



Research

Department

## Research action plan 2023-2025

Department of forensic sciences (RMF)

## About the action plan:

We will work systematically on strategic, continuous and prioritized goals for research in RMF.

The action plan has been drawn up on the basis of:

The research strategy of the Department of Forensic Sciences for 2019-2023

OUS's research strategy for 2021-2025

Action plan research OUS for 2021-2023

*An updated OUS research strategy was implemented in 2021, and the action plan for research in RMF has therefore been based on the main points from this. RMF's research strategy (2019-2023), which was based on the discontinued OUS-research strategy will be updated according to the new OUS research strategy when the time period for the RMF research strategy expires in 2023.*

## RMF's continuous tasks and objectives

1. Research, education and innovation will be an integrated part of the activities in the department. We will conduct excellent research to generate new knowledge that will lead to better judicial certainty, diagnostics, treatment and disease prevention.
2. We will have a good research culture thorough the organization. This will be achieved through managerial and collegial facilitation of research and research collaboration. Gender equality and an inclusive working environment is also important prerequisites for developing good research environments and results. National legislation, internationally recognised norms of research ethics, good research ethics and data protection will form the basis for all research at the department.
3. We will contribute to more evidence-based practice in forensic sciences and health service and apply results from the research community.
4. We will *protect resources* for research and work purposefully for increased external funding.
5. We will disseminate and share research results - in addition to publishing in scientific journals, results shall be communicated to patients and society in suitable forms. We will strive for open research in publishing through open access to articles, and by sharing data wherever possible and relevant.
6. We will strive for quality rather than quantity in research, where peer reviews and evaluations shall be important quality indicators. We will assess the quality of the research and the researchers' contributions based on a broad range of evaluation criteria, in line with the [DORA declaration](#).
7. We will deliver *high-quality research within the entire breadth* of our subject areas, while at the same time focusing on selected strategic research areas.
8. We will contribute to regional and national cooperation, including developing synergies between health research and natural sciences/basic research. Interdisciplinary research collaboration will be strengthened. Cooperation with the university and college sector will be strengthened and further developed. We will also increase cooperation with primary health care providers, including better data sharing.
9. We will increase our *international cooperation*, among other things through network cooperation and researcher mobility.
10. We shall contribute to a good and predictable *researcher education in cooperation with academic institutions*, conduct active recruitment of research talents and provide researchers with good and realistic career guidance throughout their research careers.
11. We will ensure access to advanced *infrastructure* for researchers through co-use of costly and complex equipment and core facilities.

## Use of the term clinical:

OUS documents focus on patients, patient care and clinical activities. Forensic sciences carry out expert assignments, not patient care. Forensic research is aimed at improving the quality of expert activities, but also has a public health aspect – to prevent accidents, premature death and health-damaging conditions, for example as a result of substance use. Forensic research can make very important and unique contributions to clinical health research.

We do not want the use of words to define us out of the hospital's work, and we want to work to ensure that the forensic disciplines are recognised in OUS and South-Eastern Norway Regional Health Authority as part of the company's responsibility.

In the RMF's action plan, the word «clinical» is further defined so that it does not only refer to direct patient treatment, but also diagnostics and participation in studies where persons (living or dead) and personal samples are included, and where the results may have preventive or other public health significance.

