

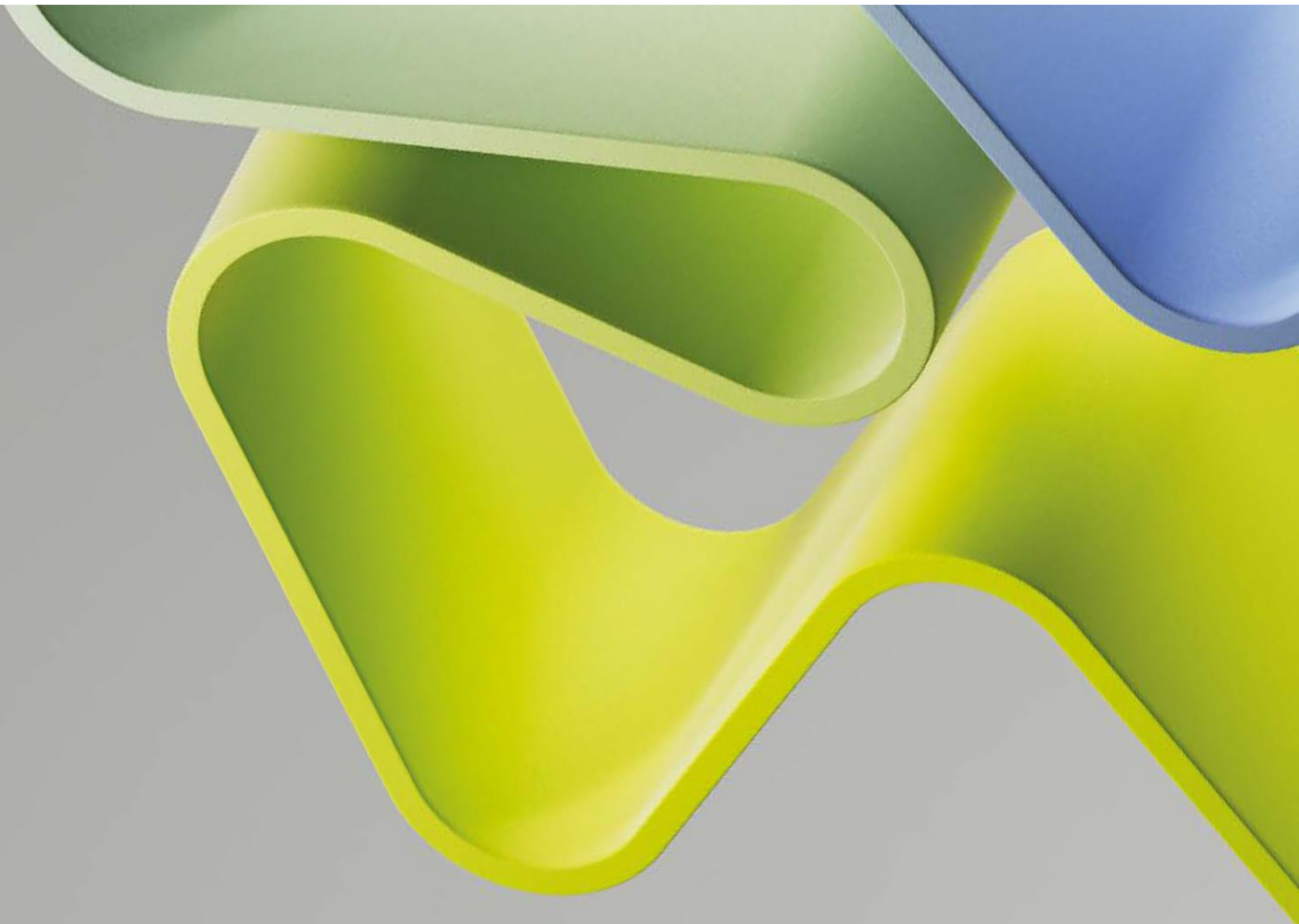
Evaluation of Medicine and Health 2023-2024

Evaluation report – Panel 4e

Research Group: Centre for Fertility and Health

Administrative Unit: Centre for Fertility and Health

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

The research group/Centre was established at NIPH (Norwegian Institute for Public Health) in 2017 as a Norwegian Centre of Excellence (CoE) funded by RCN. The research group's focus is on the causes and consequences of the decline in fertility in Norway and other countries, with specific research topics on the challenges related to fertility postponement, complex family forms, childlessness, and increasing use of assisted reproductive technologies (ART). The centre has grown from 8-10 researchers in 2017 to 66 researchers in 2022, and research is funded from a combination of basic and external funding, with about 70% of positions being externally funded.

