

Research at Akershus University Hospital 2016



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1. Summary

Strengthening and highlighting the university hospital function was a main objective for Akershus University Hospital in 2016. 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 that there is higher research activity than ever before.

A total of 363 scientific articles were published from Akershus University Hospital in 2016, compared with 285 the year before, and 20 % of the articles were published in level 2 journals. Despite an increasing number of registered doctoral students, there were only nine doctoral defences in 2016, compared with 17 in 2015. However, the trend in the number of public defences over time is positive, so the decline from 2015 is interpreted as a random fluctuation. The number of publication points, calculated on the basis of publications and doctoral degrees, rose from 228 in 2015 to 277 in 2016. Akershus University Hospital, which previously had the lowest score of the Norwegian university hospitals, has passed both Stavanger University Hospital and the University Hospital of North Norway. The publication list from Akershus University Hospital 2016 shows that there is close collaboration with researchers from other institutions, and in particular with researchers from the University of Oslo and Oslo University Hospital.

A total of 195 man-years, distributed among 501 employees, were used for research at Akershus University Hospital in 2016. Much of the research was externally funded. Solid planning and good applications from the research groups have led to an increased allocation of external research funding. In 2016, the hospital was allocated just over NOK 100 million for research, compared with NOK 89 million in 2015. Important sources of funding are the South-Eastern Norway Regional Health Authority, the Research Council of Norway, The Norwegian Cancer Society and the Extra Foundation. NOK 6 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 2016, 46 new clinical trials, of which 25 were initiated, were reported to the Data Protection Officer. The research environment in the hospital participates actively in NorCrin, and thus contributes to the national collaboration in clinical research.

2. Organisation of research at Akershus University Hospital

The function of Research Director was elevated from Level 3 to Level 2 in the organisation in September 2016 when the Deputy Executive Director assumed the executive research responsibility on behalf of the Executive Director. The reporting line for research follows the lead line in the hospital. The Division of Mental Health, Division of Medicine, Division of Gynaecology and Obstetrics and Division of Paediatric and Adolescent Medicine have their own research departments and the Head of Research sits on the Division's management team and acts as 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 has a formalised collaboration with the University of Oslo 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), as well as Division of Health Services Research Unit and Psychiatry (Health Services Research Unit which is organized directly under the Deputy Chief Executive and the Division of Mental Health).

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

Research committees have been established in most divisions and clinics, as well as two advisory committees centrally, a management meeting for research and a joint research committee. Both have representation from both hospitals and universities. The management meeting has been established to discuss topics related to management and organisation of research. 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 2016, a total of 195.1 man-years were used for research and development (R&D). Of this, research man-years accounted for 175.2. The full-time equivalents were distributed among 501 people, since most research professionals have combined positions with both research and clinic. In addition, 48.7 full-time equivalents are affiliated with the University of Oslo. There are six professor I positions, the others are part-time positions as adjunct professor/associate professor and various types of research support. Akershus University Hospital has two combined positions with Oslo and Akershus University College of Applied Sciences, one in the Division of Mental Health and one in the Health Services Research Unit.

Table 1 shows the distribution of research man-years by division/clinic. Table 2 shows the distribution of man-years affiliated with the university.

Research funding at the hospital is partly funded by the University of Oslo, and partly by Akershus University Hospital (right column in both tables). Research support includes libraries, data capture, statistics, biobank, administrative and technical services. This amounts to a total of nine full-time equivalents (FTE) distributed among twelve people in the hospital line, and 11.1 full-time equivalents distributed among 13 people in the university line.

Table 1: Divisional distribution of man-years for R&D. Akershus University Hospital, 2016.

Ahus 2016	DDT	PSYK	KIR	Orto	MED	KK	BUK	HØKH	Forsknings- støtte	Analyse/ Datafangst
Internt finansiert	15,5	31,4	6,1	3,8	33,6	2,1	4,2	6,8	5,8	3,0
Antall ansatte	54,0	106,0	50,0	16,0	107,0	8,0	17,0	10,0	9,0	3,0
Eksternt finansiert	2,3	16,4	0,3	2,4	37,6	3,4	7,1	13,2		0,2
Antall ansatte	4,0	26,0	1,0	19,0	16,0	10,0	18,0	26,0		1,0
Ahus totalt årsverk	17,9	47,7	6,4	6,2	71,2	5,4	11,4	19,9	5,8	3,2

Table 2: Divisional distribution of man-years academic positions. Campus Ahus, UiO, 2016.

UiO - Campus Ahus 2016	DDT	PSYK	KIR	Orto	MED	KK	BUK	HØKH	Forsknings- støtte*	Analyse/Da- tafangst*	Adm ansatte*
Årsverk internt finansiert	1,2	0,4	6,2	2,7	14,4	1,6	2,2	0,9	6,0	2	2,5
Antall ansatte internt finansiert	6,0	2,0	13,0	5,0	28,0	4,0	3,0	3,0	6,0	2	3
Årsverk eksternt finansiert	0,2	0,0	0,8	0,0	4,9	0,0	0,2	1,9	0,4	0	0,2
Antall ansatte eksternt finansiert	1,0	0,0	4,0	0,0	7,0	0,0	1,0	5,0	1,0	0	1
Årsverk UiO totalt	1,4	0,4	7,0	2,7	19,3	1,6	2,4	2,8	6,4	2,0	2,7

* Her inngår forskningsingeniørene ved EpiGen samt statistiker og IT-støtte. I datafangst inngår de to uiO-ansatte rådgiverne.

Table 3 shows the development in the number of man-years over the last three years.

Table 3: Development of divisional distribution of man-years for R&D at Ahus and Campus Ahus for the period 2013 – 2016.

	DDT	PSYK	KIR	Orto*	MED	KK	BUK	Forskning og innovasjon	Forskningsstøtte**	Analyse/ Datafangst	Adm ansatte**	TOTAL Forskning og utvikling:
Ahus årsverk												
2013	12,8	22,2	8,5		46,0	7,0	3,3	23,0	8,5			131,3
2014	13,0	30,6	4,4	4,9	55,6	6,9	9,0	19,7	9,6			153,7
2015	11,0	29,5	5,3	7,4	64,8	6,1	12,8	21,9	10,5			169,3
2016	17,9	47,7	6,4	6,2	71,2	5,4	11,4	19,9	5,8	3,2		195,1
UiO årsverk												
2013	2,4	0,9	8,5		13,0	1,4	2,1	1,6	7,0			36,9
2014	1,4	0,4	6,2	3,2	16,7	1,9	1,4	2,8	9,8			43,8
2015	1,4	0,4	7,7	2,9	20,0	1,4	1,4	1,6	10,5			47,3
2016	1,4	0,4	7,0	2,7	19,3	1,6	2,4	2,8	6,4	2,0	2,7	48,7
	*I 2013 var Orto organisert under Kirurgisk divisjon.											
	** Her inngår forskningsingeniørene ved EpiGen, statistiker og IT støtte. I datafangst inngår de to UiO ansatte rådgiverne.											

DDT: Division of Diagnostics and Technology

PSYK: Division of Mental Health

KIR: Division of Surgery

ORT: Orthopaedic Clinic

MED: Division of Medicine

KK: Division of Gynaecology and Obstetrics

BUK: Division of Paediatric and Adolescent Medicine

HØKH: Health Services Research Unit including Head and Neck research group

4. Scientific production

In 2016, a total of 363 articles addressed at Akershus University Hospital were registered in CRISTin (Current Research Information System in Norway)¹, compared with 285 the year before. Of these, 20 % were published in a level 2 journal, the rest in a level 1 journal (Table 4). Table 5 shows the distribution of scientific articles between divisions/clinics.

Table 4: Number of scientific publications by level*.

Level 1		Level 2	
Number	%	Number	%
289	80	74	20

*Scientific publication channels for health trusts are divided into two quality levels: Level 1: Approved scientific publication channels (1 point), level 2: Specially recognised scientific journals (3 points).

Table 5: Scientific publications by division 2016.

	Total	Level 1	Publ. * points	Level 2	Publ. * points
Division of Paediatric and Adolescent Medicine	27	25	11,05	2	2
Division of Diagnostics and Technology	45	37	14,88	8	5,13
Division of Mental Health	48	42	19,69	6	8,17
Unit for Medicine and Health Sciences	2	2	0,74		
Health Services Research Unit*	86	66	30,3	20	26,23
Division of Surgery	56	47	18,48	9	10,93
Division of Gynaecology and Obstetrics	16	12	6,15	4	6
Division of Medicine	138	103	41,46	35	37,92
Orthopaedic Clinic	13	11	4,92	2	4,13

*: Including Head and Neck

Despite an increasing number of registered doctoral students, only nine employees defended their dissertation in 2016, compared with 17 in 2015. However, the trend in the number of public defences over time is positive (see later), so the decline from 2015 is interpreted as a random fluctuation. Table 6 shows the distribution by division. Section 13 provides an overview of who defended the dissertation.

