for helse

Research centre for digital mental health services

Annual report 2024

"Our main objective is to increase the use and impact of digital health services"

Norwegian Centre for Research-based Innovation

Content

Foreword by the Centre Director

In 2024 we have had the opportunity to summarize our results and evaluate what we have achieved in the SFI in the first four years of the centre period in the context of the midterm evaluation of the Norwegian Research Council. In sum, we have:

- Developed 22 different kinds of innovations. These include commercial results: seven products, two prototypes, one license, two new services and one improved process. The innovations also include introduction of new/ improved measures: three new methods and three improved technologies.

- Published 28 Journal articles. These include co-authored papers with user partners (industry and/or public partners) and publications co-authored with international partners. The centre also has 23 peer-reviewed conference papers.

- Many communication and outreach-activities, such as contributions in seven national and international conferences and seminars. The centre has also organized four different kinds of workshops for partners, researchers, politicians and international experts. The conferences and workshops have, in most cases, been annual events and have thus generated more than one contribution per workshop and conference series. The centre has also participated in national TV programs and, among other things, talked about the use of VR in the treatment of anxiety in adolescents. We have developed and updated our own website, as well as established a quarterly newsletter for partners and other stakeholders in Forhelse SFI, and we strategically use social media in the form of Facebook, LinkedIn, and Instagram.

- Based on our needs and our innovation- and research activities, we have included 4 new user-partners: Innlandet Hospital Trust, Adult Psychiatry Department Vinderen and Solli District Psychiatric Center as healthcare service partners, and Fornix AS as a business partner. In the last period of the project, we will consider recruiting additional partners.

All this makes us very proud and motivates us to pursue our ambitious goal of increasing the impact of digital health services for the population, for the primary and secondary healthcare services, for the industry and for the national and international research capacity.

In line with the original set up of our centre we find that the different research questions, framed in the four scientific work packages, are increasingly interacting with each other - we collaborate in studies, we consult each other before starting new subprojects and we collaborate in communication activities. The next step, vital for our activities in 2025, is to see how our centre can share experiences and provide guidance for national and international researchers, innovators, and implementers.

Tine Nordgreen, PhD
Centre Director
Research centre for digital mental health services,
Helse Bergen HF

Reflections from the Chairman of the board

As we reflect on the past year at the Research centre for digital mental health services, it is evident that we are building on a strong foundation laid over the past four years. Our commitment to advancing digital mental health services in Norway has never been more critical due to the increased need for mental healthcare, and we are proud of the significant results and deliverances we have made in 2024.

The board has focused on supporting the research centre to ensure it can perform at its best. This support has been pivotal in enabling the centre to achieve good progress.

Our ambition to increase the use of digital healthcare services to 15% by 2025 and 20% by 2030 remains steadfast. The communication strategy is a vital tool in achieving these goals, especially as the centre continues to deliver strong results. In 2024, we placed greater strategic emphasis on sharing these achievements and insights. Reflecting on the year, we see a high level of communication activities—a key factor in driving adoption. We are confident that our activity level will rise in 2025, driven by the increasing number of results and deliverables.

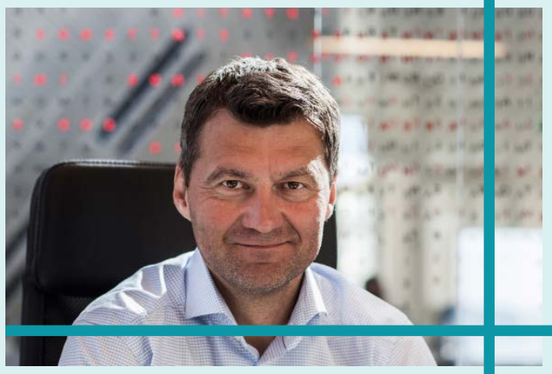
One of the great achievements this year is that all healthcare regions in Norway now deliver digital mental healthcare services. This milestone represents the most significant result of the research efforts led by Tine Nordgreen and her team. This accomplishment is a testament to her leadership and the centre's dedication, expertise, and impactful research over many years, which have guided the nationwide implementation of these services.

Furthermore, the centre has developed tremendous competence in digitalization, which has been instrumental in enhancing its capabilities. This expertise played a crucial role in the submission of a strong application for utilizing AI in delivering digital mental healthcare services, as part of the "AI billion" call by the Research Council of Norway. This would not have been possible without the high value of sustained investment at the centre over many years.

The remarkable progress we have achieved to date is the result of the dedicated efforts of a multidisciplinary team, including researchers, user partners, industry partners and user representatives. Their collaboration and commitment have been instrumental in driving our mission forward.

Thank you for your ongoing commitment and contribution to this vital work.

Jonny Klemetsen
Chairman of the board
Youwell



User representative

It has been an instructive and interesting past year working as a user representative within the centre, Forhelse SFI. My role has been to function as a contact person for user involvement. Which includes to raise awareness about the user perspective in general, promote relevant topics, and participate in discussions and assessments.
I have participated in joint gathering meetings, been present in board meetings and was involved early in shaping the centre's self-evaluation survey, particularly on user involvement.

Evaluation is a theme that is highly relevant for user involvement, a theme I emphasized in lectures at educational institutions. I was invited to give several presentations for nursing students about user involvement in research and developing digital health interventions. The main focus of the lectures was to share knowledge and perspectives on user involvement in research and digital health services, sharing insights and real examples from Forhelse SFI.

What is the value of working with user involvement and user representatives? How can it impact research, projects and make a difference on the result? These were questions that emerged during my lecture for psychology students on user involvement in digital healthcare services.

In my opinion it is important that the centre keeps being present and collaborating with educational institutions to contribute to knowledge about user involvement, research and developing of digital health care services in the future.

Stine Hope Spjeld
User representative
Forhelse SFI

In the spotlight

"In the Spotlight" highlights some of the research centre's activities in 2024, offering a glimpse into selected initiatives explored in more detail in the report, along with other notable moments from the year.

January

The digital IBS-school, Norway`s first digital IBS treatment opened its doors for patients in the Western Norway Regional Health Authority.

February

MyADHD, a new treatment program for adults with ADHD, was launched at Haukeland University Hospital as part of a new study.

March

Article on a new cost-effectiveness checklist for digital health interventions published.

Gynea, a digital program for women who have experienced gynaecological cancer, made available through the Norwegian Cancer Society's Vardesenter.

April

First Nordic Network meeting focused on developing and using digital health tools in the Nordic countries.

Work pacakge 3: Early HTA began its activities at the centre.

May

First joint gathering of the year focused on collaboration between the centre and industry partners to create research-driven innovation.

DigitalHelse2024 conference held in Bergen, with contributions from Haukeland University Hospital, the chairman of the board and industry partners.

June

Two-week visit from Karoline Holm Elkjær Rasmussen from the PreParent project aimed at preventing perinatal depression.

PhD candidates, researchers and SAC members showcased their research at the 12th ISRII-conference in Limerick.

Protocol for CBTi randomized controlled trial for heart patients published.

Oslo University Hospital hosted a workshop on early Health Technology Assessment at the HTAi conference in Seville.

July

Summer vacation.

August

Researchers presented at the Nordic Neuropsychological Conference in Trondheim.

September

Forhelse SFI won 'Best Stand of the Year' at Bergen's Research Days with our VR mental health display.

October

Three nursing students from VID Specialized University completed a six-week internship with us to learn about user involvement.

Research findings on experiences with an internet delivered acceptance and commitment therapy program for depression published.

Three new partners joined the centre – Fornix AS, Solli DPS and the Adult Psychiatry Department Vinderen.

Solli DPS
fornix
Diakonhjemmet Sykehus

Public-private partnerships were the focus of the second joint meeting and board seminar, promoting collaboration and impact.

November

Findings from the Restdep study on digital treatment for cognitive impairments in people with depression published in the Journal of Affective Disorders.

PhD Robin Kenter presented at the conference Digital Psychology Nordics.

Researcher Smiti Kahlon (SFI) and PhD- candidate Guri-Elise Holgersen (UngMeistring) had research stays at Macquarie University and University of Sydney.

Presented the centres research at the Research Day for the Division of Psychiatry at Haukeland University Hospital.

The digital IBS school secured funding for a project to improve clinical efficiency with AI and robot process automation.

December

Workshop held to continue developing a proposal for a Norwegian research centre on psychologically informed AI.

The Tegn til bedring project received funding from the Research Council of Norway.

About the centre

The Research centre for digital mental health services (Forhelse) is a centre for research-based innovation (SFI) supported by funding from the Norwegian Research Council under The Centres for Research-based Innovation scheme (https://www.forskningsradet.no). The centre's SFI-identification number is 309264.

