

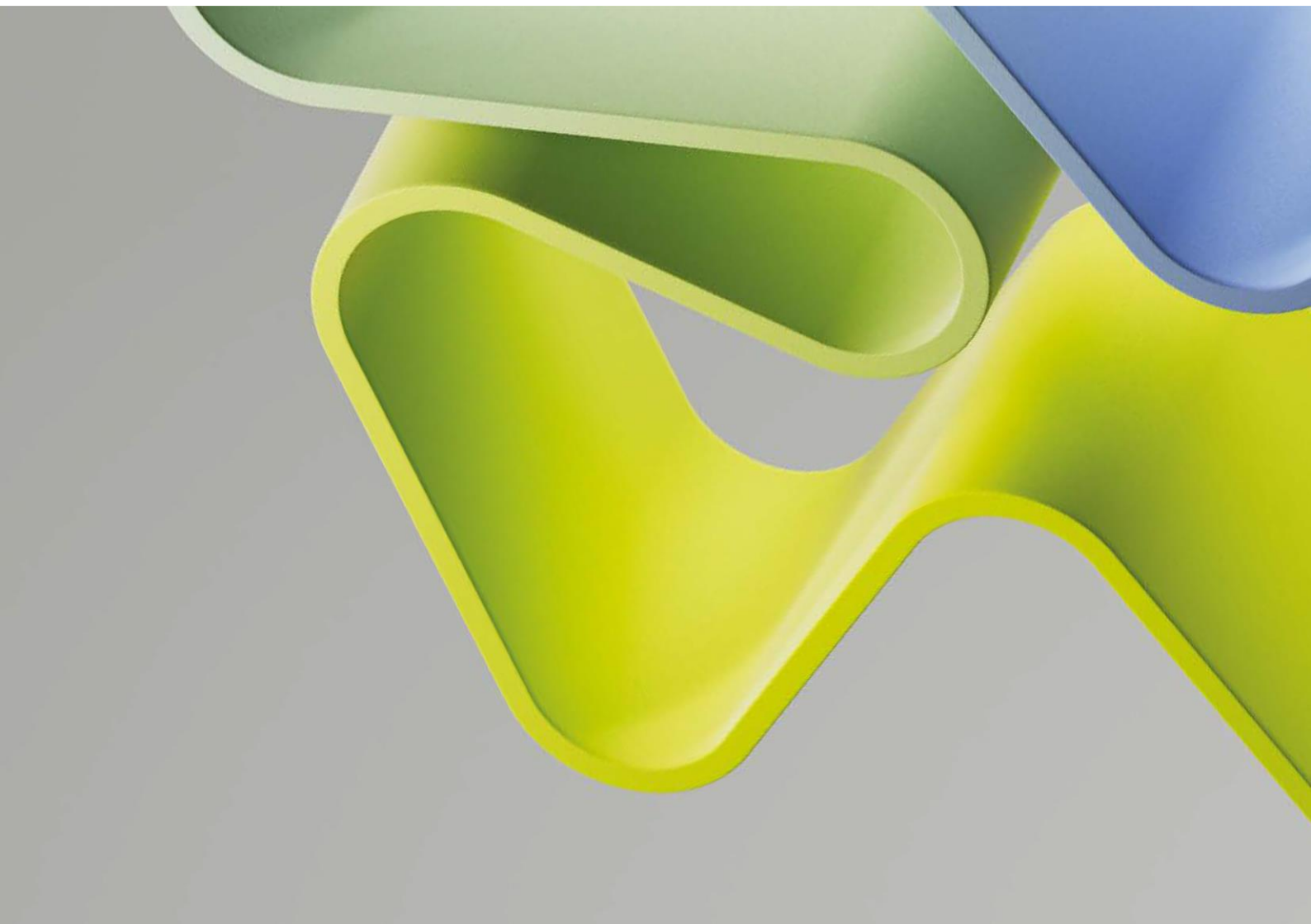
Evaluation of Medicine and Health 2023-2024

Evaluation report – Panel 4b

Research Group: Department of Methods Development and Analytics (SMHB)

