a clinical setting – and whole clinical teams – was a distinctive asset for the DentFac. However, how students are involved in or being taught elements of innovation and entrepreneurship is not described.

#### **The committee's recommendations**

- The committee recommend that the DentFac maintain this positive approach.

## 5. Relevance to society

### Introduction

Research at DentFac shows high relevance to the society, which is demonstrated in several ways: The DentFac provides doctoral education within dentistry research, it houses several research groups displaying evidence of excellent research quality and research groups collaborate in an interdisciplinary way within the DentFac as well as with companies or international research groups, altogether contributing the Norwegian Long-term plan for research and higher education, especially regarding the aim of developing academic and research communities of high quality. With reference to the UN Sustainable Development Goals, research at DentFac promote the goals of good health and wellbeing, quality education and industry, innovation and infrastructure. Scientists at the DentFac demonstrate very good abilities with regard to turning their discoveries into products that can benefit patients. Importantly, research at the DentFac also address the welfare of patients with special needs to change policies for dental care in Norway.

### **The committee`s comments on impact case 1 – Dental anxiety in individuals exposed to sexual abuse and/or torture**

Research carried out at the DentFac has contributed knowledge key to the establishment of dental treatment services for people subjected to torture, abuse and suffering from odontophobia by the Norwegian government. Research at the interface of dentistry and psychology has shown that a trauma sensitive approach is essential for previous victims and important as a part of professional dental care. The research focus has resulted in original publications, but also in additional impact features, as detailed below. In addition to original publications, the research has led to authored textbooks, numerous invited talks, an award ('Akademikerprisen'), as well as to altered curriculum for dental students and in continuing education. As mentioned above, the research has also given rise to changes in policy and treatment. It is clear that the research undertaken has yielded impact important for the Norwegian society, has changed professional treatment standards and governmental policy.

### **The committee`s comments on impact case 2 – Development of Synthetic bone graft materials, from lab bench to clinical use**

Research carried out at the DentFac has resulted in the development of improved synthetic bone graft materials which has been commercialised and adopted for clinical use. This research has aimed to fill the need for bone graft materials by inventing, developing and validating novel ceramic-based materials. Many original publications have arisen from this line of research thereby providing impact, but also additional impact features have been identified. In addition to original publications (36), several PhD theses and numerous Masters' theses were carried out. Moreover, significant external funding, also EU funding, was obtained to support the research, which has resulted in 4 patents, international collaborations and commercialisation of the developed materials. It is clear that the research undertaken has yielded a large impact important for the Norwegian society, leading to changes in patient treatment and provided fundamental technological improvements to synthetic bone graft materials and their production.

### **The committee`s comments on impact case 3 – Antimicrobial resistance: Unifying research, education and stakeholders**

Research carried out at the DentFac has contributed knowledge on antimicrobial resistance development in the upper respiratory tract and the oral cavity. This research investigated the microbiome and relationships with antimicrobial resistance development in several clinical studies. The research focus has resulted in multiple original and review publications, as well as to development of a massive open online course and user-friendly software

(ResistoXplorer). It is clear that the research undertaken has yielded impact important for the understanding of antimicrobial resistance development in the upper respiratory tract, leading to updated formulation of European consensus guidelines on the management of respiratory distress syndrome. Moreover, the research impact also extends to educational and data-analytical tools of importance to the research community.

**The committee`s comments on impact case 4 - The Covid pandemic - smell and taste**

Research carried out at the DentFac has investigated the role of smell, taste and oral health, lately in the context of Covid19. This line of investigation has focus on investigating and diagnosing patients referred for abnormalities in smell, taste and with oral pain, and has led to establishment of a clinical facility focused on this patient group. The research focus has resulted in original and review publications. In addition to original publications, scientists have been invited to give lectures at meetings and workshops. It is clear that the research undertaken is important to special patient groups with unusual symptoms and has resulted in improved treatments.

## Appendices

# Evaluation of Medicine and health 2023-2024

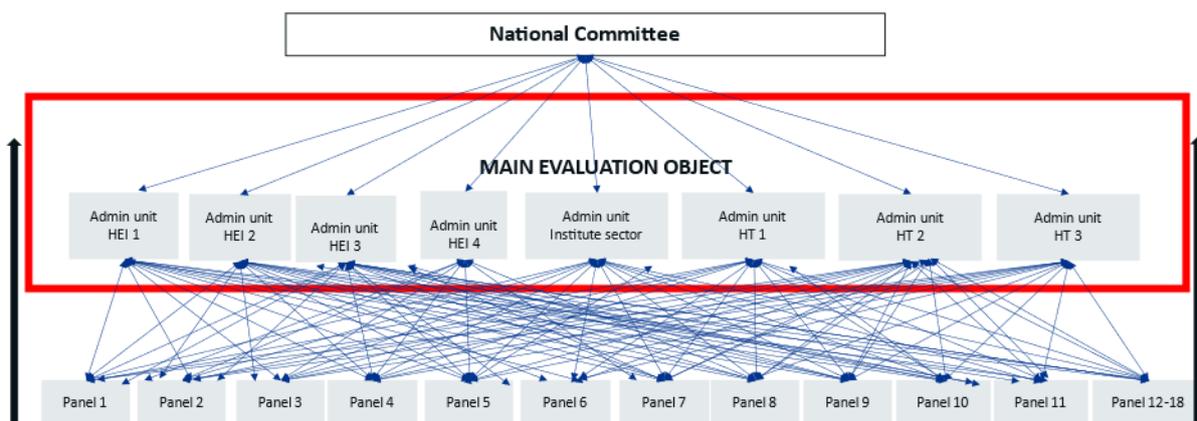
By evaluating Norwegian research and higher education we aim to enhance the quality, relevance, and efficiency. In accordance with the statutes of the Research Council of Norway (RCN), the RCN evaluates Norwegian professional environments to create a solid and up-to-date knowledge base about Norwegian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

