

Evaluering av Forskningen ved Ahus, 2019 (overordnet nivå)

Karakterskala (NFR 2011)

Excellent	Research at the international research front: original research of international interest, publishing in internationally leading journals. High productivity. Demonstrated impact for diagnostics or clinical care.
Very good	Research with high degree of originality, but nonetheless falls short of the highest standard of excellence. A publication profile with a high degree of publications in internationally leading journals. High productivity and very relevant to international research within its sub-field. Potential impact for diagnostics or clinical care.
Good	Research at a good international level with publications in internationally and nationally recognized journals. Research of relevance both to national and international research development. Likely future impact for diagnostics or clinical care.
Fair	Research that only partly meets good international standard, international publication profile is modest. Mainly national publications. Limited contribution to research. Possible impact for diagnostics or clinical care.
Weak	Research of insufficient quality and the publication profile is meagre: few international publications. No original research and little relevance to national problems. Unlikely impact for diagnostics or clinical care.

Fyll ut karakter:

Overall rate	Good
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Skriftlig evaluering på min 2 sider (skrives på engelsk, følg punktene under):

This evaluation is performed on the request for the Research administration and Akershus University Hospital (AHUS) and is based information presented in email 06DEC2019, including Internal Report of Research dated 06DEC2019, Research Council of Norway (RCN) Research evaluation of 2011, report "Forskning ved Akershus universitetssykehus 2018", and open sources available on the official internet pages of AHUS and RCN. In addition NOU 2019: 24 "Inntektsfordeling mellom regionale foretak", and Meld. St. 18 about health industry «Helsenæringen» 2018 - 2019 and HelseOmsorg21 report 2014 has been used.

1. General. AHUS is Norwegians X largest hospital, serving a population of approximately 560 000, with activities at three locations. It is located in a region with approximately 2.5 million inhabitants. Several universities and university colleges are located in the region, in particular the institutions of University of Oslo and OsloMet.

Compared to 2011, AHUS has increased the number of scientific publications from 210 in 2011 to approximately 350 annually in the years 2016-2018. Internal and external funding is shown to increase.

AHUS is searching for a strategy that underpin areas where AHUS is competitive. AHUS will build on strategies that have proven successful. Fields that are emphasized in the Executive summary of the internal report is i) data warehouse for patient groups, ii) pragmatic clinical trials, and iii) new initiatives for advancing clinical care.

AHUS has performed SWAT analyses of Research at Hospital Level in 2011 (Table 4) and 2019 (Table 2). The Strength and Opportunities listed in 2019 reflects a more mature and self-confident institution compared to 2011. Similarly, Weakness and Threats listed in 2019 reflects a more multidimensional picture of the challenges AHUS faces to improve research.

2. Organization.

All clinical divisions have a research structure and a named leader for research (Figure 2). It is not described if this research leadership is part of an advisory board or steering committee to support the Research and Innovation Director. An advisory board of Division Research leaders may be a valuable resource for strategy adjustment and for inter-division transfer of knowledge and new collaborations.

A Division of Research and Innovation is led by the Director for Research and Innovation, and the Director is part of the hospital Board of Directors. Division of Research and Innovation include statistics, health economics, and general advice in research questions. Division of Research and Innovation include the Department of Research Support, which with its Section for Research Support and Innovation emphasize grant proposal support, have a pool of clinical trial coordinators that support clinical trials and comprise strategic capacity for direct support for innovation activities. The actual production of this Section is not elaborated in the report. If this Section is active supporting clinical personnel to embark on new trials and research project, this may be a valuable investment. The challenge is to create enthusiasm and interest for research in the clinical operations and clinical laboratories, a task that this Section should work particularly with.

Section for Clinical Molecular Biology (EpiGen) is a research infrastructure or core facility that aim to support all researchers across disciplines and divisions at AHUS. The core facility is staffed both by UiO and AHUS personnel. Based on the report it is not clear where EpiGen is located organizationally, e.g. in Division for Diagnostics and Technology. EpiGen describe bioinformatics storage and analysis pipeline with UiO service for secure data, TSD. EpiGen will likely require regular dialogue with the Divisional research leads, not only for picking up trends and demands in the clinic but also to teach the environment what technologies that area available. We are now in a period where the national political health management is focused on personalized medicine. Due to a combination of disease mortality, technological advanced in genomic diagnostics and a surge of new experimental therapeutics, personalized therapy is nearly synonymous with cancer therapy. However, the really large impact of personalized therapy may lay ahead of us in psychiatry, metabolic and cardiovascular diseases. EpiGen is an ideal tool for AHUS to create novel spear head projects that may open up more effective and less adverse effects prone therapy. EpiGen is a perfect platform to team up with European research infrastructure like EATRIS, and should rig pipelines for biobanking, analysis and biobanking in future Nordic academic clinical trials where AHUS should approach a leadership role.