Administrative Unit: Division of Infection Control

Institution: Norwegian Institute of Public Health



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Preface

The Research Council of Norway (RCN) is given the task by the Ministry of Education and Research to perform subject-specific evaluations. The primary aim of the evaluation of medicine and health (EVALMEDHELSE) 2023-2024 is to reveal and confirm the quality and relevance of research performed at Norwegian Higher Education institutions, research institutions (the institute sector) and the health trusts, in an international perspective. Such knowledge is useful for the institutions that participate in the evaluation, for the Research Council who advise the authorities on how research should be developed further, and for the authorities, who set targets and frameworks for research and higher education. Research groups submitted by their administrative unit will be assessed by 18 expert panels organised by research subjects or themes. The expert panels will assess research groups across institutions and sectors based on research group's self-assessments and examples of scholarly output. These research reports will be part of the evaluation of their belonging administrative units.

Abstract

Following a reorganisation, the department of Methods Development and Analytics currently focuses on two distinct methodological expertises, modelling and immunology, which is not a common combination. It collaborates with other departments in the NIPH Division of Infection Control on overlapping topics such as Covid-19, vaccinations and AMR. The team participates in several international networks with methodological expertise. The benchmarks are mainly qualitative and not very problem-specific. The output of the modelling team seems more prominent than of the immunology team. The overall level of the group is good, also when compared to similar groups.

Overall assessment

Overall, the panel considers this to be a well-established strong research group with an impressive record of publications and good funding, with a clear track record, and providing significant value for Norway and the institute. Being embedded in a PHI has significant advantages, such as early access to specific information and data, but implies longer-term research investments need to be balanced with short term operational needs. As for other research departments in this Division, it would be helpful to have a clearer understanding on how departments, and centres, collaborate, in view of overlap in research areas, in particular in the field of vaccination and AMR; and in expertise, as the SMLB was specifically created to bring all laboratory research related to viruses together, including immunology, which seems to overlap with the mandate of this department.

Grading:

Dimensions	Score
Organisational dimension (How adequate the organisational environment is in supporting the production of excellent research).	4
Quality dimension (Research and publication quality/Research group's contribution)	4/4
Societal impact dimension (Research group's societal contribution/User involvement)	3/3

Recommendations

- Clarify the added value of modelling and immunology in single department, and how immunology group collaborate with the Department of Virology (SMLV) in the same Division.
- Formulate more smart benchmarks.
- Strengthen collaborations with social scientists.
- Clarify research ambitions re methodology vs specific content.

1. Strategy, resources and organisation

1.1 Research group's organisation and strategy

The Department of Method Development and Analytics is one of several departments within the NIPH Division of Infection Control. It was created in 2016 with a range of quantitative scientists with the objective to strengthen proactive research. The Department has stable staffing but gone through several reorganisations since, whereby health economics and automated monitoring of medical consultations were discontinued, and whereby it was merged with the Department of Immunology. This is motivated as an asset for performing research into effectiveness of vaccinations. The immunology group manages a mass cytometry platform and established a national biobank of cervical samples; the modelling team has access to high-performance computing at various sites. The Department hosted 6 PhD students since 2016, and regularly contributes lectures at MSc and PhD level. 6 out of 43 staff also hold academic positions in other (external) research institutes, including teaching responsibilities. Adequate administrative support is provided by the institute. The Department intends to support the Division and the institute in its overarching public health mandate, while aiming to conduct high quality research, both methodologically as well as infectious diseases specific. This is reflected in the benchmarks, which are however not very specific.

The panel appreciates that being part of the NIPH ensures optimal access to national data to build, calibrate or validate models, and considers the organisational environment as very strong in supporting opportunities for excellent research. The methodological focus of the department shifted over the years, and the panel wonders to what extent the current structure is an optimal fit. It is self-evident that a multidisciplinary perspective, such as approaching research needs related to vaccination with modelling and with immunological expertise, has clear added value, but is this sufficient basis for a joint department? Other expertises are highly relevant as well, other Departments are involved anyway, and vaccination is not the defining mandate of this Department (rather the methodological approach). It is not very clear for the panel how the considerable methodological expertise in this Department relates to other research groups in other NIPH/SM departments working on the same infectious diseases from different perspectives, including on vaccinations and viruses. The discontinuation of the Sykdomspulsen surveillance system is considered a loss, as it reduces access to key health care data which may be hard to substitute. Formulating the benchmarks in a SMARTer way would clarify ambitions. Education and training appears well integrated in the research activities. The department is well embedded internationally, including recognition as a WHO-CC.