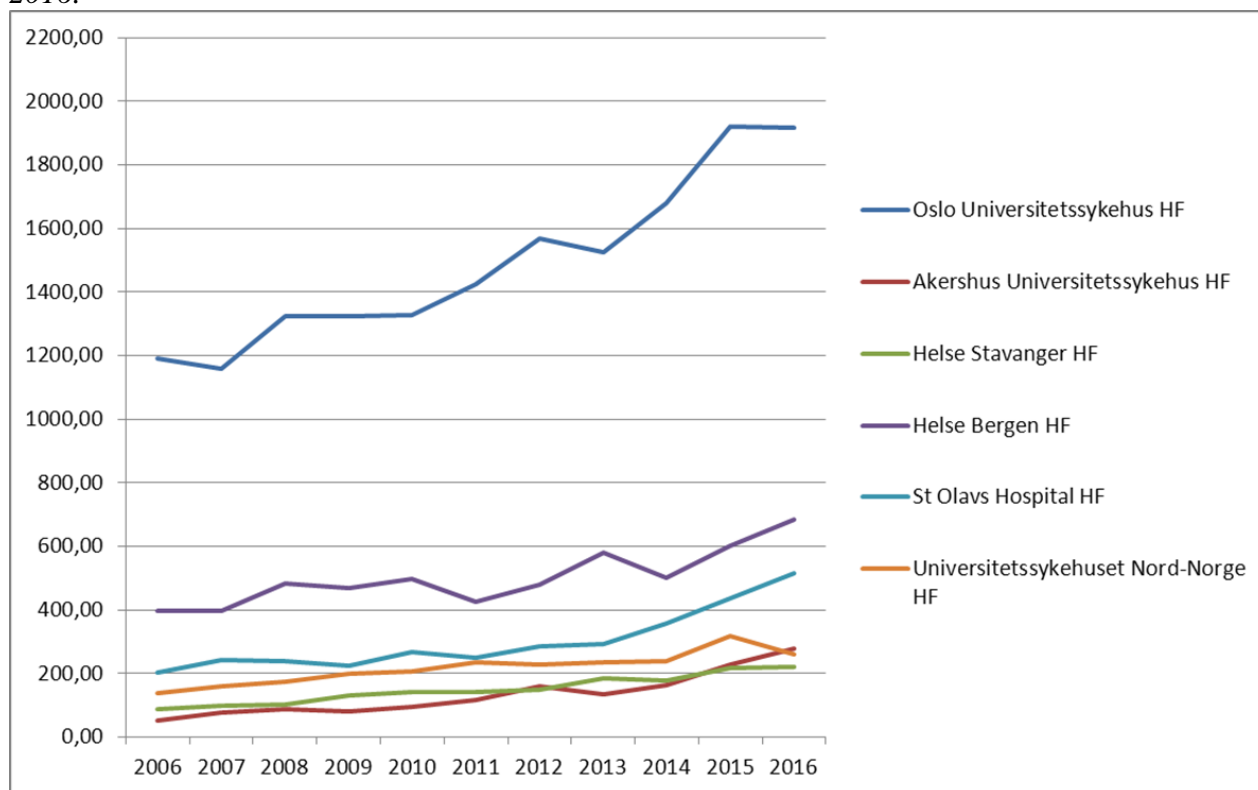
Table 6: Number of public defences per division

	Number
Division of Medicine	2
Health Services Research Unit	1
Division of Gynaecology and Obstetrics	2
Division of Diagnostics and Technology	2
Division of Paediatric and Adolescent Medicine	1
Division of Surgery	1

The number of publication points, calculated on the basis of publications and doctoral degrees, rose from 228 in 2015 to 277 in 2016. Akershus University Hospital, which previously had the lowest score of the six Norwegian university hospitals, has thus passed both Stavanger University Hospital and the University Hospital of North Norway (Figure 1).

¹ <http://www.cristin.no>

Figure 1: Publication points (publications and doctoral degrees) – comparison between the Norwegian university hospitals for the period 2006 – 2016.



5. Development in the number of publications and doctoral degrees 2008-2016

Tables 7 and 2 and 3 show the development in the number of scientific publications and the number of completed doctoral degrees in the period from 2008 to 2016. The number of published articles has remained relatively stable in recent years, but from 2014 we see a positive increase. The number of completed doctoral degrees has fluctuated somewhat, but there is underlying growth from 2008 to 2016.

Table 7: Publications and doctoral degrees 2008-2016.

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

Figure 2: Development in number of publications

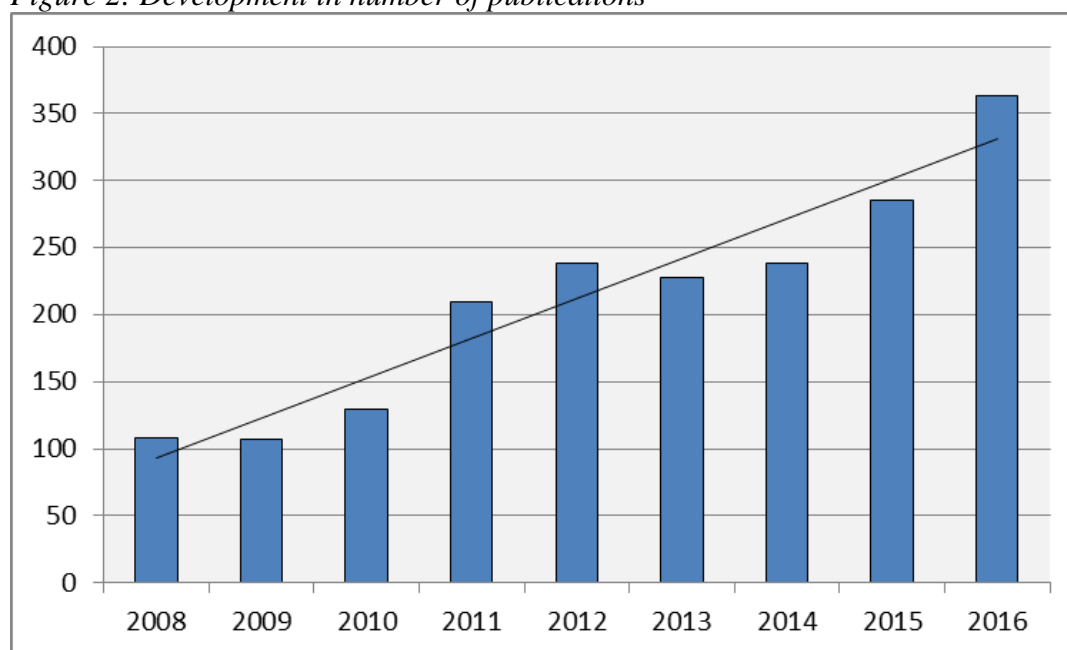


Figure 3: Development in the number of doctoral degrees

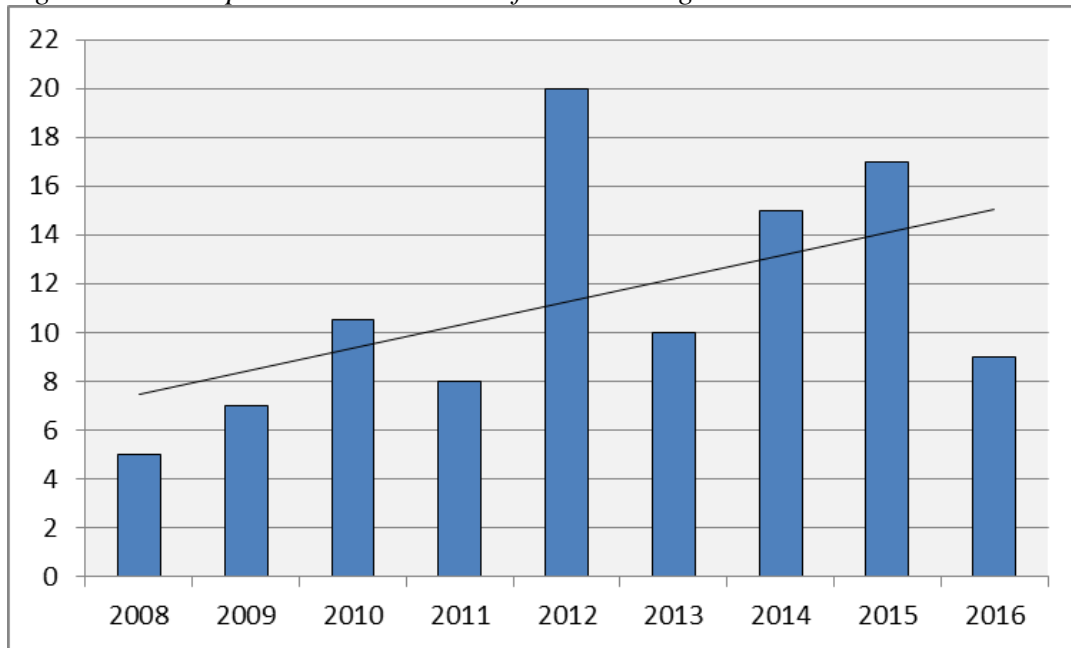
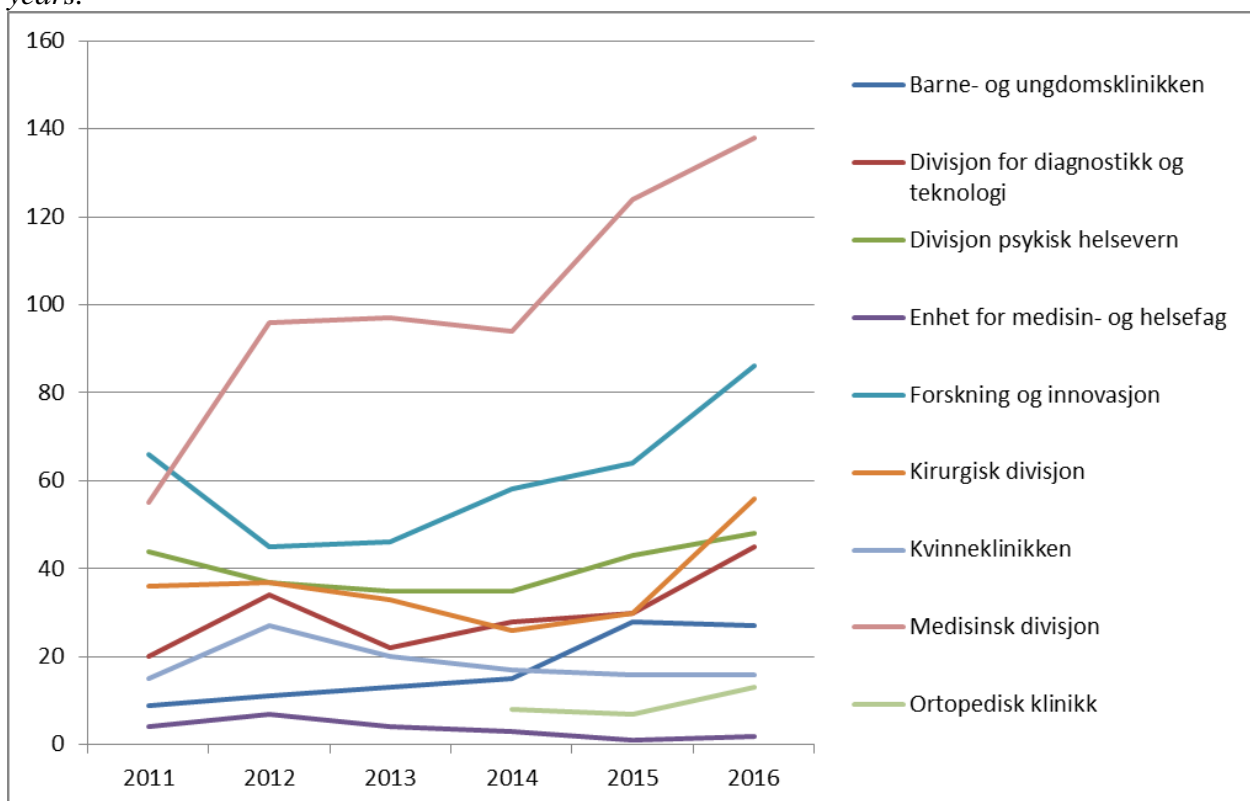


Figure 4: Divisional development in publications over the last five years.