Objectives

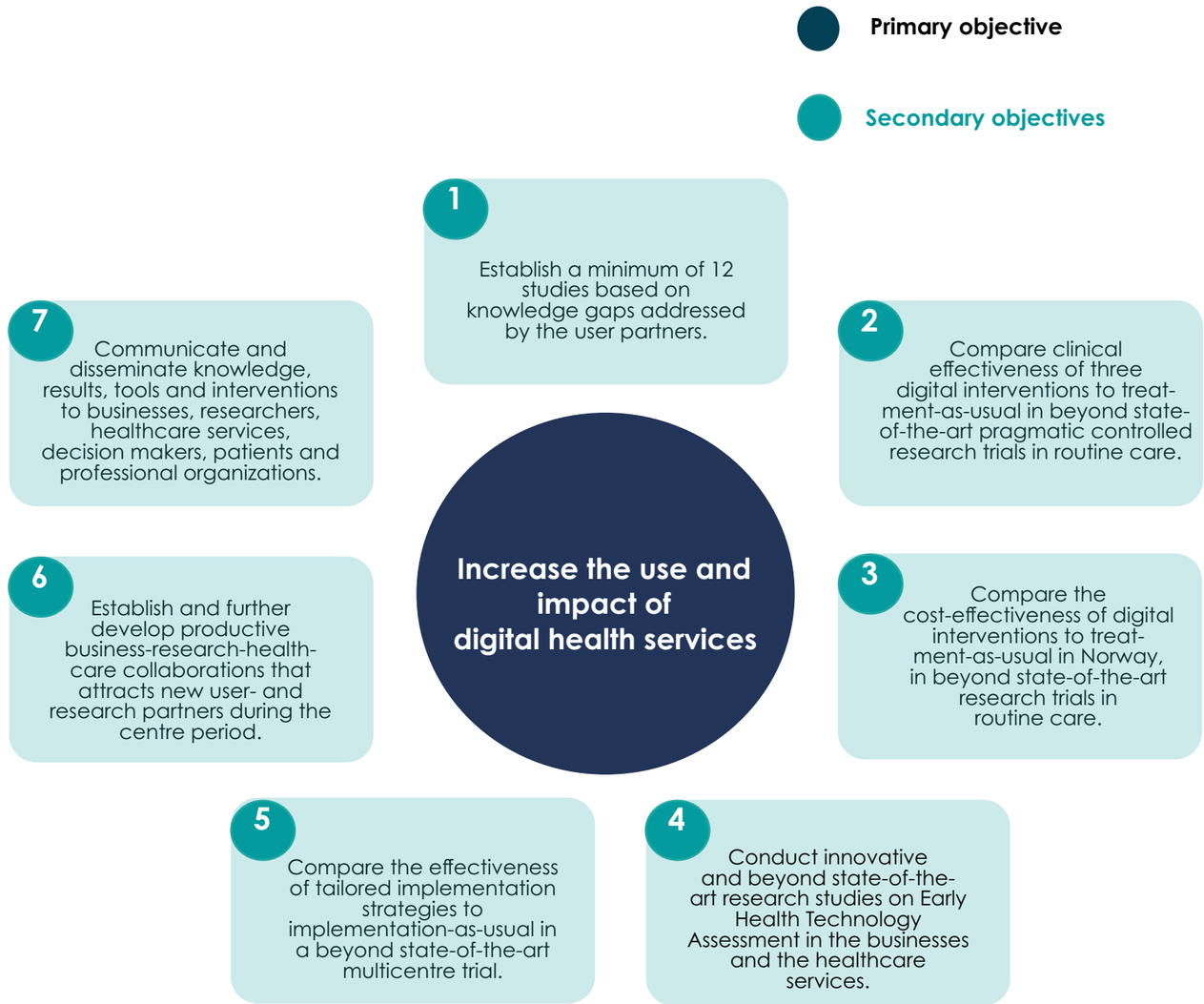
Mental disorders affect over one million people in Norway and 700 million people worldwide annually, accounting for 13% of the total disease burden. However, only 20-30% of those affected in Norway receive mental health services. Digital psychological interventions have been proposed to increase access to mental health services.

Forhelse SFI's overall objective is to increase the use and impact of digital health services. Our goal is for **at least 15 % of all psychological interventions in Norway to be accessed digitally by 2025**, increasing to **20 % by 2030**.

To achieve this, we connect our partners with leading researchers, results, and networks to drive innovation in digital health. Forhelse SFI brings together:

- Five leading e-health enterprises in Norway
- Nine public health services recognized for their national leadership in digitalization
- An innovative private non-profit health service integrating both mental and somatic health services
- Three university hospitals with national and international research groups focused on innovative digital health services
- Three leading institutions in advancing research and knowledge on digitalization of health services.
- Therapists and patients contributing first-hand experiences to enhance and innovate digital health services

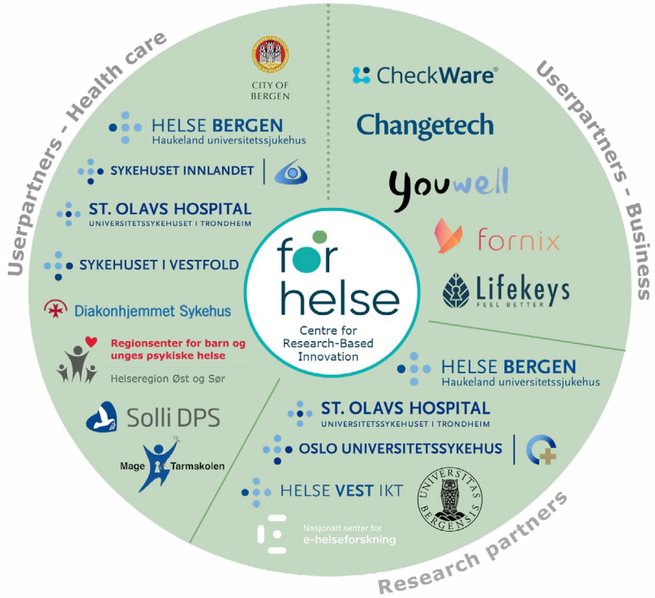
The figure below features our primary objective, surrounded by the seven secondary objectives specifying how we concretely aim to reach the primary objective



Our partners

The partners in Forhelse SFI come from all parts of Norway and represent a wide range of sectors. These partners can be categorized into three key groups: business, healthcare, and research. Below is a brief description of each partner, with their specific roles in the work packages outlined in the chapter "Scientific activities and results".

Research partners



Haukeland University Hospital (HUH) serves as host institution, research partner and healthcare partner in Forhelse SFI. As the largest supplier of professional staff, it provides administrative support, premises, and infrastructure. As the host institution, Haukeland University Hospital also holds the main responsibility for ensuring that research investments from the SFI grant are maintained and continued after the Research Council's funding ends.

St. Olavs Hospital HF leads the research on cost-effectiveness in work package 2 and contributes to work package 4 on implementation. Additionally, the hospital provides eTreatment services in the Mid-Norway region.

Oslo University Hospital (OUS) leads the research on early health technology assessment in work package 3. The focus is on evaluating new services, developing methods, and assessing data to estimate the value of early-stage innovations.

The University of Bergen (UiB) collaborates with Forhelse SFI on implementation research, offering their expertise in qualitative research. The Department of Global Public Health and Primary Care (IGS) at UiB also provides PhD training in the western region of Norway.

The Norwegian Centre for E-health Research (NSE) are involved in multiple research projects at the centre, providing expertise in implementation research and qualitative research methodologies.

Helse Vest IKT is the full-service provider of ICT services to the specialist health service for the Western Norway Regional Health Authority. Helse Vest IKT aims to facilitate innovative use of ICT solutions and is a particularly relevant partner due to their expertise in privacy, security, and universal design.

Business partners

Changetech, founded in 2006, is a pioneer in evidence-based behaviour change. In collaboration with Forhelse SFI, Changetech is involved in research on Mamma Mia, a depression prevention program for pregnant women and their partners, that the company developed.

CheckWare, established in 2007, is a leading Norwegian international software company in digital patient involvement. The company partners with hospitals, clinics and municipalities to offer sustainable digital health services. CheckWare also provides the platform for the digital IBS school.

Helse i Hardanger, founded in 2018, was a private hospital providing intensive four-day treatment for long covid, diabetes, chronic obstructive pulmonary disease (COPD), lower back pain, anxiety and depression. The hospital closed its doors in 2024 and subsequently exited the centre as partner.

Lifekeys is an online psychological service offering video consultations and theme-based seminars with selected psychologists. Since its startup in 2017, Lifekeys has focused on innovative solutions to make it easier for anyone to connect with a psychologist.

Youwell, established in 2015, provides an online portal for building and offering digital health services, for healthcare providers, municipalities, clinics, research institutions and private practitioners. The company aims to improve healthcare quality, safety, efficiency, and service delivery.

New business partner!

Fornix joined Forhelse SFI as partner in 2024. Founded in 2020, Fornix delivers VR-applications tailored for use in work inclusion, youth development and social inclusion, prevention and treatment of mental disorders, and trauma relief. Their aim is to improve quality of life through virtual reality exposure therapy in various areas.

Healthcare partners

Bergen municipality offers the service "Barne- og familiehjelpen" (Child and Family Services), providing low-threshold interventions for children and adolescents with mild to moderate health complaints.

eTreatment formerly known as eCoping, is a guided internet delivered treatment, originally developed at Haukeland University Hospital as an online treatment option for anxiety disorders. It has since expanded to include treatments for depression, and alcohol misuse. eTreatment is now being implemented in all health regions in Norway, with additional treatments under development.

Several of the health institutions offering eTreatment are partners in our centre, including *Haukeland University Hospital, Solli District Psychiatric Centre, Vestfold Hospital Trust, St. Olavs Hospital and Innlandet Hospital Trust.*

Centre for Child and Adolescent Mental health, Eastern and Southern Norway (RBUP) works to increase competence and quality in services working with the mental health of children and young people. They co-developed Mamma Mia, an internet program that supports women in transitioning to motherhood and through the first months after childbirth.

The digital IBS-school is a digital treatment for patients diagnosed with irritable bowel syndrome (IBS), offered by Haukeland University Hospital. It is a continuation of the physical IBS-school. This internet-delivered treatment has the potential to reduce the severity of IBS symptoms and improve patient`s quality of life.

New healthcare partners!

Solli DPS – District Psychiatric Center, owned by Stiftelsen Diakonova Haraldsplass, is a private non-profit enterprise that treats adults with mental disorders. Since 2014, it has been a provider of eTreatment. Recently, Solli DPS developed the digital treatment program "Health and Work", aimed at adults with anxiety and depression who are on sick leave or work assessment allowance. This program will be implemented in clinical practice and researched in collaboration with Forhelse SFI.

Adult Psychiatry Department Vinderen, is a district psychiatric centre at Diakonhjemmet Hospital. They offer assessment and interdisciplinary specialized treatment for individuals with mental and/or substance use disorders. The app iTandem, developed to assist in the treatment of patients with psychosis, will be tested in clinical practice for both patients and staff in collaboration with Forhelse SFI.