Research Outpatient Clinic is a part of Section for Research Support and Innovation, offering physical space and dedicated rooms for clinical trials. This facility may be instrumental for departments without optimal rooms and capacity for longer visits and complex set ups. Similar areas have been extensively at other hospitals also for population-based studies (e.g. Tromsøundersøkelsen).

AHUS has created a package for research (“Pakkeforløp for forskning”; Table 3) that should cover all aspects of clinical research including regulatory requirements. It is important that the research pipeline is rigged for long term follow up and for long term data analysis, thereby exceeding the clinical standard package. However, this idea is easy for clinicians and diagnostics personnel to be associated with and is a creative way to make the research pipeline more concrete for the institution.

The Research report comment that research infrastructure is not uniformly organized in the different divisions, and that a limited number of divisions has allocated funding for Departments for Research with a limited number of staff. This is likely a sound way to organize research in clinical divisions and departments, and I suggest creating such structures in all Divisions in preparation for clinical trials and research projects. Initially this can be spawned by allocating 5- 10% working time per week in a team that keep regular meetings and that use the competence of Department of Research Support actively to attract academic and industry sponsored research projects. If activity increase this team can be built out and extended, and the competence can be spread in the clinical division to secure high-quality data collection and research.

3. Training. AHUS describe a strategy to attract talents. Candidates with an early stage track record should be identified for applying for career grants, and in this context the Norwegian Centered for Molecular Medicine, UiO is mentioned. In the Conclusion, mentoring is suggested as a mechanism to secure talents developing from basic research to clinical to health service research. There is not listed basic training in Good Clinical Practice and Good Laboratory Practice, to secure the increasingly mandatory training in medical specialties, and as mechanism to recruit young personnel as sub-investigators and research coordinators in clinical trials. Young talented health professionals are likely a needed resource if AHUS will position in the field of new trial design.

4. Collaboration. International collaboration is given limited space in the self-evaluation report. Probably, the potential in Nordic and European research is substantial for a hospital like AHUS. We know that Nordic collaboration in many fields have delivered outstanding international research, and the leadership of Nordic collaborations in clinical medicine has typical not as a rule been led from the largest academic hospitals. AHUS may have a potential to use Nordic leadership in Research and use this as a step stone to larger European collaborations. Based on the geographic location of AHUS and the profile of patients, AHUS could develop as a speciality to lead national and Nordic collaborations on medical fields with large number of patients.

5. Research activity and scientific quality. The data provided do not allow to evaluate the research quality, and in particular the quality of the research groups. There are as well flaws in bibliographic methodologies that may be questioned of modern methods are used. However, it is likely needed for the Research administration to understand the quality and innovative capacities in the various Divisions and make attempt to develop this further. A bibliographic and innovation index would likely be a useful tool to compare AHUS with other university hospitals in Norway.

It is clear that the number of publication and number of new PhD have been increasing and seems to stabilize. In the 2018 Research report presented the Excellent Research Awards with first authors from AHUS. This illustrated the top tier publications in important health thematic.

6. Societal impact. Innovation and public-private partnerships may have large societal implications both in service quality as well as in creating jobs: The Report of Research list small enterprises that has originated from translational research at AHUS: PreDiagnostics, PreVention, CardiNor, SomSagt. These enterprises should be developed through local, regional and national programs for innovation, and if successful this may increase the technical competence in the area. It may provide more job alternatives in the health sector. AHUS seem to be missing collaborative effort with small enterprise start-ups that develop novel therapy or medical devices. The region of AHUS is within the predominant member area of Norway Health Tech and Oslo Cancer Cluster. These competence network could be used to recruit partnership with enterprises that develop therapy in prioritized or particular strong areas of research at AHUS. AHUS could through small enterprises create research collaboration that secure research production, PhD training and at the same time secure readiness for inventions and research results to be used in patient therapy. AHUS should consider focussing on actual pilots and trial participation with commercial partners in its perimeter and local milieu instead of building out its own innovation network strategy. However, AHUS should revise its innovation strategy to secure that employee with ideas for new devices, procedures and therapy should be stimulated maximally to create new products needed in the health sector. Innovation and improvement of procedures and therapy should be routine way of working in all levels of a complex organization like AHUS, and particular young health workers should be challenged with methods and processes for innovation.

7. Recommendation. The report indicates stagnation or lack of increase in external research founding the last three years. The economic framework of Norwegian specialist medicine is under stress from many directions. It is not likely that the internal economic situation will improve, and AHUS need to reach out to secure external funds from academic sources as well as from industry. The organization need to be able to steadily increase research in spite of smaller budgets because this is the need of patient population and it is a solid platform to improve the health services to delivered by a modern hospital.

Medical services like pathology and radiology are listed as particular limiting factor for research today (p.3, 1st section), even if there are external fund to compensate for examinations and tests. These Divisions and Departments should examine their workflow in search for other ways to organize the activity, e.g. through out of business hour operations for research radiology and a team of staff that can be hired on project basis. Pathology and radiology are well known as a limiting factor in clinical trials, and partnership with private institutes and service providers may be an additional mechanism to secure reliable diagnostics in clinical trials. Additionally, the fields of pathology and radiology should be challenged on their interests and need to develop research in their operations, thereby creating a mutually beneficial research environment that secure improved services that attract clinical trials and translational research to AHUS.

