

## Research at Akershus University Hospital 2018



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## 1. Summary

A main objective for Akershus University Hospital in 2018 has been to strengthen and highlight the university hospital function. This is a continuation of a long-term commitment to research that over time has resulted in an increasing number of scientific articles and public defences from the hospital, and the annual report documents a high level of research activity.

A total of 323 scientific articles were published from Akershus University Hospital in 2018, compared with 358 the year before. 22 per cent of the articles were published in level 2 journals. The number of participants enrolled in the PhD programme is increasing, and in 2018 22 employees defended their dissertation.

The number of publication points, calculated on the basis of publications and doctoral degrees, was 290 in 2018. This was a slight increase from 2017, when Ahus had 287 points. For a couple of years, Akershus University Hospital has been ahead of both Stavanger University Hospital and the University Hospital of North Norway in number of points, but even with a slight increase in publication points this year, we are now only ahead of Stavanger. The publication list from Akershus University Hospital for 2018 shows that researchers from other institutions collaborate closely with researchers, especially researchers from the University of Oslo and Oslo University Hospital.

A total of 202.7 man-years were used for research at Akershus University Hospital in 2018. Much of the research was externally funded. In 2018, the hospital was allocated just over NOK 83 million in external research funding, a decrease from 2017 when the grant was NOK 97 million. Important sources of funding are the South-Eastern Norway Regional Health Authority RHF, the Research Council of Norway and the Norwegian Cancer Society. NOK 6.3 million was distributed as internal strategic research funding. The allocation was based on external peer review of submitted applications, and funding will go to research areas that are considered important to the hospital.

Clinical research is a strategic focus area, and Akershus University Hospital has had an increasing number of clinical trials in recent years. In 2018, 47 new clinical treatment studies/agreements were reported to the Data Protection Officer, of which 28 were researcher-initiated. The research environment in the hospital participates actively in NorCrin, and thus contributes to the national collaboration in clinical research.

Within research-based innovation, 12 DOFIs (report on invention) have been filed with our TTO (Technology Transfer Office, Inven2), and three patent applications. The twelve DOFIs come mainly from the Division of Medicine, but also from the Division of Mental Health, the Division of Surgery and the Research and Innovation Division.

## 2. Organisation of research at Akershus University Hospital

The function of Director of Research and Innovation was elevated from level 3 to level 2 in the organisation in September 2016. The reporting line for research follows the lead line in the hospital. The Division of Mental Health, the Division of Medicine, the Division of Gynaecology and Obstetrics and the Division of Paediatric and Adolescent Medicine have their own research departments. The Head of Research sits on the Division's management team and acts as an advisor to the Division Director on research issues. Divisions without a research department have research managers who are part-time employed on the division director's staff.

Akershus University Hospital (Ahus) has a formalized collaboration with the University of Oslo (UiO) on research and teaching of medical students. The Department of Clinical Medicine at the Faculty of Medicine has a resident manager who is a scientific employee who reports to the head of department. The person in question is an observer in the hospital management. The department has local administration at Campus Ahus. The research management in the university line is organized into three clinics; Division of Medicine and Division of Diagnostics and Technology, Division of Surgical Sciences and Division of Surgery, Orthopaedic Clinic and Division of Gynaecology and Obstetrics), and Division of Health Services and Psychiatry (the Health Services Research Unit organized directly under the Research and Innovation Division and the Division of Mental Health Services).

A significant proportion of the researchers at Ahus have combined positions with UiO, and thus also have a connection to the university line. These report to the head of the clinic at the University for their University Tasks and to the head of department for tasks related to the employment relationship at Ahus.

Research committees have been established in most divisions and clinics and joint research committees for Ahus and Campus Ahus. The committee consists of representation of the research management, research leaders from the clinic/division and clinic leaders from the university. The Joint Research Committee, which is a strategic advisory body for the Executive Director of Research Affairs, is based on the collaboration agreement with the university.

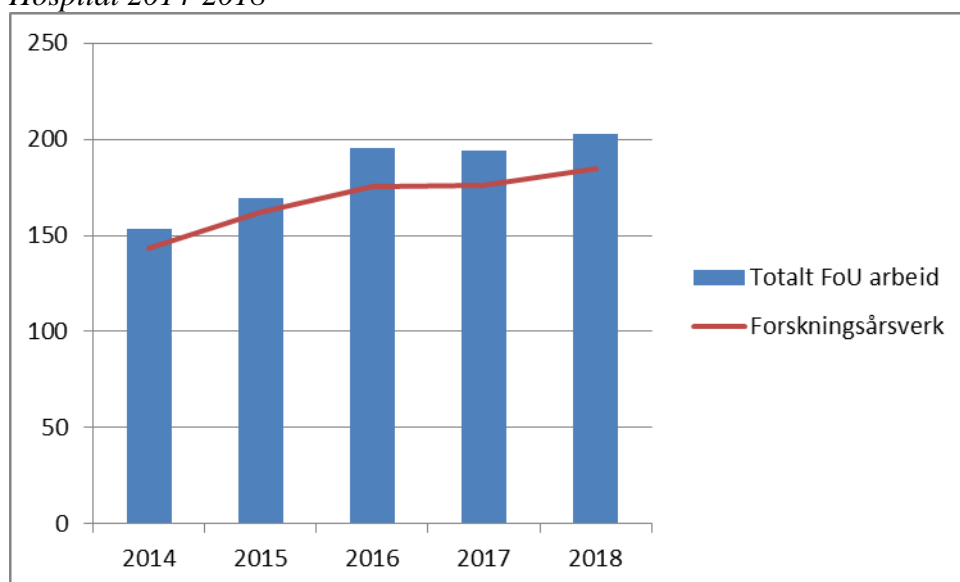
### 3. Use of resources

In 2018, a total of 202.7 man-years were used for research and development (R&D). Of this, research man-years accounted for 184.4. In addition, 49.4 full-time equivalents are affiliated with UiO. Ahus also has employees who have part-time positions/doctoral fellowships at OsloMet, and OsloMet has employees with part-time positions at Ahus.

Table 1 shows the distribution of total man-years used for research and development (R&D) from 2014 – 2018 and the proportion of research man-years for the same period.

The research support at the hospital is partly financed by UiO and partly by Ahus. Research support includes libraries, data capture, statistics, biobank, administrative and technical services.

*Table 1: Total number of man-years and proportion of research man-years at Akershus University Hospital 2014-2018*



## 4. Scientific production

In 2018, 323 articles addressed at Akershus University Hospital were registered in CRISin (Current Research Information System in Norway)<sup>1</sup>, compared with 358 the year before. Of these, 22 per cent were published in a level 2 journal, the rest in a level 1 journal. Table 2 shows the number of publications by levels 1 and 2 for the years 2014-2018. Table 3 shows the distribution of scientific articles and publication points by divisions/clinics in 2018.

Figure 1 shows the divisional development of publications for the period 2011 – 2018.

*Table 2: Number of scientific publications by level 1 and 2 from 2014 - 2018*

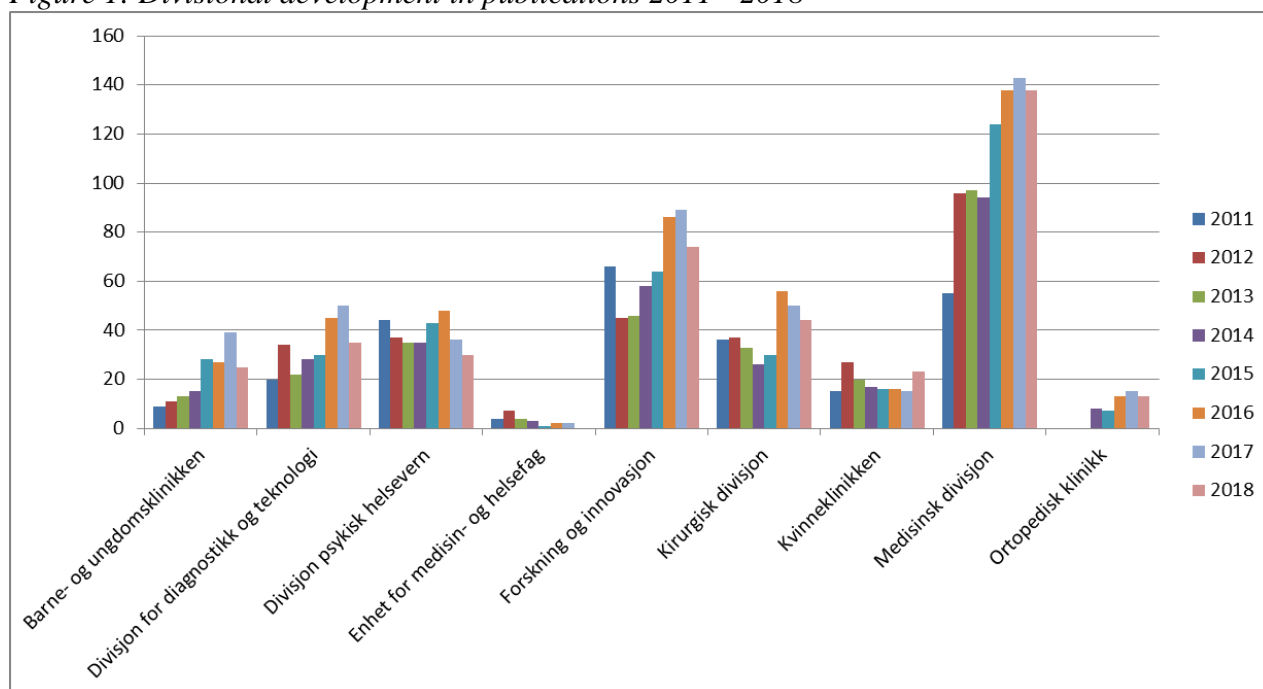
Year	Number of Level 1	Number of level 2	Total number of articles
2014	191	47	238
2015	234	51	285
2016	289	74	363
2017	297	61	358
2018	253	70	323

*Table 3: Scientific publications and publication points by division 2018*

	Total	Level 1	Publ. points	Level 2	Publ. points
Division of Paediatric and Adolescent Medicine	25	22	9,31	3	3,00
Division of Diagnostics and Technology	35	26	11,34	9	8,37
Division of Mental Health	30	21	10,89	9	11,35
Research and Innovation	76	56	20,71	20	21,89
Division of Surgery	44	35	15,85	9	10,41
Division of Gynaecology and Obstetrics	23	15	7,43	8	14,03
Division of Medicine	138	110	44,62	28	28,75
Orthopaedic Clinic	13	13	7,78		

<sup>1</sup> <http://www.cristin.no>

Figure 1: Divisional development in publications 2011 - 2018



In 2018, 22 employees defended their dissertation. Table 4 shows the distribution of the number of completed doctoral degrees per division. Chapter 13 provides an overview of who defended their thesis with a brief summary of the various theses.

Table 4: Number of public defences per division 2013-2018

	2013	2014	2015	2016	2017	2018
Division of Medicine	4	5	8	2	6	6
Research and Innovation	2	4	3	1	2	2
Division of Gynaecology and Obstetrics		4	1	2		1
Division of Diagnostics and Technology				2	1	1
Division of Paediatric and Adolescent Medicine		1	2	1	2	2
Division of Surgery	3			1	1	3
Division of Mental Health	1	1	1		3	6
Orthopaedic Clinic			2		1	1

The number of publication points, calculated on the basis of publications and doctoral degrees, increased slightly from 287 in 2017 to 290 in 2018. Figure 2 shows a comparison between the Norwegian university hospitals for the period 2006 to 2018.

Figure 2: Publication points (publications and doctoral degrees) – comparison between the Norwegian university hospitals for the period 2006 – 2018.