Ref. point in RMF and OUS research strategy:	Goal	Main measures and performance indicator	Responsible
<b>strengthen the focus on forensic and clinical research in cooperation with users, business and industry and the public sector</b>			
<i>1a:</i> Increase the number of clinical trials and the number of patients included in all relevant disciplines – both researcher-initiated and industry-funded studies.	<ul style="list-style-type: none"> <li>- increase the number of projects that involve and have significance for patients/individuals/clients in the fields (forensic toxicology, genetics, pathology and clinical forensic medicine and age assessment)</li> </ul>	<p><b>Main measures:</b></p> <ul style="list-style-type: none"> <li>- user involvement in the design of projects</li> <li>- prioritize this type of project</li> </ul> <p><b>Performance indicator</b></p> <ul style="list-style-type: none"> <li>- number of included patients/individuals</li> </ul>	<ul style="list-style-type: none"> <li>Research group leaders</li> <li>Section leaders</li> </ul>
<i>1b.</i> Implement new models for clinical trials that take into account developments in personalized medicine as well as include more interdisciplinary aspects in clinical trials.	<ul style="list-style-type: none"> <li>- contribute to diagnostics and development of personalized medicine in connection with clinical trials and ensure researcher competence in: <ul style="list-style-type: none"> <li>- substance abuse and somatics and the AlcoTail project</li> <li>- further develop BioAlder</li> <li>- diagnosis of genetic predispositions/diseases</li> <li>- better diagnostics for sudden deaths among children and young adults</li> <li>- pharmacogenetics, proteomics, metabolomics, epigenetics</li> </ul> </li> </ul>	<p><b>Main measures:</b></p> <ul style="list-style-type: none"> <li>- link interdisciplinary resources in RMF</li> <li>- link interdisciplinary substance abuse research in OUS</li> <li>- arrange professional meetings across RMF and invite researchers from clinical environments</li> <li>- competence-enhancing measures (courses, participation in relevant research groups, new appointments)</li> <li>- collaboration with clinical communities (e.g. trauma medicine, cardiology, paediatrics)</li> </ul> <p><b>Performance indicators:</b></p> <ul style="list-style-type: none"> <li>- number of ongoing studies with interdisciplinary collaboration</li> <li>- the number of projects across the RMF, with other departments and other clinics</li> </ul>	<ul style="list-style-type: none"> <li>Research group leaders</li> <li>Section leaders</li> <li>Research Adm. support</li> <li>Everyone</li> </ul>

<p>1c. Ensure good and treatment-oriented research in all disciplines that support routine activities and build up outstanding clinical research environments.</p> <p>From the KLM action plan: Common guideline in KLM for the use of resources for internally funded research and creating incentives to apply for external funding.</p>	<ul style="list-style-type: none"> <li>- emphasize the research communities' research production, quality, importance and interdisciplinarity when prioritizing and allocating research resources</li> <li>- all subject areas conduct research that promotes professional development within their subject</li> <li>- internal research resources contribute to several externally funded projects</li> <li>- create secondary positions at relevant faculties</li> </ul>	<p><b>Main measures:</b></p> <ul style="list-style-type: none"> <li>- as a general rule, everyone must apply for external funding</li> <li>- use internal resources on high-quality projects that have not received external funding and to build up outstanding interdisciplinary research environments</li> <li>- emphasize external evaluation of the research</li> </ul> <p><b>Performance indicators:</b></p> <ul style="list-style-type: none"> <li>- number of applications for external funding;</li> </ul>	<p>Research group leaders/ researchers</p> <p>Dept. Chair and Section Heads</p> <p>-Everyone</p>
<p>1d Expand national and international collaboration on multicentre clinical trials.</p>	<ul style="list-style-type: none"> <li>- continue multicentre studies in the field of age assessment</li> <li>- further develop the national platform for cooperation in the field of violence against children</li> </ul>	<p><b>Main measures:</b></p> <ul style="list-style-type: none"> <li>- participate in multicenter studies</li> </ul> <p><b>Performance indicators:</b></p> <ul style="list-style-type: none"> <li>- number of multicentre studies</li> <li>- number of partners;</li> </ul>	<p>Research groups</p>
<p><b>Strengthen translational research as an important link between basic research and forensic/clinical activities</b></p>			
<p>2a. Stimulate good interaction, such a meeting places and combined positions, between basic research and forensic/clinical activities.</p>	<ul style="list-style-type: none"> <li>- create common meeting points</li> <li>- satisfactory interaction between fundamental research, diagnostic and analytical research, and routine activities</li> <li>- "Our basic research is important for further development of the analysis and interpretation of forensic data</li> <li>- create combined positions for research and routine that supports focus areas in the different disciplines, especially in forensic pathology and clinical forensic medicine</li> </ul>	<p><b>Main measures:</b></p> <ul style="list-style-type: none"> <li>- arrange professional meetings across RMF</li> <li>- combined positions where employees who do routine work also participate in research</li> </ul> <p><b>Performance indicators:</b></p> <ul style="list-style-type: none"> <li>- number of academic meetings;</li> <li>- - number of combined positions per subject area</li> </ul>	<p>Research groups with support from research admin support</p> <p>Dept. Chair and Section Heads</p>
<p>2b. Facilitate further development of general biobanks and associated research registries to ensure the best possible access to materials and data for translational research.</p>	<ul style="list-style-type: none"> <li>- establish quality registries for RMF data</li> <li>- (e.g. the structure of the Cancer Registry)</li> <li>- establish a general research biobank for biological material from autopsies in REPA</li> <li>- use eBiobank</li> </ul>	<p><b>Main measures</b></p> <ul style="list-style-type: none"> <li>- establish a general research biobank and associated research register in RMF</li> </ul> <p><b>Performance indicators:</b></p> <ul style="list-style-type: none"> <li>- established cooperation with biobank unit KLM</li> <li>- number of established quality registries/research biobanks</li> <li>- eBiobank has been adopted for the largest biobanks</li> </ul>	<p>Research groups, heads of section</p>
<p>2d. Provide infrastructure and core facilities that make advanced and resource-intensive methodology</p>	<ul style="list-style-type: none"> <li>- REFU has submitted an application to establish a core facility in toxicological analysis</li> </ul>	<p><b>Main measures:</b></p> <ul style="list-style-type: none"> <li>- access to routine methodology, laboratories,</li> </ul>	