It would be useful if the group established some new benchmarks that establish how the group defines success in terms of academic and non-academic (impact) outputs, as well as some ideas about who the major comparators and competitors are both nationally and internationally.

Overall assessment

The Centre for Fertility and Health (CEFH) is a very strong research group with an excellent record in competitive research funding which has generated research outputs that are among the very best internationally in significance, rigour and originality. The growth of the size of the group in recent years has been impressive. Moreover, the group has been generating and documenting wider societal impacts from their research.

The vision of the centre is very clearly specified, with additional aims on developing interdisciplinary perspectives by bringing together social scientists and biologists working on the same topic areas of fertility using different approaches.

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)	5/5
Societal impact dimension (Research group's societal contribution/User involvement)	4/2

Recommendations

- Establish some new benchmarks that establish how the group defines success in terms of academic and non-academic (impact) outputs.
- Describe how researcher development is enabled in the centre, to enable junior researchers to progress on to more senior or permanent roles.
- Elaborate on how interdisciplinary research goals are achieved.
- Develop a narrative around how research addresses some of the biggest issues and debates on the topic of fertility and health.
- Develop stronger descriptions of user involvement in all the processes of research.

1. Strategy, resources and organisation

1.1 Research group's organisation and strategy

The research group/Centre was established in 2017 within the Norwegian Institute for Public Health (NIPH) as a Norwegian Centre of Excellence (CoE) funded by RCN. The research group's focus is on the causes and consequences of the decline in fertility in Norway and other countries, with specific research topics on the challenges related to fertility postponement, complex family forms, childlessness, and increasing use of assisted reproductive technologies (ART). The research is funded from a combination of basic and external funding, with about 70% of positions being externally funded.

Key performance indicators from the Centre proposal included the training of PhDs and postdocs and externally funded research awards, all of which have been exceeded. As NIPH is not a degree awarding institution, PhD students are hosted by other academic institutions. Despite this limitation, 16 PhD students have been trained by CEFH. Host institutional support is comprehensive and includes financial, legal, communication and IT support, library and research administration services.

There has been impressive growth in the centre from 8-10 researchers in 2017 to 66 researchers in 2022. The vision of the centre is very clearly specified, with additional aims on developing interdisciplinary perspectives by bringing together social scientists and biologists working on the same topic areas of fertility using different approaches. The 6 research themes are coherent and distinct. The fact that the Centre has already exceeded its initial KPIs is impressive.

It would be useful if the group established some new benchmarks that establish how the group defines success in terms of academic and non-academic (impact) outputs, as well as some ideas about who the major comparators and competitors are both nationally and internationally.

Recommendation

- Establish some new benchmarks that establish how the group defines success in terms of academic and non-academic (impact) outputs.

1.2 Research group's resources

The centre is led by a centre director, a centre deputy director and head of administration, who have weekly meetings. Together with three principal investigators, they are the executive group that discusses strategy, recruitment and allocation of funds. Currently, there are 36 researchers, 9 postdocs and 13 PhD candidates. Researchers are expected to develop own research agendas within the research themes of the Centre and apply for external funding. The centre's research funding has been increasing steadily since 2018, from 35MNOK to 62.6MNOK in 2022. Over 75% of the research funding is through competitive research grants.

The group has been very successful in attracting research funding. However, this growth in researcher numbers needs to have additional attention paid to the training and development of junior researchers. There is not much detail on specific aspects of researcher training at all levels, especially for junior academic staff. This is particularly important given that more than half the researchers are in temporary positions. There is also some degree of gender imbalance with 77% of the PhDs being female, where only 28% of the researchers are women. There is not much detail on how the group achieves its fundamental principle of interdisciplinarity and uniting researchers from different disciplines within the centre without compartmentalisation.

Recommendations

- Describe how researcher development is enabled in the centre, to enable junior researchers to progress on to more senior or permanent roles.
- Elaborate on how interdisciplinary research goals are achieved.