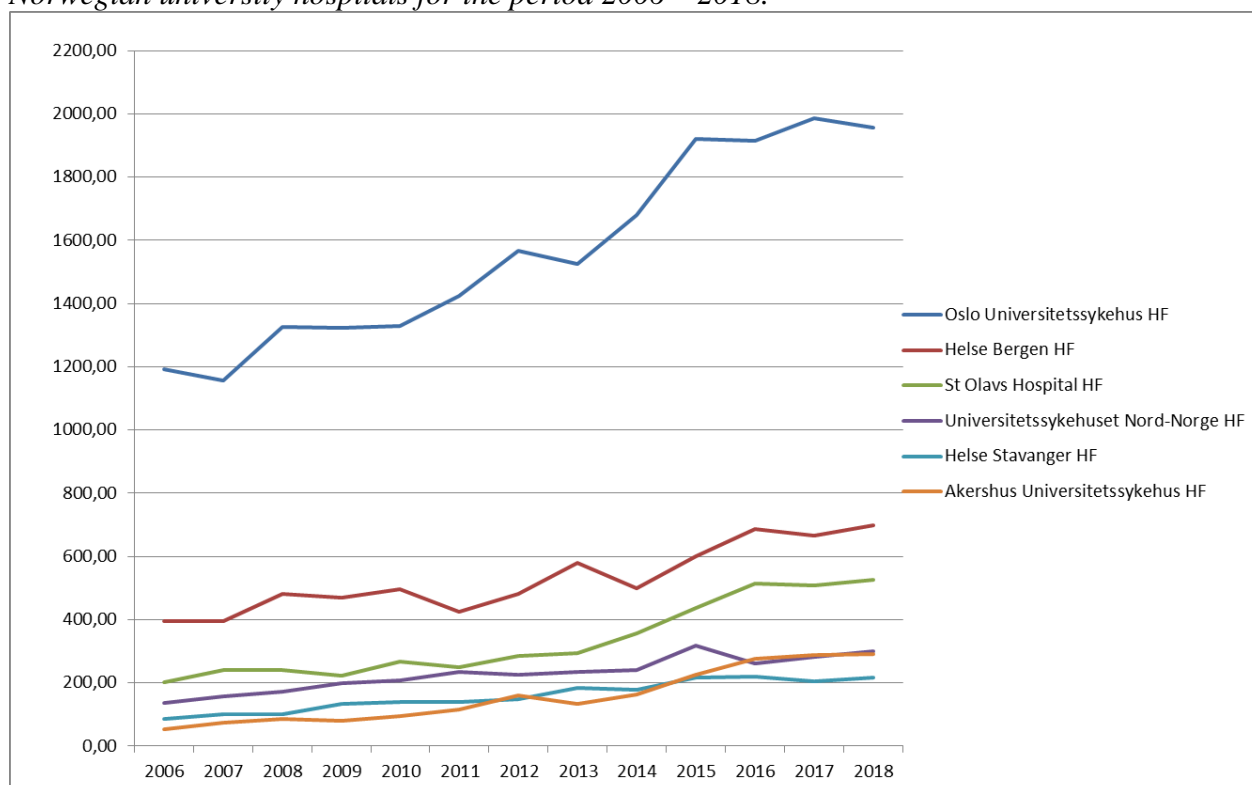


Table 5 shows the innovation activity for 2018. 12 DOFIs (report on invention) have been filed with our TTO (Technology Transfer Office, Inven2) and three patents.

Table 5: Innovation activity 2018- reported from Inven2

	Number
DOFI	12
Patents	3



## 5. Development in the number of publications and doctoral degrees 2008-2018

Tables 6 and 3 and 4 show the development in the number of scientific publications and the number of completed doctoral degrees in the period from 2008 to 2018. The number of published articles has shown a positive increase in recent years, but we see a slight decline for 2018. The number of completed doctoral degrees has fluctuated somewhat, but there is an underlying growth from 2008 to 2018.

Table 6: Publications and doctoral degrees 2008-2018

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Publications	108	107	130	210	238	228	238	285	363	358	323
Doctoral degrees	5	7	10,5	8	20	10	15	17	9	16	22

Figure 3: Development in the number of publications

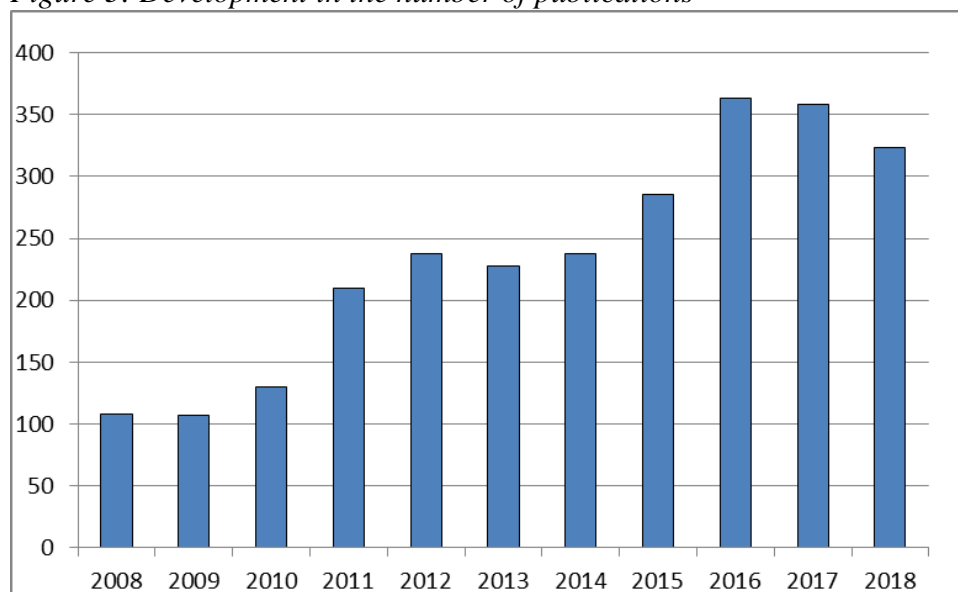
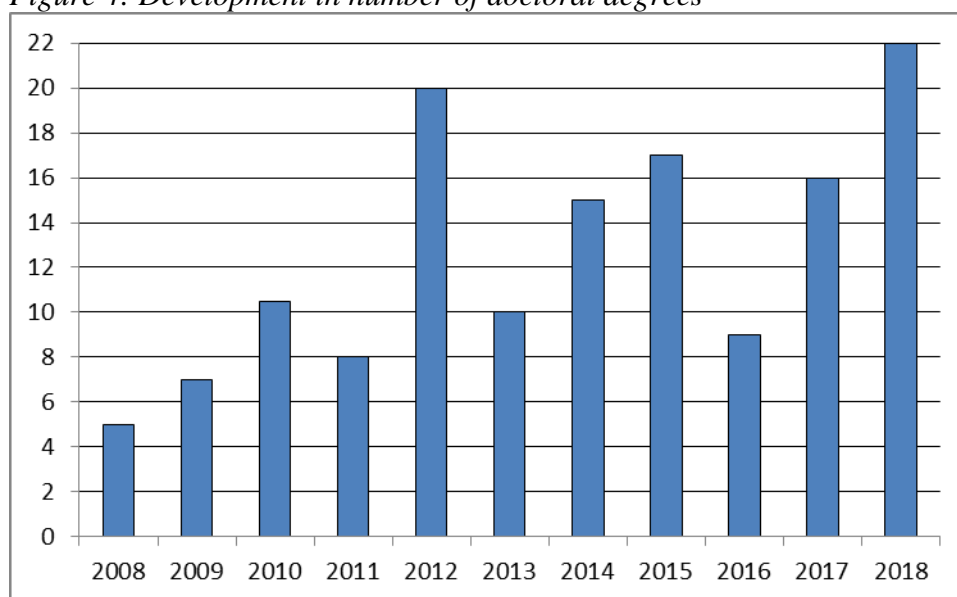


Figure 4: Development in number of doctoral degrees



## 6. Clinical trials/experimental treatment

People have always tried to find remedies for illness and health problems. The first well-documented clinical study was conducted by James Lind, an officer in the Royal Navy, in 1747 who wanted to find a treatment for scurvy among seafarers. The study showed that citrus fruits cured scurvy and this had great significance for the health of English sailors. Right up to our days, they have been served lime juice or equivalent on board boats.

Clinical trials, or experimental treatments, are research on the effects of new drugs or new treatment methods, and whether the side effects are acceptable. Clinical trials include clinical trials of drugs, special diets/dietary supplements, surgical methods, other experimental treatments and medical technical equipment.

Akershus University Hospital has a catchment area of approximately 600,000 inhabitants, which provides access to recruit participants in diseases that affect large patient groups. The goal is to ensure that our patients have access to new, experimental and potentially better treatment before the treatment is available on the market. A close integration of research in the clinical part of the enterprise is an important prerequisite for success in this.

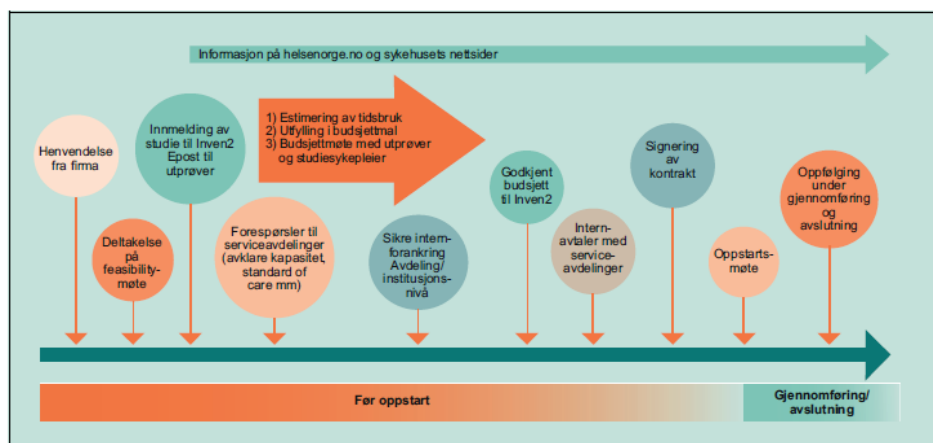
Participation in clinical trials may lead to increased treatment quality and new methods for efficient operations and priorities, as well as contribute to the development of new and innovative treatment methods that may be transferable to clinical practice.

There is a strong political desire for more clinical trials. The hospitals have been told that clinical trials must be prioritised and integrated into the hospitals' treatment services. The Health Industry Report 2018-2019 emphasises the importance of clinical research to develop better treatments.

Ahus works purposefully and strategically with measures to strengthen and facilitate more clinical trials at the hospital, and has in recent years established a standardized course for clinical trials "Package pathway for clinical trials". The purpose of the package is to stimulate an increase in the number of clinical trials at Ahus by ensuring a professional and efficient handling of clinical trials, with special emphasis on the start-up phase of new trials. Reference is made to this standardised pathway in the Health Nutrition Report (see Figure 5).