quickly available for basic and clinical research.	- further development of methodology and infrastructure in all disciplines, where resource-intensive methodology from routine activities is made available for use in research projects.	and machinery e.g. CT scanners in research projects - good integration of research projects and development within routine activities <b>Performance indicators:</b> - number of projects collaborating on resource-intensive methodology	Section Leader REPA  Section Leaders, Researchers, Dept. Heads
--	--	--	---

### Further develop opportunities for data management, data analysis and data sharing

3a. Work towards an overall plan for the use of health data for research	- be a driving force for the legal basis for the use of biological specimens from RMF for method development and research	<b>Main measures</b> - complete the work for the establishment of a legal basis - interdisciplinary use of LIMS data as a contribution to health research <b>Performance indicators:</b> - legal basis has been established - the number of interdisciplinary projects using LIMS data	Legal Adviser RMF, Research Manager  Researchers
3c. Facilitate the development and use of high-performance computing, including artificial intelligence, in both clinical and translational research, and as a tool for treatment.	KLM action plan: - establish routines for secondary use of diagnostic data for decision support, quality assurance and research - further develop a program that includes high-performance computing and modelling in age assessment/forensic genetics	<b>Main measures:</b> - develop new and improve existing models for decision support in age assessment - access to the necessary software; <b>Performance indicators:</b> - number of models using high-performance computing	Research group age assessment. Dept. Chairman
3e. Contribute to the achievement of national quality registries' objectives of complete and representative data collection, analysis and feedback to users, as well as research and quality improvement.	- contribute data on substance use to the Accident Analysis Groups (UAG) database - contribute data to the Cause of Death Registry	<b>Main measures:</b> - contribute with accessible data - stimulate active participation and contribution with analysis data in UAG to the Norwegian Public Roads Administration <b>Performance indicators:</b> - number of national quality registries to which we contribute data	Research group epidemiology, forensics
<b>Conduct systematic career follow-up of researchers and targeted recruitment to research</b>			
4b. Facilitate shared positions between research and clinic after completion of the Ph.D. degree.	- facilitate postdoc positions - employees in RMF conduct research after completing their PhD. - employees in combined positions with a PhD can actively take part in research	<b>Main measures:</b> - prepare a plan for career development in research after completing the PhD - design projects where experts with research expertise can take part in research projects <b>Performance indicators:</b> - number of combined positions;	Dept. leader and section leaders in collaboration with research group leaders