6. Publishing researchers

In 2016, 193 women were reported to have participated in research work during ordinary working hours, with an average age of 44 years and 170 men with an average age of 47 years.

The tables below show the number of researchers who published at least one scientific article addressing Akershus University Hospital in 2016. Table 8 shows publishing researchers by gender and age, and Table 9 shows the corresponding overview by division. Data were obtained from CRISStin.

Table 8: Publishing researchers by gender and age

Men		Women		Total	
Number	Avg. age	Number	Avg. age	Number	Avg. age
135	47,2	155	43,7	290	45,3

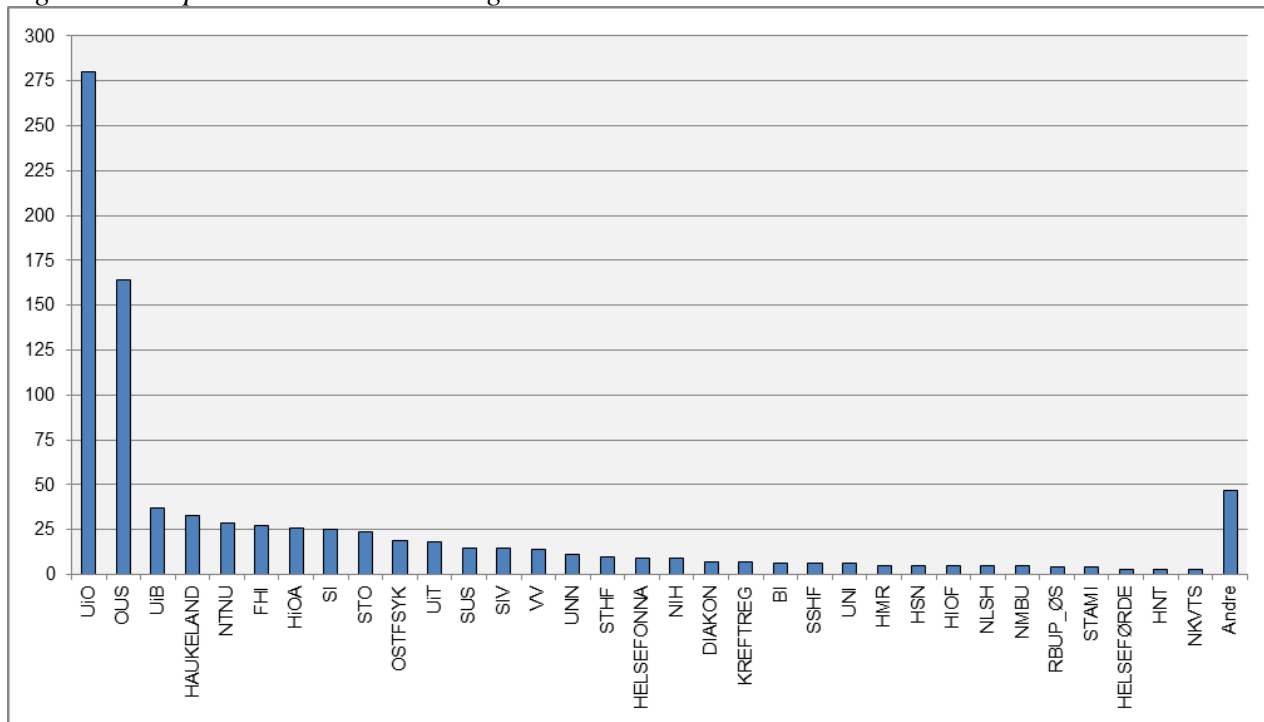
Table 9: Publishing researchers by sex and age by division

	Men		Women	
	Number	Avg. age	Number	Avg. age
Division of Paediatric and Adolescent Medicine	3	42	11	46
Division of Diagnostics and Technology	18	49	23	47
Division of Mental Health	15	47	16	44
Unit for Medicine and Health Sciences	1	59	3	51
Health Services Research Unit	11	42	21	43
Division of Surgery	23	50	10	49
Division of Gynaecology and Obstetrics	4	53	11	47
Division of Medicine	51	47	58	41
Orthopaedic Clinic	9	45	2	46

7. National cooperation

Figure 5 shows an overview of Norwegian institutions that researchers at Akershus University Hospital publish with. Co-publication with the University of Oslo and Oslo University Hospital is most common.

Figure 5: Co-publication with Norwegian institutions



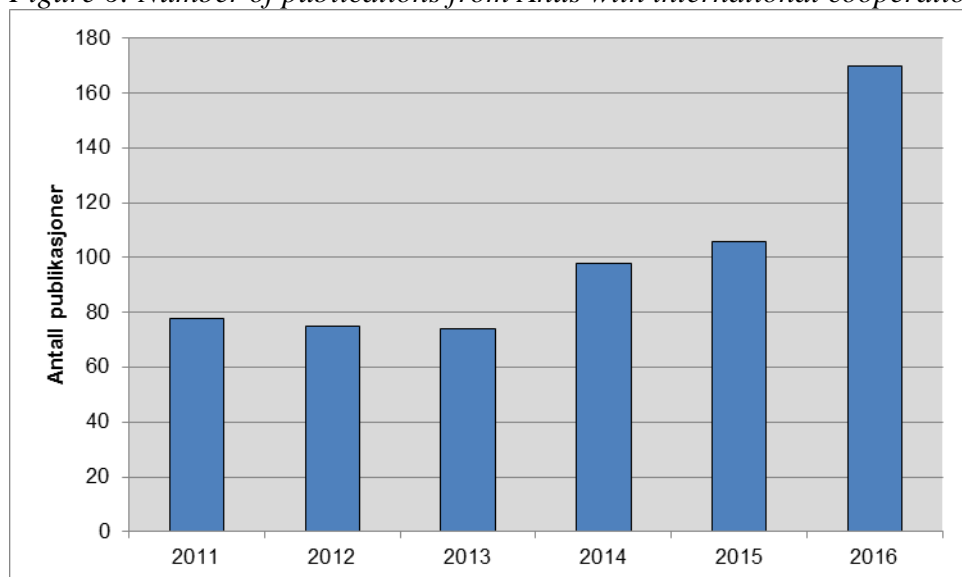
Description of the abbreviations in the figure above:

- | | |
|--|--|
| <ul style="list-style-type: none"> • UiO – University of Oslo • OUS – Oslo University Hospital • UiB – University of Bergen • HAUKELAND - Haukeland University Hospital • NTNU – Norwegian University of Science and Technology • NIPH – Norwegian Institute of Public Health • HiOA – Oslo and Akershus University College • SI – Innlandet Hospital Trust • STO – St Olav’s Hospital • OSTFSYK – Østfold Hospital Trust • UiT – University of Tromsø • SUS – Stavanger University Hospital • SIV – Vestfold Hospital Trust • VV – Vestre Viken Hospital Trust • UNN – University Hospital of North Norway • STHF – Telemark Hospital Trust • Health Fonna | <ul style="list-style-type: none"> • NIH – Norwegian School of Sport Sciences • DEACON – Diakonhjemmet • KREFTREG – Cancer Registry of Norway • BI – BI Norwegian Business School • SSHF - Sørlandet Hospital HF • UNI – UNI Research • HMR – Møre og Romsdal Hospital Trust • USN – University College of Southeast Norway • HIOF – Østfold University College • NLSH – Nordland Hospital Trust • NMBU - Norwegian University of Life Sciences • RBUP_EEA - RBUP East and South • STAMI – National Institute of Occupational Health • HELSEFØRDE – Helse Førde Hospital Trust • HNT – Nord-Trøndelag Regional Health Authority • NKVTS - Norwegian Centre for Violence and Traumatic Stress Studies |
|--|--|

8. International cooperation

In 2016, 170 articles or 47% of the published articles were co-publication with international partners. As figure 6 shows, the number of articles that include international cooperation has increased considerably over the past year.

Figure 6: Number of publications from Ahus with international cooperation



9. Grant of external research funding

In 2016, Akershus University Hospital was awarded a total of 100 415 000 in external research funding; including from the South-Eastern Norway Regional Health Authority, The Research Council of Norway and The Norwegian Cancer Society. Figure 7 shows external funding broken down by funding sources.

Chart 7: External funding by funding source

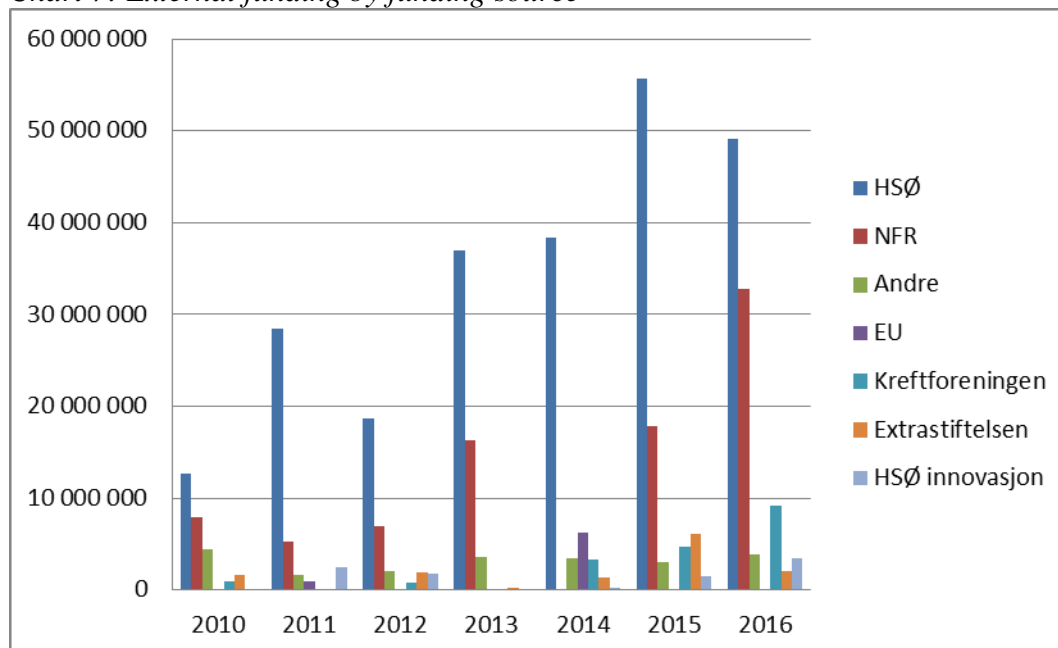


Table 10 shows an overview of research projects that in 2016 were granted external research funding for PhD candidates, postdoctoral fellowships or larger operating grants. Most of the allocations are multi-year, and the right-hand column of the table shows annual allocations. Table 11 presents an overview of smaller grants, which are usually one-time grants. Figure 7 shows an overview of external allocations by funding sources.