Figure 5: Standardised clinical trial pathway; Health Industry Report 2018-2019

100 **Meld. St. 18** 2018-2019  
Helsenæringen



Figur 8.11 Standardisert forløp for industristudier ved Akershus universitetssykehus

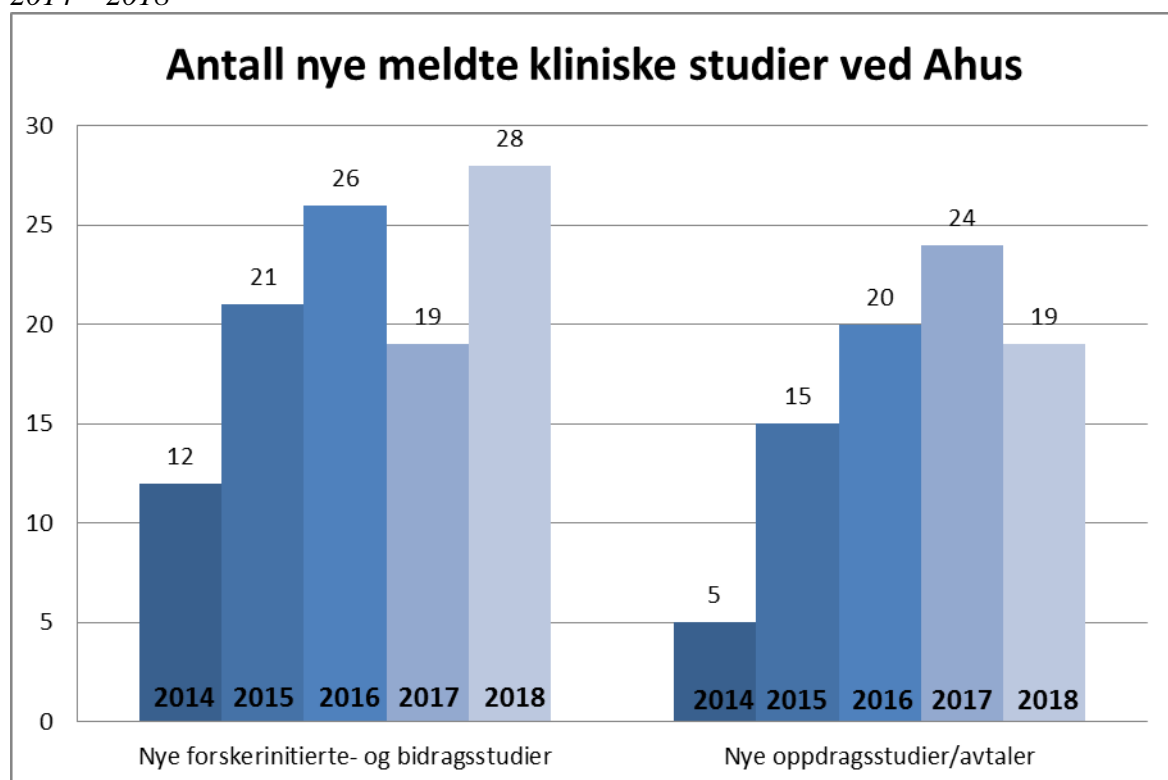
Kilde: Akershus universitetssykehus, partner i NorCRIN

## The development of clinical trials in the period 2014 - 2018

There is an increase in the number of new clinical trials at the hospital in the period 2014 - 2018, see figure 6. This is a result of a strategic commitment in recent years, as well as a strong foundation in the management at the hospital and at all levels of the organisation. In addition, well-developed research support with dedicated coordinators and advisors related to these studies are important success criteria.

Close cooperation with service departments locally, as well as national cooperation with other university hospitals in Norway via participation in NorCRIN, especially WP4 – Collaboration with industry has been important for further development of infrastructure and sharing of "best practice" for the start-up and implementation of clinical trials at Ahus.

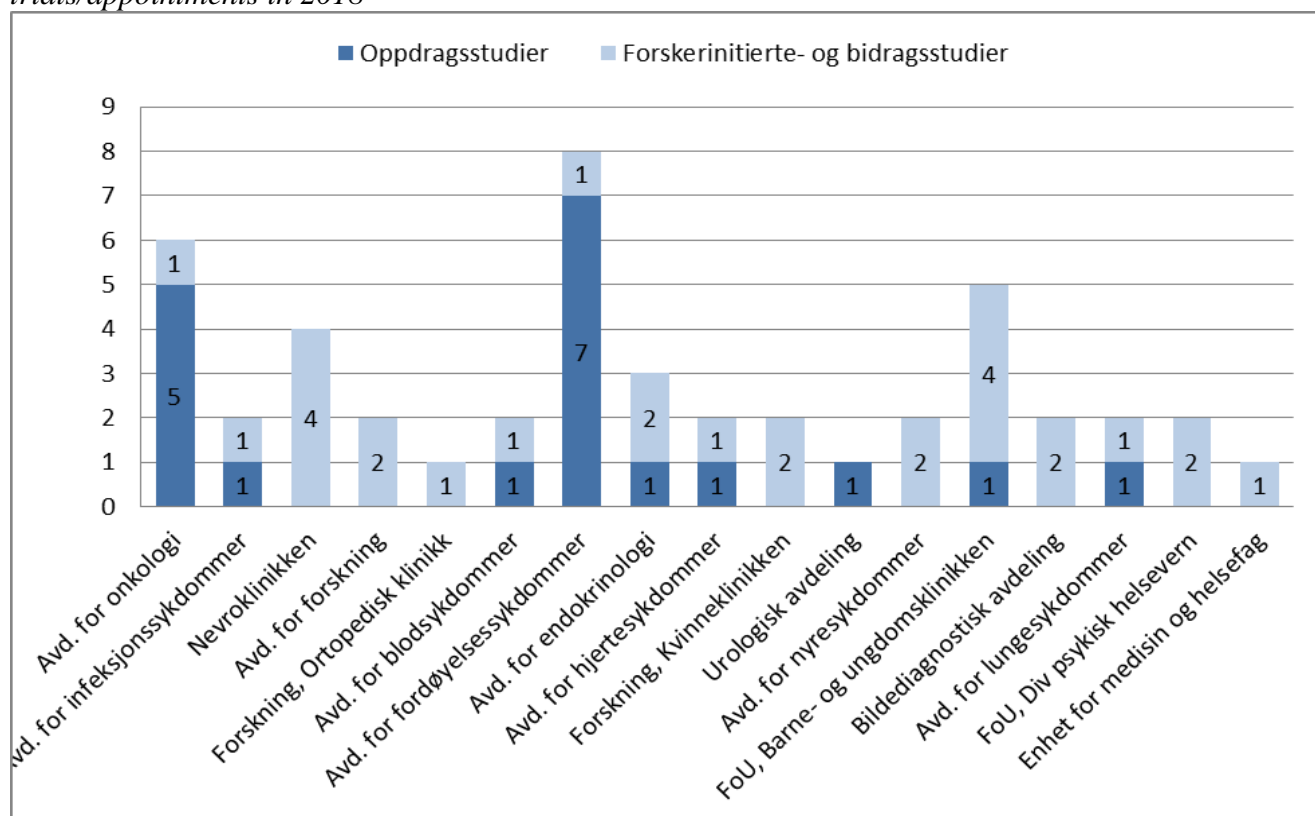
Figure 6: Development in the number of registered clinical treatment trials/appointments from 2014 – 2018



*Contract studies: Clinical trials initiated by industry*

*Researcher initiated and contribution studies: Clinical studies initiated by researchers at the hospital, including studies that have contributions from industry either in the form of financial support or in the form of medicines/equipment, possibly both types of support.*

Figure 7: Departmental\* figures for the number of new enrolled\*\* clinical treatment trials/appointments in 2018



\*Departments with registered activity

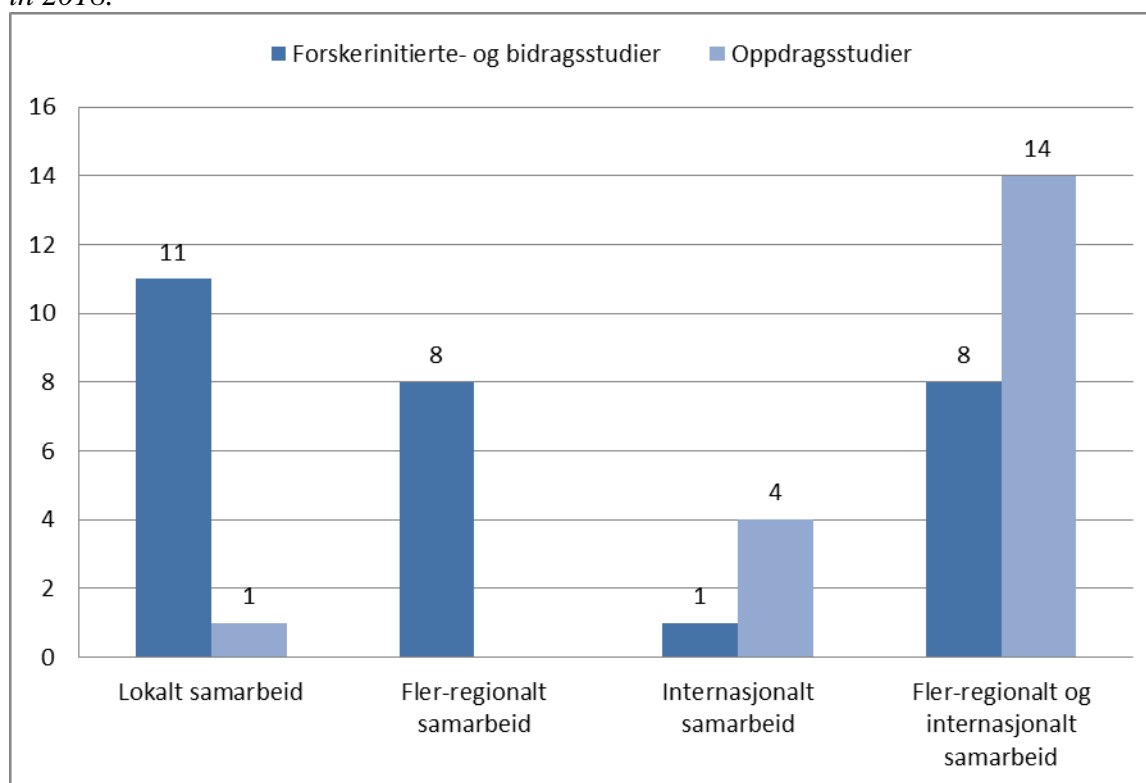
\*\* Registered with the Data Protection Officer or registered with Inven2

In 2018, 47 new clinical treatment trials/agreements were reported across several departments at the hospital, see figure 7. Clinical treatment studies in different therapeutic areas are important in order to offer experimental treatment to as many of our patients as possible.

The clinical trials reported in 2018 are divided into several different types of trials. About 2/3 of the studies are drug trials. Other types of trials include testing of equipment, physical interventions, questionnaires, observational studies, nutritional intervention and other types of intervention.

In commissioned studies, the main emphasis is on multi-regional and international cooperation, so-called international multicentre studies, see Figure 8. In researcher-initiated and contributory studies, the collaboration is mainly distributed between local, multiregional and/or international cooperation, see Figure 8.

Figure 8: Local, multi-regional and international collaboration for researcher-initiated, contributory and commissioned studies for newly registered clinical treatment studies/agreements in 2018.



*Local: Cooperation with institutions in the South-Eastern Norway Regional Health Authority*

*Multi-regional: Cooperation with institutions in other health regions*

*International: Cooperation with institutions internationally*

In 22 of the 47 new enrolled clinical treatment studies, the project manager at Ahu's national coordinating investigator is responsible for coordinating all participating centres nationally.

### Infrastructure for clinical treatment studies

The work aimed at increasing the number of clinical treatment studies and facilitating clinical research has been continued in 2018. In December 2018, the hospital management approved the establishment of the Clinical Research Outpatient Clinic project. The project will be given priority in 2019. The service will be established as a research outpatient clinic in dedicated areas, i.e. there is no planned activity beyond what is normally done at an outpatient clinic. The establishment of a clinical research outpatient clinic could increase the capacity for clinical trials at the hospital.

