



Evaluation of Medicine and Health (EVALMEDHELSE) 2023-2024

Self- assessment for administrative units

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Administrative unit (name and short name): Stavanger University Hospital (SUH)
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1.Strategy, resources and organisation

1.1 Research strategy

Describe the main strategic goals for research and innovation of the administrative unit. You may include the following:

- *How are these goals related to institutional strategies and scientific priorities?*
- *Describe how the administrative unit's strategies and scientific priorities are related to the "specific aspects that the evaluation committee should focus on" indicated in your Terms of Reference (ToR)*
- *Describe the main fields and focus of research and innovation in the administrative unit*
- *Describe the planned research-field impact; planned policy impact and planned societal impact*
- *Describe how the strategy is followed-up in the allocation of resources and other measures*
- *Describe the most important occasions where priorities are made (i.e., announcement of new positions, applying for external funding, following up on evaluations)*
- *If there is no research strategy – please explain why*

Institutional role and strategies

The Stavanger University Hospital (SUH) is a part of the Western Norway Regional Health Trust and is the only hospital serving a population of approximately 400 000 inhabitants. SUH is a large institution with more than 6500 employees and 550 beds. The hospital has been a university hospital since 2004. The strategic goals for research and innovation at SUH are determined by governmental and organizational acts, policies and guidelines. Research and education are legally mandated activities under the Health Trusts Act § 1, requiring health trusts, including SUH, to contribute to research and education. Key legislation guiding SUH includes the Health Personnel Act, Patient Rights Act, and Specialist Health Services Act, complemented by national and international documents outlining relevant goals to SUH research. Furthermore, SUH's research targets sector-specific challenges, such as health personnel shortages, service improvements, and clinical advancements, with the overarching aim to contribute to broader healthcare objectives.

Finally, the research at SUH aims to be relevant for local and regional service delivery and health challenges. This includes the research aims of the Western Norway Regional Health Authority, collaborative aims between the SUH and its immediate community and local actors, as well as research addressing the challenges presented by building new hospital infrastructure in Stavanger.

Goals and benchmarks

These national and regional strategic objectives guide the SUH research agenda and have contributed to the continuous development of SUH's own research objectives within the evaluation period (2012 – 2022), extended to more recent descriptions of challenges and research priorities (2017 – 2023). To synthesise these aims, SUH revised its research strategy for the period 2017 – 2025, specifying overarching goals as well as specific benchmarks. Innovation and education are integral components and considered highly relevant to the research strategy at SUH. The vision for research and innovation aims to integrate research-based insights in all aspects of diagnostic and patient management in the hospital. The specific strategic activities are continuous in nature, with the aim to support SUH's strategic goals. The research strategy outlines continuous focus areas, strategic goals and benchmarks.

As shown in the evaluation documents of the research groups, there is a high degree of group internalization of the unit's main goals and benchmarks. When summing up reported goals and benchmarks from 9 of 22 research groups, it is evident that, on average, the research groups prioritized 91% of the goals and 51% of the unit's benchmarks. The separate evaluations also demonstrate the added value of the research groups, with each contributing to reaching these overarching goals as well using them to set their own goals and objectives.

The focus areas include:

- High quality research and patient treatment
- Ensure a good culture for research
- Involve users in all phases of research
- Convey research and innovation results to a wide audience
- Be active in regional and national cooperation related to health-related research

Based on the overarching aims, vision and continuous tasks, the following strategic goals are set:

1. Create new and strong research groups
2. Strengthen clinical research
3. Improve the organisational and support-functions for research
4. Increase international research collaboration
5. Active user involvement
6. Integrate research in all parts of the new hospital (in process)
7. Develop new areas of research based on institutional priorities

Based on the strategic goals SUH has set, specific and measurable goals and benchmarks are as follows:

- increase the number of publications by approximately 50 per cent from 200 to more than 300 per year
- maintain publishing quality with more than 25 per cent in level 2 journals and more than 50 per cent international co-authorship
- increase the number of PhDs from approximately 15 per year to stabilise at over 25
- increase the number of employees with postdoctoral fellowships from 12 to over 20
- increase the number of professor-competent employees from 30 to more than 50
- dedicated research positions affiliated with all approved research groups
- participate in at least three active EU projects at any one time – at least one of which is led from SUH
- increase our share of annual regional research funding from the Western Norway Regional Health Authority, from 20 to more than 30 per cent
- that the external research funding from national and international sources should be larger than the research funding from the Western Norway Regional Health Authority
- increase research-based innovation with at least five patents and commercial agreements annually
- be nationally leading and an international spearhead in simulation research
- establish a clinical study programme in medicine with associated research in all relevant fields
- establish a Centre of Excellence (CoE)

- that overall internal and external funding for research increases. Today, total resource use is equivalent to 1.6 per cent of total operating costs – the goal is to reach the national average, which in 2016 is 2.6 per cent.

Strategic relationship to the ToR

The strategic goals align well with the five areas of the ToR of this evaluation. The emphasis is firmly placed on diversity and equality, alignment with institutional and sectoral objectives, and the contribution of knowledge to both society and patients. Strategy, resources and organisation, as well as research production, quality and integrity, are thoroughly described in other sections. The hospital board has added three evaluation aspects in the ToR to capture the latest developments in the context of severe hospital resource constraints. These are to assess and address the efficient use of hospital resources, increase collaboration with the EU, and expand education of medical students at the hospital. These three elements also align well with the research strategy of SUH, which clearly aims to provide cost-effective research with high impact, develop collaboration, and expand external funding to ensure research and innovation growth, as well as to increase the relevance of the research at SUH towards impact at student and educational levels to further develop the hospital as a teaching hospital.

Main fields of research

The main fields of research and focus of research are concerned with staying up to date with medical developments, critically assessing diagnostic methods, treatment options, service improvements (implementation and organisation), technology, quality and patient safety, as well as caring for patients and providing educating and guidance. The main areas of research described in this evaluation include breast cancer, cardiology, clinical immunology, psychiatry, dementia and neurodegenerative disease, mother and child health care, and nursing and health care science. Expanding its role in the education of medical students and medical education is a major strategic objective to ensure close links to clinical work, the evolving field, and the needs of the health services.

Research-field impact

The SUH research and innovation strategy aims at impacting policy, society, and further research. The organisational setup and mechanisms for ensuring this are described in section 1.2a and b. The SUH research community engages in a range of activities to create impact. These include doctoral degrees, scientific publications, participating in and hosting scientific conferences, creating policy briefs, engaging in public discourse, and educating medical and healthcare personnel. Importantly, the research at SUH aims to contribute to providing solutions to the challenges and objectives in the mentioned local, regional, national, and international documents and processes. It is important for SUH to be a research partner seen to be relevant to provide solutions to the challenges faced nationally and globally. Five examples of impact will be provided in the impact cases of this evaluation.

Strategy follow-up

A complete overview of research staff is shown in section 1.3. The status mid-term of the evaluation period (2016) showed the publication of more than 200 scientific articles annually, along with 16 doctoral degrees. In the hospital's scientific publications, the University of Bergen (UiB) and the University of Stavanger (UiS) are our most important academic partners. SUH accounted for 4.4 per cent of the total research production of the country's health trusts. SUH spent around 1.6 per cent of total operating costs on research. The hospital has extensive international research collaborations,

with foreign co-authors on more than half of the research articles. Details of resource allocation and mechanisms are described in other sections of the evaluation document. However, the goals and activities are broadly monitored through annual action plans, budget processes and systematic increased allocation of resources to research support. This includes combined clinical research positions and seed funding for startup activities, such as the Antimicrobial Resistance project at the hospital. All major funding of research activities is financed and supported through external funding and collaborative activities with other partners. It is important therefore that SUH provide high quality research and education activities to attract external funding, such as from the Western Norway Regional Health Authority, the Research Council of Norway (RCN) and the EU.

Strategic reflection

This document highlights the institution's strategy based expanding research initiatives, showcasing a proven impact on both research quality and societal advancements. Upon reflection on the strategic goals and benchmarks of the unit, it is evident that there is scope for an even stronger adaptive approach to formulating research objectives and corresponding activities. The challenges in health and health systems are evolving rapidly in response to national and global developments, encompassing technological advancements, human resource and financial constraints, inadequacies in health systems, disparities in patient and population outcomes, and the complexities of fragile societal and global contexts. In a Norwegian context the future research needs not least concern challenges in the intersection between the municipal primary health care and the hospitals' specialised services. This intersection also appears to become more highlighted in an international perspective, cf. WHO's Declaration of Astana from 2018. These factors underscore the critical need for a continuously updated research strategy, goals, and benchmarks to ensure relevance to the current dynamic landscape.

With its proximity to clinical service delivery, SUH has a particular responsibility, and gains an invaluable vantage point, towards an adaptive exploration of solutions through our research endeavours, involving health personnel, patients, and their relatives.

Table 1. Administrative unit`s strategies

For each category present up to 5 documents which are most relevant for the administrative unit.		
Research strategy		
No.	Title	Link
1	Research strategy Stavanger University Hospital (SUH)	https://www.helse-stavanger.no/48fdcf/contentassets/3708fe6da6c04f7f95cd8091839d6875/research-strategy-2017-2025---suh.pdf
2	Research Strategy Regional Health authorities west 2020-2023	https://www.helse-stavanger.no/48fde4/contentassets/3708fe6da6c04f7f95cd8091839d6875/research-and-innovation-wnrha.pdf
3	SUH Development Plan for Research, Education and Innovation 2022 – 2035	https://www.helse-stavanger.no/48fdee/contentassets/3708fe6da6c04f7f95cd8091839d6875/research-development-plan---suh.pdf

4	Strategic plan for Helse Stavanger HF 2018 - 2023 (Norwegian)	https://www.helse-stavanger.no/49346c/siteassets/documents/strategidokumenter/strategidokument---strategiplan-for-helse-stavanger-hf-stavanger-universitetssjukehus-2018-2023.pdf
5	Global Health strategy 2018-2023 (SUH)	https://www.helse-stavanger.no/490646/contentassets/3708fe6da6c04f7f95cd8091839d6875/the-global-health-strategy-2018-2023.pdf
Outreach strategies		
No.	Title	Link
1	Communication strategy for Helse Stavanger 2021-2024 (Norwegian)	https://www.helse-stavanger.no/om-oss/kommunikasjonsstrategi-2021-2024
Open science policy		
No.	Title	Link
1	National goals and guidelines for open access to research articles	https://www.regjeringen.no/en/dokumenter/national-goals-and-guidelines-for-open-access-to-research-articles/id2567591/

1.2 Organisation of research

a) Describe the organization of research and innovation activities/projects at the administrative unit, including how responsibilities for research and other purposes (education, knowledge exchange, patient treatment, researcher training, outreach activities etc.) are distributed and delegated.

The research, innovation and educational activities operate within the same organisational hierarchy as the hospital's clinical activities and are strongly linked to these. The CEO of the hospital oversees all research and innovation activities, with responsibilities delegated to the deputy CEO and research director at the operative level. Responsibility for higher medical education is delegated to clinicians, thereby integrating it into the clinical work.

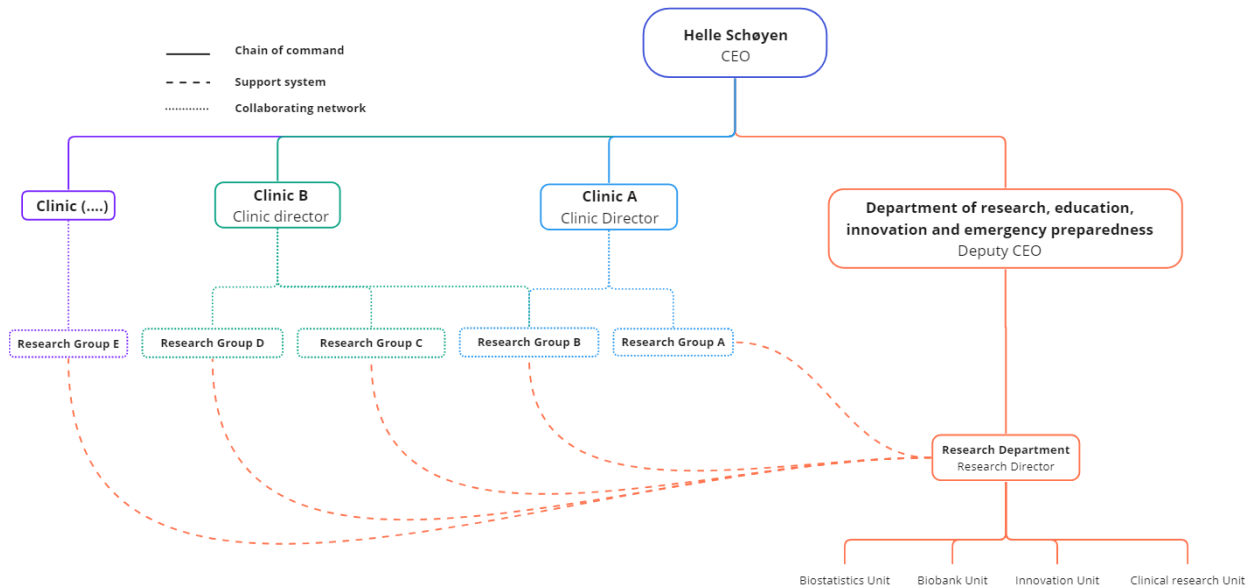
The department of research, led by the research director, is responsible for day-to-day research education, follow-up, and researcher training, such as good clinical practice (GCP). The department's activities include statistical supervision, bioinformatics, consideration of ethical aspects, GDPR alignment, innovation management and applications for internal approval to initiate new research projects. Academic writing courses are also offered.