Table 10: Projects granted external research funding to PhD candidates, postdoctoral fellowships and larger operating grants.

Project title	Manager	Division/Clinic	Funded by:	Award 2016
Disease burden and economic impact of respiratory syncytial virus in Norway: a pre-vaccine assessment	Britt Nakstad	Division of Paediatric and Adolescent Medicine	South-Eastern Norway Regional Health Authority	1 004 000
Intra-patient HPV genetic variation - a new and specific marker for cancer development	Irene Kraus Christiansen	Division of Diagnostics and Technology	South-Eastern Norway Regional Health Authority	760 000
Is shared primary and mental health care better than current practice for people with mental and comorbid illnesses? A cluster randomized trial	Torleif Ruud	Division of Mental Health	South-Eastern Norway Regional Health Authority	1 004 000
The Potential Role of Human Cytomegalovirus (HCMV) Infections in Breast Cancer Initiation and Progression	Jürgen Geisler	Division of Medicine	South-Eastern Norway Regional Health Authority	1 004 000

Project title	Manager	Division/Clinic	Funded by:	Award 2016
BioPicture – Biologic mapping for treatment individualisation in rectal cancer by functional magnetic resonance	Kathrine Røe Redalen	Division of Medicine	South-Eastern Norway Regional Health Authority	1 004 000
Cell type analysis of lymphocyte infiltration and cytokine profiles in breast cancer development and progression	Vessela N. Kristensen	Division of Medicine	South-Eastern Norway Regional Health Authority	1 004 000
Imaging the origins of dementia: vascular, grey and white matters	Per Selnes	Division of Medicine	South-Eastern Norway Regional Health Authority	502 000
Immunoglobulin G1m1 allotype positive B cells as disease-drivers and diagnostic markers in multiple sclerosis	Trygve Holmøy	Division of Medicine	South-Eastern Norway Regional Health Authority	1 205 000
Mechanisms for airway obstruction in never smokers	Vidar Søyseth	Division of Medicine	South-Eastern Norway Regional Health Authority	502 000
Reconstruction of the medial patellofemoral ligament versus conservative treatment of recurrent patella dislocation. A Randomised Controlled Trial	Asbjørn Årøen	Orthopaedic Clinic	South-Eastern Norway Regional Health Authority	502 000
South-Eastern Regional Infrastructure for Clinical Translational Research (SERIT)	Hilde Nilsen	Division of Medicine	South-Eastern Norway Regional Health Authority	1 761 000
Are women getting older at last menstrual period, and what are the causes and consequences of high age at menopause?	Anne Eskild	Division of Gynaecology and Obstetrics	South-Eastern Norway Regional Health Authority	1 730 000
Towards Alzheimer's disease pre-dementia intervention: Meeting-point of diagnostics, genetics, and individual risk estimates	Tormod Fladby	Division of Medicine	South-Eastern Norway Regional Health Authority	2 721 700
Overseas Research Grant - South-Eastern Norway Regional Health Authority 2016	Line Sletner	Division of Paediatric and Adolescent Medicine	South-Eastern Norway Regional Health Authority	392 000
Functional implications of the RNA- and DNA-processing activity of SMUG1 in telomere maintenance, stem cells, and cancer	Hilde Hilsen	Division of Medicine	The Norwegian Cancer Society	1 546 000
Are women getting older at last menstrual period, and what may be causes and consequences of high age at menopause?	Anne Eskild	Division of Gynaecology and Obstetrics	The Norwegian Cancer Society	871 634
Acute myeloid leukemia in the elderly	Hoa Thi Tuyet Tran	Division of Medicine	The Norwegian Cancer Society	471 000
Cardiac Arrhythmia Biomarker	Helge Røsjø	Division of Medicine	The Research Council of Norway through Inven2	2 100 000
Secretoneurin as a novel biomarker and therapeutic strategy in cardiovascular disease	Helge Røsjø	Division of Medicine	The Research Council of Norway FRIMEDBIO	1 133 050
Atrial fibrillation and cryptogenic stroke	Kjetil Steine	Division of Medicine	The Extra Foundation	690 000
Patient safety culture and results in Norwegian intensive care units - a preliminary project	Ellen Deilkås	Health Services Research Unit	The Norwegian Medical Association	580 000
Pilot study - automatic retrieval of data from existing data sources - Optique Way	Mariann Aaland	Division of Surgery	South-Eastern Norway Regional Health Authority, Innovation funds	500 000

Project title	Manager	Division/Clinic	Funded by:	Award 2016
Donations ALS Research (Research Related to ALS)	Trygve Holmøy /Joel Glover	Division of Medicine	ALS Norwegian Support Group	1 325 000
Development of a semantic IT solution and ontology for clinical use in healthcare	Ivar Thor Jonsson	Surgical Department	Innovation funding from the South-Eastern Norway Regional Health Authority	2 000 000
New method for detecting aggressive cancer based on MRI imaging	Kathrine Røe Redalen	Division of Medicine	Innovation funding from the South-Eastern Norway Regional Health Authority	500 000
"Next generation sequencing in breast cancer"	Jürgen Geisler	Division of Medicine	Bodil and Magnus endowment	625 000
Idiotypes and allotypes revisited - disentangling the B cell enigma in multiple sclerosis	Trygve Holmøy	Division of Medicine	The Research Council of Norway (NFR)	335 000
Pathways	Jorun Rugkåsa	Health Services Research Unit	The Research Council of Norway (NFR)	19 907 000
Efficacy and Tolerability to Targeted Combined-Modality Therapy	Anne Hansen Ree	Division of Medicine	The Norwegian Cancer Society	998.500
OFU co-worked with SpinChip	Helge Røsjø	Division of Medicine	South-Eastern Norway Regional Health Authority Innovation funds	500 000

Table 11: Projects granted minor allocations from external funding sources

Project title	Manager	Division/Clinic	Funded by:	Award 2016
Helseforsk - Treatment and prophylaxis after acute venous thrombosis	Anders Dahm	Division of Medicine	Cross-regional funding with OUS as project owner.	315 000
Mechanism for Airway Obstruction in Never Smokers - A Translational Study	Gunnar Einvik	Division of Medicine	Lumber merchant A. Delphin and wife's endowment to fight asthmatic bronchitis.	150 000
Conservative versus surgical treatment of chronic instability of the patella. A randomized controlled trial.	Truls M Straume-Næsheim	Orthopaedic Clinic	Foundation Fund for the Promotion of Sports Medicine and Sports Physiotherapy in Norway	50 000
PES funds Resources to engage as eHealth literate Europeans	Petter Hurlen	Division of Diagnostics and Technology	South-Eastern Norway Regional Health Authority and The Research Council of Norway	35 000
IBD/Hepatology Research Account	Kristin Kaasen Jørgensen	Division of Medicine	Helge Bell's Prize	25 000
Collaborative project NorPedMed and Ahus	Britt Nakstad	Division of Paediatric and Adolescent Medicine	National competence network for medicines for paediatric use by NorPedMed	123 000

Project title	Manager	Division/Clinic	Funded by:	Award 2016
Preliminary project to investigate pilot implementation of new documentation and decision-making tool	Petter Risøe	Division of Medicine	The Research Council of Norway (NFR)	300 000
Funding for research nurses in the oncology department	Jürgen Geisler	Division of Medicine	Vestre Viken / OSBREAC (invoice sent 22.8.16)	145 000
Radiology Association Fund. Project: CT venography	Thien Trung Tran	Division of Diagnostics and Technology	The Norwegian Radiology Society's Fund	26 000
INHSU 2016, 5th International Symposium on Hepatitis Care in Substance Users	Olav Dalgard	Division of Medicine	The Research Council of Norway (NFR)	250 000
Quality of neonatal cardiopulmonary resuscitation with emphasis on effective ventilation	Britt Nakstad	Division of Paediatric and Adolescent Medicine	Laerdal Foundation	250 000
MS Registry	Trygve Holmøy	Division of Medicine	MS-Registry, Haukeland University Hospital. We have billed.	249 600
Whole metagenome sequencing analysis directly on clinical specimens - rapid identification of microbes and antibiotic resistance genes	Hege Vangstein Aamot	Division of Diagnostics and Technology	NORM, University Hospital of North Norway	50 000
Placental volume study	Anne Eskild	Division of Gynaecology and Obstetrics	LUB - National Association Unexpected Child Death	100 000
Music therapy intervention	Vegard Bruun Wyller	Division of Paediatric and Adolescent Medicine	Norwegian Academy of Music	50 000
ACE 4 study: "Early nursing-driven risk assessment of patients admitted with heavy breathing (dyspnoea) in Acute Admissions"	Gunnar Einvik	Division of Medicine	The Raagholt Foundation	100 000

10. Internal research funding

Once a year, internal strategic research funding is announced for which employees can apply. The applications will be quality assessed by external referees.

In 2016, a total of NOK 23 million was applied for, divided into 74 applications. The total sum awarded was six million NOK spread over 38 projects. The allocation amount per project varied between NOK 90,000 and NOK 250,000. Applicants are encouraged to use peer feedback to improve their applications when applying for research funding from the South-Eastern Norway Regional Health Authority and other external sources.