In 2018, a separate forum was established for trial nurses working with clinical treatment studies. The first forum was held in March and there were 15 registered study nurses who participated. Furthermore, a forum was held in May, and one in December. The aim of the forum is to establish a common informal meeting arena for trial nurses, and to facilitate the exchange of experience and transfer of competence, as well as discussion of issues related to the implementation of clinical treatment studies.

### Enquiries from the industry

In 2018, the enterprise received 14 inquiries from the industry requesting participation in new contract studies. The inquiries come in via a central email address set up at the hospital.

### **Shared Investigator Platform (SIP)**

Several pharmaceutical companies have now joined forces to create an electronic platform that will facilitate collaboration between industry and hospitals in clinical commissioned studies. The system is called Shared Investigator Platform (SIP) and will help simplify the start-up process in the studies by giving companies access to among others information about infrastructure at the hospital and CVs of study personnel directly in SIP. This will be an important tool especially in the feasibility and pre-study phase of a clinical trial. The idea is that the pharmaceutical companies and investigators will more easily "find" each other, and when a collaboration has been agreed, the process of obtaining information about the hospital (what facilities the hospital has) and what competence/CV the study personnel have will be found here. Hopefully, this will simplify the administrative workload that many investigators/study teams often experience at the start of a potential collaboration. SIP will consist of an overall profile for Ahus set up by us coordinators in cooperation with the service departments at the hospital. In addition, investigators and other study personnel must create user profiles under the Ahus profile.

### **Course**

Two GCP courses have been held at Ahus in 2018; a full-day course in the spring and a half-day course/refresher course in the autumn. There were 43 and 18 participants respectively in these courses. The GCP course is held by Regional Research Support at OUS/HSØ, but it is adapted to local conditions, routines and guidelines at Ahus. The course from Regional Research Support is approved and is available in Transcellerate, a common platform used by the largest pharmaceutical companies in Norway.

In connection with sending out invoice basis from Inven2, courses are held 2 times a year for progress reporting in clinical commissioned studies. In 2018, a course was held in the autumn and a course in the spring in 2018. A drop-in outpatient clinic was also arranged for help with progress reporting in connection with the courses.

### **Routines and guidelines**

In 2018, three new documents were published in the EQS associated with clinical trials:

- Routine for ordering access in DIPS for monitors in clinical trials, which describes the procedure for establishing access to source data in DIPS for persons employed in another health enterprise with the role of monitor in a clinical drug trial at Ahus.
- Request form with associated procedures and guidance for requests in researcher-initiated and contributory studies, describing procedures for requests to the department that wish to contribute to the conduct of a clinical trial
- Guide to registration of clinical trials in ClinicalTrials.gov published in EQS, which describes the procedure for registering a clinical trial in ClinicalTrials.gov under Ahus.

### **Cooperation with service departments**

An annual collaborative meeting has been held with all service departments and coordinators in clinical trials, in addition to a separate meeting between the service departments and Inven2, where Inven2 presented its organisation, fund structure and routines for payment of services performed by service departments in studies where they contribute. In addition, regular meetings or meetings are held as needed, between the coordinators at the Department of Research Support and the coordinators/contact persons at the various service departments.

Indicative price lists have been prepared for researcher-initiated studies from most service departments. These lists are available upon request.

### **Trial reporting clinical treatment studies**

In commission from the Ministry of Health and Care Services, the regional health authorities were asked in the assignment document for 2018 to carry out a trial reporting on the number of patients participating in clinical treatment studies in the health trusts, in line with recommendations in the report from the working group for the development of an indicator for clinical treatment studies. The reporting concerned clinical treatment studies with REC approval in the period 02.10.2016 to 31.12.2017.

The purpose of the trial reporting was both to quality assure the data available in CRISStin on the number of clinical treatment studies in progress and to start registering the number of patients included in clinical treatment studies.

At Ahus, a total of 29 clinical treatment studies were relevant for reporting, distributed among 19 project managers. In the 29 clinical treatment studies, a total of 91 patients were reported at Ahus, and a total of 27 included patients at other participating centres.



## 7. Publishing researchers

The tables below show the number of researchers who published at least one scientific article with an address at Akershus University Hospital in 2018. Table 7 shows publishing researchers by gender and age, and Table 8 shows the corresponding overview by division. Data were obtained from CRISin.

*Table 7: Publishing researchers by gender and age*

Men		Women		Total	
Number	Avg. age	Number	Avg. age	Number	Avg. age
156	48,5	150	46,5	306	47,4

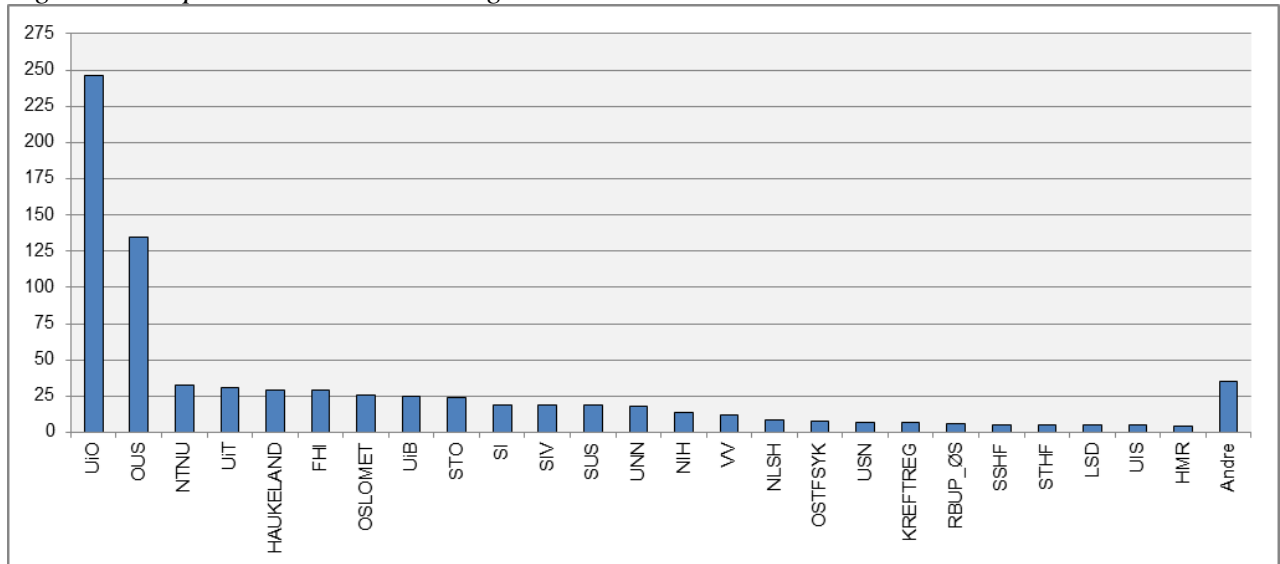
*Table 8: Publishing researchers by sex and age by division*

	Men		Women	
	Number	Avg. age	Number	Avg. age
Division of Paediatric and Adolescent Medicine	3	41	10	45,8
Division of Diagnostics and Technology	19	52,4	31	51,3
Division of Mental Health	10	55,4	16	48,6
Health Services Research Unit	8	44,5	17	46,9
Division of Surgery	32	51,7	9	45,6
Division of Gynaecology and Obstetrics	1	61	14	46,9
Division of Medicine	61	46,6	51	43,4
Orthopaedic Clinic	22	44,5	2	35,5

## 8. National cooperation

Figure 9 shows an overview of Norwegian institutions that researchers at Akershus University Hospital have published together with. Co-publication with the University of Oslo and Oslo University Hospital is most common.

Figure 9: Co-publication with Norwegian institutions



Description of the abbreviations in the figure above:

<ul style="list-style-type: none"> <li>• UiO – University of Oslo</li> <li>• OUS – Oslo University Hospital</li> <li>• NTNU – Norwegian University of Science and Technology</li> <li>• UiT – University of Tromsø</li> <li>• HAUKELAND - Haukeland University Hospital</li> <li>• NIPH – Norwegian Institute of Public Health</li> <li>• OSLOMET – OsloMet Metropolitan University</li> <li>• UiB – University of Bergen</li> <li>• STO – St Olav Hospital</li> <li>• SI – Innlandet Hospital Trust</li> <li>• SIV – Vestfold Hospital Trust</li> <li>• SUS – Stavanger University Hospital</li> <li>• UNN – University Hospital of North Norway</li> </ul>	<ul style="list-style-type: none"> <li>• NIH – Norwegian School of Sport Sciences</li> <li>• VV – Vestre Viken</li> <li>• NLSH – Nordland Hospital Trust</li> <li>• OSTFSYK – Østfold Hospital Trust</li> <li>• USN – University of Southeast Norway</li> <li>• KREFTREG – Cancer Registry of Norway</li> <li>• RBUP-ØS - RBUP East and South</li> <li>• SSHF - Sørlandet Hospital HF</li> <li>• STHF – Telemark Hospital Trust</li> <li>• LSD – Lovisenberg Deaconess Hospital</li> <li>• UIS – University of Stavanger</li> <li>• HMR – Helse Møre og Romsdal</li> </ul>
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## 9. International cooperation

In 2018, 155 articles, or 48 per cent of the published articles, were co-publication with international partners. As Figure 10 shows, the number of articles that include international cooperation has increased considerably in recent years. Sweden, the UK and the USA are the countries with which we have the most co-publications. Figure 11 shows countries with which we have international co-publications.

*Figure 10: Number of publications from Ahus with international cooperation*

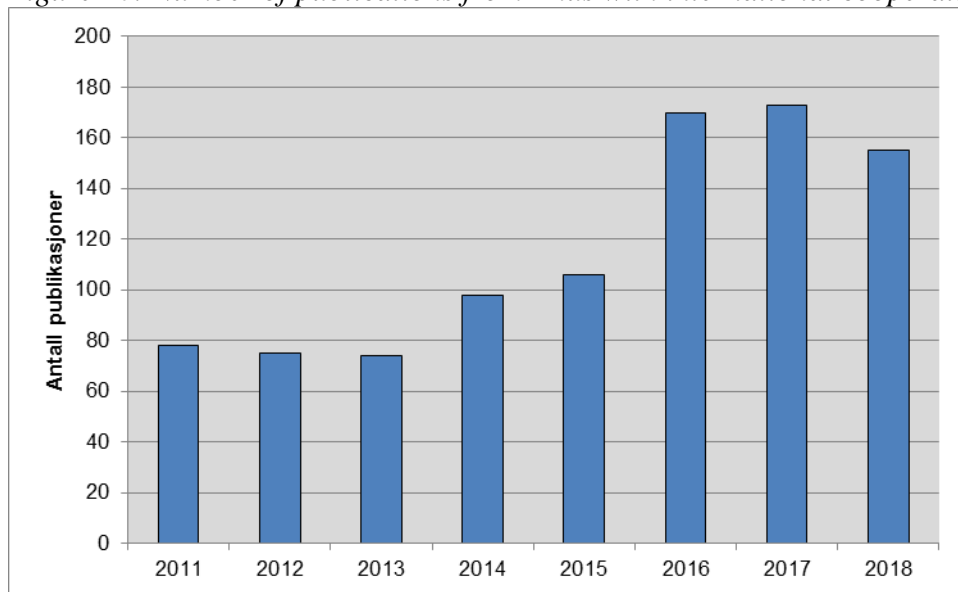
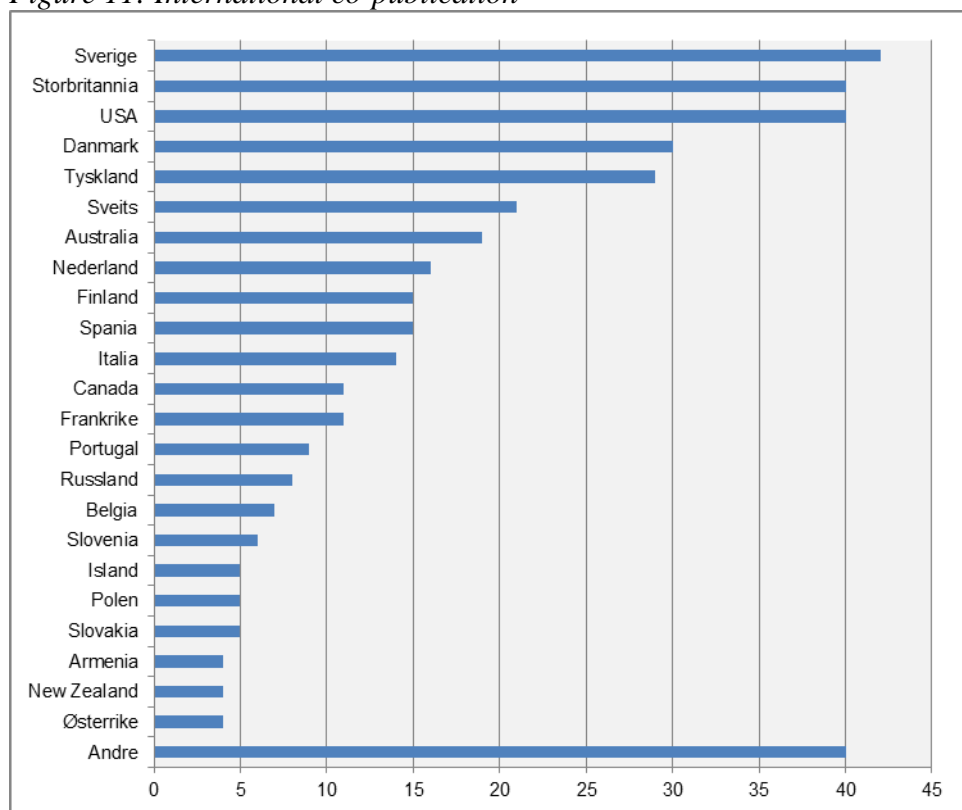