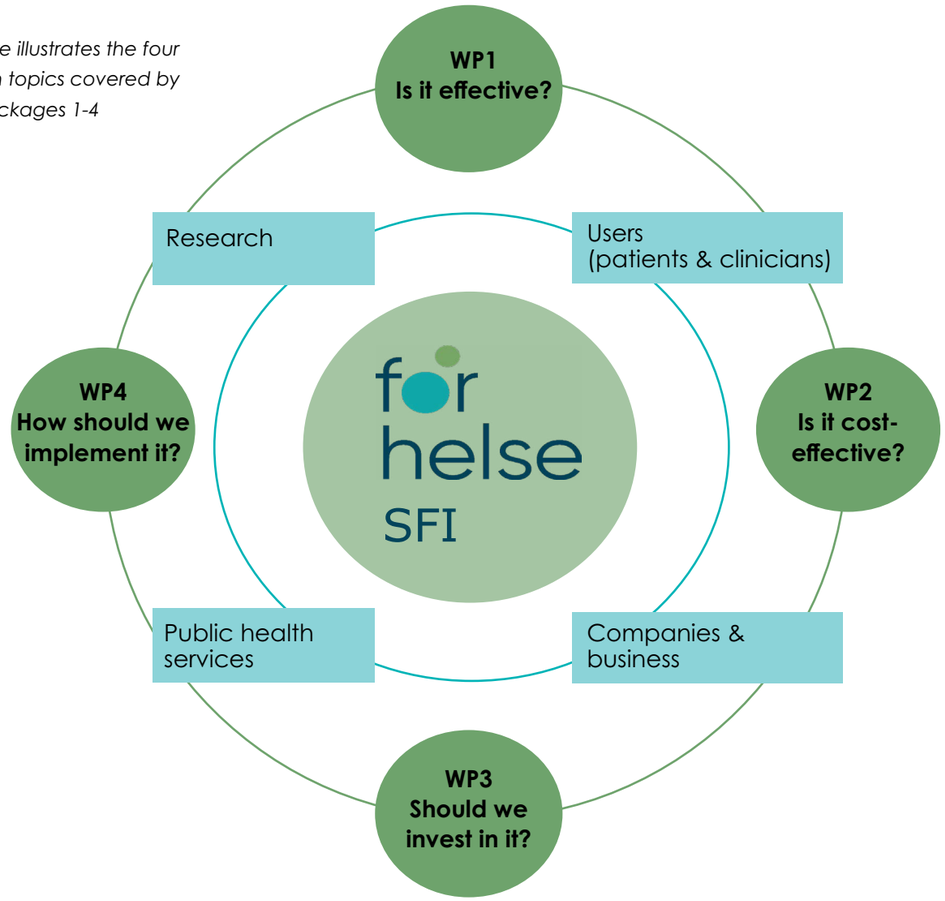
Strategy: Research and innovation

Research

Forhelse SFI is a collaborative effort uniting researchers, health services, businesses and end users (patients and healthcare personnel) to increase the use of sustainable, accessible and effective digital health services. Our work packages are set up to address the knowledge needs of our industry and healthcare partners. While the industry partners need to understand how to deliver digital solutions in the highly regulated healthcare services, the healthcare partners need to increase the use of digital interventions amidst rising demand and limited resources.

To address these needs, Forhelse SFI established six work packages: **Work package 1-4** conduct research, ensuring that our findings align with the knowledge needs of industry and healthcare partners. To achieve this, each work package receives continuous feedback from users, public health services, and businesses. **Work package 5** focuses on dissemination and communication, and its activities will be covered in the communication chapter. Finally, **work package 6** handles administrative task, as detailed in the organisation chapter.

The figure illustrates the four research topics covered by work packages 1-4



Future directions for Forhelse SFI

2024 marked the halfway point of our centre's operations, and the Research Council of Norway conducted a midway evaluation to assess our progress in relation to the goals and success criteria established at the start of the project.

Looking ahead in the final years of the centre, we plan to formalize Forhelse SFI's contributions to digital healthcare services, both nationally and internationally, to summarize the overall impact of our activities. We will also focus on strengthening our efforts in digital phenotyping and personalizing digital health services, and addressing the workload and time demands associated with these services – areas that require further exploration. In our communication, we will also aim to better engage decision-makers and policymakers, while continuing to strengthen long-term public private partnerships.

Innovation

An important part of the centre's vision and objectives is to ensure innovation and value creation among our industry and healthcare partners. Our efforts in commercialisation and value creation involve many stakeholders and is regulated in the consortium agreement. This agreement describes how project results from Forhelse SFI should be defined and communicated. However, no model for private-public partnerships in commercializing digital content and technology exists in Norway.

In 2024 we arranged a joint meeting and board seminar including all partners and additional external participants to discuss these partnerships. Over two days, discussions focused on the challenges and opportunities of these collaborations, emphasizing the need for shared goals, flexibility, strong communication, and clearly defined responsibilities. Business models for pricing and financing were explored, acknowledging that developing digital health services is time-consuming and risky. A key focus was the growing need for sustainable models to ensure long-term maintenance of both the content and the digital platforms of these services.

Key innovations in 2024

National rollout of eTreatment across all health regions

Following the national tender for guided internet-based therapy, eTreatment has been rolled out across all health regions and healthcare institutions in Norway. Previously available on the CheckWare platform, the programs were migrated to Youwell's platform in 2024. Existing programs for social anxiety, panic disorders, depression, and alcohol use have been improved, while several new programs are in development. For example, eTreatment Vestfold recently introduced programs for patients with severe obesity, children and adolescents with anxiety, and families of those undergoing treatment for substance abuse and addiction. Solli DPS has also begun recruiting participants for a study of eTreatment Work and Health, a program for patients receiving mental health care services while on sick leave. MyADHD, a treatment program for adults with ADHD, was also integrated into the new platform.

Training by Youwell of healthcare providers on the use of the eTreatment platform

Usage of the eTreatment platform grew steadily over the year, supported by ongoing implementation efforts. Nearly 200 healthcare providers have now completed training in the use of eTreatment. For instance, Solli DPS has trained 50 therapists in eTreatment Health and work. Despite varying start times across regions, a strong interregional collaboration has been established to ensure nationwide access to effective treatment options. An interregional communication plan is being developed to raise awareness of eTreatment among the public, GP`s and therapists.

The AI billion

In 2024, the Research Council of Norway announced a major investment of 1 billion NOK over the next five years to fund 4-6 AI research centres. The team from Haukeland University Hospital has submitted a proposal to establishing a Norwegian research centre focused on psychologically informed AI. The goal of the proposed centre is to improve access to safe and trustworthy AI applications for mental health prevention, treatment, and rehabilitation. This will be achieved by developing advanced AI models that better understand human behaviour, cognition, and emotions, ultimately enhancing AI systems to interact more effectively with people. The centre is a collaboration of over 25 partners, including experts in AI, psychology, mental health research, industry, and international stakeholders. The selected centres will be announced in June 2025.

Improvements to the Modi app

This year, the Modi app reached an important milestone with the completion of its prototype and feasibility study. Fall 2024, the Modi app underwent key updates in response to feedback from participants in the feasibility study. The update was done in collaboration with Youwell and Bergen municipality. These updates aimed to improve task and goal creation for a more user-friendly experience. The app`s design was also refined with a lighter aesthetic and special effects, making the app feel more dynamic and engaging. These improvements were implemented in preparation for the upcoming randomized controlled trial (RCT), where the app will be tested to further evaluate its effectiveness. The partnership between Bergen municipality and Haukeland University Hospital has created a shared understanding of how to measure the app's success, extending beyond the clinical trial to explore other ways to improve healthcare.

Examples of pages in the Modi app

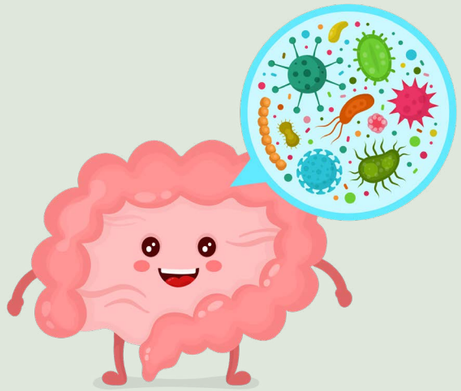
The launch *of Selvhjelperen.no*

Our industry partner Lifekeys continues to expand its digital mental health solutions, introducing new self-help tools to support adults in managing their mental well-being more effectively. In addition, Lifekeys launched Selvhjelperen.no, a free, dedicated platform for youth that offers courses and exercises designed to strengthen mental health. By providing accessible, evidence-based resources, the platform empowers young individuals to build resilience, develop healthier coping strategies, and improve their overall well-being.

Selvhjelperen.no is a new digital self-help tool for mental health delivered by Lifekeys

The digital IBS-school available in Western Norwegian Regional Health Authority and soon nationwide

The digital IBS- school at the CheckWare platform has been providing digital treatment for over 700 individuals with irritable bowel syndrome (IBS) since its launch. As Norway`s first digital treatment program for IBS, it has shown promising results. Now, doctors in both primary and specialist healthcare throughout the Western Norwegian Regional Health Authority can refer patients to this treatment. Developed with support by Forhelse SFI, CheckWare and the e-health section at Haukeland University Hospital, the program will be available throughout Norway in 2025.



Despite its success, there is still limited knowledge on which patients benefit most, and which treatment components are most effective. To address this, a large-scale study, DIGIBS (DIGital treatment of IBS), has been launched. Participants will be randomly assigned to four groups, each testing different components of the program. The study aims to gather insights that will refine digital treatment offerings and help tailor them to the needs of all IBS patients in Norway.

Members of the IBS-school team. From left: clinical nutritionists Kristine Sandnes Flaten and Ingebjørd Bratland, Section leader Birgitte Berentsen Jacobsen and research nurse Stine R. Martinussen

Scientific activities and results

The center's research activities are divided into four work packages. These work packages cover the effectiveness and cost-effectiveness of digital health services, early health technology assessments, and how these technologies are implemented in real-world settings.