1.3 Relevance to the institution

The group states it contributes to the institutional strategies and objectives by conducting important research on public health, increasing external funded research, engagement in public debate and developing new expertise in advanced analysis. They also contribute to the scientific development of the Norwegian Mother, Father and Child Cohort Study (MoBa) through direct funded research and leading new large data collections.

The group makes a number of strong contributions to the institute's strategies and objectives. However, there is a lack of specific detail such as examples of how it contributes to these high level strategies, apart from the MoBa study.

Recommendations

- Describe some examples of how the group contributes to institutional priorities.

2. Research quality

2.1 Research group's scientific quality

The group is organised into research themes on maternal and paternal age; infertility, subfertility, and reproductive technologies; foetal life, adolescence, and fertility outcomes; fertility, family structure and transmission of health across generations; new statistical methods for analysing family and transgenerational data; Covid and its implications on young adults, education, partner formations and fertility. Since 2017, the research group has published more than 500 scientific papers, including a significant number in leading journals.

The 10 listed projects are clearly relevant to the vision of the group and demonstrate considerable success with prestigious national and international research funders. Some of the 15 listed publications have very high citation rates. The publications scored highly in terms of significance and rigour, with some claims towards originality. This is reflected in the types of journals that were listed which included the leading generalist and specialist international journals in their area. The journal publications have large authorship teams, but with significant and large contributions from the research group.

In addition, the group published three monographs (one edited volume and two books). These demonstrate a high degree of rigour and originality. The group is also playing a major role in key data Norwegian data collections such as the MoBA study that is internationally recognised as an exemplar in the field.

The research group is already highly productive with outputs that are comparable to the best research on fertility and health internationally.

Recommendations

- Develop a narrative around how research addresses some of the biggest issues and debates on the topic of fertility and health.

2.2 Research group's societal contribution

The group presented four impact cases that outlined its societal impact. There is some clear evidence of the national policy impact of its research on male disadvantage in educational attainment, which has contributed to a new government enquiry on the topic. In addition, there are some excellent descriptions of potential pathways to impact in the use of ART technologies, COVID vaccinations and biological fertility clocks.

The impact case studies tend to have good descriptions of pathways to impact, but little details of what the societal impacts were. Most of the impact cases had good descriptions of the societal beneficiaries of the research, but the specific details on how societal beneficiaries have benefited from the research were a little vague at times. For example, in the case study on the mediocre performance of boys in school compared to girls, the key impact of evidence-based solutions to the issues will not be known for several years.

Most Impact case studies do not describe any user involvement in the development of research.

Recommendations

- Develop stronger descriptions of user involvement in all the processes of research.

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 4e

Name	Title	Institution
Per-Olof Östergren (chair)	Professor	Lund University
Henrik Toft Sørensen*	Clinical professor	Aarhus University
Tarani Chandola	Professor	University of Hong Kong / Manchester University
Eva Morris	Professor	Big Data Institute, Oxford University

Henrik Toft-Sørensen had a conflict of interest with the evaluation of multiple research groups, see the table below. This meant that for those evaluations he did not have access to the self assessments or survey data and he did not participate in the discussion of the research group, nor did he participate in the preparation and completion of the evaluation report.

Institution	Administrative unit	Name of research group
Cancer Registry	Cancer Registry of Norway	Cancer Registry
FHI	Division of Mental and Physical Health	Physical Health and Aging
FHI	Division of Mental and Physical Health	Department of Chronic Diseases
FHI	Division of Mental and Physical Health	Centre for Disease Burden
FHI	Centre for Fertility and Health	Centre for Fertility and Health
UiB	Dept of Global Public Health and Primary Care	Section for epidemiology and medical statistics
UiT	Department of Community Medicine	Epidemiology of Chronic disease



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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Short version

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.

- a) Describe which national infrastructures the research group manages or co-manages.
- b) 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).

<p>Interdisciplinary (within and beyond the group)</p>	<p>About 1/3 page</p>
<p>Collaboration with other research sectors e.g. higher education, research institutes, health trusts and industry.</p>	<p>About 1/3 page</p>
<p><u>Transdisciplinary</u> (including non academic stakeholders)</p> <p><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></p>	<p>About 1/3 page</p>

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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