Figure 11: International co-publication



## 10. Grant of external research funding

In 2018, Akershus University Hospital was awarded a total of NOK 83,196,662 in external research funding; among others, from the South-Eastern Norway Regional Health Authority RHF, the Research Council of Norway and the Norwegian Cancer Society. Figure 12 shows external funding broken down by funding sources. Tables 9 and 10 show allocation per project.

Chart 12: External funding by funding source

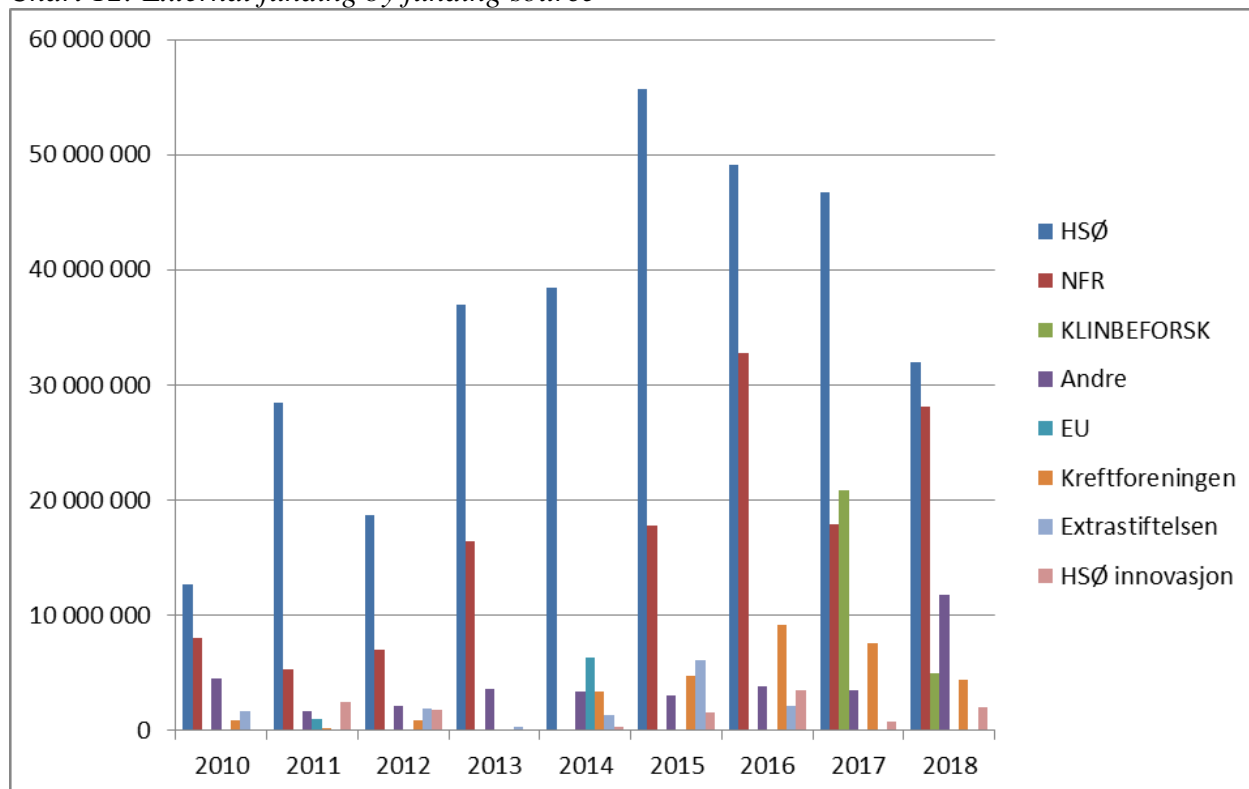


Table 9: Projects Granted External Research Funding for PhD Fellow, Postdoctoral Fellow, and Larger Operational Grants.

Project Title	Project Leader	Division/Clinic	Financed by	Award 2018
The INSTAR study (Innovative steroid treatment to reduce asthma development in children after first-time rhinovirus induced wheezing)	Britt Nakstad	Division of Paediatric and Adolescent Medicine	KLINBEFORSK via St. Olav's hospital	4 008 104
Rapid Diagnosis of Orthopaedic Implant Infections	Hege Vangstein Aamot	Division of Diagnostics and Technology	South-Eastern Norway Regional Health Authority, Innovation Funds	750 000
Improved identification of causative microbial agents in orthopaedic implant-related infections using next-generation sequencing	Hege Vangstein Aamot	Division of Diagnostics and Technology	South-Eastern Norway Regional Health Authority	3 201 000
Development of New Imaging Modalities Enable Tailored Therapies in IDH Mutated Gliomas	Morteza Esmaeili	Division of Diagnostics and Technology	South-Eastern Norway Regional Health Authority	4 553 000

Project Title	Project Leader	Division/Clinic	Financed by	Award 2018
Impact of Prescription Quality, Infection Control and Antimicrobial Stewardship on Gut Microbiota Demination by Healthcare-Associated (PILGRIM)	Silje Bakken Jørgensen	Division of Diagnostics and Technology	The Research Council of Norway via University Hospital of North Norway (EU project)	700 000
CAPABLE empower citizens to active use of their health information	Petter Hurlen	Division of Diagnostics and Technology	The Research Council of Norway	8 000 000
Unravelling mechanisms of pleiotropy in neuropsychiatric disorders in CNV carriers: from 3q29 genes to synaptic function and clinical symptom domains	Eva Malt	Division of Mental Health	National Competence Service for Rare Diagnoses	477 204
How can we reduce the use of compulsion of people with severe mental illness? A cross-sectional, multi-methods study.	Jorun Rugkåsa	Research and Innovation (HØKH)	The Research Council of Norway	14 990 000
PSA-register study - Fürst	Jan Oldenburg	Division of Medicine	Fürst Medical Laboratory	250 000
Circulating Biomarkers of Anti-Tumor Immunity Shaped by Oxaliplatin – an Ancillary Study to the METIMMOX Trial	Anne Hansen Ree	Division of Medicine	South-Eastern Norway Regional Health Authority	3 204 000
Cross sectional and longitudinal validity of neuropsychological impairment criteria in persons seeking help for cognitive problems	Erik Hessen	Division of Medicine	South-Eastern Norway Regional Health Authority	3 201 000
Aquaporins – new molecular markers in inflammatory bowel disease; expression, distribution, and relationship to gut microbiota	Jørgen Jahnsen	Division of Medicine	South-Eastern Norway Regional Health Authority	3 201 000
The impact of insomnia on subclinical myocardial injury and risk of cardiovascular disease	Torbjørn Omland	Division of Medicine	South-Eastern Norway Regional Health Authority	3 335 000
Lifetime risk of cardiovascular disease: Genetic determinants of subclinical myocardial dysfunction	Yvonne Böttcher	Division of Medicine	South-Eastern Norway Regional Health Authority	3 201 000
Photopheresis of patients with Crohn's disease using 5-aminolevulinic acid	Jørgen Jahnsen	Division of Medicine	South-Eastern Norway Regional Health Authority via Oslo University Hospital	2 794 800
BGBIL study	Jürgen Geisler	Division of Medicine	KLINBEFORSK via Helse Bergen	328 000
Pathophysiology, Perceptions, Prevention and Treatment - The DIASA research programme	Ingrid Nerموen	Division of Medicine	The Research Council of Norway via Oslo University Hospital	4 081 500
New Method for Detection of Aggressive Cancer Disease Based on MRI Imaging	Kathrine Røe Redalen	Division of Medicine	South-Eastern Norway Regional Health Authority, Innovation Funds	400 000
Research Funding from AstraZeneca	Henrik Schirmer	Division of Medicine	Astra Zeneca AB (AstraZeneca Nordic-Baltic)	600 000
Metimmox BMS-AHUS	Anne Hansen Ree	Division of Medicine	Bristol-Myers Squibb International Corp	1 161 100
The TAKEDA study	Kristin Kaasen Jørgensen	Division of Medicine	Takeda AS	1 000 000
BETablocker Treatment After Acute	Henrik Schirmer	Division of	KLINBEFORSK via	567 000

Project Title	Project Leader	Division/Clinic	Financed by	Award 2018
Myocardial Infarction in Patients with Preserved Left Ventricular Systolic Function (BETAMI)	(Torhild Pynten Ugelstad)	Medicine	Oslo University Hospital	
Bequest - Alzheimer's Research	Tormod Fladby	Division of Medicine		425 000
User-driven outpatient clinic for well-regulated type 1 diabetes patients, Endocrinology Department	Ingjerd Solvang Wright	Division of Medicine	South-Eastern Norway Regional Health Authority, Innovation Funds	800 000
Shaping Anti-Tumor Immunity in Advanced Colorectal Cancer	Anne Hansen Ree	Division of Medicine	The Cancer Society via the University of Oslo	4 363 997
Opportunistic Treatment of Hepatitis C Virus Infection. A Pragmatic Clinical Trial of Immediate vs Delayed Treatment Initiation among Hospitalized people who Inject drugs	Olav Dalgard	Division of Medicine	South-Eastern Norway Regional Health Authority	1 950 000
Melanoma Funds from the Bodil and Magnes Legacy	Jürgen Geisler	Division of Medicine	Bodil og Magnes legacy	950 000
A randomized phase II study comparing atezolizumab after concurrent chemoradiotherapy with chemoradiotherapy alone in limited disease small-cell lung cancer	Anne Siri Gløersen	Division of Medicine	Collaboration Agreement with NTNU	
Lofoten against Dementia	Tormod Fladby	Division of Medicine		1 000 000
DDI: Grid cell activation as a biomarker for pre-dementia Alzheimer's disease diagnostics and intervention	Tormod Fladby	Division of Medicine	Stavanger University Hospital, SESAM	434 410
Dementia Disease Initiation: Activation and Imaging of the Grid-cell apparatus to detect at risk, and pre-dementia Alzheimer's disease cases	Tormod Fladby	Division of Medicine	NTNU, The Kavli Institute	1 491 604
Randomized autologous hematopoietic stem cell Transplantation versus AleMtuzumab for patients with Relapsing remitting Multiple Sclerosis	Trygve Holmøy	Division of Medicine	KLINBEFORSK via Helse Bergen	75 000
Evaluation and Treatment of Acute and Chronic Cartilage Injuries in the Knee	Stian Kjennevoll	Orthopaedic Clinic	Sophies Minde Ortopedi AS	218 333
Plating versus Nailing of 3- and 4-Part Proximal Humerus Fractures	Annette Wikerøy	Orthopaedic Clinic	Sophies Minde Ortopedi AS	349 725