Research serves as a foundation for higher levels of educational activities in the hospital. The academic positions at the universities, which are linked to both research and clinical work, play a pivotal role in the delivery of high quality clinical treatment and the development of educational capacity and knowledge. Outreach activities for public engagement, internal involvement and user participation result from this ecosystem, built upon the combination of research and clinical relevance.

The hospital has established a total of 22 research groups, with 9 of these included in the current evaluation. All groups are actively engaged in publishing and PhD activities and are led by researchers who also hold academic positions at a university.

The research groups are the core infrastructure for the research activity. The groups are organised thematically based on scientific focus, yet they are diverse in their composition, with participants from various professions and scientific backgrounds. Moreover, the groups are connected to relevant clinics within the hospital organisation (See figure 1).

Figure 1 Research organization at Stavanger University Hospital



Through the organizational structure shown in the figure above, the organization is set up strategically and functionally to take responsibility for the different ToR criteria a) to e). The administrative unit has assigned responsibilities within the unit to manage, co-manage and lead each of the eight elements. The different elements are delegated to the roles of the CEO, Clinic Directors, Research Director and Principal Investigators.

b) Describe how you work to maximise synergies between the different purposes of the administrative unit (education, knowledge exchange, patient treatment, researcher training, outreach activities etc.).

For SUH, there is a strong and strategic connection between research, education and clinical work. This synergy is actively visible in daily operations, with most researchers also holding clinical positions of more than 50%. Educational responsibilities are mainly delegated to those who hold academic positions at the university along with a clinical position, thereby maximising the integration of clinical competence, research, education and innovation at the clinical and patient level. Our laboratory scientists and researchers adopt a translational perspective, underscoring their responsibility to ensure the clinical relevance of research outcomes in their respective fields. Researcher training takes place in-house, in cooperation with the university and with various national bodies and organisations (see section 2.2).

There is an important focus on user involvement, with outreach activities conducted in cooperation with users and user/patient organisations. All research groups actively incorporate user involvement in the planning, execution and interpretation of their research. Dissemination efforts include

presentations for lay people, contributions to non-academic publications, engagement on research oriented social media platforms, and publications in newspapers and magazines, all aimed at effectively communicating important results to the general population.

1.3 Research staff

Describe the profile of research personnel at the administrative unit in terms of position and gender. Institutions in the higher education sector should use the categories used in DBH, <https://dbh.hkdir.no/datainnhold/kodeverk/stillingskoder>.

SUH has a staff of over 200 individuals holding a PhD, reflecting an increase from 126 in 2012. The hospital has actively worked to expand the number of employees with doctoral degrees, with an annual completion rate of PhDs ranging from 12 to 20.

The research community at the hospital is predominantly composed of senior physicians and residents who hold doctoral degrees. Furthermore, the hospital has a broad and interdisciplinary research community and various other professional groups, such as psychologists, nurses, statisticians, biomedical laboratory scientists, molecular biologists, pharmacists, chiropractors, and physiotherapists, contribute significantly to research and hold doctoral degrees.

Over time, there has been a notable rise in the proportion of female researchers, and there is now a higher number of women conducting research at the hospital than men. While the age distribution of researchers has generally remained stable, there is a growing trend of more seniors (at the professorial level) approaching retirement, and it may be a challenge for the hospital to recruit new individuals at this senior level. One distinctive aspect is the preference among physicians to complete their specialization before pursuing a PhD, contributing to a relatively high average age for those who complete a PhD.

Table 2. Research staff

	Position by category	No. of researcher per category	Share of women per category (%)	No. of researchers who are part of multiple (other) research groups at the admin unit	No. of temporary positions
No. of Personnel by position	Senior physicians	84	39%	*	
	Physicians	51	51%	*	
	Psychologists	16	33%	*	
	Researchers and postdocs	60	72%	*	30
	PhD-students	27	59%	*	27
	Research support/ Administrative research staff at SUH	105	81%		

Among these hospital positions, the researchers at the hospital holds these academic positions				
Professors	40	28%	*	
Associate professors	50	42%	*	
Total employees with PhD	200	47%	*	

*It is normal in the hospital sector that the research groups and different clinics work together and sometimes are a part of multiple research groups, but we do not have an overview of how many this counts for at SUH.

1.4 Researcher careers opportunities

a) Describe the structures and practices to support researcher careers and help early-career researchers to make their way into the profession.

At SUH, the number of employees holding a PhD has significantly increased since 2012, reaching 200 by 2022. It is in the institution's strategy to have a provident organizational competence, and research by its employees is one of the important ways to make this happen. While the hospital finances some PhD-students, it is still a challenge to secure full funding for all PhD candidates.

The hospital allocates NOK 1 million annually for smaller or new projects, serving as start-up grants for emerging researchers and researchers who have not yet received external research funding. Further, the research department provides support for the hospital's applications for external funding for PhD and postdoctoral education, and those receiving external research funding are formally affiliated with the Research Department.

To strengthen the nursing and health care research the institution funds 1.5 position for doctoral students and four 20% positions for senior researchers who have their main positions as professor at the University of Stavanger (UiS).

Mentorship and training initiatives are integral, with PhD candidates actively participating in external courses and national researcher schools to raise the level of activity and capacity in PhD education. Flexible work arrangements are facilitated, providing clinicians with dedicated research time and mentorship within established groups to initiate new projects. Early stage researchers are provided with access to comprehensive support and expertise in various areas, including assistance with applications, funding, statistics, data management, and security. Additionally, they have access to essential infrastructure such as biobanking facilities and state of the art research laboratories at SUH and our satellite lab at UiS.

To stimulate a critical mass of master's degrees in the hospital, the institution grants scholarships totalling NOK 900,000 annually.

b) Describe how research time is distributed among staff including criteria for research leave/sabbaticals (forskningstermin/undervisningsfri).

Out of 151 full-time equivalent years (FTEs) in research and research administration at the hospital, 100 FTEs are financed from the clinics at the hospital. This shows that the hospital and the hospital clinics give a significant contribution to research. All clinical clinics give researchers time for research as part of their working hours, but to varying degrees, and this is for many of the researchers set aside in the work schedules.

With regard to sabbaticals, this is something that the doctors at the hospital have incorporated into their employment contracts, and this is related to the number of years in clinical work. For others, this must be agreed individually with their leader.

Additionally, the hospital has around 10 positions designated as specialization positions for doctors, where 50% of the position can be used for research. These positions are largely used to qualify for external PhD applications.

c) Describe research mobility options.

SUH strategically promotes international mobility for employees, as outlined in the Research Strategy 2017-2025. The encouragement and facilitation of mobility occurs through projects and collaboration agreements, often as part of planned activities in externally funded research or innovation projects. This extends particularly to PhD candidates, postdoctoral fellows, and early-career researchers.

Funding sources include the Western Norway Regional Health Authority and Research Council of Norway, each of which have dedicated calls for research stays abroad. International funding for mobility activities includes EU-funded projects, with substantial opportunities for short-term or long-term stays abroad, with added benefits such as international collaboration and knowledge transfer. For instance, the CLARIFY project (CLOUD ARTificial Intelligence For pathology; clarify-project.eu), funded by the EU's Marie Skłodowska-Curie Actions, involves 12 PhD candidates with secondments to various partners, fostering interdisciplinary cooperation. Another of our EU projects funded by EU's Marie Skłodowska-Curie Actions program (MSCA-RISE/staff exchange) allowed mobility for both researchers and health personnel. In the TALK project (A tool for structured clinical debriefing; [https://cordis.europa.eu/project/id/734753/fr:TALK Framework | talkdebrief](https://cordis.europa.eu/project/id/734753/fr:TALK%20Framework%20talkdebrief)) 37 persons (12 from SUH) were provided secondments to Norway, Spain and UK.

Senior researchers leverage their national and international networks, sometimes formalized through Memoranda of Understanding (MoUs) with universities. Notable examples include partnerships with Kings College London and the University of Exeter. These collaborations yield joint research positions, visiting PhD students, medical placements, and increased external funding. Another illustrative initiative is the Safer Births program, enhancing mobility and external funding through collaborative efforts involving SUH, UiS, Laerdal Medical, and organizations in Tanzania and Ethiopia.

1.5 Research funding

a) Describe the funding sources of the administrative unit. Indicate the administrative unit's total yearly budget and the share of the unit's budget dedicated to research.

The hospital had a budget of 8.8 billion NOK in 2022. Of these, NOK 178 million was allocated to research. This means that the hospital spends 2% of its budget on research. It is one of the hospital's benchmarks in the research strategy to improve this, and efforts are being made to ensure that a larger share of the hospital's total funding is used for research. An increase in this share must mainly come from external funding, and in recent years it has been possible to increase this share, particularly through funding via the European Commission (EU), Research Council of Norway (RCN) and the Western Norway Regional Health Authority.

Table 3 shows that the hospital has had an average use of resources for research of approximately NOK 147 million over the past 5 years. The majority of the hospital's funding comes through basic grants/self-financing of positions where the employees can do research in their positions at the hospital.

The Western Norway Regional Health Authority is the largest external funder to the hospital, with approximately NOK 27 million annually for PhD, postdocs, open project support and major strategic grants. Additional funding sources, including grants from the RCN, Folkefondet (a local fund in Stavanger), Stiftelsen Dam, Nasjonalforeningen, The Norwegian Cancer Society, Laerdal Foundation and other Norwegian grants, contribute approximately NOK 10 million annually. Allocations from the EU are approximately NOK 5 million per year on average during the period, but there is certainly an increase in allocations from the EU (See figure under 1.5b). Funding from industry is also important. The energy sector in Stavanger has sponsored research projects at the hospital (e.g. with cardiology and stroke research), and clinical trials at the hospital generate research funding. The hospital has an ambition to increase the number of clinical trials, and it is a clear national strategy and an expectation of the hospitals in Norway that more patients in the specialist health care service should be included in clinical trials.

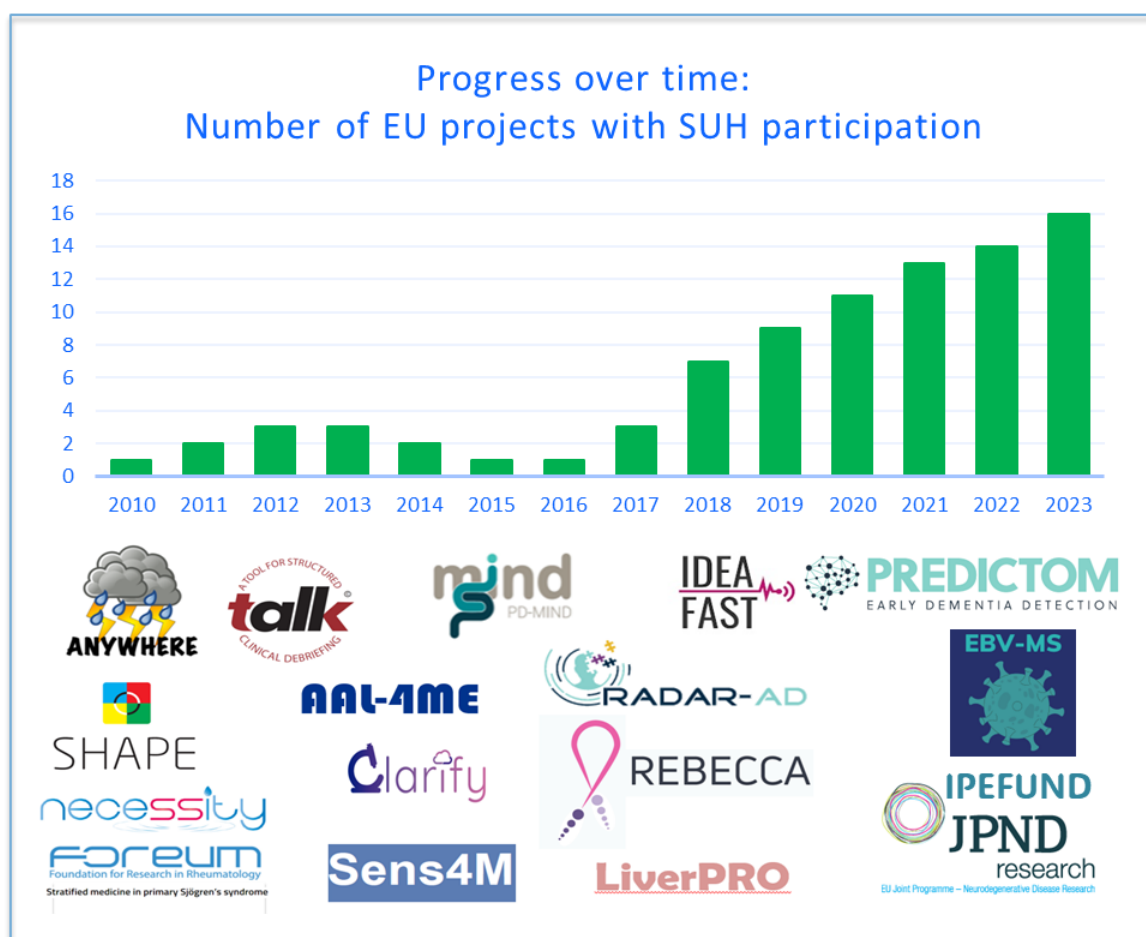
In addition to internal and external funding for employees at SUS, it is worth mentioning that a significant amount of research is conducted by those who are employed in positions at various universities. At the hospital there are 90 such positions which indirectly fund the research at SUH and contribute significantly to the research landscape.

b) Give an overview of the administrative unit's competitive national and/or international grants last five years (2018-2022).