Work package 1: Effectiveness

In this work package we focus on evaluating the feasibility, efficacy and effectiveness of various digital treatments. We use the "Person Based Approach" (PBA) framework, integrating both quantitative and qualitative data on health issues while ensuring high end-user involvement in developing and evaluating digital interventions.

Highlights from 2024

- Completed a feasibility trial of the Modi app with 25 adolescents in Bergen Municipality.
- Conducted a survey with 725 cancer survivors and 98 healthcare professionals to inform the development of a digital treatment program for cognitive difficulties in cancer survivors.
- Submitted the first article on the differences between GP-referred and self-referred patients in guided internet-delivered treatments, focusing on specialist routine mental health care and how these two groups compare.
- Started recruitment for the new eTreatment program, Work & Health, aimed at supporting patients receiving mental health care services while on sick leave.

Activities and results in the subprojects

Cognitive difficulties after cancer. We completed a survey assessing the needs of cancer survivors (N = 725) and healthcare professionals (N = 98) related to cognitive difficulties. Findings are being analysed, with one article on the quantitative data currently under review and another on the qualitative data that will be submitted in January 2025. Based on the survey, we developed a treatment program for patients with cancer-related cognitive difficulties. A clinical trial examining the program is set to begin recruitment in January 2025, aiming to include 60 cancer survivors.

Referral pathways. Antoher project examines the difference of treatment effects between patients referred by a general practitioner (GP) and those who are self-referred. The first article is currently under review where we have examined the potential benefits of a self-referral pathway to guided internet-delivered treatment in the specialist mental healthcare services.

Modi. We completed a feasibility trial of the Modi app in September, with 25 participants. An article of the findings is currently under progress. The randomized controlled trial (RCT) was planned to start in august 2024, but was delayed due to limited effects from the feasibility trial to improve core functionality in the app. The RCT will start in January 2025 and will compare the Modi app with treatment-as-usual. This initiative represents the first digital treatment for adolescents in primary care, paving the way for a new market within the industry.

Why focus on effectiveness?

- **Documentation:** Can confirm how interventions work in practice.
- **Innovation:** Supports development of research-based healthcare services and new programs.
- **Quality:** Ensures that digital interventions are evidence-based and user-centred.
- **Future benefits:** Effectiveness research on digital interventions is limited. The results from conducted studies will lead to value creation both in private and public sectors.

eTreatment and Forhelse SFI offers MyADHD

MyADHD is a guided internet-delivered program for adults with ADHD, consisting of seven modules teaching skills related to stress management, goal achievement, emotional regulation, planning, and self-compassion. The user is supported by a therapist throughout the program. The program was developed in close collaboration between the eHealth section, eTreatment and Forhelse SFI in Helse Bergen.

An open trial in routine care began in February with a target of 400 participants, with 125 recruited in 2024. The aim is to increase the availability of services for adults with ADHD. A new randomized controlled trial is planned for 2025 with additional funding from St. Olavs Hospital/NTNU.

Partners

- **Haukeland University Hospital** leads the research activities.
- **Bergen municipality** is collaborating with Forhelse SFI to research and implement the Modi app amongst adolescents.
- **Youwell** delivers the platform for various digital programs, such as Modi and MyADHD.
- **University of Bergen** contributes to the research activities.
- **Fornix** joined as partner in 2024 and will help explore the use of VR technology in treatment.
- **Helse Vest IKT** supports scalable IT architecture across service levels.
- **Solli DPS** joined as partner in 2024 and will help investigate the effects of eTreatment Work and Health.
- **Helse i Hardanger** contributed to the use of the Youwell platform to support behavioural change after the inpatient treatment at Helse in Hardanger.

Work package 2: Cost-effectiveness

In this work package, we evaluate the cost-effectiveness of digital health services and identify factors that may influence their cost-effectiveness. We assess real-world healthcare settings: four eTreatment clinics in specialist healthcare and we participate in clinical RCT studies: the Mamma Mia app in primary care and the SHUTi/insomnia app in specialized healthcare.

Highlights from 2024

- Published «Developing a Program Cost Checklist of Digital Health Interventions: A Scoping Review and Empirical Case Study" in PharmacoEconomics, with PhD-candidate Zareen Khan as first author. The paper introduces a checklist that organizes costs into five categories, making it easier to compare costs between different studies on digital health.
- Presented the checklist and a second paper on the efficiency of eTreatment services delivery at the ISRII Scientific Meeting in Limerick, Ireland.
- Calculated the cost per patient for eTreatment at four hospitals, using the checklist. These results were shared at a National Health Economics Conference in Oslo.
- Completed data collection and analysis of patient-reported data from the eTreatment study. Results for a range of patient outcomes were presented to the four participating hospitals.
- Received approval from the Regional Ethical Committee to include more patients for a before-and-after analysis of the eTreatment platform change.

Activities and results in the subprojects

Short- and long-term cost-effectiveness of Mamma Mia. Data collection for the Mamma Mia-study on prevention of postpartum depression is in the finishing phase. The next step is to analyze and publish on short-term effectiveness and cost-effectiveness of health personnel involvement (blended care) compared to self-help. Preparation of a model-based analysis on the long-term cost-effectiveness of Mamma Mia is in the start-up phase, and access to inputs to the model, based on data from the TOPP-study owned by UiO, has been provided.

Alternative service models and efficiency. We will soon submit a paper comparing productivity and efficiency after the implementation of eTreatment at four hospitals. To our knowledge, this is one of the first studies looking at the efficiency of digital health service delivery. The analysis uses data from 2022 and 2023. We will continue to collect administrative data on referrals, patient activity and personnel involvement at the four locations, in close cooperation with Youwell and the participating hospitals.

The eTreatment study – costs, outcomes and user satisfaction. We will soon submit a paper examining a range of outcomes like, symptoms, functioning, health-related quality of life, sickness absence, and the program cost of eTreatment per patient. This study, based on data from 2022 and 2023, assesses whether we observe differences between hospitals. A second paper covering engagement, usability and patient satisfaction, is in the process of submission.

Cost-effectiveness of SHUTi. We are currently analyzing the cost-effectiveness of SHUTi, a digital cognitive behavioural therapy (CBT) self-help program for insomnia. This is part of the PhD-project for Zareen Abbas Khan and is being done in collaboration with the Sleep and Chronobiology Research Group (SACR) at NTNU. In 2025, we will complete an economic evaluation comparing SHUTi to patient education.

Platform transition for eTreatment. In 2024 the new technical platform for eTreatment, by Youwell, was launched. This included updates to the content. A major update like this offers an opportunity to study how platform changes affect service delivery. Data collection from the new platform has started, using the same questionnaires and metrics that were used to evaluate the previous platform.

Why focus on cost- effectiveness?

- **Lack of evidence:** There is currently limited evidence on the cost-effectiveness of digital interventions in routine care.
- **Resource allocation:** Helps ensure limited healthcare resources are used efficiently.
- **Maximizing health benefits:** Identifies treatments that provide the best outcomes for the lowest cost.
- **Improved Decision-Making:** Provides evidence to guide healthcare decision-making.

A new checklist to estimate the costs of digital health services

Evaluating the costs of digital health services hasn't been straightforward, without a standardized way to estimate these costs. Zareen Khan, a PhD candidate at the centre, addressed this gap by developing a checklist to help estimate the program costs of digital health interventions.

Her checklist divides costs into five key categories:
1. Development
2. Research
3. Maintenance
4. Implementation
5. Health personnel involvement

Using the checklist, program costs for the Mamma Mia app was estimated. This tool highlights the different cost components of digital health interventions and can help analysts in better estimating costs for economic evaluations.

PhD candidate Zareen Khan presenting the checklist at the ISRII conference in June

Partners

- **St. Olavs Hospital** leads the research activities and offer eTreatment at their mental health clinic.
- **Haukeland University Hospital, Vestfold Hospital Trust, Innlandet Hospital Trust** offer eTreatment at their mental health clinics.
- **CheckWare** provided the former eTreatment platform, while **Youwell** provides the current platform.
- **Changetech** developed the Mamma Mia app, in collaboration with **RBUP HSØ**, and in addition RBUP HSØ is leading the ongoing Mamma Mia-study.

ST. OLAVS HOSPITAL
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HELSE BERGEN
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SYKEHUSET INNLANDET

CheckWare®

Changetech

RBUP
Regional Centre for Child and Adolescent Mental Health Eastern and Southern Norway

Youwell

Work package 3: Early Health Technology Assessment

In this work package, we examine ways to provide decision-makers with early-stage decision support during innovation and development processes. We focus on evaluating new services and technologies, developing methodological approaches, and assessing data validity to estimate the value of innovations at an early stage.

Highlights from 2024

- PhD candidate Mari Skoge was accepted for a three-month international collaboration with the Hospital Clinic Barcelona in March 2025.
- Represented Forhelse SFI at two international conferences: Sirs Firenze and HTAi Sevilla.
- Secured leadership anchoring for the development and testing of a «Digital outpatient clinic», which serves as an umbrella for our Forhelse SFI projects.
- Submitted three articles and got one accepted.

Activities and results in the subprojects

Progress of iTandem. In 2024, a proof-of-concept study of iTandem was accepted by the journal JMIR formative. As part of Mari Skoge's PhD, a feasibility study at Innlandet Hospitality Trust was submitted and is under review at JMIR Human Resources (n patients= 9, n clinicians = 8). In December 2024, we began recruiting for the pilot study of iTandem, which is also part of Mari's PhD, at the Adult psychiatry department at Vinderen. iTandem is accessible in specialist treatment and follow-up of patients suffering from psychosis at the department.

REACT Nor – follow-up of next of kin for psychosis patients. REACT Nor is a user-friendly digital platform designed to support the follow-up of next of kin within early intervention units for psychosis nationwide. In 2024, a need assessment was completed in collaboration with early intervention units for psychosis. A survey of next of kin was analyzed (n=60), and an economic simulation is currently in progress. We are also planning a policy paper on incentives for implementing digital health solutions.