Recommendations

- Clarify synergy of having modelling and immunology in one department. This is not a standard combination, and added benefit should be clarified.
- Clarify collaborations with other (especially SM) departments working in comparable infectious disease areas (ID control, vaccination, AMR, STI, environmental health, ..). There appears to be some overlap, which can be productive, but this is not a given either. It can also lead to internal competition, which can be stimulating, but can also be inefficient and/or demotivating. Resolve potential tensions between methodological focus and supporting infectious disease control.

1.2 Research group's resources

The department currently consists of 43 staff members, 26 of them are identified as researchers. Unfortunately, it is not specified whether these researchers are (assistant) professors, PhDs, or otherwise (apart from a separate category for post docs (n=1)). In addition, there are 7 engineers, 7 advisors, 3 management staff.

During the pandemic, there was a temporary increase in staffing and budget, but otherwise staffing has been stable over the years, whereby their strategic aim is to attract young international talent to the department.

The Department has been quite successful in attracting external project funding both nationally and internationally over the past 5 years, although the percentage of the budget obtained through external funding has declined somewhat in the last year. External funding can be a good opportunity to enable staff mobility, and to recruit PhD and post-docs, who can bring new ideas and energy if well integrated, although this is not specifically mentioned.

It is not clear to the panel to what extent the Department considers the public health grounding of the Department, with its central position and surveillance mandate, as an asset, or an inevitable burden (described as 'mandatory routine activities', which does not convey a lot of energy).

The panel commends the obtained external funding, which is diverse and provides a valuable input for high quality and relevant research output. Most of the projects listed which were led by NIPH-received Norwegian funding, most of the international projects listed were consortia not led by NIPH.

Recommendations

- Clarify the distinction between the categories of researchers, and explain the strategy (if any) to identify high-quality prospective PhD candidates, and to provide a career path within the department after completion of PhDs.
- Consider including to apply for competitive funding as consortium lead of at least one international consortium as benchmark.
- Optimise the ability to use the recognition as WHO-CC to attract external funding.

1.3 Relevance to the institution

The department's methodological skills contribute to the overarching goals of the NIPH and Division in various ways, ranging from supporting crisis management, real-time data analysis, immunological and epidemiological assessment of the impact of interventions, including vaccinations, model development, immunological test development. Data and models are shared via online platforms, which supports open access science. While hosted in the Division of Infection Control, the department also coordinates the NIPH participation in an EU project on cancer. It is not further clarified to what extent this project, or the role of NIPH/SMHB relates to infection-related cancers (such as related to HPV, HBV, HIV, etc) or more generic; and whether this involves both modelling and immunological participation. The Department also developed models to explore relationships with climate change, air pollution and health. This is highly relevant to the Institute, and the Department as such probably collaborated with other Divisions beyond Infection Control, as elsewhere they mention that they support public health within infection control and environmental health (not clear if this is both the modelling and the immunology group).

The panel considers methodological expertise in mathematical modelling as well as immunology to be major assets for an infectious disease department. Such expertises can be utilised for a range of operational challenges, but are also highly relevant to develop, implement and evaluate novel interventions. Working with experts in other Departments and Divisions can give inspiration and cross fertilisation, but may also lead to a lack of focus, which needs to be guarded.

The high quality output of the department strengthens the visibility and relevance of the division and institute.

Recommendations

- Reflect on mutually productive and optimal ways to optimise synergy with the other departments especially in the division working on related topics.
- Clarify partnerships outside the Division.

2. Research quality

2.1 Research group's scientific quality

The department was formed as a methodological group to support the division and initiate high quality research and later merged with the immunological department. Research is particularly aimed at the fields of vaccine epidemiology, immunology, modelling and real-time surveillance. Access to data and to analytical tools is present for the modelling part, laboratory infrastructure for the immunology is also present. There are easy connections with other modelling departments in other European PHIs, supporting rapid consortia building in times of crisis or opportunities. A broad range of pathogens, diseases and populations is included in the selected papers, as well as a methodological paper. The department has an advisory role, presumably based on its methodological expertise for other departments across NIPH.