SUH actively seeks external funding for health/medical research, primarily focusing on the Western Norway Regional Health Authority. Annually, the hospital submits 50-70 applications to this authority, while significantly fewer applications are directed to other sources, indicating a clear opportunity to enhance utilization of alternative funding streams. Research grant success rates (average 17.5%) and innovation grant success rates (average 47.3%) varied from 2018-2022. To optimize outcomes and broaden funding sources, strategic actions include hosting workshops for experience transfer and training, organizing seminars for networking and idea pitching, and establishing an internal forum of experienced reviewers to offer pre-reviews. These initiatives align with the overarching goal set in the Research Strategy 2017-2025.

In pursuit of its 2017-2025 Research Strategy objectives, SUH aimed to significantly increase external funding, particularly from national and international sources like the EU. SUH aimed for participation in at least three concurrent EU projects, with at least one led by SUH. Between 2018-2022, SUH demonstrated substantial progress, submitting 6 to 11 EU proposals annually, securing 1 to 4 new projects yearly, and increasing EU-funded projects from 1 to 13. SUH played various roles, contributing to a financial return of approximately NOK 36 million. While 8 of 22 research groups participated in EU activities, SUH acknowledges room for improvement. This positive trend continued in 2023, with approval for 2 new EU projects, one coordinated and led by SUH. The progress of EU activity at SUH over time is shown in Figure 2. Funding sources for EU-projects with SUH participation (or coordination) include EU's framework program (FP), Horizon 2020 (FP8), and Horizon Europe (FP9), EU Joint Program- Neurodegenerative Disease Research, EU's Eureka Eurostars program, EU's Active and Assisted Living Program (AAL), EU's Innovative Medicines Initiatives (IMI 2), and EU's Innovative Health Initiatives (IHI).

Figure 2. EU-funding over time, and logos for EU-projects at SUH



While not common, SUH has successfully secured competitive funding from various international sources, including the National Institutes of Health (NIH), World Bank/Global Financing Facility (GFF), and the Michael J Fox Foundation for Parkinson Research. Notably, the Safer Births program, briefly mentioned in Section 1.4.c, stands out as SUH's most successful initiative in the realm of "other international funding." From 2018-2022, the Safer Births team received NOK 212 million in total,

comprising NOK 135 million from competitive international funding (World Bank, GFF) and NOK 77 million from competitive national funding (Innovation Norway, Ministry of Education and Research, and Laerdal Foundation). These NOK 212 million are mostly directly allocated to research activities in African countries and therefore not included in table 3, showing the funding that goes through the hospital system.

Table 3. R&D funding sources

Please indicate R&D funding sources for the administrative unit for the period 2018-2022 (average NOK per year, last five years).

For Higher Education Institutions: Share of basic grant (grunnbevilgning) used for R&D¹	
For Research Institutes and Health Trusts: Direct R&D funding from Ministries (per ministry)	
Name of ministry	NOK
Ministry of Health and Care Services	98.063.000
National grants (bidragsinntekter) (NOK)	
From the ministries and underlying directorates (the Western Norway Regional Health Authority)	27.236.000
From industry	
From public sector	
Other national grants (RCN, Folkefondet, Stiftelsen Dam, Nasjonalforeningen, Norwegian Cancer Society, Laerdal Foundation)	9.991.000
Total National grants	37.227.000
National contract research (oppdragsinntekter)² (NOK)	
From the ministries and underlying directorates	
From industry	3.779.000
From public sector	
Other national contract research	
Total contract research	3.779.000
International grants (NOK)	
From the European Union 1433+10205+8163+2325+700	4.565.000
From industry	
Other international grants	1.000.000
Total international grants	5.565.000
Funding related to public management (forvaltningsoppgaver) or (if applicable) funding related to special hospital tasks, if any	

¹ Shares may be calculated based on full time equivalents (FTE) allocated to research compared to total FTE in administrative unit

² For research institutes only research activities should be included from section 1.3 in the yearly reporting

Total funding related to public management/special hospital tasks	3.000.000
Total all R&D budget items (except basic grant 98.063.000 + 3.000.000)	46.571.000

1.6 Collaboration

Describe the administrative unit's policy towards national and international collaboration partners, the type of the collaborations the administrative unit have with the partners, how the collaboration is put to practice as well as cross-sectorial and interdisciplinary collaborations.

- *Reflect of how successful the administrative unit has been in meeting its aspirations for collaborations*
- *Reflect on the importance of different types of collaboration for the administrative unit: National and international collaborations. Collaborations with different sectors, including public, private and third sector*
- *Reflect on the added value of these collaborations to the administrative unit and Norwegian research system*

Collaboration policy

SUH's strategy is to create strong research groups in cooperation with other institutions nationally and internationally, and to expand our international cooperation. While collaborations take place on different levels at SUH, joint research and innovation projects are the most common collaborative interface. SUH has many collaborating and networking partners, both nationally and internationally.

The description of the unit's main collaborative portfolio shows collaboration with a wide range of institutions and networks both nationally and globally. Upon reflecting on these collaborations, it is clear that the intensity varies over time, reflecting the interest and availability of researchers, availability of funds and the presenting research challenges. Notably, some collaborative initiatives have faced significant disruptions due to the global pandemic, and while they are gradually regaining momentum, their value to the institution remains unaffected.

Type of collaborations

The two most important **academic partners** for SUH are the University of Bergen (UiB) and University of Stavanger (UiS), both in the form of joint projects and by hospital staff holding scientific positions at the two universities. Employees at SUH hold over 50 positions at UiB and 40 positions at UiS (Table 4a). Additionally, SUH benefits from close and extensive collaborations with several foreign universities, for example, Kings College London and the University of Exeter in the UK, Karolinska Institutet in Sweden, Aalborg University in Denmark, Yale Medical School in USA, and Griffith University in Australia (Table 4b). Some of these collaborations are formalized through Memoranda of Understanding (MoU) to further develop and expand cooperation on joint research positions, visiting PhD students, medical placements, and increased external funding. However, international collaborations extend far beyond these examples, and the research groups at SUH benefit from collaborations in more than 30 countries in Europe, South America, USA, Australia, Africa and Asia.

Collaboration in practice

SUH is an active partner in **clinical trials**, with the advantage of access to a stable population of approximately 400 000 citizens affiliated to SUH, as well as good clinical researchers. Since there is a strong connection between research and clinical work at the hospital, we also collaborate closely

with other hospitals in Norway, particularly the other university hospitals. Currently, university hospitals are accountable for most of the clinical research conducted in Norway. NorCRIN () is an example of a combined effort to strengthen collaboration between hospitals and other health care sectors. Its goal is to increase the quantity and quality of clinical studies and to secure Norway's active participation in leading European research networks. The funding of NorCRIN 1 (2015-2020) and NorCRIN 2 (2020-2025) by the Research Council of Norway (RCN) has been instrumental in the establishment of the Network and the national Standard Operative Procedures for clinical research which are aligned with national and European regulations and The International Conference on harmonization Good Clinical Practice guideline.

To foster **cross-sectoral** and **interdisciplinary collaborations**, including **collaborations with the third sector**, SUH is an active partner and collaborator in several regional and national networks, partnerships and clusters. For example, Health Campus Stavanger (HCS), an innovation and co-creation arena for academia, healthcare providers industry, patients, and organisations for public involvement (Table 4a), Norwegian Smart Care Cluster (NSCC, Table 4a) and Norway Health Tech ([Frontpage - Norway Health Tech](#)), two national health-clusters, providing access to a wide range of partners (from multiple sectors), as well as facilitating joint project opportunities. NSCC and Norway Health Tech have also contributed to 3 of the EU-funded projects at SUH. Validé AS (Table 4a) is an important partner to promote and support innovation activities at SUH. The hospital is also a member of Stavanger Regions European Office ([Stavanger Region | European Office](#)), a valuable collaborator for helping SUH achieve strategic goals for increased EU-activity.

To further expand cross-sectoral collaboration, SUH has actively participated in regional initiatives to attain recognition as a **European Reference Site** (health ecosystem) under "the European Innovation Partnership on Active and Healthy Aging" (EIP-AHA), [Home - RSCN](#). The Stavanger Region received top-evaluation, and was awarded status as a 4-stars "Reference Site" under EIP AHA in 2022 (the awarded status ranges from 1-4 stars, dependent on the quality of your ecosystem). An added benefit of the "Reference Site" status for SUH, is the collaboration with the other EIP AHA reference sites in Europe, including experience transfer, new international collaborators, and invitations to joint project initiatives.

SUH also capitalizes on close collaborations with many **industry partners**, both through direct connections and via collaborations with NSCC and Norway Health Tech. Industry partners are included in almost all EU-funded projects at SUH, and also many of the national projects. One of the most significant industry partners (over the past >10 years) is Laerdal Medical (Table 4a) , which has been an active partner in several of the hospital's research and innovation projects related to resuscitation, trauma, and maternal and newborn care. Lærdal Medical has contributed with competence and technology, but also substantial funding.

How successful the administrative unit has been in meeting its aspirations for collaborations

Our aspirations for collaboration, as outlined in the research strategy (2017-2025), include multiple targets. A primary aim is collaboration with users (and patient organisations) in all phases of research and innovation projects. Additionally, we strive to contribute to collaboration and synergies between partners in the regional and national health ecosystem (for instance, primary health care/municipalities, health trusts, universities, others research institutions and industry). Another goal is to increase our international cooperation through networks, researcher mobility, publishing and external funding. With reference to the aforementioned goals, we believe that we have effectively met our aspirations for collaborations. We have ongoing collaborations with academia (universities, research institutes and university hospitals), public sector, industry, patients' organisations and other stakeholders. All research groups at SUH actively seek interdisciplinary collaborations in both clinical-and research work.

Moreover, a clear indication that our international collaboration is progressing positively is the increasing number of papers that feature co-others from other countries. Currently, more than 50% of our publications have foreign co-authors. Further, international funding, including but not limited

to the EU, has significantly increased after the new research strategy was implemented in 2017 (as shown in Table 2, and section 1.5b). An eligibility criterion for EU projects is that the project consortiums include partners from at least 3 different countries. The size of EU projects at SUH varies, with the largest having over 30 partners from 15 different countries.

Nevertheless, SUH acknowledges room for improvement and will continue working towards our strategic collaboration targets. Today, one of the limiting factors for collaboration is available funding (public and private, national and international). Although there are many calls for proposals available, the calls may not be relevant for our needs and competence, and most funding is competitive. In addition, some calls for proposals have restrictions regarding types of partners that are eligible.

Importance of different types of collaboration:

The inherent value of all types of collaboration lies in the opportunity to leverage our diverse backgrounds and experience to identify and address mutual (and often complex) health and care challenges that will lead to sustainable improvements in health and care outcomes for patients/citizens throughout the life-course. Collaboration with users and patients' organisations helps to set the correct focus and objectives in projects, while industry partners may help facilitate implementation of new technologies and solutions.