CBTi for heart patients. In 2024, we developed an economic simulation model in preparation for the results of a randomized controlled trial (RCT) on CBTi group therapy for heart patients. The economic simulation study was submitted to BMJ Open (n = 1,127). The CBTi group course is available at Vestfold Hospital Trust as part of the RCT. We are planning to create a digital solution in collaboration with our Forhelse SFI partners.

Therapists' experiences with video consultations. In 2024, we mapped out private and public implementation and adoption experiences with video consultations, as part of Mari Skoge's PhD project. Recruitment and data collection was nearly completed at the end of the year (n=24).

Why focus on early HTA?

- **Safety:** Ensures new medical treatments are safe, effective, and cost-efficient before widespread use.
- **Decision-making:** Supports better decision-making for healthcare providers and policymakers.
- **Risk reduction:** Reduces risks by identifying potential issues early.
- **Cost efficiency:** Helps save healthcare costs by avoiding ineffective or overpriced treatments.
- **Innovation access:** Speeds up patient access to valuable new innovations.

New investments in mental healthcare video consultations

The project "Tegn til bedring" (TTB) has been awarded project funding from the Research Council of Norway, through Pilot Helse. The project is a collaboration with Youwell and is central to developing a «Digital Outpatient clinic».

TTB is creating a digital whiteboard to improve video consultations in mental healthcare. With features like co-writing, drawing, and resource sharing, it replaces physical tools, making video therapy more engaging and effective.

Video consultations remain underused with only 1% of consultations at Oslo University Hospital and 5% at St. Olavs Hospital. TTB aims to improve accessibility and usability.

The pilot project focuses on assessing needs through collaboration with patients, healthcare providers, and family members, to ensure the digital board is user-friendly and compatible with existing infrastructure. The project also collaborates with digital technology providers to ensure smooth implementation and scaling. The project consists of two phases: first, developing the whiteboard, and second, integrating it into national infrastructure.

Partners

- **Oslo University Hospital** leads the research activities.
- **Vinderen DPS (Adult Psychiatry Department at Vinderen)** joined as a partner in 2024 and will
- contribute with data from testing the iTandem app on their patients and staff.
- **Youwell** contributes to the Digital Outpatient Clinic through the Pilot Helse pre-project.

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Work package 4: Implementation

In this work package we focus on how digital health services are put into practice. We explore the factors that help or hinders the successful use of these services in routine care and examine the impact of (tailored) strategies for their implementation.

Highlights from 2024

- International renowned researcher PhD Iris Brunner joined the team.
- PhD-candidate Beate Standal submitted her research paper, "How technology reshapes the therapist's role and impacts digital treatment adoption in mental healthcare: A qualitative study" to Internet Interventions.
- The digital IBS-school launched regionally, allowing primary care physicians and specialists in the Western Norway region to refer patients for this treatment.
- Six teams were recruited to use the tailored implementation toolkit (ItFits-toolkit) on local projects.
- 47 e-therapists were included in a study on the adoption of Internet-delivered cognitive behavioral therapy using the Technology Acceptance Model.
- Presented at the Digital Psychology Nordics Conference, highlighting the implementation of digital mental healthcare services and interventions in routine care in Norway.

Activities and results in the subprojects

A qualitative evaluation of the implementation of iCBT for three clinics. One of our projects focuses on understanding the complexities of implementing guided iCBT in routine care by exploring healthcare professionals' experiences and perceptions of iCBT's fit within different organizational and clinical contexts. In 2024, we prepared our findings for publication and shared them with relevant stakeholders. We submitted the results to the journal Internet Interventions, and the paper is currently under peer review. We've also shared these findings with our partners in the national network of digital mental healthcare.

In addition, data has been collected from over 200 patients across three eTreatment clinics in Bergen, Trondheim, and Vestfold. This data will be used to examine patient experiences with digital mental health treatments and explore how motivation and choice impact engagement. Results are expected in 2025.

Multicenter Tailored Implementation Study (It-Fits Study). In 2024, the multicenter study examining how tailored implementation strategies impact the adoption of ICBT was initiated, with a focus on understanding what works for whom and why. We identified potential participants and successfully recruited six sites for the study. Key partners include eTreatment Bergen, Solli, Nidaros, and Innlandet, all of which received access to the tailored implementation toolkit in autumn 2024.

In June, an international workshop was held in The Netherlands with PhD student Reidar Nævdal and Dr. Christiaan Vis, focused on matching implementation strategies to determinants of practice. The workshop was presented at the Dutch Implementation Science Symposium in Utrecht.

Why focus on implementation?

- **Maximizing Impact:** Digital health tools won't improve outcomes unless they are adopted by healthcare providers and patients.
- **Efficient resource use:** Ensures optimal use of time, money and labour.
- **Reaching more patients:** Ensures digital tools are accessible to more people.
- **Improved quality:** Identifies best practices to enhance service quality.
- **Overcoming Barriers:** Addresses barriers to implementation, speeding up adoption.

Technology Acceptance of ICBT Among Norwegian ICBT Therapists. This study explores how Norwegian ICBT therapists experience the technology used in ICBT and the factors influencing their experience. Data was collected from the former (Checkware) and current (Youwell) eTreatment platforms. In 2024, we recruited 47 of 67 e-therapists across Norway. Baseline quantitative data is under review, and the first of two articles is underway. By understanding therapists' experiences, the study aids SFI partners in developing treatment tools and identifies factors like local organization, profession, and experience that may influence the implementation of ICBT.

Digital IBS- School Implementation and Randomized Controlled Trial (DIGIBS). In 2024, recruitment for the DIGIBS 4-arm RCT continued, with 610 patients successfully enrolled and 538 completing baseline measurements. Data collection for the implementation study was completed, and analysis of qualitative data on the determinants of implementation across the Western Norway Regional Health Authority has started. Findings will be published in 2025 and will inform the national implementation planned for that year.

Implementing the digital IBS-School: Challenges and future plans

As part of the regional launch of the digital IBS-school, PhD candidate Camilla Thuen and research consultant Hanne Karoline Hinderaker, under the supervision of PhD Robin Kenter, evaluated its implementation, identifying factors that either facilitated or hindered the process. These findings will help develop guidelines, implementation plans, and strategies for broader implementation in other health regions and similar treatment programs. Preliminary results were presented to the Norwegian Directorate of Health in December, with a nationwide launch planned for January 2025.

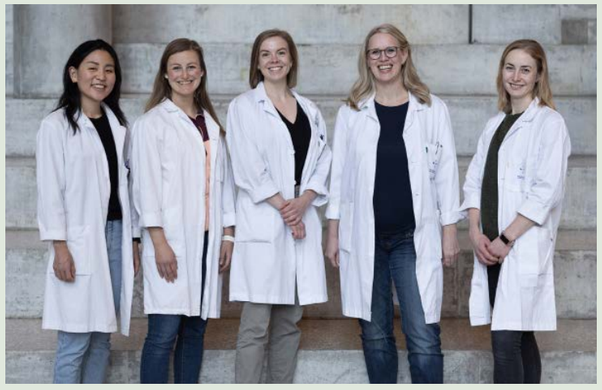

Photo by Katrine Sunde, Helse Bergen

Partners

- **Haukeland University Hospital** leads the research activities.
- **Norwegian Centre for E-health Research (NSE)** contributes to the research activities and PhD supervision.
- **Haukeland University Hospital, Vestfold Hospital Trust, Innlandet Hospital Trust** and **Solli DPS** provide eTreatment at their mental health clinics and participate in the studies.
- **CheckWare** provides the platform for the digital IBS-school and previously provided the platform for eTreatment, while **Youwell** provides the current platform for eTreatment.
- **Bergen municipality** collaborates with Forhelse SFI to assess organisation readiness for digital treatment for adolescents with anxiety.
- **The digital IBS-school** carries out the the DIGIBS study.
- **University of Bergen** contributes to research activities, PhD supervision and PhD education.

HELSE BERGEN Haukeland universitetssjukehus
Solli DPS
Norwegian Centre for E-health Research
SYKEHUSET INNLANDET
Mage Tarmskolen
SYKEHUSET I VESTFOLD
UNIVERSITY OF BERGEN
CITY OF BERGEN
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Communication and dissemination activities

The communication and dissemination activities of the centre are managed by work package 5. Forhelse SFI works continuously to share knowledge and information about our research activities and results. Since the centre started we have carried out 303 such activities, including participation in conferences, teaching, and the publication of news articles. In 2024 the centre revised its communication strategy and action plan for 2024-2028, guiding our communication efforts.

Updated website

Our website, Forhelse.no, serves a primary source of information about our work. In 2024, we updated its content to improve navigation and provide a more intuitive experience for visitors. We also added employee pages, where visitors can find contact details to our employees and learn more about the Forhelse SFI team.

Throughout the year, we shared 31 news updates, keeping visitors informed about our activities and research results. These posts garnered strong engagement from our readers. We also launched our newsletter, featuring updates on our activities. In 2024 we published two newsletters, one in September and one in December. We are reaching key recipients in healthcare, business, partners, and governing bodies. Going forward, we plan to send out updates every three months, while steadily increasing the number of recipients.

Social media

Social media is the most effective way to share information with the healthcare sector, businesses, government authorities, policymakers and the public. We use Facebook, LinkedIn and Instagram to share updates on our activities and research, and to recruit candidates for new positions at our centre. Additionally, these platforms are crucial for recruiting participants for our research studies, allowing us to reach a wide audience. By tagging relevant healthcare organizations and partners, we extend our reach even further.

Recruitment post on Facebook for the study on cogitive difficulties after cancer

For example, a short video aimed at recruiting participants for a study on cognitive difficulties in cancer survivors garnered 9,400 views and 39 shares. Another post on a new ADHD treatment for adults sparked significant attention and engagement. With 680 followers on Facebook, we primarily connect to the healthcare sector and the public, while our LinkedIn profile, followed by 450 people, targets the business sector, governing bodies, and the healthcare sector.