Two weaknesses listed are partially overlapping: "Challenging to prioritize research over clinical medicine", and "Lack of integration between research and clinical medicine". Maybe these challenges should be approached with a long-term strategy to integrate clinical routine with research and use research as the methodology to provide patients with better clinical care. Effective data catch will be needed to avoid slower clinical production, but systems for data collection are improving and may secure high quality data from the standard clinical journal systems. Likewise, diagnostics should secure Experimental diagnostics to continuously push for improvement in laboratory data and clinical imaging. Ideally, most or all patients in a certain field of medicine should be included in a trial. Such an aim needs to be gradually built and may start with creation of Research units in each clinical department and section through small percentage commitment of a research team

including support personnel/secretary, nurses, junior doctors and specialists. Most European curricula in medical specialties include training in Good Clinical Practice, and this will be lacking if not a planned supervised and active involvement include the youngest and most junior personnel in the clinic. If research and clinical trials is the method of choice in the clinic and clinical laboratory, aiming to improve the therapy and patient service and monitor the quality, it will be less or no conflict between research and medicine, approaching complete integration.

The Internal Report of Research describe in particular the use of Pragmatic Clinical Trials to increase research production. AHUS has invested in infrastructure to support pragmatic clinical trials through a local warehouse, and list involvement in the NORCRIN2 work package “New strategies for clinical trials”. AHUS has received three grant from Research Council of Norway (RCN) in 2019 (application deadline of 10 April), a total of 35 MNOK in the programs BEHANDLING, BEDREHELSE and HELSEVEL. One of these projects, PALM, is supporting a pragmatic clinical trial in precision therapy in leukemia. Proven before, AHUS has the potential to develop new trial design in cancer, but also in a wide range of other clinical specialties. RCN may be used as a gauge to compare AHUS in national competitive grant programs, where AHUS is one of a total of five hospitals winning grants in 2019 (OUS 13, St Olav Hospital 1, Sykehuset i Vestfold 1, Universitetssykehuset i Nord-Norge 1). This is a substantial achievement for AHUS that should be developed further. Receivers of these grants should receive special intramural support for project execution, and mid-way in projects international grant calls should be examined for extension and further development of the projects. Furthermore, the successful applications should be used to motivate and train new groups in professional grant writing.

OsloMet received 18 grants from RCN in 2019 and may be a strong partner in future collaborative efforts. The collaboration between AHUS and OsloMet is limited, e.g. there are no permanent position currently funded in collaboration between AHUS and OsloMet. In particular this may be a mechanism to strengthen “Helsetjenesteforskning”.

The Internal Report of Research is without any description about per cent budget allocated to research, and if AHUS has as an ambition to allocate a certain amount of the operating budget for research. AHUS provides 6 MNOK per year for competitive internal funds, an amount not adjusted for the last 8 years. A recommendation is that internal funding needs gradually to be built up, year by year, in an overarching strategy by the hospital CEO and supported by the Board of Directors. The strategies of research developed at AHUS should be supportive tools in such a build-up, and should contain elements of infrastructure, instruments, personnel and operating budget.

This evaluator is supporting the strategy of establishing more full-time researchers. However, it is important that these positions are supported by the research administration and the host division. The productivity of these positions should be prepared and secured, were productivity of such a full-time position should be positioned in an environment with technical and clinical research personnel for optimal research output. It is claimed that full time researchers are the predominant successful application in EU grants. International grant applications should be a special task for AHUS full time researchers, supported by the Research administration.

Limited funding of infrastructure is listed as a threat in the 2019 SWOT analysis. Maybe a set of funding mechanisms need to be developed in a strategy, including intramural funds for equipment, as well as identifying external sources to fund new instruments and facilities. Laboratory departments may need to plan long term for preparing new instruments that may have application in experimental diagnostics as well as in routine. This may be a necessary preparation to move to new analysis platforms that make future analyses faster

and at a lower cost and should thereby be integrated in the institutional budget strategy with intermediate and long-term budget horizon.

The Report conclusion is suggesting a broad strengthening and no focus or thematic selection. For the benefit of the patients this may be sound, however, pointed groups or milieu may need special support to receive international grants and secure research at an excellent level. Ideally, the research administration of AHUS should secure a potential school of talented young scientists that long term can build research groups. The ideal dynamics of research group and labs should be examined and kept under maintenance.

8. Grading.

Good. Research at a good international level with publications in internationally and nationally recognized journals. Research of relevance both to national and international research development. Likely future impact for diagnostics or clinical care.

AHUS has substantial potential to improve its position in national and international research through a balanced prioritized support on the successful groups and nurturing young talents.