On a practical note, certain types of collaborations are also a requirement for applying for external funding of research and innovation projects. Thus, collaborations may lead to more external funding, more projects, and in the end better clinical practice for our patients.

Added value of these collaborations to the administrative unit and Norwegian research system

The added value of these collaborations to SUH includes participation in important national and international projects, which could result in knowledge and technology that may change or improve clinical practice. Furthermore, access to relevant infrastructure and the transfer of knowledge and experience is also important, both for patient care and for being competitive in applying for external funding.

From a scientific perspective, collaboration and participation in competitive, complex (international) projects plays a pivotal role in supporting and advancing researchers' careers and helping early-career researchers to make their way into the profession. The Norwegian Government has a Strategy for Norway's participation in Horizon Europe and European Research Area (link: [Strategy for Norway's participation in Horizon Europe and the European Research Area - regjeringen.no](https://www.regjeringen.no/en/dep/olofthorvold/press/2021/strategy-for-norway-s-participation-in-horizon-europe-and-the-european-research-area)) with six areas where efforts are needed to achieve the objectives of increased Norwegian participation in Horizon Europe and improved chances to receive EU-funding. Collaboration has been instrumental to SUH's increase in EU-funding, thus contributing to achieving the goals outlined in the Government's strategy.

Table 4a. The main national collaborative constellations with the administrative unit

Please categorise the collaboration according to the most important national partner(s): 5-10 institutions in the period 2012-2022. Please delete lines which are not in use.

National collaborations

Collaboration with national institutions - 1	
Name of main collaboration or collaborative project with the admin unit	Partner in medical education at the hospital, and partner in multiple research projects
Name of partner institution(s)	University of Bergen (UiB)
Sector of partner/institution(s)/sectors involved	Higher Education Institutions
Impacts and relevance of the collaboration	The medical education at UiB was the main reason leading to SUH's designation as a medicine teaching university hospital in 2004. Employees at SUH hold over 50 positions at UiB, contributing to education and research. Numerous research projects are in cooperation with UiB, and we cooperate with the university on PhD student research projects. Over 50% of the SUH's publications have a co-author from UiB. The collaboration is also regulated with specific cooperation agreements between the institutions.
Collaboration with national institutions - 2	
Name of main collaboration or collaborative project with the admin unit	Partner in nursing education at the hospital, and partner in multiple research projects
Name of partner institution(s)	University of Stavanger (UiS)
Sector of partner/institution(s)/sectors involved	Higher Education Institutions
Impacts and relevance of the collaboration	SUH employees hold over 40 positions at UiS, contributing to education and research. Many research projects are in cooperation with UiS, and 140 of the 358 SUH publications in 2022 includes a UiS co-author. UiS plays an integral role in many research groups that are included in this evaluation, and they cooperate with SUH on MsC and PhD student research projects. The collaboration is also regulated with cooperation agreements between the institutions.
Collaboration with national institutions - 3	
Name of main collaboration or collaborative project with the admin unit	Partner in multiple clinical research projects, NorCRIN Network, national and regional network for research administration

Name of partner institution(s)	Bergen Hospital Trust - Haukeland University Hospital (HUH), Oslo University Hospital, Akershus University Hospital, St. Olavs Hospital - University Hospital in Trondheim, University Hospital in Northern-Norway. Fonna Hospital Trust, Førde Hospital Trust
Sector of partner/institution(s)/sectors involved	The hospital sector
Impacts and relevance of the collaboration	SUH maintains a close collaboration with all the university hospitals in Norway and with the other hospitals in the region of the Western Norway Regional Health Authority in many research projects. The medical education at UiB is intergrated at HUH and results in cooperation between the hospitals on medical education. In addition, significant regional administrative research infrastructures operated by HUH are utilised by SUH, including monitoring services, biobanking, registry support, contract assistance for industrial studies, and ICT support for research projects. Cooperation extends to other university hospitals with regard to national research administrative processes, particularly throughout NorCRIN , which is a Norwegian national research infrastructure body, with a primary objective to strengthen and simplify collaboration in all categories of clinical research in Norway.
Collaboration with national institutions - 4	
Name of main collaboration or collaborative project with the admin unit	Partner in high level simulation training for students, hospital personnel and research within the same field.
Name of partner institution(s)	Stavanger Acute Medicine Foundation for Education and Research (SAFER)
Sector of partner/institution(s)/sectors involved	Private independent foundation
Impacts and relevance of the collaboration	SAFER, established in 2006 by SUH, UiS and Laerdal Medical AS (LMAS), is an independent foundation and simulation centre. Its purpose is to harness learning-based simulation as a contribution towards improved patient safety, primarily by stimulating skills development among the founders' personnel and students. SAFER considers it important to monitor, evaluate and perform research so the value of simulation is maximised. SAFER is involved in many research projects within medical simulation, especially linked to the Safer Births research group. The collaboration is regulated with cooperation and owner agreements between the institutions.
Collaboration with national institutions - 5	

Name of main collaboration or collaborative project with the admin unit	Partner in multiple research projects
Name of partner institution(s)	University of Oslo
Sector of partner/institution(s)/sectors involved	Higher Education Institutions
Impacts and relevance of the collaboration	SUH has an extensive collaboration with the University of Oslo in a number of research projects. In addition, the University of Oslo leads many research infrastructures in Norway that our researchers utilise. Further, many researchers at Oslo University hospital are affiliated with the University of Oslo, establishing it as an important collaborator.
Collaboration with national institutions - 6	
Name of main collaboration or collaborative project with the admin unit	A national triple helix healthcare cluster
Name of partner institution(s)	Norwegian Smart Care Cluster (NSCC)
Sector of partner/institution(s)/sectors involved	The whole public and private healthcare sector, including the health industry
Impacts and relevance of the collaboration	The Norwegian Smart Care Cluster (NSCC) is an in the national cluster programme with NCE status. The head office is located in Stavanger, with branches in Bergen and Grimstad, and more than 280 members and partners from across the country. NSCC is a collaboration platform for large and small businesses, municipalities, hospitals, public entities, user organisations, academia/research institutions, and investors. NSCC plays a crucial role as a coordinator to foster collaboration between the public and private sector. Their vision statement is "Generating impact through smart care solutions" and their purpose is "to build the Norwegian health industry by promoting sustainable solutions that provide a better life for users as well as cost-effective and quality-assured deliveries of health and care services." For SUH, NSCC has been an active partner in research and innovation projects, including projects with funding from the EU.
Collaboration with national institutions - 7	
Name of main collaboration or collaborative project with the admin unit	The hospitals official technology transfer office.
Name of partner institution(s)	Validé AS

Sector of partner/institution(s)/sectors involved	Technology transfer office
Impacts and relevance of the collaboration	<p>Validé is a non-profit technology transfer office (TTO) and incubator designed for early stage businesses, located in Stavanger.</p> <p>Validé fully facilitates the commercialisation of innovation projects from the early research and development phase until exit. Validé provides expertise in technology management, incubation, investment, IPR and IP portfolio management, transactions, technology marketing, prototyping, product development, and startup and scale-up programs.</p> <p>Validé is the official technology transfer office for six research institutes, and partner with two more. Validé is responsible for the IP portfolio management and commercialisation of their intellectual assets (see section 4.2).</p>
Collaboration with national institutions - 8	
Name of main collaboration or collaborative project with the admin unit	Industry and innovation partner in multiple research projects
Name of partner institution(s)	Laerdal Medical (LMAS)
Sector of partner/institution(s)/sectors involved	Health industry
Impacts and relevance of the collaboration	<p>LMAS is one of Norway's largest companies within the health industry. It is a major partner for simulation, educational training, innovation, and related research. It has been crucial for the growth and success of the research group "SAFER Births". SAFER's simulation center is also a key infrastructure for the education of personnel, medical students and nursing students. The collaboration's impact spans local, regional, national and international levels, and demonstrates both substantial and high-quality contributions.</p> <p>SUH has a formal agreement with LMAS and UiS regulating the collaboration in our joint simulation centre SAFER. SUH also has a formal innovation partnership agreement with LMAS.</p>
Collaboration with national institutions - 9	
Name of main collaboration or collaborative project with the admin unit	Co-creation arena for the health service, academia, business, patients and next of kin in Stavanger region
Name of partner institution(s)	HelseCampus Stavanger (HCS)

Sector of partner/institution(s)/sectors involved	Research and innovation sector
Impacts and relevance of the collaboration	HelseCampus Stavanger is a driving force and facilitator for creating growth and development across professional environments among health actors in our region. The HCS ecosystem has a breadth and potential that each partner alone does not have. By collaborating in a research and innovation based health ecosystem with a clear vision and ambition, we will be a driving force in knowledge development and change processes in society. SUH has a formal agreement with HelseCampus Stavanger.
Collaboration with national institutions - 10	
Name of main collaboration or collaborative project with the admin unit	Collaboration partner within oncology research and innovation
Name of partner institution(s)	Oslo Cancer Cluster (OCC)
Sector of partner/institution(s)/sectors involved	Research and innovation sector
Impacts and relevance of the collaboration	Oslo Cancer Cluster is an oncology research and industry cluster dedicated to improving the lives of cancer patients by accelerating the development of new cancer diagnostics and treatments. SUH is a member and cooperates through research projects, networks, conferences and applications for funding.

Table 4b. The main international collaborative constellations with the administrative unit

Please categorise the collaboration according to the most important international partner(s): 5-10 international institutions in the period 2012-2022. Please delete lines which are not in use.

International collaborations

Collaboration with international institutions - 1	
Name of main collaboration or collaborative project with the admin unit	Research partner in high level medical research projects
Name of partner institution(s)	Karolinska Institutet/ Karolinska University Hospital (KUH), Sweden
Sector of partner/institution(s)/sectors involved	The higher education sector and Hospital sector

Impacts and relevance of the collaboration	<p>KUH is a renowned research organisation and university hospital with competence in a wide range of clinical areas, including psychiatry, neurology, geriatrics, paediatrics and oncology. SUH and KI share mutual interest in these fields and have benefited from collaboration in multiple research- and innovation projects for many years. To further expand and develop the collaboration between our two institutions, a MoU was signed in 2021.</p> <p>SUH and KUH have also partnered with the World Health Organization (WHO) in a trial for premature infants in five low-and middle-income countries, where the primary outcome is neonatal mortality. If the intervention proves efficient, this will imply a paradigm shift in neonatology.</p>
Collaboration with international institutions - 2	
Name of main collaboration or collaborative project with the admin unit	Dementia-research and innovation
Name of partner institution(s)	Kings College London (KCL)
Sector of partner/institution(s)/sectors involved	The higher education sector
Impacts and relevance of the collaboration	<p>SUH and KCL have a strong collaboration and an MoU (signed in 2018) specified the terms of joint research positions, visiting PhD students, medical elective placements and other relevant topics and activities between the institutions. Both institutions fund research, researchers, and academic positions bilaterally, and share infrastructures and lab facilities in projects.</p> <p>This collaboration has resulted in mutual gains for advancing research and the development of the research groups involved, which in turn has generated valuable research data, innovations, and digital technology to advance the field of dementia research. Further, this has significantly impacted patient care and the quality of life for the large group of patients with dementia related disease.</p>
Collaboration with international institutions - 3	
Name of main collaboration or collaborative project with the admin unit	Dementia research
Name of partner institution(s)	University of Exeter (Exeter)
Sector of partner/institution(s)/sectors involved	The higher education sector
Impacts and relevance of the collaboration	SUH and Exeter have a strong collaboration and a MoU was signed in 2018 specifying areas for mutual research excellence, including PhD and master student collaboration, public and patient