Popular science articles and opinion pieces

We are dedicated to making our research and knowledge easy for everyone to access. We share our insights and take part in discussions. For instance, we have contributed opinion pieces to Dagens Medisin, a professional journal for the healthcare sector, where one article highlighted the critical role of a strong therapeutic alliance in delivering effective mental health care via video calls. Another focused on securing sustainable funding and ensuring long-term access to digital mental health services.


Dagens Medisin

Anita Lønnebakken Søvild, Filip Drozd, Tine Nordgreen og Elin Ulleberg(ikke avbildet).

Norge har 357 kommuner. Skal alle ha hver sin digitale løsning?

Hvordan sikre langsiktig finansiering og tilgjengeliggjøring av digitale psykiske helsetjenester

Additionally, we've shared our research in the healthcare journal Utposten, with PhD student Camilla Thuen, Elisabeth Steinsvik, and Birgitte Berentsen Jacobsen writing an article called "Irritable Bowel Syndrome – How Can We Provide Interdisciplinary Treatment Nationwide? ». This article looks at how to offer comprehensive care for people with this condition all over the country. Through these efforts, we involve ourselves in the public debate surrounding these topics.

RITUALER: Et fysisk møte har vertskapsritualer som ikke er ulike de man praktiserer ved private vennebesøk. Hvordan kan vi få på plass gode ritualer for digitale møter, spør innsenderne.

Skal videosamtaler fortsette å være en B-løsning i psykisk helsevern?

Video bør være en naturlig del av verktøykassa, og vi trenger terapeutiske verktøy som kan innlemmes i videoløsningene.

Conferences

We have participated in several conferences to communicate our results and learn from leading academic communities. Some notable examples are ISRII 2024, HTAi 2024, EHiN 2024, the Nordic Neuropsychological Conference, Digital Psychology Nordics, SIRS 2024, The Dutch Implementation Science symposium and DigitalHelse2024. Below is a more detailed presentation of some highlights:

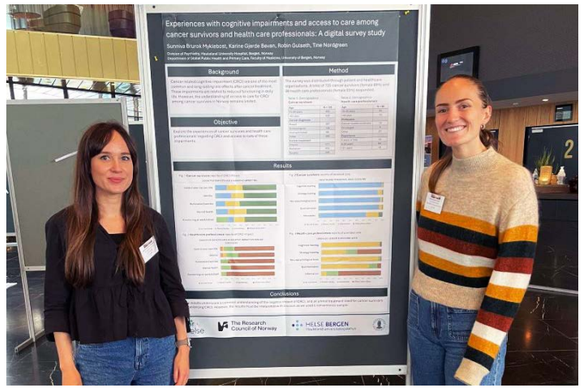
Forhelse SFI was well represented at the **ISRII 2024 international conference on digital health services**. The theme, "20 Years of ISRII: Reflection, Celebration, and the Future," brought together researchers, clinicians, and developers from around the world. Forhelse SFI presented on the cost-effectiveness of digital interventions, internet-based treatment, and technology adoption in mental health care. Forhelse SFIs scientific advisors, including Professors Lee Ritterband, Nick Titov, and Heleen Riper, also participated. The conference offered valuable insights, networking, and inspiration for future research.

Researcher Jørn Heggelund presenting at the 12th annual ISRII conference

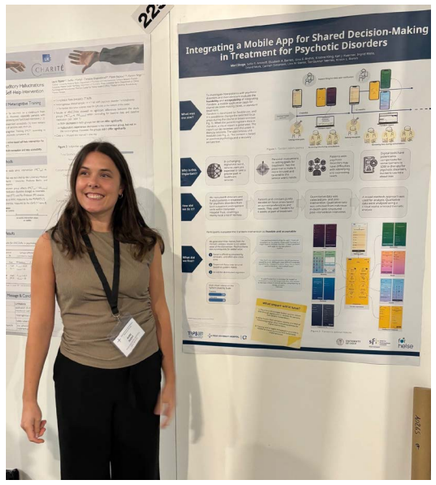
Forhelse SFI attended the **HTAi 2024 conference in Seville**, focused on early Health Technology Assessment (HTA). Research partner Oslo University Hospital organized a workshop with Nottingham University Hospitals Trust and Radboud umc, led by WP3 leader PhD Linn Støme. The event included NHS representatives, Australian pharmaceutical companies, and US health organizations. The conference explored the evaluation of emerging technologies like AI, personalized medicine, and digital health.

WP3 leader Linn Støme presenting at HTAi 2024

At **the Nordic Neuropsychological Conference** in Trondheim, researcher Sunniva Brurok Myklebost and consultant Karine Gjerde Bevan from Haukeland Unversity Hospital presented a poster on Myklebost's study of cognitive issues after cancer treatment. The study, involving 725 cancer survivors and 98 healthcare professionals, found significant impacts on work, mental health, and identity due to cognitive difficulties. The findings highlight the need for improved treatment options for survivors.



Researcher Sunniva Myklebost and research consultant Karine Bevan at the poster session



PhD Linn Støme and colleagues at Oslo University Hospital, are also studying the integration of the iTandem mobile app for shared decision-making in psychotic disorder treatment. PhD-candidate Mari Skoge from Oslo University Hospital presented the iTandem evaluation results at **SIRS 2024 in Florence, Italy**.

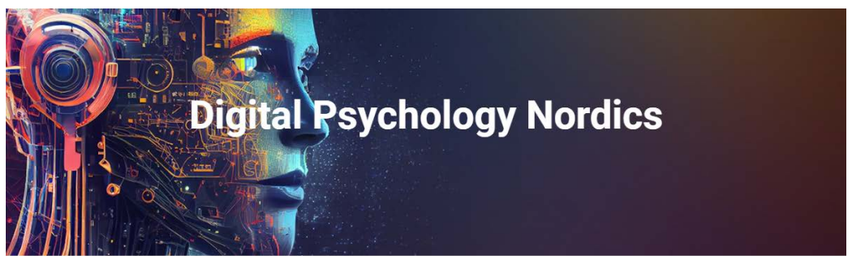
PhD candidate Mari Skoge at the poster session of SIRS 2024

PhD Candidate Reidar Nœvdal presenting at the implementation workshop

More than 160 participants from 10 countries attended **The Dutch Implementation Science symposium**. PhD Christiaan Vis from Vrije Universitet Amsterdam and PhD-candidate Reidar Nœvdal from Haukeland University Hospital led a workshop on matching implementation strategies with determinants, using eTreatment as a case study.

The EHiN 2024 conference, Norway's largest event for e-health and digitalization in healthcare, brought together key players to explore the future of healthcare technology. The conference focused on healthcare digitalization, covering AI, elderly care, and the role of healthcare professionals in tech development. Our partner Norwegian centre for e-Health Research, led sessions on mental health and technology`s role in treatment. Industry partners CheckWare and Youwell both had stands, with Youwell also hosting a session on adolescent mental health and the role of digital media.

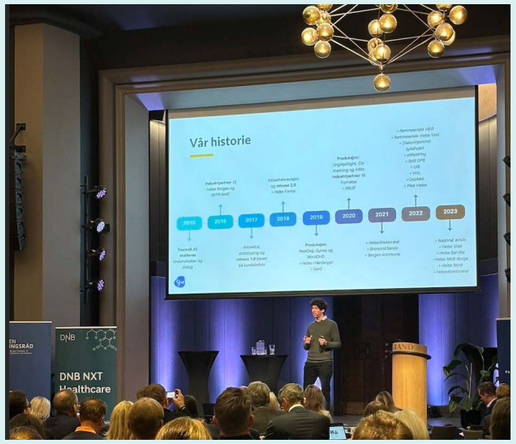
The Nordic Conference on Digital Psychology marked a key milestone in digital mental health. For the first time, 270 psychologists from Sweden, Norway, Finland, Denmark, and Iceland gathered online to strengthen cross-border collaboration, exchange knowledge, and shape the future of the field. Speakers included leaders from Nordic psychology associations, top researchers, and experts. Forhelse WP4 leader PhD Robin Kenter presented experiences on going from research to implementation of digital health services.



Chairman of the board Jonny Klemetsen discussing collaboration between the commercial industry and public services

DigitalHelse2024 is Western Norway's largest event for technology and digitalization in the healthcare. Forhelse Centre Director Tine Nordgreen served on the organizing committee, while Chairman of the Board, Jonny Klemetsen, contributed to several sessions in this year's event. Industry partners CheckWare and Youwell showcased their innovative work at their stands, engaging with the 700 participants in attendance.

June 2024, the Bergen Chamber of Commerce hosted the conference **Health 2030: Bergen navigating towards a new health industry**. Øyvind Grimsgaard from Youwell gave a talk about the rollout of eTreatment across Norway and the journey that led to this point.



Youwell CEO Øyvind Grimsgaard presenting the history of digital health services, and Youwell's role

On October 23rd-24th, **the CheckWare Conference 2024** took place, featuring costumer accounts about their experiences from working with CheckWare. A session on somatic health dicussed our collaboration on the digital IBS school. Clinical nutritionists Ingbjørg Bratland and Mari-Anna Holmefjord, from Haukeland University Hospital shared their expereinces transforming the digital IBS school from a pilot project into a regional treatment.Their presentation offered valuable insights and perspectives on the future of IBS treatment.

T**he National Health Service Research Conference 2024** took place in Bergen, organized by NORCE, Centre for Care Research West, and the Norwegian Health Service Research Network. Vidar Halsteinli, leader of Leader of WP2 at Forhelse SFI, participated as chair of the Network`s advisory board.

Other events

Throughout the year, Forhelse SFI and our partners participated at a wide range of events – from research-focused conferences to tech-driven events. Here are some highlights:

We are committed to sharing our research with all age groups. This year, we took part in **Bergen's Research days**, a festival to create enthusiasm and understanding for research. Visitors learned about what a digital intervention can be and tried a VR program with height phobia exercises. We were excited to engage with everyone who stopped by. The initiative earned us the award for best stand of the year!