Table 12: Projects awarded internal research funding 2016

Project title	Manager	Division/Clinic
Is cerebral palsy caused by sub-optimal oxygen supply during intrauterine life? Follow-up studies of children born in the period 1986-2008 in Norway	Anne Eskild	Division of Gynaecology and Obstetrics
Pelvic reservoir surgery at Akershus University Hospital in the period 2000-2013	Tom Øresland	Division of Surgery
Adapting the Conversation Analytic Role-play Method (CARM) to a medical setting: preparation of a pilot study in clinical communication skills training	Pål Gulbrandsen	Research Centre
Family-Based treatment of Depressed Adolescents: A Randomized Controlled Trial with Clinic-referred adolescents	Pravin Israel	Division of Mental Health
Prognostic value of the new cardiovascular biomarker Secretoneurin (SN)	Arne Didrik Høiset	Division of Medicine
Exploring novel pathophysiology in heart failure	Helge Røsjø	Division of Medicine
Diagnostic criteria, phenotypes and biomarkers in adolescent chronic fatigue syndrome	Vegard Bruun Wyller	Division of Paediatric and Adolescent Medicine
Predictive value of cardiac markers in children with heart murmurs: a prospective study	Vegard Bruun Wyller	Division of Paediatric and Adolescent Medicine
Association between cardiovascular risk factors and occurrence of non-symptomatic atherosclerosis in precerebral arteries, cognitive function and cerebral pathology detected on MRI	Ole Morten Rønning	Division of Medicine
Fracture prophylaxis after hip fracture - interaction in practice	Asbjørn Årøen	Orthopaedic Clinic
Circulating Biomarkers of Efficacy and Tolerability to Targeted Combined-Modality Cancer Therapy in Colorectal Cancer	Anne Hansen Ree	Division of Medicine
Preterm infants fed human milk supplemented with docosahexaenoic and arachidonic acid. Follow-up at 8 years of age; growth, cognitive development, and brain morphometry	Britt Nakstad	Division of Paediatric and Adolescent Medicine
The role of the pelvic floor muscle for successful delivery. A three and four dimensional ultrasound study	Marie Ellström Engh	Division of Gynaecology and Obstetrics
Occurrence and impact of pelvic floor muscle injuries during delivery: studies using three and four dimensional ultrasound	Marie Ellström Engh	Division of Gynaecology and Obstetrics
STEC infections: Molecular profiling of intestinal microbiome and loss of Shiga toxin through progression of disease	Hege Smith Tunsjø	Division of Diagnostics and Technology
PRADA (Prevention of cardiac Dysfunction during Adjuvant breast cancer therapy)	Torbjørn Omland / Jürgen Geisler	Division of Medicine
Prediction and detection of paroxysmal atrial fibrillation in cryptogenic stroke and transient ischemic attack	Kjetil Steine	Division of Medicine
The MetAction Study - Actionable Target Identification for	Anne Hansen Ree	Division of Medicine

Project title	Manager	Division/Clinic
Palliative Systemic Therapy in Cancer Metastasis. The 2016 Study Conduct at Akershus University Hospital		
Secretoneurin as a novel therapeutic strategy to prevent ventricular arrhythmias	Helge Røsjø	Division of Medicine
Incidence of epidermal growth factor receptor (EGF-R/HER-1) mutations in Norwegian breast cancer patients	Jürgen Geisler	Division of Medicine
Novel Imaging Biomarkers in Rectal Cancer	Kathrine Røe Redalen	Division of Medicine
Biobank and Liquid Biopsies in the OxyTarget Study	Kathrine Røe Redalen	Division of Medicine
Mechanisms and biomarkers of cognitive decline in Parkinson's disease and dementia with Lewy bodies	Tormod Fladby	Division of Medicine
IBSEN II follow-up; diagnostic and prognostic tools in inflammatory bowel disease	Jørgen Jahnsen	Division of Medicine
Drivers and Barriers of cancer in inflammatory bowel disease	Hilde Nilsen	Division of Medicine
Treatment of patients with epilepsy plus with newer antiepileptic drugs - a pilot study of efficacy, side effects and prediction of treatment response	Eva Malt	Division of Mental Health
Microbiota in acute heart failure	Gunnar Einvik	Division of Medicine
Evaluation of the treatment of middle-third clavicle fractures	Stein Erik Utvåg	Orthopaedic Clinic
3D CT on wedged femoral neck fractures	Sigurd Erik Hoelsbrekken	Orthopaedic Clinic
Translating, validating and testing for responsiveness of PFDI-20 and PFIQ-7 condition-specific quality of life questionnaire for women with pelvic floor disorders in the Norwegian context	Tom Øresland	Division of Surgery
IBSEN III - establishment of biobank at Akershus University Hospital	Petr Ricanek	Division of Medicine
A cluster-randomized study on implementation of guidelines and evidence-based treatments of psychoses	Torleif Ruud	Division of Mental Health
Knee laxity and patient-reported knee function after rehabilitation using dynamic knee orthosis versus control group with no knee orthosis for patients with acute isolated posterior cruciate ligament injury, a randomised controlled trial.	Inge Skråmm	Orthopaedic Clinic
Structured, adaptive and intelligent clinical documentation tool	Petter Risøe	Division of Medicine
The skews in mitochondrial heteroplasmy between Normal/Tumor sample pairs from breast cancer patients.	Jovana Klajic	Division of Medicine
Time course dissection of the Immune Component of Breast Cancer during treatment with targeted- and chemotherapy	Vessela Kristensen	Division of Medicine
Stem/progenitor cell heterogeneity in the normal breast: A possible link to the origin of breast cancer.	Vessela Kristensen	Division of Medicine
Cabazitaxel as salvage treatment for cisplatin-resistant germ cell cancer	Jan Oldenburg	Division of Medicine

11. Outstanding Research Award

Each year, prizes for outstanding research are awarded to three articles with first author from Akershus University Hospital. An important purpose of this is to highlight the qualitatively good research produced and published by the hospital's employees. It is the joint research committee that, based on publication points/impact factor of published works in the last year, nominates for the prize. The laureates receive flowers, a diploma and NOK 10,000 that can be used for conference participation or similar. Award winners in 2016 were Anett Hellebø Ottesen (Division of Medicine), Johannes Kurt Schultz (Division of Surgery) and Elisabeth K Bjelland (Health Services Research Unit, HØKH).



From left: Elisabeth Krefling Bjelland, Johannes Kurt Schultz, Anett Hellebø Ottesen and Deputy CEO Tone Ikdahl.

Anett Hellebø Ottesen, William E. Louch, Cathrine R. Carlson, Ole J.B. Landsverk, Jouni Kurola MD, PhD, Rune Forstrøm Johansen, Morten K. Moe PhD, Jan Magnus Aronsen, Arne Didrik Høiseth, Hilde Jarstadmarken, Ståle Nygård, Magnar Bjørås, Ivar Sjaastad, Ville Pettilä, Mats Stridsberg, Torbjørn Omland, Geir Christensen, Helge Røsjø. Secretoneurin is a Novel Prognostic Cardiovascular Biomarker Associated with Cardiomyocyte Calcium Handling. *Journal of the American College of Cardiology (JACC)*, doi: [10.1016/j.jacc.2014.10.065](https://doi.org/10.1016/j.jacc.2014.10.065)

There is a steadily increasing incidence of heart failure, and heart failure patients are at increased risk of dying from ventricular arrhythmias. Better methods are needed to identify patients at high risk of cardiac arrest and death early.

This study shows that secretoneurin (SN), a granin peptide, is found in the bloodstream of heart failure patients and that SN concentration upon admission for acute heart failure is closely associated with mortality during the follow-up period. High SN concentrations were also detected in the bloodstream of patients with ventricular arrhythmias and cardiac arrest and were associated with death during follow-up. In both cohorts, the association between SN concentration and mortality remained after statistical adjustment for other risk factors and established biomarkers. In experimental models, it was shown that SN is taken up by cardiac muscle and directly regulates and improves intracellular calcium handling in heart cells via inhibition of a central signalling pathway. SN may therefore be both a promising new biomarker for heart disease and at the same time a compensatory mechanism activated in patients at highest risk of ventricular arrhythmias and death. The direct effect of SN on heart muscle cell calcium management also represents a promising new treatment principle.

This study is a collaborative project between the Cardiothoracic Research Group (CRG), Akershus University Hospital and the Institute for Experimental Medical Research (IEMF), Oslo University Hospital, Ullevål. The study was published in JACC, the world's leading cardiac journal. The article was also featured in an editorial in JACC titled "Will Secretoneurin be the Next Big Thing?" (PMID: 25634833) and the work is described in the Journal of The Norwegian Medical Association (<http://tidsskriftet.no/article/3326633/>).

Johannes Kurt Schultz, Sheraz Yaqub, Conny Wallon, Ljiljana Blecic, Håvard Mjørud Forsmo, Joakim Folkesson, Pamela Buchwald, Hartwig Körner, Fredrik A Dahl, Tom Øresland, for SCANDIV Study-group. Laparoscopic Lavage vs Primary Resection for Acute Perforated Diverticulitis: The SCANDIV Randomized Clinical Trial. *Journal of the American Medical Association (JAMA)*, doi. [10.1001/jama.2015.12076](https://doi.org/10.1001/jama.2015.12076)

Perforation of inflamed sacs in the colon (diverticula) and contamination of the abdominal cavity with pus or faeces (perforated diverticulitis) is a very serious condition. Traditional acute surgical removal of the diseased bowel (primary resection) entails a large surgical trauma and often exposed bowel. The new method laparoscopic lavage (keyhole surgery with rinsing and drainage of the abdominal cavity) was assumed to give better results for patients with pus in the abdominal cavity.

The Norwegian-Swedish SCANDIV (Scandinavian Diverticulitis) study, which was initiated and led by gastric surgeons at Akershus University Hospital, aimed to compare the two surgical methods with regard to safety. Between February 2010 and June 2014, 199 patients at 21 hospitals in Sweden and Norway were allocated one of the two surgical methods by lot (randomisation). The study has shown that laparoscopic lavage does not reduce morbidity compared to primary resection in perforated diverticulitis and purulent peritonitis (contamination of the abdominal cavity with pus). On the other hand, the new method entails more acute reoperations and the risk of overlooking colon cancer.

The study was presented among the top 6 at last year's ESCP (European Society for Coloproctology) congress. The main results were published in JAMA (Journal of the American Medical Association). The article was reviewed by the editor of the same journal and later in the Journal of The Norwegian Medical Association.

Bjelland, Elisabeth Krefting; Owe, Katrine Mari; Pingel, Ronnie; Kristiansson, Per; Vangen, Siri; Eberhard-Gran, Malin. Pelvic pain after childbirth: a longitudinal population study. *Pain*, doi: [10.1097/j.pain.0000000000000427](https://doi.org/10.1097/j.pain.0000000000000427)

Childbirth is associated with acute pain and trauma to the abdomen and pelvic floor, but we lack reliable knowledge about persistent pelvic pain that has occurred in connection with delivery. We therefore investigated whether delivery method has an impact on the onset of pelvic pain, as well as which factors influence the change in pelvic pain up to 7-18 months after delivery.

We included 20 248 women who participated in the Norwegian Mother and Child Cohort Study (1999–2008) and who did not report pelvic pain during pregnancy. Data were collected using four questionnaires and linked to the Medical Birth Registry.