	<p>involvement (PPI) in dementia research related to diagnosis, and non-interventional and interventional clinical studies. Both institutions fund research bilaterally and share infrastructure and lab facilities in these projects.</p> <p>This collaboration has resulted in mutual gains for the institutions, increasing the quality of research and competence of the research groups involved, as well as establishing new infrastructure. The collaboration has generated new groundbreaking opportunities and valuable knowledge for global efforts on reducing the risk of dementia and mental health issues, and early detection of dementia related disease. Further, the exemplary work on the implementation of PPI has the potential to impact PPI across all fields of health research.</p>
Collaboration with international institutions - 4	
Name of main collaboration or collaborative project with the admin unit	Pathology research
Name of partner institution(s)	Griffith University, Australia
Sector of partner/institution(s)/sectors involved	The higher education sector
Impacts and relevance of the collaboration	Since 2018, the department of pathology and the research group for breast cancer have had a collaboration with the institute for Glycomics at Griffith University. The collaboration has resulted in mutual publications, exchange of researchers/students and SUHs employer prof. Emiel Janssen holds a professor position at Menzies Health Institute at the University.
Collaboration with international institutions - 5	
Name of main collaboration or collaborative project with the admin unit	Research partner in high level medical research and innovation projects
Name of partner institution(s)	Texas Medical Centre (TMC), USA
Sector of partner/institution(s)/sectors involved	The higher education sector, Hospital sector, and Private sector
Impacts and relevance of the collaboration	<p>The relevance of this collaboration is related to research and innovation projects within several fields: cancer, cardiology, and pathology, and involves joint academic global conferences.</p> <p>This is a highly stimulating collaboration with some of the best medical institutions in the USA, as TMC is the world's most comprehensive life science ecosystem. This collaboration has had particular relevance for developing the SUH laboratory-based</p>

	cancer and pathology research, as well as clinical trials in cardiology.
Collaboration with international institutions - 6	
Name of main collaboration or collaborative project with the admin unit	Research and administrative collaboration for researchers and leadership
Name of partner institution(s)	Aalborg University and Aalborg University hospital in Denmark
Sector of partner/institution(s)/sectors involved	The higher education sector and hospital sector
Impacts and relevance of the collaboration	<p>A research and administrative collaboration for researchers and leadership was established in 2018 between the research departments of both hospitals, The Faculty of Medicine at Aalborg University, and The Faculty of Health Sciences at University of Stavanger. The MoU (signed in 2018) facilitates research collaboration in many relevant fields for SUH. These include developing health services and technologies, pre-hospital and acute medicine, clinical research, simulation and skills training, and educational and leadership strategies. Additionally, the MoU opens opportunities for establishing secondary positions for researchers and exchange programmes for research staff between the institutions.</p> <p>The most active collaborations have been in nursing practice and health care sciences, providing mutual gained experience and competence for the institutions.</p>
Collaboration with international institutions - 7	
Name of main collaboration or collaborative project with the admin unit	Research partner in high level medical research
Name of partner institution(s)	Newcastle University (Ncl), UK
Sector of partner/institution(s)/sectors involved	The higher education sector
Impacts and relevance of the collaboration	<p>The relevance of this collaboration is related to research and innovation projects within several fields: Clinical immunology, Parkinson disease, general medicine/primary health sector and gastro surgery.</p> <p>The collaboration with Newcastle University within Clinical immunology has led to two EU projects.</p>
Collaboration with international institutions - 8	
Name of main collaboration or collaborative project with the admin unit	Psychosis research
Name of partner institution(s)	Yale Medical School, USA

Sector of partner/institution(s)/sectors involved	Higher education sector
Impacts and relevance of the collaboration	This collaboration involves the research group TIPS at the Centre for Clinical Research in Psychosis at SUH. The collaboration started in 1996 and culminated in the first early detection of first episode in psychosis long-term follow up study on a catchment area based representative epidemiological sample. This demonstrated how early detection and intervention can double chances of full recovery in the long term and have yielded many high impact publications. Since the start of TIPS, PubMed lists 1104 publications with “duration of untreated psychosis (DUP)” in the title, compared to five the preceding 30 years.
Collaboration with international institutions - 9	
Name of main collaboration or collaborative project with the admin unit	Safer Births research group
Name of partner institution(s)	Haydom Lutheran Hospital, Tanzania
Sector of partner/institution(s)/sectors involved	Hospital sector
Impacts and relevance of the collaboration	The Haydom Lutheran Hospital provides access to health care for more than 900,000 people in its catchment area, and 5.7 million people in the greater reference area as a Secondary Referral Hospital. The formalization of a research collaboration with SUH was initiated in 2009 and has extended to several research initiatives at SUH, including Safer Births and Microbiology / Laboratory projects. From its beginnings in the previous millennium, the research infrastructure at the Haydom Lutheran Hospital has dramatically increased in line with national and international collaborations and has now established a highly respected research centre within its institutional setup (The Haydom Global Health Research Centre).
Collaboration with international institutions - 10	
Name of main collaboration or collaborative project with the admin unit	Antibiotic resistance (AMR) and genomic surveillance and epidemiology of <i>Klebsiella pneumoniae</i>
Name of partner institution(s)	University of Melbourne (UoM), Australia www.holtlab.net
Sector of partner/institution(s)/sectors involved	The higher education sector
Impacts and relevance of the collaboration	The collaboration between SUH and UoM involves the exchange of practical experience and competence within bioinformatics and other research approaches dedicated to investigating <i>Klebsiella</i>

	populations - a pathogen recognised as critically important by the World Health Organisation due to its concerning levels of antimicrobial resistance. The collaboration includes joint research efforts, visiting PhD students and researchers, and more.
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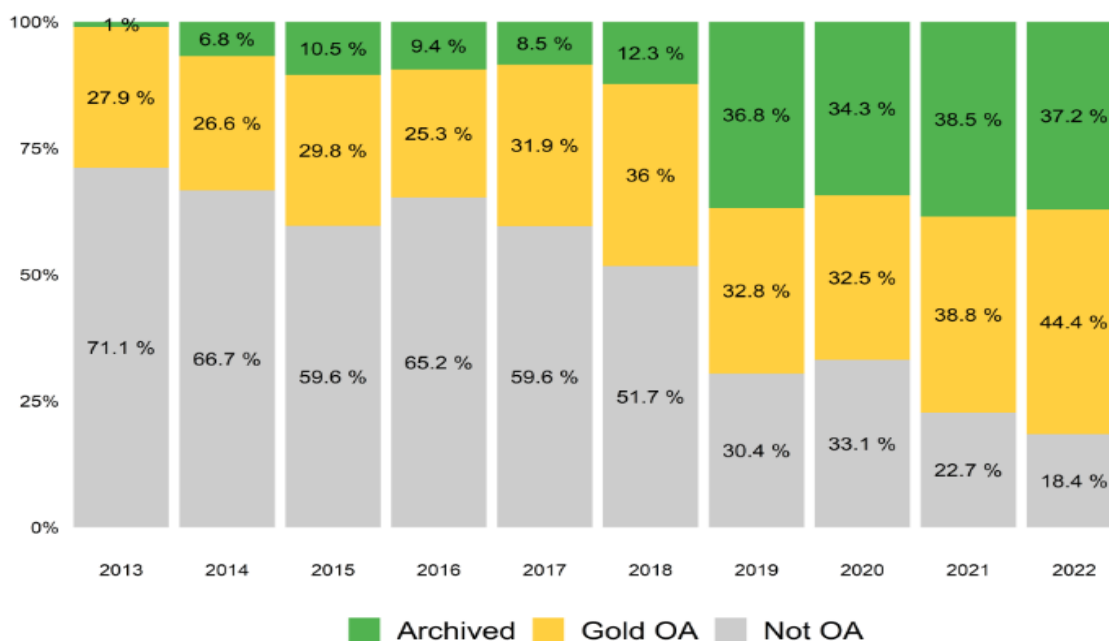
1.7 Open science policies

a) Describe the institutional policies, approaches, and activities to the Open Science areas which may include the following:

- Open access to publications
- Open access to research data and implementation of FAIR data principles
- Open-source software/tools
- Open access to educational resources
- Open peer review
- Citizen science and/or involvement of stakeholders / user groups
- Skills and training for Open Science

SUH adheres to the national guidelines from the Norwegian authorities ([National goals and guidelines for open access to research articles \(regjeringen.no\)](#)), where the goal is to make all publicly funded research articles openly available by 2024. The Sikt consortium is the national coordinator for achieving this goal and negotiates national agreements with publishers ([Open Science in Norway \(openscience.no\)](#)). Through these agreements, authors/researchers at SUH can publish open access at negotiated terms. The number of open access publications by SUH have increased from approx. 29% in 2013 to approx. 82% in 2022.

Figure 3 Open access status distribution by year at Stavanger University Hospital



SUH researchers/staff have access to publications, open access platforms (e.g., UiS Brage), as well as open source tools and educational resources via the SUH library ([SUS-library \(squarespace.com\)](#)).

Funding and compensation options for SUH researchers to use open access resources are varied. SUH has the opportunity to get article processing charges (APCs) for open access publications reimbursed as overhead (indirect costs) from the Research Council of Norway (rcn.no/research-policy-strategy/open-science). Typically, researchers at SUH apply for open access funding through their external projects, and often share open access support with other institutions or research groups. SUH researchers affiliated with UiS may also benefit from UiS support for APCs through the UiS library's publishing funds (uis.no/en/open-access).

SUH try to adhere to the international commitment made by the Norwegian government to make research data available according to the FAIR principles. However, there is a limited number of approved data sharing infrastructures available for Norwegian researchers to share data in compliance with the Norwegian privacy regulations. National efforts are ongoing to facilitate this, and SUH is an active partner in this work (e.g., through the national NorCRIN work for standardisation of data for data sharing purposes). In 2024 the Sikt consortium will launch a new data sharing infrastructure as part of the Norwegian National Science Archive (nva.sikt.no). Throughout the evaluation period, researchers at SUH commonly utilized data sharing infrastructure such as the TSD – Service for Sensitive Data, REDCap and VieDoc ([Collection and storage of research data \(helse-stavanger.no\)](https://collectionandstorageofresearchdata.helse-stavanger.no)).

Registries are a concrete example of work done by the hospital units/research groups to promote open science. The registries support making data accessible to researchers on a national level, within national legislation. E.g. Stavanger University Hospital are responsible for three national registries; they are The Norwegian Parkinson Register, National quality treatment register for psychiatric disease in adults and National quality register for treatment of harmful use or addiction to drugs.

[Registries in Helse Stavanger - Helse Stavanger HF \(helse-stavanger.no\)](https://registries.in.helse-stavanger.no)

b) Describe the most important contributions and impact of the administrative unit's researchers towards the different Open Science areas cf. 1.7a above.

The administrative unit encourages researchers to publish in Open Science areas and guides them to where they can find funding covering publication costs for open access publication. The administrative unit also facilitates for data sharing, as well as providing access to publications and open access platforms, tools and educational resources.

This is likely to have contributed to the strong increase of open access publications through the period, which in turn have contributed to a large number of high-quality publications openly available for the global health, research and educational communities ([Safer Births – Safer Births](https://saferbirths.no)). Through open science and facilitation of data sharing, it will be much easier to spread the science and make an impact in countries with limited resource settings where Safer Births is working.

The facilitated access for SUH researchers and staff to publications and open access resources is likely to have had an impact on the standard of medical/health practice at the institution, as well as the development of research groups and education of medical personnel, as it allows for evaluation and potential further integration of the continuous new developments/discoveries within science.

c) Describe the institutional policy regarding ownership of research data, data management, and confidentiality. Is the use of data management plans implemented at the administrative unit?

SUH's general policy on ownership of research data is that the different partners/parties of a project acquire all rights to the project results generated by themselves, their employees and any

subcontractors involved on their part. Further, ownership of research data is regulated through collaboration agreements, while sharing of data is regulated by data transfer agreements.

SUH adhere to the national regulation given in The Personal Data Act ([The Personal Data Act \(forskningsetikk.no\)](https://forskningsetikk.no)) for data management and confidentiality of research data. This is incorporated into SUH practises by internal routines through standard operating procedures (SOPs) for conducting research and mandatory Good Clinical Practice training for staff involved in research activities, to ensure that all personal data is handled in accordance with the law.

Furthermore, all research activity at SUH that adheres to The Personal Data Act, is registered, evaluated and documented by data protection trained staff through the software: eProtokoll ([eProtokoll \(ihelse.net\)](https://ihelse.net)) prior to project start-up and if/when substantial project modifications occur.

The use of data management plans is implemented at SUH according to internal SOPs and the national NorCRIN SOP for data management (norcrin.no/data-management.pdf), as well as advisory services from the Sikt consortium if considered necessary ([Data management plan \(sikt.no\)](https://sikt.no)).

1.8 SWOT analysis for administrative units

Instructions: Please complete a SWOT analysis for your administrative unit. Reflect on what are the major internal Strengths and Weaknesses as well as external Threats and Opportunities for your research and innovation activities/projects and research environment. Assess what the present Strengths enable in the future and what kinds of Threats are related to the Weaknesses. Consider your scientific expertise and achievements, funding, facilities, organisation and management.