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 (hovedevalueringssubjektet 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](mailto: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@forskningsradet.no](mailto:evalmedhelse@forskningsradet.no) innen 30. september 2023.

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

Forskningsrådet arrangerer et digitalt informasjonsmøte for alle som ønsker å delta i EVALMEDHELSE.

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

### **Nettsider**

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

Spørsmål vedrørende fagevaluering av medisin og helsefag kan rettes til Hilde G. Nielsen, [hgn@forskningsradet.no](mailto:hgn@forskningsradet.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**

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**LIVSEVAL protocol version 1.0**

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

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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 Reference<sup>1</sup> 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)

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

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

#### **1.4 Target groups**

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

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

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

## 2 Assessment criteria

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

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

### 2.1 Strategy, resources and organisation

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

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

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

### 2.2 Research production, quality and integrity

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

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

### **2.3 Diversity and equality**

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

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

### **2.4 Relevance to institutional and sectoral purposes**

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

#### Higher Education Institutions

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

The purposes of Norwegian HEIs are defined as follows in the Act relating to universities and university colleges<sup>2</sup>

- 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

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<sup>2</sup> <https://lovdata.no/dokument/NLE/lov/2005-04-01-15?q=universities>

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

### Research institutes (the institute sector)

Norway's large institute sector reflects a practical orientation of state R&D funding that has long historical roots. The Government's strategy for the institute sector<sup>3</sup> 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.<sup>4</sup> 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,

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<sup>3</sup> [Strategy for a holistic institute policy \(Kunnskapsdepartementet 2020\)](#)

<sup>4</sup> 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.

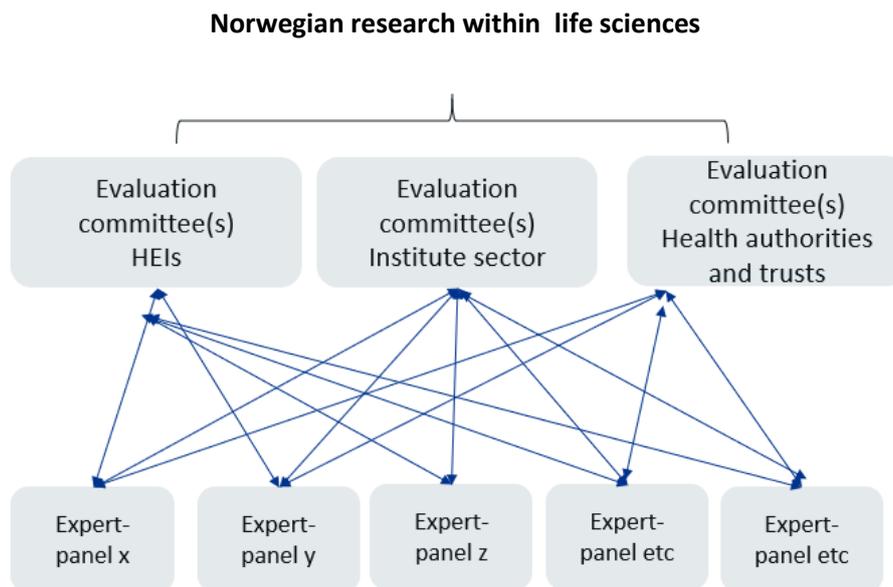


Figure 1. Evaluation committees and expert panels

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

<b>Criteria</b>	<b>Evaluation units</b>	<b>Research groups</b>	<b>Administrative units</b>
<b>Strategy, resources and organisation</b>		Self-assessment Administrative data	Self-assessment National registers Administrative data SWOT analysis
<b>Research production and quality</b>		Self-assessment Example publications (and other research results)	Self-assessment National registers
<b>Diversity, equality and integrity</b>			Self-assessment National registers Administrative data
<b>Relevance to institutional and sectoral purposes</b>			Self-assessment Administrative data
<b>Relevance to society</b>			Self-assessment National registers Impact cases
<b>Overall assessment</b>		<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): \_\_\_\_\_

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# 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](mailto:evalmedhelse@forskningsradet.no) within 31 January 2024.