	<ul style="list-style-type: none"> <li>- The academic communities build up researchers with supervisory experience and last authorship</li> <li>- Researchers have protected time to conduct their research</li> </ul>	<ul style="list-style-type: none"> <li>- number of Ph.D. positions</li> <li>- Number of post doc positions</li> </ul>	and research manager
4c. Increase international cooperation with world-leading researchers/research communities	<ul style="list-style-type: none"> <li>- stimulate cooperation, stays abroad/visits from world-leading research communities for increased competence/research quality</li> </ul>	<p><b>Main measures:</b></p> <ul style="list-style-type: none"> <li>- Initiate collaboration with academically strong research environments abroad</li> </ul> <p><b>Performance indicators:</b></p> <ul style="list-style-type: none"> <li>- - number of stays abroad/visits from international researchers</li> <li>- - number of articles with international collaborator(s)</li> </ul>	All
<b>Protect research activities in and towards new buildings at OUS and the life science building at the University of Oslo</b>			
5a. Ensure good research facilities and sufficient research space in new hospital buildings, and in relocation and rocade projects during the construction period, with the involvement of researchers.	<ul style="list-style-type: none"> <li>- clarification where RMF should be located in the future</li> </ul>	<p><b>Main measures:</b></p> <ul style="list-style-type: none"> <li>- participate in relevant forums where this is discussed/clarified</li> </ul> <p><b>Performance indicators:</b></p> <ul style="list-style-type: none"> <li>- clarified location for the entire RMF</li> </ul>	Dept. Head, Head of Section, Project Manager and Research Manager
5c. Establish appropriate infrastructure, including storage facilities, for research biobanks.	<ul style="list-style-type: none"> <li>- establish appropriate infrastructure for biobank for autopsy material REPA.</li> </ul>	<p><b>Main measures:</b></p> <ul style="list-style-type: none"> <li>- establish a biobank with appropriate infrastructure</li> </ul> <p><b>Performance indicators:</b></p> <ul style="list-style-type: none"> <li>- biobank established with appropriate infrastructure</li> </ul>	
<b>Points of research RMF that require follow-up</b>			
Ensure that the research groups' assessments are given weight when prioritizing resources and focus areas in research RMF	<ul style="list-style-type: none"> <li>- ensure good priorities and appropriate use of resources with regard to research initiatives</li> </ul>	<p><b>Main measures:</b></p> <ul style="list-style-type: none"> <li>- the research groups participate in decision-making processes related to research</li> <li>- follow the procedure Research projects RMF</li> </ul> <p><b>Performance indicator:</b></p> <ul style="list-style-type: none"> <li>- Implementation of research projects proposed by the research groups</li> </ul>	Dept. leader and section leaders together with research group leaders
Build up administrative support around research and more research management in RMF	<ul style="list-style-type: none"> <li>- contribute to ensuring that information, overviews, reporting, research meetings/seminars, as well as follow-up of research tasks across RMF, etc. are safeguarded</li> <li>- establish an overview of all research projects in RMF</li> </ul>	<p><b>Main measures:</b></p> <ul style="list-style-type: none"> <li>- Research Adm. The adviser takes the initiative to follow up research administrative tasks</li> <li>- establish routines for notification of research projects at departmental level</li> <li>- establish a competence plan for researchers</li> </ul> <p><b>Performance indicators:</b></p>	Research Adm. Advisor/

- |  |   |                  |
|--|---|------------------|
|  | <ul style="list-style-type: none"><li>- information, overviews, reporting, meetings/seminars and research tasks across RMF are taken care of</li><li>- routines for notification of research projects RMF has been established</li><li>- competence plan for researchers has been established</li></ul> | Research Manager |
|--|---|------------------|