Internal Strengths	<p>Organizational Structure:</p> <ul style="list-style-type: none"> The unit boasts a small yet highly experienced team with diverse specialties, providing comprehensive support for research. The team is centralized within one unit at the hospital, fostering a short distance between researchers and management, ensuring efficient information flow and streamlined coordination of research projects. <p>Strategic Management and Partnerships:</p> <ul style="list-style-type: none"> Effective establishment and management of research priorities. Strong strategic research prioritization and facilitation for increased funding at both national and international levels. Active participation in national networks and collaborations. <p>Collaboration and Integration:</p> <ul style="list-style-type: none"> Integration of research within the clinical environment, with researchers employed in clinical settings, enhancing the relevance of research and the quality of education. Facilitation of external cooperation and active user involvement, ensuring a well-rounded and impactful research process. <p>Resource and Support:</p> <ul style="list-style-type: none"> Provision of well-specified research support, including infrastructure, research guidance, and assistance in applying for external funding. Ongoing training and development opportunities for researchers. Flexibility in offering support functions tailored to researchers' needs.
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	<ul style="list-style-type: none"> Facilitation of access to patient data and data sharing to enhance research capabilities.
<p>Internal Weaknesses</p>	<p>Organizational Structure:</p> <ul style="list-style-type: none"> The unit's small size poses limitations, stretching certain functions beyond capacity and becoming a constraint on progress. <p>Strategic Management and Partnerships:</p> <ul style="list-style-type: none"> Despite improvements in external funding acquisition, overall funding for research remains insufficient. Opportunities to strengthen the best research environments are lacking, hindering the growth of promising researchers. Difficulty in achieving innovation goals poses a challenge. <p>Collaboration and Integration:</p> <ul style="list-style-type: none"> While the strong focus on integrating research into clinical settings is beneficial, it comes with a drawback. Pressures on the healthcare system and limited capacity within clinical environments can lead to the deprioritization of research. Recruitment and retention of talented researchers presents challenges. <p>Resource and Support:</p> <ul style="list-style-type: none"> Insufficient support for research outside of that provided by the unit and local clinic support could be enhanced. Underutilisation of some biobanks, possibly reflecting a shortage of laboratory space or personnel. Implementation of new technology for data collection and analysis is time-consuming.
<p>External Opportunities</p>	<p>Strategic Alignment and location:</p> <ul style="list-style-type: none"> Aligning closely with SUH's uniform and straightforward organizational nature to more effectively plan and execute research projects. Leveraging the stable and transparent population base surrounding SUS, considering the unit's strategic location in relation to the population. Relocation of SUH main campus will bring the researchers in closer proximity to the University of Stavanger <p>Collaboration and Integration Potential:</p> <ul style="list-style-type: none"> Capitalizing on the considerable scope for collaboration, seen in international co-authorship and invitations to participate in others' applications, for expanding collaborative efforts. Strengthening collaborations with innovation environments nationally and internationally and exploring cross-sectoral partnerships for enhanced research capabilities to meet innovation goals. Utilising opportunities presented by Nortrials for extensive clinical research initiatives and access to advanced medical equipment, fostering collaborations for the advancement of clinical research. <p>Funding Potential:</p> <ul style="list-style-type: none"> Actively exploring and capitalizing on funding opportunities at both national and international levels to support and advance research initiatives. Specifically targeting the unique competences within our research cohort, including simulation, digital pathology, and dementia, to strategically enhance funding pursuits.

<p>External Threats</p>	<p>Strategic Alignment and Location:</p> <ul style="list-style-type: none"> • Lacking proximity and co-location with a university, but potential for improvement when the main SUH site relocates. • Lack of independent medical education reduces the number of junior positions available to contribute and integrate into the research environment at SUH. • Authorities' requirement to constantly increase patient treatment poses a threat to research activities. <p>Collaboration and Integration Potential:</p> <ul style="list-style-type: none"> • Asymmetry between mission and funding poses a challenge, particularly in integrating the entire hospital into research initiatives. <p>Funding Potential:</p> <ul style="list-style-type: none"> • The structure in Norway, being relatively small, makes it challenging to compete for research funds. Larger environments are prioritized in the allocation of research funds, presenting difficulties for obtaining financing in certain contexts. <p>Legislation:</p> <ul style="list-style-type: none"> • Legislation, especially GDPR, poses a threat by restricting data flow, potentially hindering research activities and requiring careful consideration and compliance to navigate these regulatory challenges.
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2. Research production, quality and integrity

2.1 Research quality and integrity

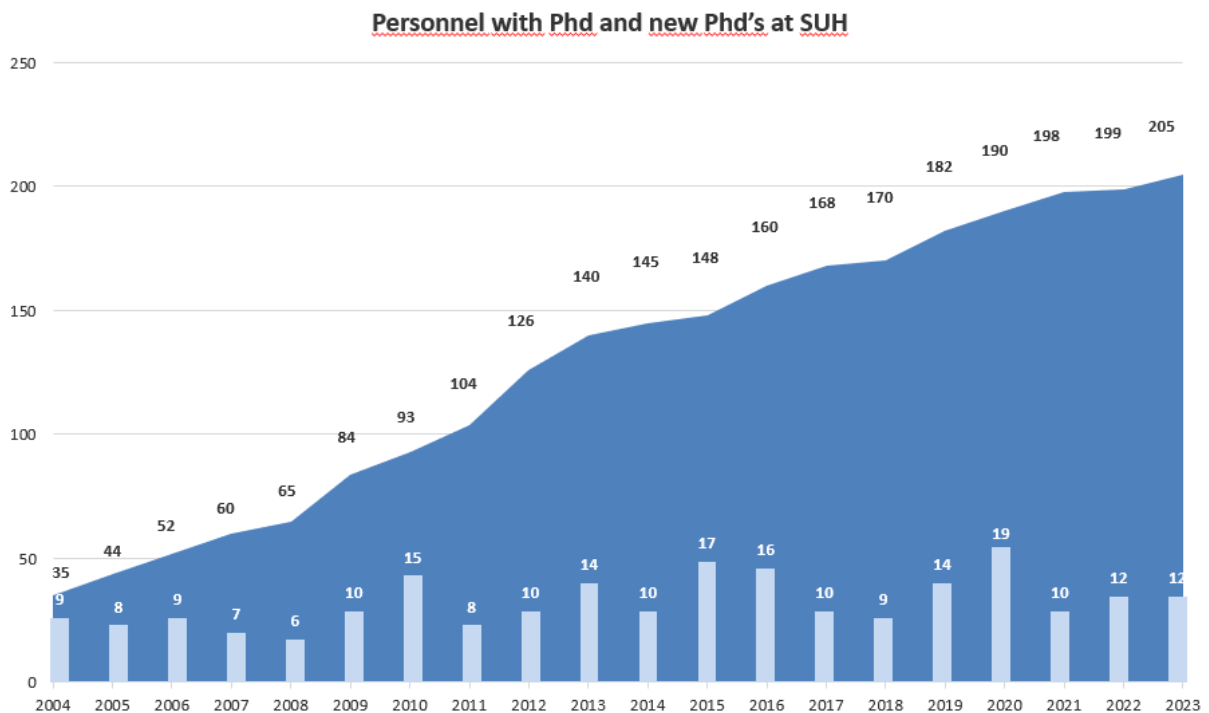
Please see the bibliometric analysis for the administrative unit developed by NIFU.

a) Describe the scientific focus areas of the research conducted at the administrative unit, including the unit's contribution to these areas.

The main focus at the hospital is on clinical epidemiological research, translational research and health services research, with some basic research also conducted. The overall research production of SUH has shown a steady increase since it became a university hospital in 2004 up to 2022. Notably, there has been an increase from 68 to 358 international scientific publications, from 44 to 200 persons with a PhD, and from under 10 to 10-19 PhDs per year (See figure 4).

The quality in the research is also commendable. From 2012 to 2022 over 24% of our publications have been in level 2 publications, and 56% of our publications include international coauthors.

Figure 4 Historical development of personnel with a PhD at Stavanger University hospital



The institution has 22 research groups, with 9 of them fulfilling the requirements for delivering self-assessment for this evaluation. These are: Safer Births, Breast Cancer, Cardiology, Clinical Immunology, Centre for Alcohol and Drug Research, The Centre for Movement Disorders, Centre for Age-related Medicine, Nursing and healthcare science, and Early detection and Intervention in Psychosis.

An accumulated citation count and analysis (shown in the in the [NIFU report for this evaluation](#)) shows that SUH scores considerably high and well above world and Norwegian average on normalized citation score (MNCS) (average 194 from 2019-2021). Further, a very high percentage of our publications are among the most cited (17,6 % from 2019-2021) on citation percentile (see figure 5).

Figure 5 Citation score and SUH share of publications that are among the 10 % most cited publications

Year	Share of 10 % most cited publications	Mean normalised citation score
2013	17.2 %	158
2014	12.2 %	115
2015	17.4 %	216
2016	15.9 %	166
2017	18.7 %	166
2018	12.4 %	120
2019	16.7 %	153
2020	15.2 %	216
2021	20.5 %	205
Average 2019-2021	17.6 %	194

The hospital and its research groups publish their research in many fields and journals. This is shown in the illustration made from Web of Science of the hospital's publications from 2022, with the number of publications categorised into different research fields. Notably, the largest fields in this figure are dominated by the research groups that are a part of this evaluation (Figure 6).

Figure 6 Publications from SUH in 2022 categorised into different research fields

b) Describe the administrative unit's policy for research integrity, including preventative measures when integrity is at risk, or violated.

Under the authority of the CEO, the administrative unit is responsible for establishing and maintaining an organisation and a comprehensive set of procedures to ensure that the research activities at SUH are in accordance with current legal requirements and ethical standards.

According to section 1-5 of the 2005 act relating to universities and university colleges, institutions are required to promote and safeguard academic freedom. This includes granting individual researchers the autonomy to choose the topic and method for their research or development work within the framework that follows from the employment contract. As most research at SUH is carried out in cooperation with universities, this requirement is also applied here to safeguard the professional integrity of researchers and their projects. The administrative unit regularly disseminates information through newsletters and presentations on legal and ethical issues to the researchers.

To fulfil the institutional obligations for SUH to ensure research is prudent and safe, a set of structures and procedures have been established. The “eProtokoll” system is used for the registration and approval of every research project. Through this system, the administrative unit maintains an overview of the formal aspects related to SUH’s projects, ensuring the necessary formal permissions are obtained before project commencement. The administrative unit also initiates audits of the research activities. A system audit was performed December 2022, with follow up of deviations through 2023. SUH also adheres to the system of following up cases of possible research misconduct in the Western Norway Regional Health Authority.

2.2 Research infrastructures

a) Participation in national infrastructure

Describe the most important participation in the national infrastructures listed in the Norwegian roadmap for research infrastructures (Norsk veikart for forskningsinfrastruktur) including as host institution(s).

SUH is a participant in and contributes to the Biobank Norway, a national biobank research infrastructure, and NorCRIN, the Norwegian Clinical Research Infrastructure Network. Additionally, SUH and its researchers utilise several national infrastructures, such as NORBRAIN (Norwegian brain initiative: a large-scale infrastructure), E-INFRA 2020 (A National e-infrastructure for Science), NorSeq (National Consortium for Sequencing and Personalized Medicine), NAPI (Network of Advanced Proteomics Infrastructure), NNP (The Norwegian NMR Platform), NORMOLM (Norwegian Molecular Imaging Infrastructure – National node in Euro-Bioimaging), PCRN (The Norwegian Primary Care Research Network), and MocoData (National Microdata Platform for Norwegian and International Research and Analysis).

Norway has several studies and infrastructure networks related to personalized medicine, with SUH actively participating in these: MATRIX (National research center for clinical cancer treatment), IMPRESS-Norway (Clinical trial for cancer patients), InPreD (National infrastructure for precision diagnostics in cancer treatment), CONNECT (Norwegian Cancer Precision Medicine Implementation Consortium), and NorPreM (National competence network for personalised medicine).

Table 5. Participation in national infrastructure

Please present up to 5 participations in the national infrastructures listed in the Norwegian roadmap for research infrastructures (Norsk veikart for forskningsinfrastruktur) for each area that were the most important to your administrative unit.

Areas in roadmap	Name of research infrastructure	Period (from year to year)	Description	Link to website
Medicine and health	Norwegian Clinical Research Infrastructure Network I, II	2015 - 2028	NorCRIN is a Norwegian national research infrastructure body. Its primary objective is to strengthen and simplify collaboration in all categories of clinical research in Norway.	What is NorCRIN? - www.norcrin.no
Medicine and health	Biobank Norway 1-5- a national research infrastructure for clinical and population based biobanks	2009 - 2027	Biobank Norway represents one of the world's largest existing resources within biobanking covering both consented population-based and disease-specific clinical biobanks.	Front page Biobank Norway (bbmri.no)

b) Participation in international infrastructures

Describe the most important participation in the international infrastructures funded by the ministries (Norsk deltakelse i internasjonale forskningsorganisasjoner finansiert av departementene).SUH is currently not participating in any of the international research organizations (infrastructures) funded by the ministries.

Table 6. Participation in international infrastructure

Please describe up to 5 participations in international infrastructures for each area that have been most important to your administrative unit.