For questions concerning the self-assessment or EVALMEDHELSE in general, please contact RCN at [evalmedhelse@forskningsradet.no](mailto: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](mailto: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
<b>No. of Personell by position</b>	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).

<b>For Higher Education Institutions: Share of basic grant (grunnbevilgning) used for R&amp;D<sup>1</sup></b>	
<b>For Research Institutes and Health Trusts: Direct R&amp;D funding from Ministries (per ministry)</b>	
Name of ministry	NOK

<b>National grants (bidragsinntekter) (NOK)</b>	
From the ministries and underlying directorates	
From industry	
From public sector	
Other national grants	
<b>Total National grants</b>	
<b>National contract research (oppdragsinntekter)<sup>2</sup> (NOK)</b>	
From the ministries and underlying directorates	
From industry	

<sup>1</sup> Shares may be calculated based on full time equivalents (FTE) allocated to research compared to total FTE in administrative unit

<sup>2</sup> For research institutes only research activities should be included from section 1.3 in the yearly reporting

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

## 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**

<b>Collaboration with national institutions – 1 -10</b>	
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**

<b>Collaboration with international institutions – 1-10</b>	
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.

<b>Internal</b>	<b>Strengths</b>	<b>Weaknesses</b>
<b>External</b>	<b>Opportunities</b>	<b>Threats</b>

## 2. Research production, quality and integrity

### 2.1 Research quality and integrity

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

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

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

### 2.2 Research infrastructures

a) Participation in national infrastructure

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

**Table 5. Participation in national infrastructure**

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

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

b) Participation in international infrastructures

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

**Table 6. Participation in international infrastructure**

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

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

c) Participation in European (ESFRI) infrastructures

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

**Table 7. Participation in infrastructures on the ESFRI Roadmap**

Please give a description of up to 5 participations that have been most important to your administrative unit.

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

d) Access to research infrastructures

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

e) FAIR- principles

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

### 3. Diversity and equality

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

**Table 8. Administrative unit policy against discrimination**

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

No.	Name	Valid period	Link
1			

## 4. Relevance to institutional and sectorial purposes

### 4.1 Sector specific impact

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

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

### 4.2 Research innovation and commercialisation

- a) Describe the administrative unit's practices for innovation and commercialisation.
- b) Describe the motivation among the research staff in doing innovation and commercialisation activities.
- c) Describe how innovation and commercialisation is supported at the administrative unit.

**Table 9. Policies for innovation including IP policies, new patents, licenses, start-up/spin-off guidelines**

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

No.	Name	Valid period	Link
1			

**Table 10. Administrative description of successful innovation and commercialisation results**

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

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

### 4.3 Higher education institutions

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

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

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

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

### 4.4 Research institutes

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

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

### 4.5 Health trusts

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

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

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

## **5.Relevance to society**

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

### **5.1 Impact cases**

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

Short version

# 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]**

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

<p><b>1. Summary of the impact</b> (indicative maximum 100 words) This section should briefly state what specific impact is being described in the case study.</p>
<p><b>2. Underpinning research</b> (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:</p> <ul style="list-style-type: none"> <li>- The nature of the research insights or findings which relate to the impact claimed in the case study.</li> <li>- 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).</li> <li>- Dates of when it was carried out.</li> </ul> <ul style="list-style-type: none"> <li>- 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).</li> <li>- Any relevant key contextual information about this area of research.</li> </ul>
<p><b>3. References to the research</b> (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:</p> <ul style="list-style-type: none"> <li>- Author(s)</li> <li>- Title</li> <li>- Year of publication</li> <li>- Type of output and other relevant details required to identify the output (for example, DOI, journal title and issue)</li> <li>- Details to enable the panel to gain access to the output, if required (for example, a DOI or URL).</li> </ul> <p>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.</p>
<p><b>4. Details of the impact</b> (indicative maximum 750 words) This section should provide a narrative, with supporting evidence, to explain:</p> <ul style="list-style-type: none"> <li>- How the research underpinned (made a distinct and material contribution to) the impact;</li> <li>- The nature and extent of the impact.</li> </ul> <p>The following should be provided:</p> <ul style="list-style-type: none"> <li>- 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).</li> </ul>

- 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)

<b>Institution</b>	<b>Administrative unit</b>	<b>Name of research group</b>	<b>Expert panel</b>
UiO	Faculty of Dentistry	Department of Biomaterials (Biomat)	Panel 1a
UiO	Faculty of Dentistry	Oral physiology and cancer research group OPCG	Panel 1a
UiO	Faculty of Dentistry	Understanding salivary gland function, USG	Panel 3a-1

## Scales for research group assessment

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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.	<b>The quality of the research is world leading</b> 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.	<b>The quality of the research is internationally excellent.</b> 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.	<b>The quality of the research is sufficient to achieve some international recognition.</b> 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 <sup>1</sup> .	<b>The quality of the research</b> is well below international level, and is unpublishable in legitimate peer-reviewed research journals.

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<sup>1</sup> 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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