The panel considers the publication output of the Department as very impressive, both in quantity as in quality. Quality is internationally excellent in terms of originality, significance and rigour, and the Department has played a very considerable role in the research process from the formulation of overarching research goals and aims via research activities to the preparation of the publication. Selected international publications show a strong record of excellent papers in high impact journals, testimony to significant interest in the international academic community, all with an author of the department as first and/or last author, although only one of the 10 papers appears to originate from the immunology section, and none of the papers reflect a collaboration between the modelling and the immunology sections. The panel would have expected such collaboration, assuming the objective of bringing the two expertises together in one department was also the creation of productive synergy and research output. In view of its advisory contribution to other departments, it would have been useful if it had been indicated if/how this was reflected in one or more of the papers. Joint undertakings are however represented in the listed of acquired projects, so this may still be developing. The department has collected significant amounts of international external funding, and has been part of large international consortia.

Recommendations:

- Maintain strong methodological output, as most likely to be unique and leading within NIPH
- Clarify collaborations with other modelling/immunology groups. This will help to understand where there are opportunities for synergy and where potential overlap exists.
- Optimise the use of two distinct 'blood groups' in the department to strengthen the research profile. The combination of modelling and immunology in one department is rather unique, but interactions are currently not much reflected in the research outputs.

2.2 Research group's societal contribution

As the department is part of the NIPH, the topics the division and the department works on are all grounded in societal needs i.r.t. public health, such as Covid-19, AMR and nutrition, of which several concrete examples are given. Some of these activities may have been developed as reactive analytic research following public health signals identified. It is unclear to what extent (civil) stakeholders are involved in setting research agendas. The department contributes to education via lectures, mentoring of (PhD) students, organisation of scientific conferences, and podcasts. There is extensive media attention for publications of the department.

The panel is of the opinion that the societal relevance of modelling which contributes to predict impact of infectious disease introductions and epidemics, to guide the targeted use of interventions, and to enable timely communication of to be expected risks and benefits, is widely recognized. It is fully in line with what is expected from groups in the same research field, while societal partners, in particular policymakers have considerable involvement in the research process. As such, the contributions of SMHB as during Covid-19 are in line with the modelling contributions from other national public health institutions in Europe during that period. Timely and effective communication regarding uncertainty in assumptions can benefit from social and political scientists as well as trust and strong collaborations with stakeholders, which the panel felt was however not very clearly described. Some reported societal impact is formulated mainly related to methodology, rather than societal needs; e.g. 'side effects of vaccinations' may not be a very comprehensive approach compared to e.g. more complex and comprehensive benefit/risk assessments. The panel considers it unfortunate that the health economics group within the department was discontinued, as cost-benefit or cost-utility analysis could have demonstrated direct societal and political impact.

Recommendations

- Strengthen collaborations with quantitative and qualitative social scientists to enhance stakeholder involvement and societal relevance
- Utilise the significant amount of media attention generated for the scientific output of the department to enhance general appreciation on the need for high quality public health research, not only in times of crises.

Appendices

Evaluation of Life Sciences in Norway 2022-2024

Evaluation of Medicine and Health 2023-2024

Mandate Expert panels

The Research Council of Norway (RCN) is given the task by the Ministry of Education and Research to perform subject-specific evaluations. The Portfolio board for Life Sciences in the Research Council of Norway has decided to carry out an evaluation of medicine and health in 2023-2024 as the second of two evaluations within Life Sciences. The evaluation of biosciences takes place in 2022-2023.

1. The objective of the evaluation

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), by the institute sector and by health trusts.

The results of the evaluation will be used as recommendations to the institutions, the Research Council, and the ministries.

2. Tasks of the expert panels

The panels are requested to:

- evaluate the strategy, resources and organisation of/for the research groups.
- evaluate research production and quality of the research groups.
- grade and write a short evaluation text to the evaluated research groups.

Each of the expert panels will write a brief report with evaluations of the different research groups as well as specific recommendations.

3. Time schedule

Digital panel meetings will take place in the period March 15. - June 15. 2024.

Deadline for submitting panel report to the Research Council: June 15. 2024.