Not applicable for our unit

c) Participation in European (ESFRI) infrastructures

Describe the most important participation in European (ESFRI) infrastructures (Norske medlemskap i infrastrukturer i ESFRI roadmap) including as host institution(s).SUH does not participate in any of the ESFRI, but through the national infrastructures Biobank Norway and NorCRIN, SUH has access to and uses the national representatives in BBMRI ERIC - Biobanking and Biomolecular Resources Research Infrastructure and ECRIN ERIC - European Clinical Research Infrastructures Network.

Table 7. Participation in infrastructures on the ESFRI Roadmap

Please give a description of up to 5 participations that have been most important to your administrative unit.

Not applicable for our unit

d) Access to research infrastructures

Describe access to relevant national and/or international research infrastructures for your researchers. Considering both physical and digital infrastructure.

The most relevant national research infrastructures for our unit are:

- [NORCRIN](#), NorCRIN is a Norwegian national research infrastructure body. Its primary objective is to strengthen and simplify collaboration in all categories of clinical research in Norway.
- [Biobank Norway](#), A national biobank infrastructure for global research collaboration. Biobank Norway represents one of the world's largest existing resources within biobanking covering both consented population-based and disease-specific clinical biobanks
- [TSD](#), Service for sensitive data (University of Oslo) The TSD is a platform for collecting, storing, analyzing and sharing sensitive data in compliance with the Norwegian privacy regulation.
- [MR Core Facility](#) (Trondheim). MR Core Facility offers the latest technology in MR-scanning and MS imaging as well as technical support and expertise.
- [NorSeq](#), The Norwegian Consortium for Sequencing and Personalized Medicine (Oslo University Hospital)
- [PROBE](#), The Proteomics Unit (University of Bergen). PROBE is a national core facility for large scale protein analysis using mass spectrometry, and a member of the National Network of Advanced Proteomics Infrastructure.
- [NAPI](#), National Network of Advanced Proteomics Infrastructure (University of Oslo), NAPI is a national platform that drives progress in mass spectrometry-based proteomics across the life sciences in Norway
- [National health registries](#) (NIPH; Norwegian Institute of public Health). The Department of Health Registries manages and analyses data and has data responsibility for six statutory central health registries.
- [NORM](#), Norwegian Surveillance System for Antimicrobial Drug Resistance (NIPH; Norwegian Institute of public Health). NORM is the national monitoring system for antimicrobial resistance among humans.
- [DSComputing](#) Data a-centered and Secure Computing (University of Stavanger) Used for AI and innovation data

The most relevant international research infrastructures for our unit are:

- SNP&SEQ Technology Platform at Uppsala University, Sweden (www.genotyping.se). A laboratory service for DNA analyses.
- [Clinical Genomics Core](#) of the OMRF (Oklahoma Medical Research Foundation) in Oklahoma, USA, laboratory service for DNA analyses.

e) FAIR- principles

Describe what is done at the unit to fulfil the FAIR-principles.

Although we have not used the term FAIR principles at SUH, we try to guide researchers to make data more accessible so that it can be used again. Integrating the FAIR principles into a hospital setting poses significant challenges, particularly in practical applications, mainly due to the sensitive nature of health and disease information contained in the data files. However, in our research department, we oversee projects and contact researchers when data expires, encouraging them to anonymize data to make them findable, accessible and reusable.

The data utilized in our research projects encompass both primary data (derived from our own samples, surveys, etc.) and secondary data (extracted master data from registries, patient journals, administrative systems, etc.). Numerous research groups within our unit maintain registries, and detailed information is accessible on our webpage. Nonetheless, the legal framework introduces complexities that may hinder data reusability. Despite these challenges, our administrative unit encourages researchers to prioritize data reuse and collaborate with other research environments, aligning with our commitment to fostering broader data accessibility and usability within the research community.

3. Diversity and equality

Describe the policy and practices to protect against any form of discrimination and to promote diversity in the administrative unit.

SUH works actively and systematically to promote equality and diversity and to protect against any form of discrimination. The “Policy for Equality, Inclusion and Diversity at Stavanger University Hospital (updated in 2022)” states that everyone who works at SUH shall have equal opportunities regardless of gender and other diversity dimensions such as ethnicity, religion, age, functional ability, sexual orientation, political views and cultural background. An equal and inclusive working environment is considered a success criterion for well-being, recruitment and excellence. The policy has specified objectives and focus areas to promote equality, diversity and inclusion in the workplace, including recruitment, salary, working conditions, promotion opportunities, and facilitating work-home balance and family life. Additionally, it addresses protection against all forms of harassment, violence and threats.

The anti-discrimination work is anchored and reflected in various internal strategies, tools, teaching, guidelines, routines, and personnel policy in general. SUH has established a specific diversity and inclusion committee with 7 members from management, employee representatives, safety delegates, human resources and the occupational health service of SUH. The committee reports to the Working Environment Committee, and shall discuss, assess and propose measures that will contribute to achieving the outlined objectives in the policy for Equality, Inclusion, and Diversity.

Another practice to ensure and validate compliance with the policy, is the annual psychosocial and organizational working environment survey (i.e. ForBedring). The questionnaire based “ForBedring” survey is mandatory for all employees at SUH, and has specific questions about equal rights, discrimination, harassment, violence and threats. Furthermore, all employees at SUH are encouraged to report deviations from the policy in Synergi (Synergi is a regional electronic system for recording and processing unwanted incidents). Moreover we have a procedure (EQS ID1325) that dictates how to handle incidents and deviations at SUH.

In addition, specific objectives to promote equality and gender balance in research are described in the Gender Equality Plan for SUH (2023-2028). A Gender Equality Plan is also an eligibility criterion for applying for (and receiving) EU-funds, as well as funds from the Research Council of Norway.

Table 8. Administrative unit policy against discrimination

Give a description of up to 5 documents that are the most relevant. If the administrative unit uses the strategies, policies, etc. of a larger institution, then these documents should be referred to.

Please delete lines which are not in use.

No.	Name	Valid period	Link
1	Gender Equality Plan Stavanger University hospital (Document in Norwegian)	2023 - 2028	https://www.helse-stavanger.no/gender-equality-plan_2023-2028.pdf
2	Policy for Equality, Inclusion and Diversity at Stavanger University Hospital (Document in Norwegian)	2022-	https://www.helse-stavanger.no/491c85/siteassets/documents/nyansatt-og-medarbeider/likestillingsredegjorelse-for-helse-stavanger-hf-2022.pdf

4. Relevance to institutional and sectorial purposes

4.1 Sector specific impact

Describe whether the administrative unit has activities aimed at achieving sector-specific objectives or focusing on contributing to the knowledge base in general. Describe activities connected to sector-specific objectives, the rationale for participation and achieved and/or expected impacts. Please refer to chapter 2.4 in the [evaluation protocol](#).

- Alternatively, describe whether the activities of the administrative unit are aimed at contribution to the knowledge base in general. Describe the rationale for this approach and the impacts of the unit's work to the knowledge base.

The administrative unit builds its activities upon the legal requirements outlined in the act related to specialised health care, section 3-8 no. 3 (<https://lovdata.no/lov/1999-07-02-61>), which defines research as a primary obligation of a hospital. In compliance with this, and the requirements of the Western Norway Regional Health Authority as the hospital owner, the administrative unit, acting on behalf of the CEO, has established a strategic plan that is regularly updated and renewed. In this plan, the overarching developmental aims for research activities are set, based on needs and risk assessments done locally.

A key responsibility for the administrative unit is to assist and enable clinical-based research groups to apply for funding and to advise them on formal (legal, ethical) aspects related to planning and executing research projects. This task is highly prioritised because the majority of our research

projects are closely linked to the ongoing delivery of specialised health services at the hospital's clinical units.

Moreover, the unit aims to enhance sector specific impact by establishing a set of sustainable research groups, each focused on a specific clinical topic or professional area, as outlined in chapter 1.5 in this document and chapter 2.4 in the evaluation protocol. Also, as detailed in chapters 1.5 and 1.6, SUH is engaged in several national and international networks, which are tightly integrated with routine health sector activities.

In general, the research activities are planned and performed to align with the core objectives of the specialised health services, as per the act relating to specialised health care (see section 3-8). Hospitals, beyond their obligations to research (section 3-8, no 3) and treatment of patients (section 3-8, no 1), are also mandated to engage in the education of health personnel (section 3-8, no 2) and teaching of patients and their relatives (section 3-8, no 4). The majority of our research projects are rooted in clinical activities, focusing on the investigation and treatment of patients.

As highlighted in part 1 of this document, research complements the dedication of health personnel, aiming not only to train them as researchers (PhD), but also supporting basic professional training (e.g. master and bachelor degrees). Several research projects also consider the need to provide support and education to patients and their relatives on coping with their own diseases and assisting sick and impaired patients in private relationships. Examples of projects addressing this need are found among projects related to cancer care, psychiatric care, and care for patients with dementia.

In 2023 SUH entered into a letter of intent with UiS, expressing its support to join the university in efforts to establish a new centre for the study of sustainable health systems. Another key partner in this collaboration is the research centre Norce. This local endeavour aims to optimise innovative and research forces to support knowledge-based developments in the health system, aligning with political and administrative challenges highlighted in recent public reports, such as NOU 2023:4 (The health personnel commission), NOU 2023:8 (The hospital commission), and upcoming documents related to a renewed prioritization debate.

Previously, SUH has joined forces with UiS in establishing "The Health Campus" (Helsecampus), which aims to be a meeting place and collaborative space for innovation and research in the intersection between public service providers, business partners, and academic institutions. An example of a successful and lasting project in line with this idea is the simulation organisation SAFER.

4.2 Research innovation and commercialisation

a) Describe the administrative unit's practices for innovation and commercialisation.

The administrative unit support different types of innovation initiatives, encompassing both service and product innovation, with and without commercial potential. Research projects are screened to consider the commercial potential, in collaboration with our [Technology Transfer Office \(TTO\)](#), Validé AS. Results from other types of projects are internally evaluated for commercial potential before exploring a commercial pathway, normally in consultation with the TTO. The TTO then ask for a Disclosure of Innovation (DOFI) for the solution and supports the commercialisation process. For intellectual property rights (IPR), SUH initially holds the rights to the invention. Rights and duty for the inventor are settled between the TTO and SUH in a commercialisation agreement. If a commercialisation partner already is in place, SUH may, in some cases, independently finalise the agreement. Our policy on IPR is outlined in a regional regulation (see table 9).

b) Describe the motivation among the research staff in doing innovation and commercialisation activities.

The researchers' motivation for innovation and commercialisation can be divided into five main points: 1) societal impact/improved patient outcomes, 2) professional recognition (e.g. regional innovation prize, presentation at conferences, publication in scientific journals, editorial reviews etc), 3) funding sources (if dependent), 4) collaboration (to collaborate with other actors, as companies), and 5) personal monetary incentive (i.e. for commercialisations). The unit seeks to have activities which support these topics, partly based on ISO 56000 recommended activities. In our experience, the researchers at SUH are mainly focused on number 1 and 4, secondly on 3 and 5, and thirdly on 2. They opt for a commercial direction, especially when they believe it's the most effective way to bring the invention to use.

c) Describe how innovation and commercialisation is supported at the administrative unit.

The administrative unit provides guidance to research and innovation projects, with or without commercial potential. This proactive approach allows the unit to maintain an overview of active projects and to analyse them on a broad scale. The unit supports projects with various services, including project management, start-up assistance, addressing challenges throughout the project lifecycle, contract negotiation, and application for relevant approvals.

Furthermore, the unit gives recommendations to management and researchers on fostering the adoption of the solution(s), protecting intellectual property rights, and outlining the rights and obligations for the ideator. In cases where a project holds commercial potential, we work with our TTO to protect and commercialise the solution.

Table 9. Policies for innovation including IP policies, new patents, licenses, start-up/spin-off guidelines
Describe up to 5 documents of the administrative unit's policies for innovation, including IP policies, new patents, licenses, start-up/spin-off guidelines, etc., that are the most relevant. If the administrative unit uses the strategies, policies, etc. of a larger institution, then present these documents. Please delete lines which are not in use.

No.	Name	Valid period	Link
1	Procedure for commercial exploitation of work and research results (only in Norwegian)	23.6.2022- (last updated version: 10.10.23)	https://kvalitet.sus.no/dok/docs/doc_43450/index.html
2	Regulations for the transfer of rights to work results from employee to employer (only in Norwegian)	21.11.2019 (last updated version: 30.8.2023)	https://kvalitet.sus.no/dok/docs/doc_54669/index.html

Table 10. Administrative description of successful innovation and commercialisation results

Please describe up to 10 successful innovation and commercialisation results at your administrative unit in the period 2012-2022. Please delete lines which are not in use.