Table 10: Projects Granted Minor Grants from External Funding Sources

Project Title	Project Leader	Division/Clinic	Financed by	Award 2018
NIPH-EU AMR applications 2018-19	Truls Michael Leegaard	Division of Diagnostics and Technology	The Research Council of Norway via Norwegian Institute of Public Health	200 000
INSIGHT	Petter Hurlen	Division of Diagnostics and Technology	The Research Council of Norway via University of Oslo	50 000
How does a collaborative model with interdisciplinary health teams affect the use of benefits from NAV (the Norwegian Labour and Welfare	Torleif Ruud	Division of Mental Health	Norwegian Welfare Administration	110 000

Project Title	Project Leader	Division/Clinic	Financed by	Award 2018
Administration), compared to regular healthcare services provided by general practitioners and mental health care?				
Elicitation of a Norwegian EuroQol EQ-5D value set for the economic evaluation of health care programs	Knut Stavem / Kim Rand	Research and Innovation (HØKH)	The Research Council of Norway via Norwegian Institute of Public Health	25 000
Stress ulcer prophylaxis with proton pump inhibitor (pantoprazole) in adult critically ill patient in the intensive care unit	Per Martin Bådstøløkken	Division of Surgery	Rigshospitalet Denmark	87 000
Research Grant	Ivar Vøllestad	Division of Surgery	Norwegian Association for Otorhinolaryngology	40 000
Novartis Research Grant in Headache 2018	Espen Saxhaug Kristoffersen	Division of Medicine	Novartis	100 000
Is the beneficial effect of vitamin D in colorectal cancer related to its impact on macrophages in the tumour microenvironment?	Hanna Abrahamsson	Division of Medicine	Raagholt Foundation	30 000
Mechanisms leading to compromised mitophagy in Alzheimer's disease	Anna Frengen	Division of Medicine	The Research Council of Norway via University of Oslo	115 885
Center for Cardiac Precision Medicine: Targeted proteomics for biomarker discovery in heart failure	Helge Røsjø	Division of Medicine	Raagholt Foundation	30 000
NAME-study	Jürgen Geisler	Division of Medicine	Pierre Fabre Pharma Nordic AB	130 000
Novartis MS Scholarship 2018	Rune A Høglund	Division of Medicine	Novartis	150 000
mRNA modifications in obesity: applying a refined Bioinformatics pipeline - International Scholarship	Yvonne Böttcher	Division of Medicine	South-Eastern Norway Regional Health Authority, Overseas Scholarship	118 000
Center for Heart Failure Research – Focus area Cardio-oncology	Geeta Gulati	Division of Medicine	Cardiology and Center for Cardiological Innovation (CHFR - Center for Heart Failure Research)	50 000
Hole's Legacy - Research Funds	Hanna Abrahamsson	Division of Medicine	Holes Legacy	25 000
Long-term oxygen therapy, bronchial inflammation, and myocardial damage in chronic obstructive pulmonary disease (COPD).	Vidar Søyseth	Division of Medicine	Funds from the Timber Merchant A. Delphin and His Wife's Legacy	80 000
Randomized autologous hematopoietic stem cell Transplantation versus Alemtuzumab for patients with Relapsing remitting Multiple Sclerosis	Trygve Holmøy	Division of Medicine	KLINBEFORSK, via Helse Bergen	75 000
Research Funds from the Blix Family Foundation	Sebastian Meltzer	Division of Medicine	Blix Family Foundation	40 000
Research Funds from the Odd Fellow	Rune Jakobsen	Orthopaedic Clinic	Odd Fellow	50 000
Epigenetic and molecular biomarkers in chronic low back pain and Modic changes, a case-control study. (Biopsy study)	Oliver Grundnes / Philip Dolatowski	Orthopaedic Clinic	Partially funded by Open Project Support from the South-Eastern Norway Regional Health	



Project Title	Project Leader	Division/Clinic	Financed by Authority.	Award 2018

## 11. Internal Research Funds

Once a year, internal strategic research funds are announced that employees can apply for. The applications are quality-assessed by external experts.

In 2018, a total of 43 million kroner was applied for across 69 applications. The total amount awarded was 6.3 million kroner, distributed among 23 projects (see Table 11). Applicants are encouraged to use the feedback from the experts to improve their applications when seeking research funding from the South-Eastern Norway Regional Health Authority and other external sources.

In 2017, Ahus introduced a new category, "Strategic Initiative." In this category, up to 1 million kroner is awarded annually for up to three years to a project of strategic importance, in accordance with the hospital's research strategy. Emphasis was placed on collaboration between different departments and divisions. For 2018, projects related to "Healthy Aging" were prioritized.

Table 11: Projects Granted Internal Research Funds 2018

Project Title	Project Leader	Division/Clinic	Financed by
Mental training for chronic fatigue syndrome (CFS/ME) following EBV infection in adolescents: a randomised controlled trial	Vegard Bruun Bratholm Wyller	Division of Paediatric and Adolescent Medicine	300 000
		<b>Division of Paediatric and Adolescent Medicine</b>	<b>300 000</b>
Development and validation of rapid nanopore-based DNA sequencing method of antibiotic resistant microbes for use in surveillance and outbreak investigation	Hege Vangstein Aamot	Division of Diagnostics and Technology	150 000
Morphological and functional MRI features of rectal cancer: Estimate of diagnostic accuracy and performance as prognostic biomarkers - A radiology sub-project of the Oxytarget study	Anne Negård	Division of Diagnostics and Technology	300 000
Magnetic Resonance Enterography of a population-based patient cohort with Crohn's Disease: A longitudinal follow-up of bowel disease and damage with evaluation of prognostic risk factors	Anne Negård	Division of Diagnostics and Technology	150 000
Staphylococcus aureus bloodstream infection: impact of bacterial genotype on transmission and outcome	Anita Blomfeldt	Division of Diagnostics and Technology	150 000
		<b>Division of Diagnostics and Technology</b>	<b>750 000</b>
A cluster-randomized study on implementation of guidelines and evidence based treatments of psychoses	Kristin S. Heiervang	Division of Mental Health	500 000
		<b>Division of Mental Health</b>	<b>500 000</b>
How do we provide better, safer and more cost-effective care pathways for older people? (Pathways)	Jorun Rugkåsa	Research and Innovation	150 000
		Research and Innovation	<b>150 000</b>
A randomized double-blind placebo-controlled study with 5ASA treatment in colorectal cancer patients with mutations in the PI3K signalling pathway	Tom Øresland	Division of Surgery	150 000
The Constitutive Migration of the Tympanic Membrane	Magnus von Unge	Division of Surgery	150 000

Project Title	Project Leader	Division/Clinic	Financed by
Keratinocytes			
		<b>Division of Surgery</b>	<b>300 000</b>
METIMMOX: Colorectal Cancer Metastasis - Shaping Anti-Tumor Immunity by Oxaliplatin. A 2018 Postdoctoral Substudy.	Anne Hansen Ree	Division of Medicine	500 000
Exosomes from Hypoxic Tumors - Harbingers of Metastasis?	Anne Hansen Ree	Division of Medicine	300 000
Towards Alzheimer's disease pre-dementia intervention: Innate Immunity at the Synapse (APMeD-IIS).	Tormod Fladby	Division of Medicine	190 245
Towards Alzheimer's disease pre-dementia intervention: Innate Immunity at the Synapse (APMeD-IIS).	Kaja Nordengen	Division of Medicine	150 000
Mechanisms by which SMUG1 contribute to telomere maintenance	Hilde Nilsen	Division of Medicine	300 000
Post-doctoral visit to Brigham and Women's Hospital and Harvard University, Boston, MA, USA: Secretoneurin as a novel cardiac biomarker predicting ventricular arrhythmias and sudden cardiac death	Peder Langeland Myhre	Division of Medicine	150 000
Molecular drivers and inhibitors of colorectal cancer inflammatory bowel diseases	Stephan Brackmann	Division of Medicine	150 000
Center for Cardiac Precision Medicine: Multilevel Approach to Understand and Diagnose Left Ventricular Remodelling	Helge Røsjø	Division of Medicine	500 000
The effect of overweight on lung function and the diagnosis of lung disease	Gunnar Einvik	Division of Medicine	300 000
Dementia Disease Initiation: Activation and Imaging of the Grid-cell apparatus to detect at risk, and pre-dementia Alzheimer's disease cases	Tormod Fladby	Division of Medicine	300 000
BioPicture	Kathrine Røe Redalen	Division of Medicine	150 000
Novel imaging biomarkers of rectal cancer aggressiveness	Kathrine Røe Redalen	Division of Medicine	300 000
The long-term effect of marine n-3 polyunsaturated fatty acid supplementation on glomerular filtration rate and development of fibrosis in the renal allograft: a randomized double blind placebo controlled intervention study	My Svensson	Division of Medicine	500 000
Next generation sequencing in the studies of hormonal resistance breast cancers	Vessela N. Kristensen	Division of Medicine	500 000
		<b>Division of Medicine</b>	<b>4 290 245</b>

## 12. Excellence in Research Award

Every year, awards for outstanding research are given to three articles with the first author from Ahus. A significant purpose of this is to highlight the qualitatively excellent research produced and published by the hospital's employees. The award is recommended by a joint research committee based on publication points/impact factor of works published the previous year. The winners receive flowers, a diploma, and 10,000 kroner, which can be used for conference participation or similar. The winners in 2018 were Kristin Kaasen Jørgensen (Division of Medicine), Lars Tanum (Division of Mental Health), and Johannes Kurt Schultz (Division of Surgery).



From left: acting research director at Ahus Tormod Fladby, Jørgen Jahnsen accepting the award on behalf of Kristin Kaasen Jørgensen, Johannes Kurt Schultz, Lars Tanum, and Øystein Mæland, CEO of Ahus.

### About the Awardees

**Kristin Kaasen Jørgensen**, Inge Christoffer Olsen, Goll, Guro Løvik Goll; Merete Lorentzen, Nils Bolstad, Espen A Haavardsholm, Knut Erik Aslaksen Lundin; Cato Mørk, Jørgen Jahnsen, Tore Kristian Kvien.

Switching from originator infliximab to biosimilar CT-P13 compared with maintained treatment with originator infliximab (NOR-SWITCH): a 52-week, randomised, double-blind, non-inferiority trial. *The Lancet* 2017; Volum 389.(10086) s.2304-2316.

Biological medicines have revolutionized the treatment of chronic inflammatory bowel, joint, and skin diseases, but these are very costly to use. Biosimilar drugs, with the same biological and clinical effect but possibly different molecular structures, have made it possible to treat more patients at a much lower cost. However, there has been doubt about the safety of switching patients from the original to a biosimilar drug concerning effectiveness and safety.