4. Miscellaneous

Other important aspects of Norwegian life sciences research that ought to be given consideration.

EVALMEDHELSE 2023-2024 – Panel group description – January 2024

Panel group	Description	Panel no.
Group 1 PHYSIOLOGY Physiology-related disciplines (human physiology), including corresponding translational research	Anatomy, physiology, embryology, nutritional physiology, pathology, basic odontological research, exercise physiology, neurobiology, toxicology, pharmacology, medicinal chemistry, chemistry, biology, pathology.	Panel 1a Panel 1b
Group 2 MOLECULAR BIOLOGY Molecular Biology, including corresponding translational research	Microbiology, bacteriology, inflammation and infection disease research, forensic medicine, genetics, immunology, vaccine development, microbiological diagnostics, pharmaceutical microbiology, cell biology, molecular medicine and -biophysics, medical biochemistry, omics, organoids, imaging, toxicology, pathology, drug development, cancer research, translational research, systems biology, personalized medicine, biomarkers, oncology, genetics, genomics, epigenetics, proteomics, bioinformatics-/statistics, computational science, AI, biology, virology, radiology, ionisation, molecular biology, microbiology, pharmacology, pharmacogenomics, regenerative medicine and related subjects.	Panel 2a Panel 2b Panel 2c
Group 3a CLINICAL RESEARCH	Clinical Research, including surgery and translational research within: paediatrics, women's health, gynaecology, otorhinolaryngology, head and neck surgery, oncology, haematology, radiology and medical imaging.	Panel 3a_1 Panel 3b_2
Group 3b CLINICAL RESEARCH	Clinical Research, including surgery and translational research within: general medicine, emergency medicine, anaesthesiology, neurology, geriatric medicine, rehabilitation medicine, cardiology, nephrology/urology, endocrinology, pulmonary medicine, orthopaedics, rheumatology, Infection, gastroenterology.	Panel 3b_1 Panel 3b_2 Panel 3b_3
Group 4 PUBLIC HEALTH Public Health and Health-related Research	Public health, community research, epidemiology, preventive medicine, mental health, behavioural research and ethics, medical statistics, environment, nutrition, preventive medicine, physiotherapy, sports medicine, implementation research, public health, health care services research, global health, nursing	Panel 4a Panel 4b Panel 4c

	sciences, rehabilitation sciences, public health systems, digital health care services, ICT, HTA, health competence, genetic and epigenetic epidemiology, non-communicable diseases, pharmacology, nursing research, professional research, occupational medicine.	Panel 4d Panel 4e Panel 4f
Group 5 PSYCHOLOGY Psychology and Psychiatry	Clinical psychology, personality psychology, developmental psychology, cognitive psychology, biological psychology and forensic psychology, psychiatry, including geriatric psychiatry, child and adolescent psychiatry and biological psychiatry, social-, community- and workplace psychology, organizational psychology, developmental psychology, behavioural and health psychology, health promotion and well-being.	Panel 5a Panel 5b

Panel group 4 PUBLIC HEALTH

Expert panel 4b

Name	Title	Institution
Marianne van der Sande (chair)	Professor	Institute of Tropical Medicine Antwerp
Baukje de Roos	Professor	University of Aberdeen
Lars Rylander	Professor	Lund University
Anders Stålmán	Docent	Karolinska Institutet

Baukje de Roos had a conflict of interest with the evaluation of the Department of Nutritional epidemiology at the University of Oslo (report 13) and Lars Rylander had a conflict of interest with the Department of Food Safety (KMMT) at the Norwegian Institute of Public Health (report 1). This meant that for those evaluations they did not have access to the self assessments or survey data and they did not participate in the discussion of the research group, nor did they participate in the preparation and completion of the evaluation report.



Evaluation of Medicine and Health (EVALMEDHELSE) 2023-2024

Self-assessment for research groups

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

Updated: **13. October 2023**

Institution (name and short name): _____

Administrative unit (name and short name): _____

Research group (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 a research group. The self-assessment contains questions regarding the group's research- and innovation related activities and developments over the years 2012-2022. All submitted data will be evaluated by expert panels.

Deadline for submitting the self- assessment to your administrative unit – 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 submit completed self- assessment to the administrative unit no later than 26 January 2024.