No.	Name of innovation and commercial results	Link	Description of successful innovation and commercialisation result.
1	Multi Criteria Decision Analysis Tool (MCDA)	https://www.smartcrowding.com/english/	Spin-off in 2014 (licence agreement), commercialised from 2015 in private company. Raised 17mNOK in private capital
2	AMK Simulator	https://skills.ai/	Development started in 2018 (license agreement), commercial solution from 2022. Raised 8.2mNOK in private capital
3	NeoBeat	https://shop.laerdalglobalhealth.com/product/neobeat/	Developed in collaboration with Laerdal Medical, in sales from 2019.
4	Board game: Together	Sammen (sammenkartet.no) (Norwegian)	Commercialised in 2022, royalty based on sales, first payout 2023

4.3 Higher education institutions

a) Reflect how research at the administrative unit contributes towards master and PhD-level education provision, at your institutions and beyond.

The research and related support functions led by the administrative unit play a pivotal role in supporting master's and PhD students, including those in medical studies, in their day-to-day academic pursuits and progression toward degrees. While master's and PhD degrees are formally awarded by universities, their attainment is intricately connected to the collaborative efforts among researchers and the functions provided by the hospital, including supervision and co-supervision responsibilities by our researchers within the clinics. The increasing number of PhD graduates over the evaluation period serves as a noteworthy benchmark for the administrative unit. This commitment to research and education not only aligns with the broader clinical objectives but also proves to be invaluable and essential for the administrative unit's ongoing success and contribution to high-level education.

b) Describe the opportunities for master students to become involved in research activities at the administrative unit.

The administrative unit is dedicated to facilitating the engagement of master's students in meaningful research activities. The support provided includes assistance for students seeking to collect data within the hospital, ensuring a solid legal basis for their studies, establishing internal contacts, and addressing practical issues.

To further encourage involvement, researchers from the hospital proactively engaged in the university's project allocation processes, submitting proposals and participating in the annual

marketplace event at the UiS. Students, primarily from The Health Faculty and The Faculty of Science and Technology, are provided the opportunity to participate in clinical and basic research projects. The collaborative efforts extend beyond the immediate university community, as master's students from other universities and university colleges are welcomed to conduct their data collection within our hospital. Further, master's students can apply for scholarships offered by SUH, covering a portion of their study-related expenses.

By offering a comprehensive framework of support, SUH aims to create a vibrant environment for master's students to actively join the research community, contribute to ongoing projects, and enhance their academic and professional development.

c) **ONLY** for administrative units responsible for the Cand.med. degree programme, cf.

- *Reflect on how research at the administrative unit contributes towards the quality of the Cand.med. degree programme at your institutions and beyond.*
- *Describe the different opportunities for students on the Cand.med. degree programme to become involved in research activities at the administrative unit, and the extent to which students use those opportunities.*

Not a responsibility for the hospital as a research institution

4.4 Research institutes

a) *Describe how the research and innovation activities/projects at the administrative unit contribute to the knowledge base for policy development, sustainable development, and societal and industrial transformations more generally.*

By its very nature, clinical research aims at changing current healthcare practices and laying the foundation to address health related challenges and diseases. Our most important collaborating partners are other clinical institutions, in particular national and international hospitals. Moreover, a significant number of research projects centre around clinical trials, fostering close partnerships with pharmaceutical companies.

In our international outreach projects related to improving conditions for mothers and newborns, SUH maintains a close and ongoing relationship with Laerdal Medical and Laerdal Global, which both have their main offices in Stavanger. In addition to cooperation on the development of equipment, this collaboration also has led to research-based development of simulation training programmes, especially related to acute health care. Additionally, some projects are related to the development of new equipment and practices in acute medicine, performed in cooperation with the regional branch of the Norwegian Veterinary Institute. This provides SUH with the possibilities to conduct trials on animals and to collaborate with highly skilled scientists in veterinary medicine.

Several key research projects have contributed to the revision and improvement of guidelines and policies, both nationally and internationally. Through close relationships with national and international partners, these projects have contributed to substantive change in health service delivery practice. One example is the collective findings of the Safer Births program leading to an expanded Safer Births Bundle of Care (SBBC). Starting from intervention in one hospital, the program scaled up to 30 and then expanded to another 150 hospitals in Tanzania. The intervention

demonstrated the potential to reduce the cost of one life saved from USD 76 to USD 6 through scaling up to a wider range of hospitals. This cost-effectiveness, well below the WHO threshold of USD 100, prompted The Tanzania Ministry of Health to add the SBBC to its national mother and child service delivery program, following validation by the International Liaison Committee On Resuscitation (ILCOR) and WHO.

b) Describe the most important research activities with partners outside of research organisations.

As part of the coordination reform fostering collaboration between hospitals and municipalities in Norway, SUH has played a pivotal role since 2014 by establishing an advisory board dedicated to research activities situated at the intersection of hospital and municipal responsibilities in our region. This advisory board has successfully initiated research projects in areas such as enforced nursing home facilities, communication protocols between hospitals and municipalities during the Covid-19 pandemic, and the evaluation of future home-related care facilities' capacity in municipalities, aiming to alleviate the strain on hospital services. This advisory board will be reorganised as part of the ongoing reorganisation of the cooperation between the hospital and the local municipalities.

Furthermore, since 2015, SUH has forged close ties with research activities at UiS, particularly focusing on societal safety measures. This collaboration has concentrated on enhancing emergency preparedness measures within local communities. Currently, the collaboration is directed towards research on the prevention of incidents and the development of strategies for dealing with emergencies in road tunnels. This multifaceted engagement underscores SUH's commitment to addressing challenges at the nexus of healthcare, community safety, and emergency response.

4.5 Health trusts

a) Reflect on how the administrative unit's clinical research, innovation and commercialization contribute towards development, assessment and implementation of new diagnostic methods, treatment, and healthcare technologies.

The unit actively supports researchers and clinicians, playing a key role in fostering innovation and clinical research. Our services encompass application support, funding assistance, and expertise in areas such as data management and security, biobanking, laboratory analysis, and innovation management. While successful in many areas, ongoing efforts are in place to address capacity limitations and further enhance project support.

Within clinical research, innovation and commercialization, the unit focuses on the development, assessment, and implementation of new diagnostic methods, treatments and healthcare technologies. Noteworthy infrastructure initiatives, including [NorCrin](#), [NorTrials](#), and the research lab significantly contribute to advancing healthcare practices.

Our commitment to personalized medicine is evident through active participation in key national initiatives and networks, such as the National Research Center for Clinical Cancer Treatment (MATRIX), IMPRESS-Norway (Clinical trial for cancer patients), National Infrastructure for Precision Diagnostics in Cancer Treatment (InPreD), Norwegian Cancer Precision Medicine Implementation Consortium (CONNECT), and National Competence Network for Personalized Medicine (NorPreM).

Within SUH, the research groups have made notable contributions through innovative diagnostic methods and improvements in treatment, for example in digital pathology ([PiV](#) – see impact case), [SaferBirths](#) (see impact case), and the research environment for simulation is dedicated to

developing, assessing, and implementing new diagnostic methods, treatment, and healthcare technologies.

Furthermore, our participation in the national infrastructure for clinical trials, NorTrials, enhances efficiency and collaboration in industry-funded clinical trials in Norway. SUH's NorTrial Center for Clinical Immunology actively contributes to the implementation of new diagnostic methods and treatment. Numerous research groups within SUH leverage new healthcare technologies, fostering ongoing innovation and advancements in the field.

b) Reflect on how research at the unit contributes towards the quality of relevant education programme at your institutions or beyond.

SUH has been involved in the education of medical students in cooperation with the UiB since 1999. The Unit, along with the research groups, routinely organize and contribute to basic and specialized clinical training. Scientific training and education are provided from BSc and masters degrees, to PhD and postdoc levels: This activity encompasses diverse fields and disciplines in cooperation with UiB, the UiS and other international universities.

Several researchers hold formal academic affiliations with UiS or UiB and actively participate in the development and delivery of graduate programs and courses. All educational activities from the master's level are founded on research, and the strong connection between research, education and clinical work significantly enhances the quality of all our educational tasks and responsibilities.

c) Describe the different opportunities for students on relevant educational programmes to become involved in research activities at the administrative unit, and the extent to which students use those opportunities.

Medical students at the faculty of Medicine at UiB have the opportunity to participate in research through their department by taking time off regular studies to engage in research for a specified period. This opportunity is made possible through projects derived from the clinical activities and benefits both the institution and the students.

SUH actively recruits master's students from UiS. They originate from various faculties, including The Faculty of Health Sciences and The Faculty of Science and Technology. Additionally, SUH is invited and cooperate with several other universities, colleges and research institutes both in Norway and internationally, as part of our research activities. We experience that the students exhibit a keen interest to take a master's or a PhD at SUH.

5. Relevance to society

Reflect on the administrative unit's contribution towards the Norwegian Long-term plan for research and higher education, societal challenges more widely, and the UN Sustainable Development Goals.

In alignment with the current long-term plan for research and higher education, as outlined in Meld. St. 5 (2022-2023), SUH is specifically focusing on two of the three overarching goals:

- Environmental, social, and economic sustainability
- High quality and accessibility in research and higher education

The plan also identifies six thematic priorities, with our research fully aligning with at least two:

- Health
- Societal safety and emergency preparedness

Furthermore, our research partially connects to three other priorities:

- Climate, environment, and energy
- Enabling and industrial technologies
- Trust and community

The emphasis on clinically relevant research plays a pivotal role in ensuring the optimal use of limited resources allocated to health-related purposes nationally and globally. As the gap between health needs and available resources widens worldwide, strategic measures, such as employing clinically proven and effective methods, become crucial. Research conducted at the hospital level, exemplified by our projects addressing stroke, Parkinson's disease, and psychotic diseases in young people, demonstrates both scientific efficacy and practical effectiveness. This evidence is indispensable for decision-makers, including administrators and politicians, in determining the efficient allocation of scarce resources. The proximity between policy makers, implementing agencies, user groups, clinical practice, and research not only ensures the clinical impact but also enhances the societal relevance of our research. Most importantly however, our research has contributed to specific and tangible outcomes relevant to empowering and improving quality of life for our patients and their families.

While our contributions are pertinent to national and global health service and systems challenges, the global perspectives embedded in some projects also align with the United Nations' Sustainable Development Goals (UN SDGs). A notable example is the Safer Births program, which addresses UN SDGs 1 (No Poverty), 3 (Good Health and Well-being), 5 (Gender Equality), 9 (Industry, Innovation and Infrastructure), and 10 (Reduced Inequalities). Further details on the evaluation and impact are available in a separate document.

5.1 Impact cases

Please use the attached template for impact cases. Each impact case should be submitted as an attachment (pdf) to the self-assessment.

The administrative unit SUH is submitting the following 5 impact cases (see enclosed PDF-file: *Stavanger University Hospital_Impact case 1-5*):

Impact case 1: The Norwegian PARKWEST study

Summary of the impact: Since 2004, the Norwegian ParkWest study has been a cornerstone in advancing our understanding of the clinical course and neurobiology of Parkinson's disease. The study has made a pivotal contribution to establishing national initiatives to optimize patient care across Norway. Its impactful contribution has elevated knowledge and catalysed changes in patient awareness and care, and stimulated innovation across various sectors.

Impact case 2: Safer Births Bundle of Care (SBBC)

Summary of the impact: SBBC consists of innovative training and clinical tools for improved labor care and newborn resuscitation. SBBC has demonstrated increased maternal and newborn survival when implemented in 30 hospitals in Tanzania. If implemented globally, SBBC has potential to save 250,000 lives worldwide, annually.

Impact case 3: Implementation of artificial intelligence (AI) as support tools for pathology

Summary of the impact: Facilitating and implementation of the possibility of using computer-aided diagnostic systems in order to make pathology diagnostics more objective and faster. Patients will benefit from the best tissue diagnostics that forms the basis for personalized treatment.

Impact case 4: The early detection and Intervention in Psychosis Study (TIPS): Long-term outcomes

Summary of the impact: The TIPS study has had a major impact on international psychiatry research, specifically on psychosis; on knowledge and awareness of psychosis in health care and the public; on the duration of untreated psychosis (DUP) and on course and outcome in psychosis. The TIPS long-term research has driven a continuing paradigm shift from interventions in chronic and late-stage psychosis, to early intervention and significantly better prognoses through the prevention of poor symptom and function outcomes.

Impact case 5: DemVest study

Summary of the impact: The DemVest study - Dementia Study in Western Norway has a primary aim of characterizing the diagnostic, clinical and biomarker features of people with newly diagnosed dementia and describing the course and clinical impact on patients, families and society during the entire disease course until death. The study has had impact in terms of increased awareness of key symptoms among clinicians, patients, and caregivers, characterising the societal impact, and catalysing clinical trials for effective treatment.