The NOR-SWITCH study is a randomized, double-blind, non-inferiority trial funded by the state budget. At 40 departments in 25 Norwegian hospitals, 482 adult patients with Crohn's disease, ulcerative colitis, spondyloarthritis, rheumatoid arthritis, psoriatic arthritis, and plaque psoriasis were randomized to either continue with the original infliximab treatment or switch to CT-P13, a biosimilar drug.

Patients were treated and followed for 52 weeks. Disease worsening occurred in 26% and 30% of patients, respectively, with the confidence interval for the difference well within the predefined limit for non-inferiority. Thus, the drug's effect was similar in both groups. Similarly, there was no difference in the occurrence of side effects between the groups, and patient-reported health and quality of life throughout the study were comparable.

The NOR-SWITCH study is the first randomized study in patients on stable treatment with a biological original drug to document that switching to a biosimilar drug in inflammatory diseases is safe and does not result in worse outcomes than continuing with the original drug.

**Lars Tanum**, Kristin Klemmetsby Solli, Zill-e-Huma Latif, Jūratė Šaltytė Benth, Arild Opheim, Kamni Sharma-Haase, Peter Krajci, Nikolaj Kunøe.

The effectiveness of injectable extended release naltrexone versus daily buprenorphine-naloxone for opioid dependence: A randomized controlled noninferiority trial.

A research group originating from the Centre for Substance Use and Addiction Research at the University of Oslo and Ahus conducted a ground-breaking study comparing the effectiveness of long-acting naltrexone injections with suboxone among 165 heroin/opioid-dependent individuals who had recently undergone detoxification. The study was conducted at Oslo University Hospital, Haukeland University Hospital, Akershus University Hospital, Vestfold Hospital, and Stavanger University Hospital. Senior researcher Lars Tanum at Ahus led the project, and the study was funded by the Research Council of Norway, UiO, and Helse Vest.

This is the first study conducted on long-acting naltrexone injections in Western Europe and the first study worldwide comparing long-acting naltrexone with suboxone, which is the preferred drug in medication-assisted rehabilitation (MAR) in Norway and Europe. It is also the first study worldwide to compare long-acting naltrexone with any form of MAR medication.

Naltrexone blocks (mu- and kappa-) opioid receptors, thereby preventing the perceived intoxicating effects of opioids and alcohol, reducing cravings for heroin and other opioids, reducing cravings for alcohol and amphetamines, and effectively preventing opioid overdoses. Long-acting naltrexone is administered as a depot injection every 4 weeks and is approved by the drug regulatory agencies in the USA and (Western) Russia.

The main findings of this randomized study indicate that 12 weeks of treatment with long-acting naltrexone resulted in a significantly greater reduction in drug use compared to suboxone.

However, both medications led to:

- A significant reduction in the use of heroin and other illegal drugs.
- A decrease in injection drug use.
- A reduction in drug cravings.
- Improvement in mental health.

Participants generally expressed greater satisfaction with naltrexone than with suboxone and would highly recommend this treatment to others. A remarkable aspect of the study was that blocking opioid receptors did not lead to increased use of other drugs for individuals receiving significant daily doses of opioids through suboxone. Long-acting naltrexone is currently not available in the market in Norway or Western Europe. However, the study's results should encourage making such treatment available for opioid-dependent individuals looking to quit their opioid use. We see this treatment as a future vital tool in medication-assisted rehabilitation (MAR).

**Johannes Kurt Schultz**, Conny Wallon, Ljiljana Blecic, Håvard Mjørud Forsmo, Joakim Folkesson, Pamela Buchwald, Hartwig Körner, Fredrik A Dahl, Tom Øresland, Sheraz Yaqub for SCANDIV study group.

## Laparoscopic Surgery with Lavage of the Abdomen or Removal of the Diseased Intestinal Part in Perforated Diverticulitis – One-Year Results from the Scandinavian Randomised Study (SCANDIV)

One-year results of the SCANDIV randomised clinical trial of laparoscopic lavage versus primary resection for acute perforated diverticulitis. *British Journal of Surgery* 2017; Volume 104(10)1382-1392.

Perforation of an inflamed protrusion in the large intestine (diverticulitis) leads to life-threatening peritonitis. The traditional treatment has been the surgical removal of the affected part of the intestine, which often results in significant surgical trauma and frequently culminates in a colostomy. Laparoscopic surgery with abdominal lavage was believed to be a safer procedure with fewer complications.

The AHUS-initiated Scandinavian diverticulitis study (SCANDIV) aimed to compare these two surgical approaches. Between 2010 and 2014, 199 patients were enrolled in the study across 21 hospitals in Sweden and Norway and were randomised to one of the surgical methods. The three-month results were published in *JAMA* (Journal of the American Medical Association) in 2015, indicating that abdominal lavage through laparoscopic surgery did not reduce morbidity compared to the removal of the diseased intestinal part. Conversely, the new method led to more patients requiring a subsequent operation, and in some cases, colorectal cancer was overlooked.

The one-year results were published in the *British Journal of Surgery* in 2017, revealing no differences in severe complications. However, the study showed a higher recurrence rate of diverticulitis and peritonitis following the new method, while more patients had stomas following the traditional surgical approach.

SCANDIV is the largest randomised multicentre study that has compared these two surgical methods. It emphasises that new treatment modalities must be evaluated in larger clinical trials before being incorporated into clinical practice. Novelty does not necessarily equate to superiority. Both articles have been repeatedly cited and discussed in review articles and at international conferences, and have been influential in shaping international guidelines for the treatment of this patient group. We are currently working on long-term results that will be published within the next year.

## 13. Thesis of the Year

In 2018, 22 staff at Akershus University Hospital defended their theses for the PhD degree. Table 4 shows the distribution of doctoral degrees per division. Below is an overview of the doctoral candidates' work:



Are Stuwitz Berg

Cand.med. Are Stuwitz Berg from the Division of Paediatric and Adolescent Medicine defended his thesis on 25th January titled: "**Community-acquired pneumonia in a paediatric population in the post-pneumococcal vaccination era.**"

(The trial lecture was held on the given topic: "*Impact of childhood pneumonia in a global and historical perspective.*")

Supervisor: Professor Britt Nakstad



Siri Lagethon Heck

Cand.med. Siri Lagethon Heck from the Division of Medicine defended her thesis on 31st January titled: "**Cardiac Function Assessed by Magnetic Resonance Imaging and Circulating Biomarkers during Adjuvant Breast Cancer Therapy: Effect of Concomitant Neurohormonal Blockade.**"

(The trial lecture was held on the given topic: "*Imaging and Serum Biomarkers of Anthracycline-related Myocardial Injury: Insights from the PRADA trial.*")

Supervisor: Professor Torbjørn Omland



Håvard Midgard

Cand.med. Håvard Midgard from the Division of Medicine defended his thesis on 15th February titled: "**Management of hepatitis C virus infection among people who inject drugs: Treatment uptake, reinfection and risk behaviours.**"

(The trial lecture was held on the given topic: "*Can Europe accomplish the WHO viral hepatitis elimination goals - what needs to be done and how would we know?*")

Supervisor: Professor Olav Dalgard



Hilde Synnøve Vollan

Siv.ing. Hilde Synnøve Vollan from the Division of Medicine defended her thesis on 19th February titled: "**In silico analyses of porins involved in niche adaptation: Exploring the role of Helicobacter pylori outer membrane phospholipase A in acid tolerance.**"

(The trial lecture was held on the given topic: "*Chemotaxis - how bacteria sense and respond to the environment.*")

Supervisor: Professor Geir Bukholm



Marie Louise Sunde

Cand.med. Marie Louise Sunde from the Division of Surgery defended her thesis on 23rd February titled: "**Studies on the ileal pouch-anal anastomosis.**"

(The trial lecture was held on the given topic: "*Microbiota and pouchitis.*")

Supervisor: Senior Consultant Arne Engebret Færden.



Johannes Schultz

MD Johannes Kurt Schultz from the Division of Surgery defended his thesis on 22nd March titled: "**Surgical aspects of diverticular disease of the colon – a randomized controlled trial and a cohort study challenging traditional treatment.**"

(The trial lecture was held on the topic: "*The role of register-based randomized controlled trials in interventional surgical studies.*")

Supervisor: Professor Tom Øresland.



Vidar Blokhus Ekroll

Cand.psychol. Vidar Blokhus Ekroll from the Division of Mental Health defended his thesis on 5th April titled: "**Pathways towards different long-term outcomes after psychotherapy - An explorative mixed methods project.**"

(The trial lecture was held on the topic: "*What is the effect of long-term psychotherapy?*")

Supervisor: Professor Michael Helge Rønnestad.



Geeta Gulati

Cand.med. Geeta Gulati from the Division of Medicine defended her thesis on 25th April titled: "**Prevention of Cardiac Dysfunction During Adjuvant Breast Cancer Therapy.**"

(The trial lecture was held on the topic: "*Heart failure with preserved ejection fraction – prevalence, diagnosis, and treatment.*")

Supervisor: Professor Torbjørn Omland.



Olav Nytingnes

Cand.psychol. Olav Nytingnes from the Division of Mental Health defended his thesis on 4th May titled: "**Patients' Experience of Coercion in Mental Health Care.**"

(The trial lecture was held on the topic: "*Involuntary treatment and compulsion in psychiatric care. Theoretical motivations for and against this practice, and the legislative regulations arising from these.*")

Supervisor: Associate Professor Ketil Hanssen-Bauer.





Karina Egeland

Master in Psychology Karina Egeland from the Division of Mental Health defended her thesis on 4th June titled: "**The role of practitioners in the implementation of evidence-based practices in mental health services: Attitudes, participation, and experiences.**"

(The trial lecture was held on the topic: "*Succeeding with implementation - Do's and Don'ts.*")

Supervisor: Researcher Kristin S. Heiervang.



Aida Kapic Lunder

Aida Kapic Lunder from the Division of Diagnostics and Technology defended her thesis on 20th June titled: "**Magnetic Resonance Imaging of a population-based Cohort of Patients with Long-term Inflammatory Bowel Disease.**"

(The trial lecture was held on the topic: "*Screening for colorectal cancer in Norway.*")

Supervisor: Associate Professor Anne Negård.



Johan Siqveland

Johan Siqveland, MSc in Psychology, from the Division of Mental Health defended his thesis on 29th August titled: "**Posttraumatic Stress and Autobiographical Memory in Patients with Chronic Pain.**"

(The trial lecture was held on the topic: "*The evidence for the effect of debriefing after trauma.*")

Supervisor: Professor Torleif Ruud.



Kornelia Katalin Beiske

MD Kornelia Katalin Beiske from the Division of Medicine defended her thesis on 31st August titled: "**Assessment of Excessive Daytime Sleepiness and Health Status in Subjects with Obstructive Sleep Apnea or Hypersomnias.**"

(The trial lecture was held on the topic: "*Give an account of disorders where sleepiness is a central symptom, the prevalences of these disorders, diagnostic considerations included the validity of these and how sleepiness associated with such disorders is treated, both pharmacologically and non-pharmacologically.*")

Supervisor: Professor Knut Stavem.



Erik Skjeggstad

MA Erik Skjeggstad from the Research and Innovation Division defended his thesis on 27th September titled: "**Doctor in an unfamiliar country – a challenge to professional identity? Interactional experiences of newly employed international medical doctors and Norwegian health personnel.**"

(The trial lecture was held on the topic: "*Discuss the relationship between theory and empiricism in the analysis of qualitative interview data.*")

Supervisor: Professor Pål Gulbrandsen.



Shakila Jabeen

Cand.scient. Shakila Jabeen from the Division of Medicine defended her thesis on 15th October titled: "**Non-invasive biomarkers of metabolic and immune profiles: clinical presentation, and treatment response in cancer.**"

(The trial lecture was held on the topic: "*The role of cytokines in the stroma of the breast tumor microenvironment.*")

Supervisor: Professor Vessela Kristensen.