Please use the following format when naming your document: [short name of the institution]_[short name of the administrative unit]_[short name of the research group], e.g. *UiT_DepPsy_Short name of the research group*.

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

Thank you!

Guidelines for completing the self-assessment

- Please read the entire self-assessment document before answering.
- The evaluation language is English.
- Please link to websites/documents in the self-assessment where relevant.
- Please be sure that all documents linked to in the self- assessment are written 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 the two evaluation criteria described in the evaluation protocol, the research group must answer all questions.
 - ⇒ Provide information – provide documents and other relevant data or figures about the research group, for example strategy and other planning documents, as well as data on R&D expenditure, sources of income and results and outcomes of research
 - ⇒ Describe – explain and present using contextual information about the research group and inform the reader about the research group.
 - ⇒ Reflect – comment in a reflective and evaluative manner how the research group operates.
- Data on personnel should refer to data reported to DBH on 1 October 2022 for HEIs and to the yearly reporting for 2022 for the institute sector and the health authorities. Other data should refer to 31 December 2022 if not specified otherwise.
- It is possible to extend the textboxes when filling in the form. **NB!** A completed self- assessment form cannot exceed 25 pages (pdf file). Expert panels are not requested to read more than the maximum of 25 pages. Pages exceeding maximum limit of 25 pages **might not** be evaluated.
- Submit the self- assessment as a pdf (max 25 pages) to the administrative unit within **26 January 2024**. Before submission, please be sure that all text are readable after the conversion of the document to pdf. The self- assessment should be sent from the administrative unit to evalmedhelse@forskningsradet.no within **31 January 2024**.

Please note that information you write in the self assessment and the links to documents/websites in the self-assessment are the only available information for the expert panel.

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

1. Organisation and strategy

1.1 Research group's organisation

Describe the establishment and the development of the research group, including its leadership (e.g. centralised or distributed etc.), researcher roles (e.g. technical staff, PhD, post docs, junior positions, senior positions or other researcher positions), the group's role in researcher training, mobility and how research is organised (e.g. core funding organisation versus project based organisation etc.).

Table 1. List of number of personnel by categories

Instructions: Please provide number of your personnel by categories.

For institutions in the higher education sector, please use the categories used in DBH, <https://dbh.hkdir.no/datainnhold/kodeverk/stillingskoder>. Please add new lines or delete lines which are not in use.

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

1.2 Research group's strategy

a) Describe the research group's main goals, objectives and strategies to obtain these (e.g. funding, plans for recruitment, internationalization etc.) within the period 2012-2022.

b) Please describe the benchmark of the research group. The benchmark for the research group should be written by the administrative unit in collaboration with the research group. The benchmark can be a reference to an academic level of performance (national or international) or to the group's contributions to other institutional or sectoral purposes.

Example: A benchmark for a research group is related to the research groups' aim which again is included in the strategy for the administrative unit. A guidance for the administrative unit to set a benchmark for the research group(s) can e.g. be: What do the administrative unit expect from the research group(s)?

c) Describe the research group's contribution to education (master's degree and/or PhD).

d) Describe the support the host institution provides to the research group (i.e., research infrastructure, access to databases, administrative support etc.).

1.3 Relevance to the institutions

Describe the role of the research group within the administrative unit. Consider the research group's contribution towards the institutional strategies and objectives, and relate the research group's benchmark to these.

1.4 Research group's resources

Describe the funding portfolio of the research group for the last five years (2018-2022).

Table 2. Describe the sources of R&D funding for the research group in the period 2018-2022.

	2018 (NOK)	2019 (NOK)	2020 (NOK)	2021 (NOK)	2022 (NOK)
Basic funding					
Funding from industry and other private sector sources					
Commissioned research for public sector					
Research Council of Norway					
Grant funding from other national sources					
International funding e.g. NIH, NSF, EU framework programmes					
Other					

1.5 Research group's infrastructures

Research infrastructures are facilities that provide resources and services for the research communities to conduct research and foster innovation in their fields. [These](#) include major equipment or sets of instruments, knowledge-related facilities such as collections, archives or scientific data infrastructures, computing systems communication networks. Include both internal and external infrastructures.