We found that 6.5% of women with vacuum or forceps delivery reported pelvic pain 0-3 months after delivery, compared to 4.5% of women with unassisted vaginal delivery (adjusted OR 1.30; 95% CI: 1.06–1.59). Conversely, planned and emergency caesarean section were associated with lower odds of pelvic pain (adjusted OR 0.48; 95% CI: 0.31–0.74 and adjusted OR 0.65; 95% CI: 0.49–0.87, respectively). Women with other pain conditions reported increasing pain scores over time (P=0.047).

We conclude that vacuum or forceps delivery was associated with an increased risk of onset of pelvic pain, but that delivery method had no impact on pain development over time. In contrast, the presence of other pain conditions was associated with increased pelvic pain over time.

12. Theses of the year

In 2016, 9 employees defended their thesis at Akershus University Hospital. Table 6 shows the distribution of doctoral degrees by division. Below is an overview of the doctoral candidates' work:



Marianne Altmann

Cand.med. Marianne Altmann at the Division of Medicine defended her thesis "**Lacunar infarctions. Clinical syndromes, risk factors and diagnostic aspects**".

(The trial lecture was given on the given topic: "*Vascular cognitive impairment; epidemiology, subtypes and treatment.*")

Supervisors: Brynjar Fure, Bente Thommessen, Ole Morten Rønning



Andliena Tahiri

MSc Andliena Tahiri at the Division of Medicine defended her thesis "Regulatory and functional genomic biomarkers in breast cancer and melanoma" on 3 March over the thesis: "**Regulatory and functional genomic biomarkers in breast cancer and melanoma**".

(The trial lecture was held on the given topic: "*From omics to clinical useful biomarkers in cancer. Future challenges.*")

Supervisors: Vessela N. Kristensen, Jürgen Geisler



Peter Mæhre Lauritzen

Cand.med. Peter Mæhre Lauritzen at the Division of Diagnostics and Technology defended his thesis in the field of Radiology on 15 April over the thesis: "**Double reading in Norwegian hospital radiology departments.**"

(The trial lecture was held on the given topic: "*What measures can ensure the quality and usefulness of radiological imaging and how important is communication between clinician and radiologist?*")

Supervisor: Pål Gulbrandsen



Ellen M. Strøm-Roum

Cand.med. Ellen Marie Strøm-Roum at the Division of Gynaecology and Obstetrics defended her thesis in the field of Gynaecology and Obstetrics on 17 June: "**Factors associated with placental weight**"

(The trial lecture was held on the given topic: "*What is optimal caesarean section frequency in Norway?*")

Supervisors: Anne Eskild and Tom Gunnar Tanbo



Astrid Nylander Almaas

Cand.med. Astrid Nylander Almaas at the Division of Paediatric and Adolescent Medicine defended her thesis in the field of neonatal medicine on 12 September over the thesis: "**Brain development, cognition and growth in 8- year old children born prematurely - Follow-up of a randomized controlled trial with docosahexaenoic acid and arachidonic acid**"

(The trial lecture was held on the given topic: "*Perinatal brain injury in premature babies: Causes, early biomarkers and possibilities for prevention*")

Supervisors: Britt Nakstad and Per Ole Iversen

Franziska Siafarikas

MD Franziska Siafarikas at the Division of Gynaecology and Obstetrics defended her thesis "**Levator Ani Muscle During Pregnancy and Delivery Outcome: A Three- and Four-Dimensional Transperineal Ultrasound Study**"

(The trial lecture was held on the given topic: "*Maternal birth trauma – does it really matter? Implications for present and future clinical care, risk management and research*")

Supervisor: Marie Ellström Engh



Anne Marie Dalby

MD Anne Marie Dalby Landmark at the Health Services Research Unit defended her thesis "**Negotiating Patient Involvement in Treatment Decision Making: A Conversation Analytic Study of Norwegian Hospital Encounters**" on 21 October

(The trial lecture was held on the given topic: "*Why and how to implement conversation analysis in doctors' further and continuing education?*")

Supervisor: Pål Gulbrandsen



Anita Blomfeldt

MPH Anita Blomfeldt at the Division of Diagnostics and Technology defended her thesis "**Staphylococcus aureus bloodstream infection — Molecular epidemiology and impact of bacterial genotype on outcome**"

(The trial lecture was held on the given topic: "*Sequencing bacterial genome in personalized medicine — possibilities, limitations and pitfalls*")

Supervisor: Truls Michael Leegaard



Lars Lohne Eftang

Cand.med. Lars Lohne Eftang at the Division of Surgery defended his thesis in the field of Molecular Biology on 16 December over the thesis:
"Helicobacter pylori and gastric cancer: genetic and epigenetic mechanisms - from bench to bedside"

(The trial lecture was given on the given topic: "*The normal bacteria (microbiome) in the human gastrointestinal tract and their clinical significance*")

Supervisor: Geir Bukholm

13. Research support at Akershus University Hospital

Research administration

The Department of Research Support handles personnel administration and financial follow-up in the research projects. Within the personnel area, the department attended to approximately 425 people (including employees and remuneration persons) in 2016. There were 57 new hires. Financial follow-up for a total of 348 projects, of which 57 are new. The department also handles reporting and general operations for all research activity at the hospital. The department is administratively responsible for meetings of joint research committees, chair meetings for research, thematic meetings for research, and announcement and allocation of internal strategic research funding (55 applications for 2017).

Research advisor privacy and biobank

The main area of responsibility is internal control of research and quality projects to ensure that these are carried out in accordance with legislation, as well as providing advice related to issues of privacy and biobanking. This includes teaching and lectures, as well as guidance in routines and regulations, assessment of consent and project design, advice on sampling/processing and storage of biological material.

In 2016, privacy tasks have been the priority activity.

Medical Library

The Medical Library organises and facilitates access to quality-assured sources of knowledge for hospital employees. The knowledge sources are offered in printed or electronic form, and employees have direct access to the electronic resources in Akershus University Hospital's network. The library has a service desk Monday from 9 a.m. to 12 p.m. and Tuesday to Friday from 9 a.m. to 3 p.m., but staff have round-the-clock access with ID cards and codes. Employees must register to borrow and order articles and books. The library offers courses and guidance in literature searches and EndNote, and we also undertake major search assignments for procedures, systematic reviews, etc.

Innovation

The table below shows which innovation activities Inven2 reported for Akershus University Hospital in 2015 and 2016:

Type	2015	2016
Disclosure of invention (DOFI)	13	7
Patent applications	0	1
Licenses/business establishments	1	3

Research Clinics

Every Tuesday from 13:30 to 15:00, research clinics are arranged at the hospital. The research clinics are located on the 5th floor of Nye Nord and are open to all employees at Akershus University Hospital and UiO, Campus Akershus University Hospital. The research clinics function according to the drop-in principle, i.e. those who contact us receive help when they arrive.

Statistical Research Clinic

The Statistical Research Outpatient Clinic offers advice in the analysis and use of statistical methods. We encourage those seeking help to be open about allowing others to be present during

discussion of their own project. In this way, we create bonds between clinicians interested in research, and expand available learning time by allowing more people to learn at the same time. In 2016, we had a total of 66 visits to the outpatient clinic.

Health Sciences Research Clinic

The Health Sciences Research Clinic is a low-threshold service for counselling in health-related research issues. In 2016, a total of 40 Health Sciences Research Clinic were conducted, including 6 visits. The visits involved a doctoral application, part study in an ongoing doctoral project, master's thesis and a term paper.

Health Economics Research Clinic

The Health Economics Research Clinic is a low-threshold service for employees at Akershus University Hospital and UiO who have an interest in health economic issues in a clinical setting, such as cost-benefit analyses, cost-effect analyses, choice models and quality of life measurements.

Data Capture, Analysis Department

The data capture group supports research projects at Akershus University Hospital with data collection through electronic and paper-based questionnaires, extraction and linking of data from electronic health records or a combination of these. The group has also developed solutions for secure storage of data, as well as de-identification/anonymization of data sets. The group manages the research solution at Akershus University Hospital, and cooperates closely with the privacy function at Akershus University Hospital.

14. Clinical studies

Norway is in a unique position to conduct clinical trials on unselected patient populations, but despite good assumptions, the trend in the number of studies has long been declining. Resource and capacity challenges at some hospitals, as well as a lack of infrastructure for this type of study, have been highlighted as possible reasons for this development.

There is now broad agreement among the authorities and university hospitals to invest in clinical trials. Several leading national strategies emphasise the importance of increasing national clinical research activity. The Government's strategy document, HelseOmsorg21 (2015-2018), provides guidelines for university hospitals to build up infrastructure and support functions for the implementation of clinical trials. The establishment of the national research infrastructure Norwegian Clinical Infrastructure Network (NorCRIN) will contribute to this. The network received a grant from The Research Council of Norway in the period 2015-2019. This entails a further focus on clinical trials in the years ahead.

In recent years, Akershus University Hospital has worked strategically with the goal of increasing the number of clinical trials. The hospital's catchment area is approximately 500,000 inhabitants, which provides access to recruit participants in diseases that affect large patient groups. The choice of protocols (studies) that are relevant and appropriate for these patient groups can contribute to better health care by ensuring these patients access to new, experimental and potentially better treatment. A closer integration of research in the clinical part of the enterprise will contribute to this.

Research has shown that patients who participate in clinical trials often have both increased survival and quality of life. For the hospital, participation in clinical trials could lead to increased treatment quality, lower mortality and new methods for efficient operations and priorities. Health personnel will gain increased knowledge and competence, and contribute to the development of new and innovative treatment methods.

Infrastructure clinical trials

Good infrastructure encompasses several elements that are crucial for rapid start-up, implementation, delivery and quality in clinical trials. Good and professional implementation from start-up to completion makes the hospital an attractive partner. Physical premises, resources (coordinators, doctors, nurses, biomedical laboratory scientists etc.), courses, routines and guidelines are crucial elements in clinical trials. In 2016, Akershus University Hospital worked strategically to establish a good infrastructure for this type of study, and has two dedicated coordinators for clinical trials who assist investigators in all therapeutic areas at the hospital with both commissioned studies and researcher-initiated studies. Clinical research support in general is organised locally in the respective divisions, and has acquired the necessary resources that cooperate closely with the hospital's coordinators.

The clinical trial coordinators are also the hospital's "one-stop-shop" for the industry that wants to start new clinical trials, especially when requesting investigators in new therapeutic areas or where contact with investigators from previous collaborations has not been established. The coordinators have an overview of active investigators in a number of therapy areas available at the hospital and forward industry requests directly to the appropriate investigators internally to clarify interest and capacity. The overview is updated continuously if there are changes. The coordinators also work closely with the technology transfer agency Inven2, the trade association for the pharmaceutical industry (LMI) and the pharmaceutical industry.