Research consultants Malin Schrøen Johansen, Karine Gjerde Bevan and Robin Gulseth accepting the award

Our partner, the digital IBS-school, also hosted a **panel discussion on the topic of IBS** and its treatment during the **Bergen`s Research days**. PhD candidate Camilla Thuen joined doctors from Haukeland University Hospital and a user representative on the panel. The discussion covered the current situation, common diagnoses, existing treatment options, and future solutions, including new research and treatment methods.

Professor Trygve Hausken, Doctor Elisabeth K. Steinsvik and PhD candidate Camilla Thuen at the panel discussion

Education

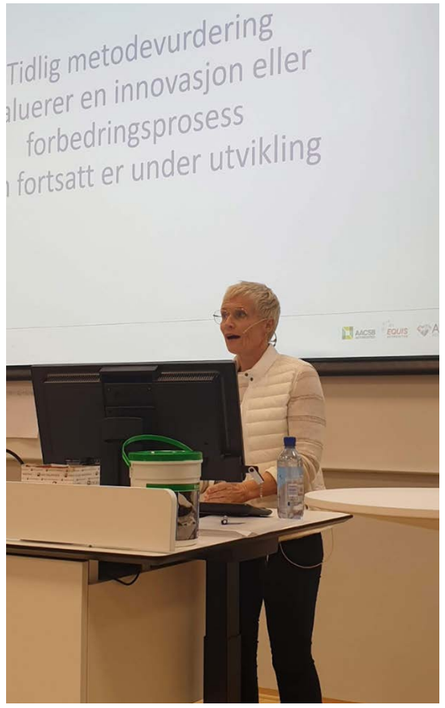
PhDs Aleksander Heltne and Sunniva Myklebost represented Forhelse SFI at a **career event organized by Haukeland University Hospital**. The event was especially relevant for final-year students in various health-related fields, offering them valuable insights into potential career opportunities. It was also a great platform for Forhelse SFI to engage and connect with future healthcare professionals.

Researchers Aleksander Heltne and Sunniva Myklebost by their stand at the career event

Researcher Emilie Sektnan Nordby presenting to the psychology students

In collaboration between Forhelse SFI researchers, user representative Stine Hope Spjeld and therapists from eTreatment Bergen, a **15-hour course on Digital Treatment of Mental Disorders was developed for psychology students** at the University of Bergen. The course offered a practical introduction to digital mental health treatments, covering evidence supporting these treatments across various disorders and user groups. Topics included user involvement, the role of the e-therapist, and real-world examples of digital interventions. Students also visited eTreatment Bergen to interview therapists and explore how digitalization is shaping psychological treatment.

Forhelse WP3`s research on early Health Technology Assessment (HTA) led to the development of ***Step Up***—a step-by-step method for evaluating innovations during their early stages. This methodology is now part of the curriculum of the **MBA program in Leadership of Service Development at BI Norwegian Business School.** The program introduces approximately 300 participants to the tool each year. Step Up is used in master's theses and serves as a key teaching tool for future healthcare leaders.



Professor Kari Kværner giving a lecture at BI

Digitalization in health is a further education study, now offered as a the regular study program at the University of Bergen. In 2024, the program entered its second year, with 29 applicants and 11 students accepting offers. 52 students are enrolled in total. Designed for healthcare professionals, the program provides knowledge and competence needed to drive digitization processes in the health sector. Students must hold a bachelor's degree and have at least two years of healthcare experience. Developed by UiB in collaboration with Haukeland University Hospital, Helse Vest IKT, Bergen municipality, Vaksdal municipality, Voss municipality, Alrek health cluster, Bergen industry council and Norwegian smart cluster, the program has received positive feedback. Students report improved knowledge of healthcare digitalization and valuable networking opportunities.

User involvement

Our researchers emphasize the importance of user involvement to ensure services are relevant, meaningful and easy to use. Examples from 2024 inlcude:

For the self-guided version of the MyADHD program, we previously gathered feedback from a 6-person user panel and a lived experience group of 12 users to help shape video content. An ADHD expert was also involved in creating all the modules. E-therapists also contributed to the development of the newly created **MyADHD guided treatment.**

The Modi app was tested by nursing students at a placement at Forhelse SFI, and two clinicians from Bergen municipality provided clinical insights. The 2024 feasibility study for the app, with 25 participants, revealed user interaction barriers. The app was also tested on end-users with anxiety symptoms, leading to adjustments to the app's functionalities to create a more intuitive and user-friendly experience.

Treatment for cognitive difficulties for cancer survivors also involved users. A survey with 728 participants explored their experiences with cognitive difficulties and healthcare services for such issues.

Clinicians have actively shaped these programs. In 2023, they provided feedback on real-time patient activity updates, and in 2024, Forhelse SFI continued close communication with clinicians through the MyADHD study. with Forhelse SFI maintaining close communication with clinicians throughout the MyADHD study. Their input is crucial in ensuring the program's real-world effectiveness.

In a new study on patient-related time use, therapists helped developed the registration form and provided feedback to ensure the validity of time tracking categories.

The study on implementing the digital IBS school in Helse Vest prioritized clinician involvement to assess implementation challenges. Insights will inform practical guidelines for integrating the program into clinical practice, with preliminary results shared with the Norwegian Directorate of Health to ensure alignment with clinical needs before nationwide rollout.

Mari Skoge's PhD project on using an app for shared decision-making in treatment for psychotic disorders now includes two user representatives. They participate in digital meetings, provide feedback, help shape persona stories, and took part in a mental health care workshop for data collection.

Our collaboration with Vinderen DPS, testing the iTandem app with patients and staff, is also shaped by the users. We`ve worked closely with clinicians to adapt to their routines. We`ve integrated feedback on the iTandem app and clinical portal, from testing at Innlandet Hospital Trust and Vinderen DPS.

Students team up with Forhelse SFI on user involvement

Nursing students from VID Specialized University recently completed a placement at Forhelse SFI, helping develop an app for adolescents (16–18 years) with depression symptoms. They interviewed high school student, who highlighted the need for a user-friendly design, intuitive navigation, clear language, video content, and the option to contact a therapist. Many had limited awareness of digital health services and tended to trust influencers over healthcare professionals.

International cooperation

Forhelse SFI has an ongoing international collaboration with PhD Christiaan Vis and Professor Kristian Kidholm.

PhD Christiaan Vis, based at Amsterdam University Hospital (AUMC), is actively involved in work package 4 (Implementation), which is led by PhD Robin Kenter at Forhelse SFI. PhD Vis plays a key role by attending routine meetings, supervising PhD candidates, and providing valuable insights and feedback during discussions.

Professor Kristian Kidholm is Head of Research at the Centre for Innovative Medical Technology (CIMT) at Odense University Hospital. Professor Kidholm is also an active participant in work package 2 in Forhelse SFI, as well as contributing to discussions, giving insights and presentations at relevant venues, for example at Forhelse SFI's board meeting and joint gathering.

Professor Kidholm emphasized the importance of calculating costs of digital health services at the joint gathering in October

Collaboration with eCentre Clinic in Sydney

In 2024, Forhelse SFI enhanced its global engagement by supporting a **three-month exchange for postdoctoral researcher PhD Smiti Kahlon** at the renowned eCentre Clinic, Macquarie University, Sydney. Led by Professor Blake Dear, the clinic is a leader in digital health interventions. PhD Kahlon contributed to knowledge exchange through research meetings, seminars, clinical observations, and further development of the Norwegian Big Five project, which promotes key behaviors for mental health.

During her visit, PhD Kahlon presented Forhelse SFI's research at the eCentre Clinic's seminar series and Macquarie University's Lifespan Health and Wellbeing Research Centre. She gained valuable insights into youth anxiety interventions, advanced methodologies, and best practices in digital health.

This exchange has strengthened Forhelse SFI's research networks and inspired innovation in intervention strategies. The successful collaboration has already led to an invitation for PhD Kahlon to return,

Researcher Smiti Kahlon presenting at the monthly research seminar at the eCentre Clinic. To the right is PhD candidate Guri Elise Holgersen

and we look forward to integrating her learnings into our ongoing work.

PhD candidate Guri Holgersen from UngMeistring also participated in a three-month exchange in Australia.

> "This exchange has given me the opportunity to learn and observe how other research centres in digital health interventions operate, which has been both inspiring and highly valuable for my work."
> - Smiti Kahlon

Forhelse SFI Leadership at Arctic Frontiers Conference

On October 1st, Forhelse SFI center director and Professor Tine Nordgreen joined a panel at **the Arctic Frontiers conference in Ottawa**, discussing digital mental health solutions for Arctic and remote Canadian communities. The event emphasized research, innovation, and collaboration between experts from Norway and Canada.

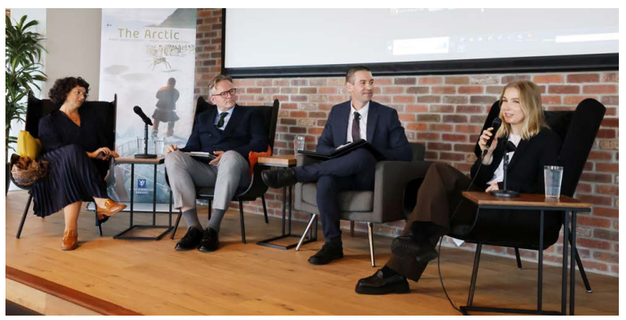


Photo: ArcticFrontier.com

Mental health challenges are significant in Arctic areas, particularly among Indigenous peoples. Barriers such as vast distances, limited infrastructure, and cultural factors reduce access to care. However, stigma is decreasing, and younger generations are turning to digital tools like chatlines and apps for support.

The conference showcased innovative solutions from Canada and Norway while addressing challenges such as strict regulations, limited funding, and unreliable internet in remote areas. Trust in new technologies and aligning research with innovation are key, with the COVID-19 pandemic highlighting the need for improved healthcare access in these regions.