- Describe which national infrastructures the research group manages or co-manages.
- Describe the most important research infrastructures used by the research group.

1.6 Research group's cooperations

Table 3. Reflect on the current interactions of the research group with other disciplines, non-academic stakeholders and the potential importance of these for the research (e.g. informing research questions, access to competence, data and infrastructure, broadening the perspectives, short/long-term relations).

Interdisciplinary (within and beyond the group)	About 1/3 page
Collaboration with other research sectors e.g. higher education, research institutes, health trusts and industry.	About 1/3 page
<u>Transdisciplinary</u> (including non academic stakeholders) <i>Transdisciplinary research involves the integration of knowledge from different science disciplines and (non-academic) stakeholder communities with the aim to help address complex societal challenges.</i>	About 1/3 page

2. Research quality

2.1 Research group's scientific quality

Describe the research profile of the research group and the activities that contribute to the research group's scientific quality. Consider how the research group's work contributes to the wider research within the research group's field nationally and internationally.

Please add a link to the research group's website:

Short version

Table 4. List of projects

Instructions: Please select 5-10 projects you consider to be representative/the best of the work in the period 1 January 2012 – 31 December 2022. The list may include projects lead by other institutions nationally or internationally. Please delete tables that are not used.

Project 1 -10: <i>Project title/Project period (year from – year to)</i>	Project owner(s) (project leaders organisation)	
	Total budget and share allocated to research group	
	Objectives and outcomes (planned or actual) and link to website	

Table 5. Research group's contribution to publications

Instructions: Please select 5-15 publications from the last 5 years (2018-2022) with emphasis on recent publications where group members have a significant role. **If the publication is not openly available, it should be submitted as a pdf file attached to the self-assessment.** We invite you to refer to the Contributor Roles Taxonomy in your description: <https://credit.niso.org/>.

Cf. Table 1. List of personell by categories: Research groups up to 15 group members: 5 publications. Research groups up to 30 group members: 10 publications. Research groups above 30 group members: 15 publications.

Please delete tables that are not used.

Publication 1 -15: <i>Project title/Journal/Year/DOI/URL</i>	Authors (Please highlight group members)	
	Short description	
	Research group's contribution	

Table 6. Please add a list with the research group's monographs/scientific books.

Please delete lines which are not used.

1	Title - Authors (Please highlight group members)- link to webpage (if possible)
2	

2.2 Research group's societal contribution

Describe the societal impact of the research group's research. Consider contribution to education, economic, societal and cultural development in Norway and internationally.

Table 7. The research group's societal contribution, including user-oriented publications, products (including patents, software or process innovations

Instructions: Please select 5–10 of your most important user-oriented publications or other products from the last 5–10 years with emphasis on recent publications/products. For each item, please use the following formatting. Please delete lines which are not used.

3. Challenges and opportunities

Information about the strengths and weaknesses of the research group is obtained through the questions above. In this chapter, please reflect on what might be the challenges and opportunities for developing and strengthening the research and the position of the research group.

Short version

Scales for research group assessment

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

Score	Research and publication quality	Score	Research group's contribution Groups were invited to refer to the Contributor Roles Taxonomy in their description https://credit.niso.org/
5	Quality that is outstanding in terms of originality, significance and rigour.	5	The group has played an outstanding role in the research process from the formulation of overarching research goals and aims via research activities to the preparation of the publication.
4	Quality that is internationally excellent in terms of originality, significance and rigour but which falls short of the highest standards of excellence.	4	The group has played a very considerable role in the research process from the formulation of overarching research goals and aims via research activities to the preparation of the publication.
3	Quality that is recognised internationally in terms of originality, significance and rigour.	3	The group has a considerable role in the research process from the formulation of overarching research goals and aims via research activities to the preparation of the publication.
2	Quality that meets the published definition of research for the purposes of this assessment.	2	The group has modest contributions to the research process from the formulation of overarching research goals and aims via research activities to the preparation of the publication.
1	Quality that falls below the published definition of research for the purposes of this assessment.	1	The group or a group member is credited in the publication, but there is little or no evidence of contributions to the research process from the formulation of overarching research goals and aims via research activities to the preparation of the publication.

Societal impact dimension

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.

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