Figure 8: Overview of what clinical trial coordinators can assist with



Participation in a national network (NorCRIN)

Akershus University Hospital participates actively in the national network NorCRIN. The network consists of all the university hospitals in Norway. The purpose of the network is to increase the number of clinical intervention studies in Norway by strengthening and simplifying collaboration within all clinical research in Norway as well as contributing to high quality in research.

The project consists of 7 work packages where Akershus University Hospital leads work package 4; "Collaboration with Industry". Both coordinators are active in the work package, respectively as manager and project employee.

Implementation of general guidelines for clinical drug trials

In 2016, general guidelines for roles and responsibilities in clinical trials of pharmaceuticals were implemented. The guideline applies to clinical trials of drugs at Akershus University Hospital, and supplements the guideline "Division of responsibilities and tasks in research projects at Akershus University Hospital".

The purpose of this guideline is to describe the overarching role, responsibility, authority and allocation of tasks in the planning, start-up, implementation and conclusion of clinical trials of medicinal products. The guideline is intended to ensure compliance with national and international laws, regulations and the ICH Guideline for Good Clinical Practice (ICH GCP).

Course in Good Clinical Practice

The coordinators for clinical trials, in collaboration with the Department of Research Support, are responsible for conducting courses in Good Clinical Practice (GCP) twice a year at Akershus University Hospital. The course is conducted in collaboration with Regional Research Support at Oslo University Hospital. Documentation of GCP knowledge is mandatory for investigators and study personnel participating in clinical trials. After completing the course, participants receive a course certificate. In 2016, two courses were arranged on 28.04.16 and 28.10.16, with 39 and 35 participants respectively. The course is free for employees at Akershus University Hospital.

Cooperation with service departments

The service departments are internal departments at the hospital that provide services at given times in the course of the study in accordance with the protocol. The service departments' contributions can either be purely service purchases, where the department must have paid for the services performed (commissioned studies) or research collaboration (for example researcher-initiated studies/contribution studies) that qualify for co-authorship or the possibility of separate sub-studies of the main study.

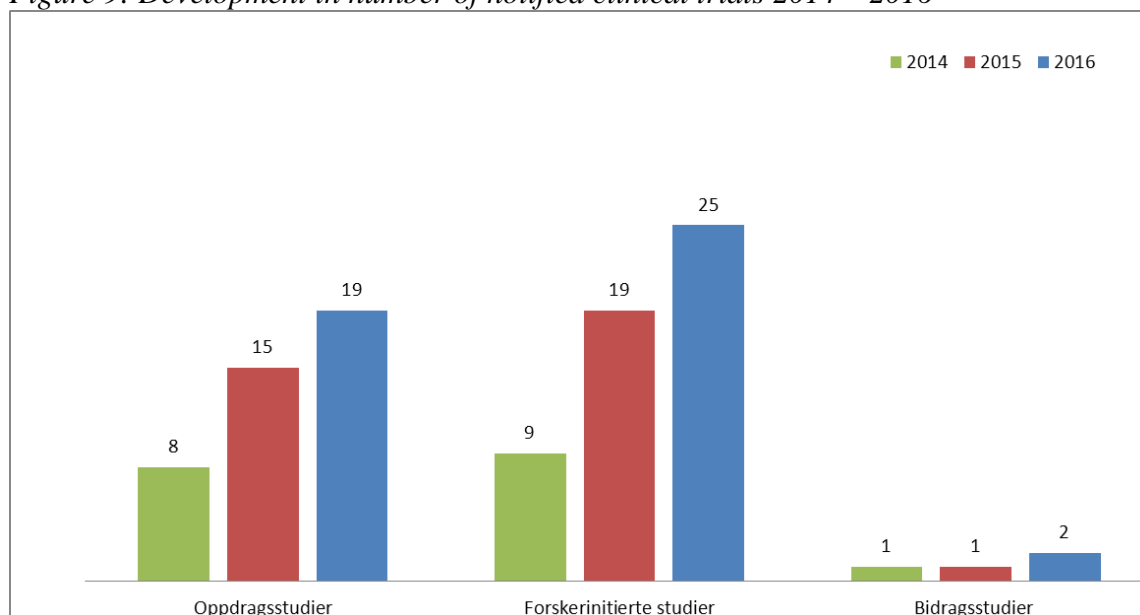
For assignment studies involving service purchases from service departments, a common, standardised and simplified form of cooperation around requests for participation was established in 2016. A separate form has been prepared with associated routines/guidelines for this purpose. The service departments have established dedicated contact persons who process these requests and provide feedback on capacity and price within 14 days of receipt of the form. The service departments also have established price lists for several of the services that are normally always requested.

Development and status of the number and types of clinical trials at Akershus University Hospital

Table 13: Number of reported clinical trials 2014 – 2016

	2014	2015	2016
Commissioned studies	8	15	19
Researcher-initiated studies	9	19	25
Contribution studies	1	1	2

Figure 9: Development in number of notified clinical trials 2014 – 2016



Contract studies: Clinical trials initiated by industry

Researcher-initiated studies: Clinical trials initiated by researchers at the hospital

Contribution studies: Clinical trials initiated by researchers at the hospital where the study receives financial contribution from industry

Table 14: Divisional figures for reported clinical trials in 2016

	Researcher-initiated studies	Commissioned studies
Division of Diagnostics and Technology	1	0
Division of Mental Health	5	0
Division of Surgery	6	0
Division of Gynaecology and Obstetrics	1	0
Orthopaedic Clinic	4	0
Division of Medicine	8	21
Total all divisions	25	21

Figure 10: Divisional figures for reported clinical trials in 2016

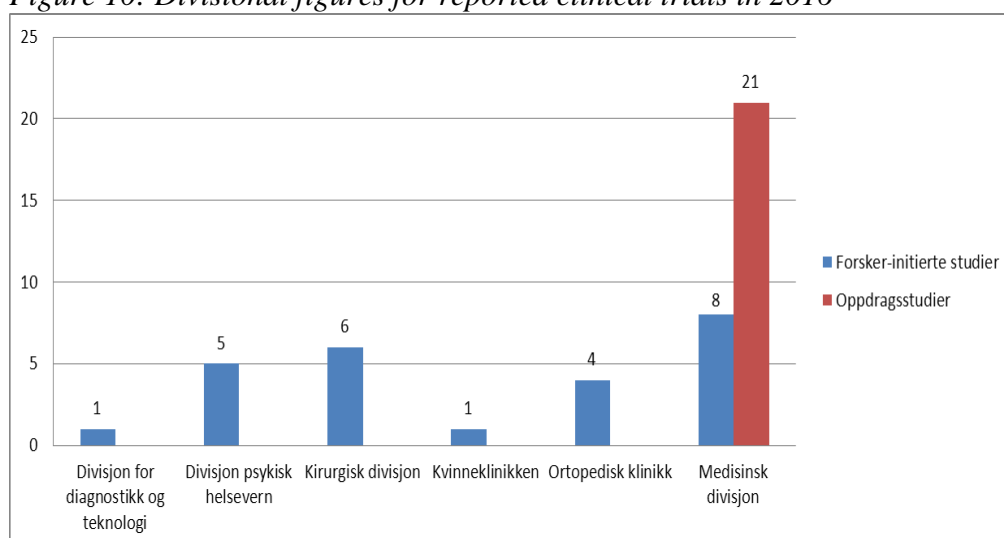


Table 15: Researcher-initiated studies by category in 2016

	Number
Drug trials	10
Testing of equipment	0
Physical interventions	7
Interview, questionnaire, conversation etc.	6
Observational studies	1
Nutritional intervention (Dietary supplements etc.)	1
Total	25

Figure 11: Researcher-initiated studies by category in 2016

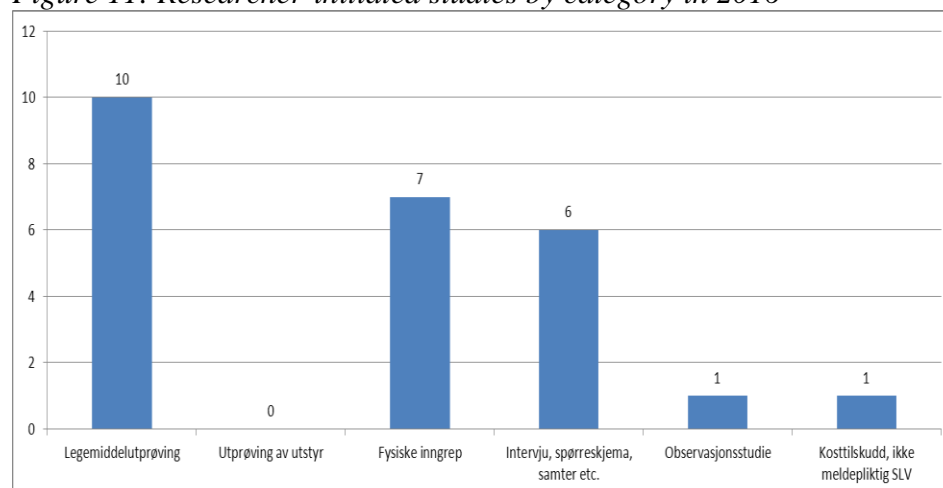


Table 16: Local, multi-regional and international cooperation for studies reported in 2016

	Researcher-initiated studies	Researcher-initiated studies where Akershus University Hospital is responsible for research
Local	11	8
Multi-regional	4	1
International	10	6
Total	25	15

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

Multiple-regional: Cooperation with institutions in other health regions

International: Cooperation with institutions internationally

Figure 12: Local, multi-regional and international collaboration for studies reported in 2016