Markus Georg Naumann

MD Markus Georg Naumann from the Orthopaedic Clinic defended his thesis by 31st October titled: "**Timing, complications, and functional outcome of surgery for closed ankle fractures.**"

(The trial lecture was held on the topic: "*Risk and benefits of thromboembolism prophylaxis in trauma.*")

Supervisor: Dr. Ulf Eirik W. Sigurdson.



Unni Tanum Johns

Cand.psychol. Unni Tanum Johns from the Division of Mental Health defended her thesis on 8th November titled: "**Musical dynamics in time-limited intersubjective child psychotherapy: An exploration based on microanalysis of therapeutic interplay.**"

Supervisor: Professor Bjørg Røed Hansen.



Peder Aabel

Cand.med. Peder Aabel from the Division of Surgery defended his thesis on 16th November titled: "**Exploring the Molecular Phenotype and Specificity of Cultured Human Tympanic Membrane Keratinocytes.**"

(The trial lecture was held on the given topic: "*The healing of a surgical incision through the skin, with emphasis on the roles of the various involved cells and the main paracrine regulators.*")

Supervisor: Professor Magnus Von Unge.



Chinh Bkrong Nguyen

M.Sc. Chinh Bkrong Thi Thuy Nguyen from the Division of Paediatric and Adolescent Medicine defended her thesis on 23rd November titled: **"Molecular biology of adolescent chronic fatigue syndrome: studies on genetic markers and gene expression."**

(The trial lecture was held on the given topic: *"Relations between gene expression and behavioural characteristics."*)

Supervisor: Professor Vegard Bruun Bratholm Wyller.



Helena K. Kjeldgaard

M.Sc. Helena Kames Kjeldgaard from the Research and Innovation Division defended her thesis on 27th November titled: **"Hyperemesis gravidarum and mental health: Exploring associations."**

(The trial lecture was held on the given topic: *"Eating disorders and their effects on pregnancy and vice versa."*)

Supervisor: Professor Malin Eberhard-Gran.



Ann-Mari Lofthus

Cand.philol. Ann-Mari Lofthus from the Division of Mental Health defended her thesis on 14th December titled: **"A study of Norwegian service users' experiences with Assertive Community Treatment."**

(The trial lecture was held on the given topic: *"How can knowledge from user-involved research inform policies affecting mental health?"*)

Supervisor: Researcher Kristin S. Heiervang.



Cathrine Reimers

Cand.med. Cathrine Reimers from the Division of Gynaecology and Obstetrics defended her thesis on 18th December titled: **"The natural history of pelvic organ prolapse from mid-pregnancy to one year postpartum: anatomic changes, symptoms, and risk factors."**

(The trial lecture was held on the given topic: *"Urinary and anal incontinence during pregnancy and postpartum: Risk factors and prevention."*)

Supervisor: Professor Marie Ellström Engh.

## 14. Research support at Akershus University Hospital.

### **Research Administration**

The Department of Research Support manages personnel administration and financial monitoring within research projects. Among other responsibilities, the department also oversees reporting and general operations for all research activities at the hospital. The department administratively oversees meetings in joint research committees, collaborative research meetings, research theme meetings, and the announcement and allocation of internal strategic research funds.

### **Research Advisors/Data Protection Advisors**

The primary responsibility is the internal control of research and quality projects to ensure compliance with legislation, the development of overarching procedures and routines, and providing advice and processing/recommendations related to data protection and biobanking. From November 1, 2018, we implemented an electronic system for registering research and quality projects. This system, developed at Ahus, aims to strengthen internal controls for research and quality projects within the organization. This includes teaching and lectures, guidance on procedures and regulations, assessment of consents and project designs, advice on sampling/processing and storage of biological materials. A crucial task is representing Ahus in regional and national forums, as well as participation in NorCRIN and Biobank Norway.

### **Medical Library**

The Medical Library organizes and facilitates access to quality-assured sources of knowledge (databases, books, and journals) for hospital staff. These knowledge sources are offered in electronic or printed form, and staff have direct access to electronic resources within the Ahus network, with the option for remote access via a login service. The library is staffed on Mondays from 9 am to 12 pm and Tuesday to Friday from 9 am to 3 pm, but staff have 24/7 access to the premises with an ID card and code. Staff must register to borrow and order articles and books. The library offers courses and guidance in literature searches and EndNote (reference management) and conducts searches related to research projects, article and book writing, procedures, professional updates, etc.

### **Research Clinics**

#### *Statistical Research Clinic*

Every Tuesday from 13.30 to 15.00, a statistical research polyclinic is organised at the hospital. The polyclinic is located on the 5th floor of New North and is open to all employees of Akershus University Hospital and UiO, Campus Ahus. The polyclinic operates on a drop-in principle, i.e., those who come forward get help when they arrive. The statistical research clinic offers advice in analysis and use of statistical methods.

#### *Health Sciences Research Clinic*

The Health Sciences Research Clinic is a low-threshold service offering advice on health sciences research questions. The Health Sciences Research Clinic can provide:

- help in identifying and specifying potential issues at an early stage of ideation
- assistance in clarifying the suitability of various research methods, in relation to current issues and projects
- guidance on procedures for preparing a research project
- advice on applying for research funding.

### *Health Economics Research Clinic*

The Health Economics Research Clinic is a low-threshold service for staff at Akershus University Hospital and UiO who have an interest in health economics issues within a clinical context. The Health Economics Research Clinic can offer:

- discussions on how health issues can integrate into clinical projects • cost-effectiveness analyses and cost-benefit analyses
- selection of outcome measures: health-related quality of life (HRQoL) measured by, for example, EQ-5D, 15D, SF-6D
- advice on relevant cost components
- guidance on data collection
- advice on the use of methods and analyses
- Other health economics issues (funding, cost analyses, choice models, etc.)
- guidance on procedures for the preparation of a research project
- Advice on proposal writing.

### *Data Capture Group*

The Data Capture Group is a service body for researchers at Ahus and Campus Ahus, UiO. The group assists with data collection, data extraction, and secure storage of research data. If you require assistance, the project must have the [necessary applications and approvals in order](#).

For more information on research clinics at Ahus, see <https://www.ahus.no/fag-og-forskning/forskning-og-innovasjon/forskningsstotte>

## 15. Professional and Research Day for the Public

On Wednesday, the 17th of April, Akershus University Hospital organised the "Public Professional and Research Day" for the ninth time. The purpose is for residents and staff to become familiar with the professional and research activities at Ahus and to showcase that it is a hospital with high professional ambitions and skilled experts. The lectures are brief, allowing ample opportunity for questions afterwards. Speakers write short summaries of their talks which we distribute along with a contact address – so that those interested can get in touch for more information.

Residents and staff who attended the auditorium that Wednesday evening heard lectures on a variety of subjects including a centre for geriatric medicine, living with parents who struggle with addiction, and the importance of vitamin D in colorectal cancer. The audience was highly engaged, leading to a lively dialogue between them and the individual speakers.

### AKERSHUS UNIVERSITETSSYKEHUS



#### VELKOMMEN

Akershus universitetssykehus inviterer lokalbefolkningen til spennende foredrag med fokus på fag og forskning ved sykehuset.

For de som ønsker å være med på en omvisning i sykehuset før foredragene er det oppmøte rett innenfor hovedinngang kl. 17:00.

#### Tid

Tirsdag 17. april 2018 kl. 18:00 - 20:30

#### Sted

Akershus universitetssykehus Auditoriet, inngang 1.

Les mer på [ahus.no/åpen-dag](http://ahus.no/åpen-dag)



#### PROGRAM

18:00

**Velkommen til Akershus universitetssykehus**  
Tormod Fladby, konstituert forskningsdirektør

18:05 - 18:15

**Våre faglige ambisjoner mot 2035**  
Øystein Mæland, administrerende direktør

18:20 - 18:30

**Senter for eldremedisin**  
Bendik Hegna, prosjektleder

18:30 - 18:45

**Utvikling av ortogeratrisk samarbeidsmodell ved Akershus universitetssykehus**  
Marte Mellingsæter, Seksjonsleder, Avdeling for geriatri

18:50 - 19:05

**«Når lyset knapt slipper inn»: Barns fortellinger om å leve med foreldre som har rusproblemer**  
Bente Weimand - forsker, psykisk helsevern

19:10 - 19:25

**Betydning av vitamin D og årstider ved tarmkreft**  
Hanna Abrahamsson, doktorgradsstipendiat / spesialistkandidat i onkologi

19:30 - 19:45

**Akershus hjerteundersøkelse 1950, hva gjorde vi og hva har vi funnet?**  
Magnus Lyngbakken, lege og postdoktor

19:50 - 20:05

**Er brystkreftbehandling skadelig for hjertet- og kan slik skade forebygges?**  
Siri Lagethon Heck, overlege Senter for billeddiagnostikk

20:10 - 20:25

**Hvem føder barn i Norge?**  
Anne Eskild, professor/overlege Kvinneklinikken

Menneskelig nær - faglig sterk

UiO : Universitetet i Oslo

## 16. Appendix 1: Research Groups

The following research groups were active as of June 2019.

### **Division of Medicine. Research Lead My Svensson**

- Cardiovascular Research Group (Torbjørn Omland)
- Pulmonary Research Group (Knut Stavem)
- Functional Genetics of Obesity Research Group (Yvonne Bøttcher)
- Clinical Neuroscience Group (Tormod Fladby)
- Gastroenterology Research Group (Jørgen Jahnsen)
- Center for Hematological Research at Ahus (Anders Dahm)
- Kidney Research Group (My Svensson)
- Endocrinological Research Group (Ingrid Nermoen)
- Molecular and Clinical Oncology Group (Vessela Kristensen, Anne Hansen Ree, Jürgen Geisler, Hilde Nilsen)

### **Division of Surgery. Research Lead Juha Tapio Silvola**

The Surgical Research Group is evaluated collectively with the following subgroups:

- Anaesthesia (Vegard Dahl, Signe Søvik)
- Gastrosurgical (Ola Røkke, Dejan Ignatovic)
- Vascular-Thorax (Jarlis Wesche)
- Palliative Medicine (Olav Magnus Fredheim)
- Ear, Nose and Throat (Magnus von Unge)
- Urology (Stig Müller)
- Quality and Patient Safety (Anne Karin Lindahl)

### **Orthopaedic Clinic/research group. Research Lead Asbjørn Årøen.**

- Orthopaedic research group (Asbjørn Årøen)

### **Division of Gynaecology and Obstetrics. Research Lead Anne Eskild.**

- Department of Obstetrics and Gynecology (Anne Eskild)

### **Division of Mental Health/R&D Department (Research and Development).**

#### **Research Lead Ketil Hanssen-Bauer**

R&D (Research and Development) in Mental Health Care is evaluated collectively with the following subgroups:

- Children & adolescents mental health (Marianne Villabø)
- Mental Health, Treatment, and Implementation (Kristin S. Heiervang)
- Substance Use and Addiction (Lars Tanum)

### **Research and Innovation. Research Lead Helge Røsjø**

- HØKH (Health Services Research Unit) (Hilde Lurås)
- Head and neck research group (Michael Russel)
- Clinical Communication (Pål Gulbrandsen)

### **Division of Paediatric and Adolescent Medicine. Research Lead Anne Lee Solevåg**

- PAEDIA (Vegard Bruun Wyller)

### **Division of Diagnostics and Technology. Research Lead Ulla Randen**

- Infectious Diseases and Microbiology (Hege Vangstein Aamot)
- Medical Biochemistry. Interdisciplinary Laboratory Medicine and Technology (Sigmund Sperstad)
- Pathology research group (Ulla Randen)
- Clinical Radiology (Jon Terje Geitung)