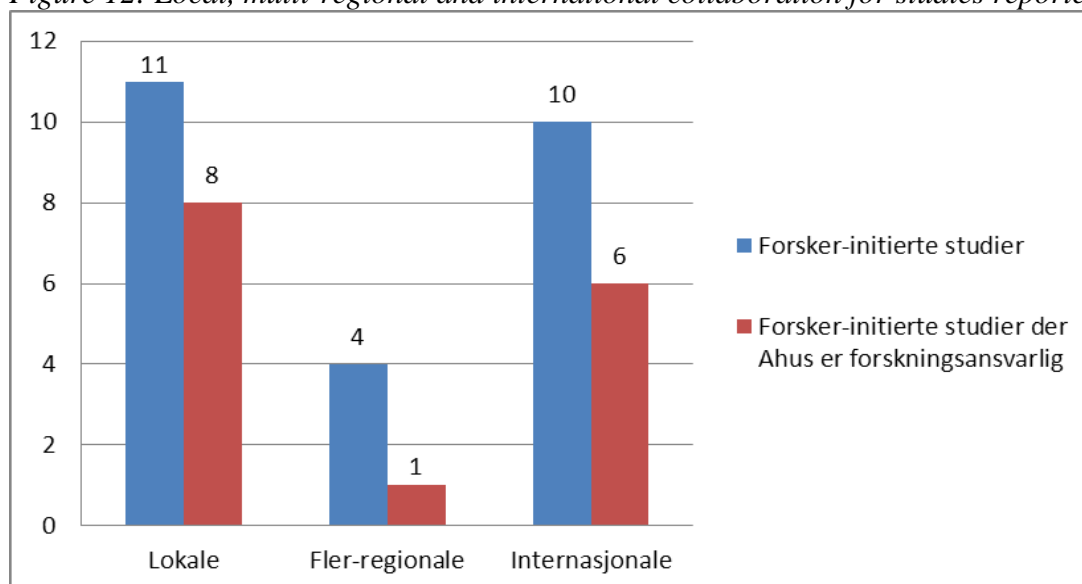


Table 17: Commissioned studies by category of studies reported in 2016

	Number
Drug trials	17
Testing of equipment	0
Physical interventions	0
Interview, questionnaire, conversation etc.	0
Observational studies	4
Nutritional intervention (Dietary supplements etc.)	0
Total	21

Figure 13: Commissioned studies by category for studies reported in 2016

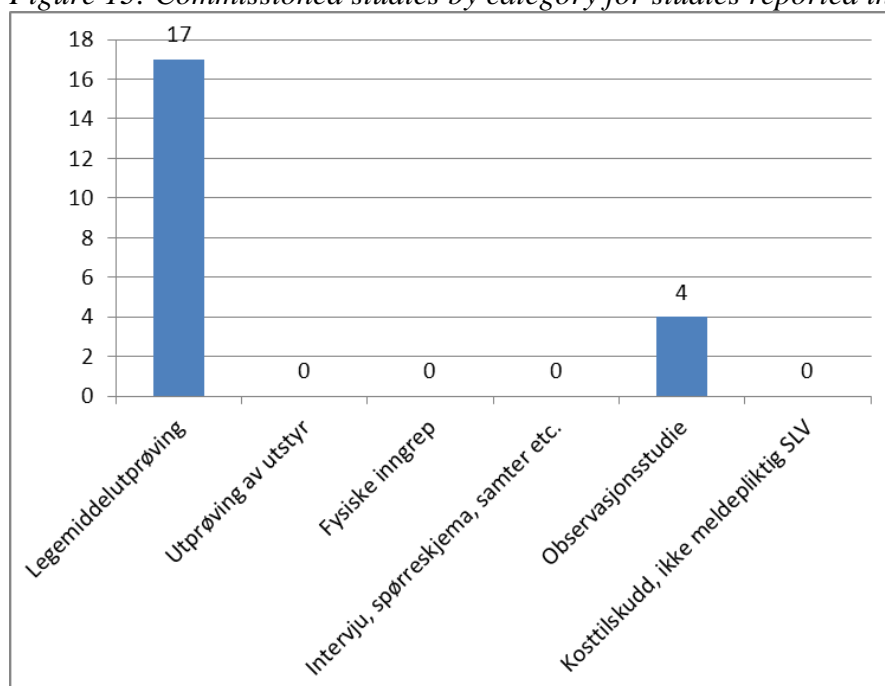
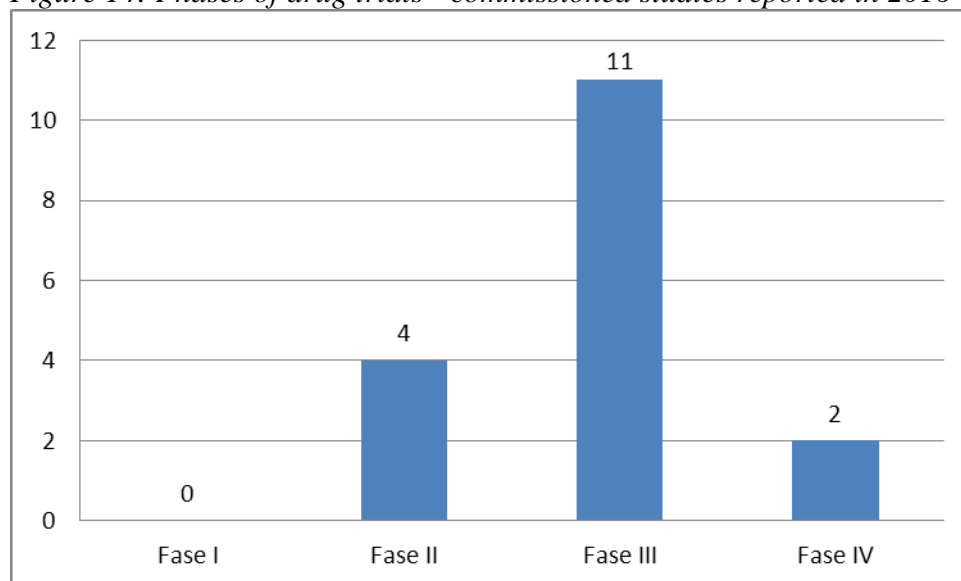


Table 18: Phases of drug trials - commissioned studies reported in 2016

	Number
Phase I	0
Phase II	4
Phase III	11
Phase IV	2
Total	17

Figure 14: Phases of drug trials - commissioned studies reported in 2016



15. Subject and research day for the population

On Tuesday 12 April, Akershus University Hospital arranged the "Professional and Research Day" for the seventh time. The purpose is for residents and employees to gain knowledge of the professional and research activities at Akershus University Hospital, and that it is a hospital with a high level of professional ambition and skilled professionals. The lectures are short, and with ample opportunity to ask questions afterwards. The speakers write short summaries of their lectures that we distribute together with a contact address - so that those who wish can get in touch to get more information.

More than 120 people had gathered in the auditorium this Tuesday evening and heard lectures on topics such as PCI (coronary artery blockage), breast cancer treatment dangerous to the heart, treatment of adolescents with depression, wrist fractures, etc. The audience showed great enthusiasm and there was a good dialogue between the hall and the individual speakers.



Med fokus på
FAG OG FORSKNING



VELKOMMEN
Akershus universitetssykehus HF inviterer lokalbefolkningen til spennende foredrag om forskning på vanlige sykdommer.
Tirsdag 12. april 2016
Guidet omvisning på Akershus universitetssykehus kl. 17.00 – 17.50.
For de som ønsker å være med på en omvisning i sykehuset før foredragene er det oppmøte rett innenfor Ahus hovedinngang kl. 17.00.
Foredrag kl. 18.00 – 20.30, auditoriet Akershus universitetssykehus

Med fokus på FAG OG FORSKNING

PROGRAM
Tirsdag 12. april 2016 kl 18.00 – 20.30
Auditoriet Akershus universitetssykehus HF

18:00 - 18:05
Velkommen til Akershus universitetssykehus HF
Tone Ikdahl, viseadministrerende direktør

18:10 - 18:25
Hvorfor ønsker ikke foreldre delta i behandling av ungdom med depresjon?
Pravin Israel, Psykisk helsevern

18:30 - 18:45
Kun det beste for våre hjerterpasienter – nå har vi startet utblokking av kransarteriene - PCI!
Helge Skulstad, Hjerteavdelingen

18:50 - 19:05
Er brystkreftbehandling farlig for hjertet?
Geeta Gulati, Hjerteavdelingen

19:10 - 19:25
Sunn livsstil beskytter mot Alzheimers sykdom og annen demens
Astrid Liv Mina Bergem, Alderspsykiatri

19:30 - 19:45
Behandling av håndleddsbrudd
Ola Lars Hammer, Ortopedisk klinikk

19:50 - 20:05
Små hjerneslag - store konsekvenser?
Marianne Altmann, Nevroklinikken

20:10 - 20:25
Hva består nyresteiner av og hvorfor er det av interesse å vite dette?
Gunnhild Kravdal, Tverrfaglig laboratoriemedisin og medisinsk biokjemi

Menneskelig nær - faglig sterk

Menneskelig nær - faglig sterk

UiO : Universitetet i Oslo

16. Appendix 1: Research groups

The following research groups were active as of December 2016. Research group leader in parentheses.

- **Division of Surgery. Research Manager Juha Tapio Silvola**
 - ENT research group (Magnus von Unge)
 - Urology research group (Stig Müller)
 - Gastrosurgical research group including maternal/endocrine, anaesthesia, vascular / thorax (Ola Røkke)
 - Vascular/Thoracic Research Group (Jarlis Wesche)
- **Orthopaedic Clinic/research group. Research Manager Asbjørn Årøen.**
 - Orthopaedic research group (Asbjørn Årøen)
- **Division of Gynaecology and Obstetrics. Research Manager Anne Eskild.**
 - Department of Obstetrics and Gynecology (Anne Eskild)
- **Division of Mental Health/ R&D Research and development. Research Manager Ketil Hansen Bauer**
 - Children & adolescents mental health (Marianne Villabø)
 - Quality & implementation (Kristin S. Heiervang)
 - Experiences of service-users and carers (Bente Weimand)
- **Division of Research and Innovation: Research Manager Hilde Lurås.**
 - Health Services Research Group (Hilde Lurås)
 - Research Group for Clinical Communication (Pål Gulbrandsen)
 - Head and neck research group (Michael Russel)
- **Division of Medicine – Research Department. Research Manager Helge Røsjø**
 - Oncogenomics (Vessela Kristensen)
 - Cardiothoracic Research Group (Torbjørn Omland)
 - Clinical Neuroscience Group (Tormod Fladby)
 - Gastroenterology Research Group (Jørgen Jahnsen)
 - Center for Hematological Research at Ahus (Anders Dahm)
 - DNA-Repair (Hilde Nilsen)
- **Division of Paediatric and Adolescent Medicine. Research Manager Britt Nakstad**
 - PedRes (Britt Nakstad)
 - PAEDIA (Vegard Bruun Wyller)
- **Division of Diagnostics and Technology. Research Manager Janne Pedersen**
 - Infectious Diseases and Microbiology (Truls Leegaard)
 - Medical biochemistry. Interdisciplinary laboratory medicine and technology (Tor-Arne Hagve)
 - IMTRA research group (Seyed Ali Mousavi)