The First Nordic Meeting on Digital Mental Health

In 2024, Forhelse SFI established a new forum: **Nordic Meeting.** This brought together researchers from across the Nordic countries to discuss and share insights on online mental health treatment for adults, adolescents, and children. The first meeting, held in Bergen in April, highlighted the power of collaboration – showing how connecting clinics, research groups, and nations can help make their work more accessible and impactful. The group`s mission is to build a unified Nordic network that encourages the exchange of ideas and collaboration on funding applications, including a joint application to the Nordic Council of Ministers. Together we will also work towards putting digital health tools on the political agenda.

Nordic researchers gathered in Bergen

Danish-Norwegian collaboration to prevent perinatal depression

PhD candidate Karoline Holm Elkjær Rasmussen at our main offices in Bergen

In June, **Forhelse SFI had the pleasure of hosting Karoline Holm Elkjær Rasmussen**, a PhD candidate from the Neurocognition and Emotion in Affective Disorders (NEAD) Centre at the University of Copenhagen. Rasmussen is researching ways to prevent perinatal depression among expectant parents in Denmark. Her work focuses on developing PreParent, an online tool to identify risk factors and prevent postpartum depression, in collaboration with Forhelse SFI researchers and developers from Youwell.

Preparent features a cognitive emotional treatment (IMPACT) designed to support at-risk pregnant women and their partners, with the goal of reducing the risk of postpartum depression by 50 %. The study addresses key risk factors for both mothers and fathers and seeks to create an accessible, internet-based solution to promote equal healthcare. The project is led by psychologist and postdoc AnneJ. Bjertrup and Professor Kamilla W. Miskowiak at the NEAD centre in Denmark.

"We are very excited about this international collaboration on the PreParent study. It is a fantastic opportunity to share experiences on internet-based interventions for affective disorders (...) it contributes to a robust and diverse development of our internet-based tools for identifying risk factors and preventing postpartum depression in expectant parents."
– Karoline Holm Elkjær Rasmussen

Collaborating projects

UngMeistring

UngMeistring is a project funded by the Research Council of Norway's PilotHelse program. Managed by Haukeland University Hospital, UngMeistring develops digital treatments for adolescents with eating disorders, ADHD, depression, and anxiety. In 2024, the first versions of the eBalanse app (for eating disorders) and the ADA app (for ADHD) were tested in clinical trials.

eBalanse

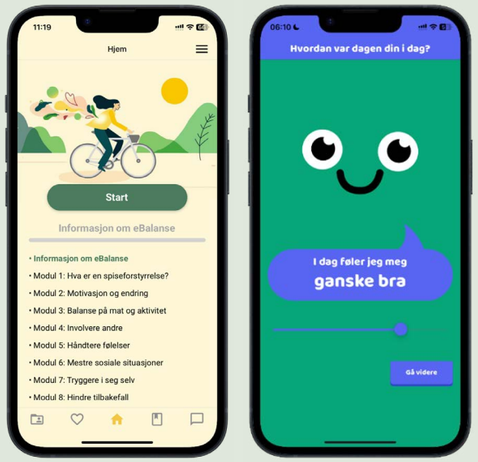
The eBalanse app is currently being tested in a clinical treatment study at the Child and Adolescent Psychiatric Out-patient Clinic (BUP) in Helse Fonna and at the Child and Adolescent Psychiatric Clinic at Haukeland University Hospital. The digital treatment aims to reduce symptoms of eating disorders and increase life-coping skills. It focuses on supporting adolescents with eating disorders to:

- Understand symptoms of eating disorders and how they affect everyday life.
- Stay committed to treatment.
- Learn how to regulate eating and activity in a more balanced way.
- Manage emotions.
- Access tools to develop better self-esteem.
- Become more aware of why the eating disorder developed and what purpose it serve
- Cope with social challenges.
- Work towards a more realistic body image and deal with information from social media.

ADA

The ADA app is currently being tested at the Child and Adolescent Psychiatric Clinic at Haukeland University Hospital. The digital treatment aims to gain knowledge on the preliminary effects and feasibility of a guided digital treatment for adolescents with ADHD. As one of the first projects to explore this approach, it contributes valuable new insights into the field.The treatment focuses on supporting adolescents with ADHD to:

- Gain skills to cope with social challenges.
- Reduce ADHD symptoms in daily life.
- Improve daily functioning and well-being.
- Prevent the development of additional difficulties.
- Learn how to utilize their resources in the best possible way.



On the left: Example from the eBalanse app, on the right: Example from the ADA app

PIECES

In 2024 Forhelse SFI was involved in the EU project PIECES, that will research the implementation of evidence-based cancer prevention mesaures. The second annual PIECES consortium meeting was held in Utrecht, Netherlands, on June 10–11. Partners from 15 countries presented updates on their work implementing primary cancer prevention programs. Researchers Robin Kenter and Christiaan Vis (AUMC) shared some results of the review of implementation determinants for the Implementation Toolkit and experiences with the Norwegian implementation toolkit. Hosted by UMC Amsterdam and the Trimbos Institute, the meeting marked an important milestone in developing the Integrated Implementation Toolkit (PCP-IT) for cancer prevention.

Funded by the European Union

The CRANE-project

Researchers from work package 3 in Forhelse SFI are involved in the CRANE-project, a Horizon 2020 Pre-Commercial Procurement (PCP) project, focused on creating a flexible self-management system for treating chronic patients at home. Oslo University Hospital serves as a research partner, with PhD Linn Støme working on the early HTA tool Step-up, to identify important design criteria in value-based procurement.

The Viken project 2.0

Professor Kari Kværner and PhD Linn Støme sharing insights from early HTA

WP3 is also involved in a work package on evaluations of digital health as part of the Viken-project 2.0, aiming to establish models to assess cost effectiveness by sharing insights from early HTA. Norway Health Tech is leading the work package, providing a unique opportunity to assess needs in the Norwegian health industry.

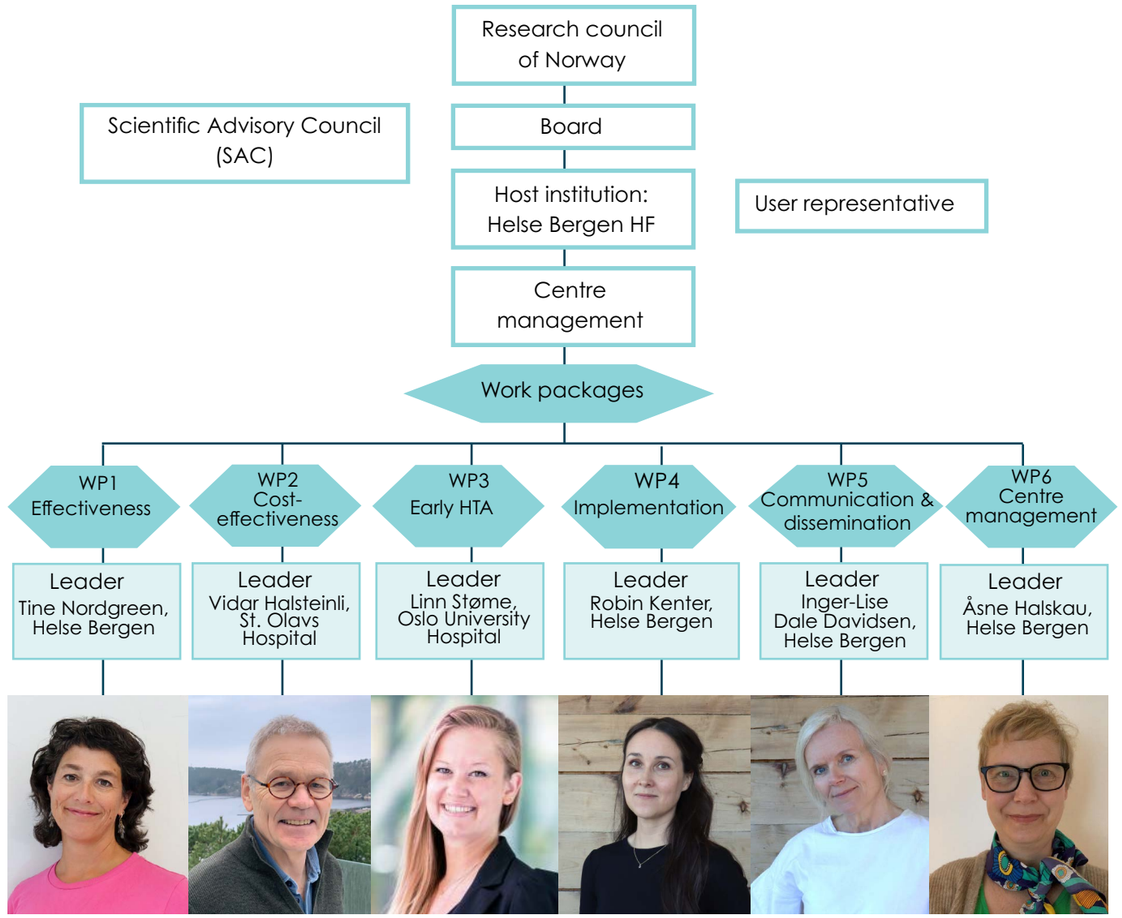
Pre-Project "Tegn til bedring»

Oslo University Hospital was also awarded funding through the pre-project Pilot Helse scheme by the Research Council of Norway. As part of this initiative, WP3 will collaborate with Youwell to develop and procure a digital tool for video consultations and build the infrastructure for a digital clinic.

Organisation

Organisational structure

The centre director reports to the board, which is chaired by a business partner. The centre's management arranges two board meetings a year at the host institution, Helse Bergen HF.



Centre management

The day-to-day running of the centre is handled by the centre management team, which is organized under work package 6. This team holds weekly operational meetings and collaborates closely with the project managers of the PIECES and UngMeistring projects, co-located with Forhelse SFI. The centre management team includes:

- **Centre director** Tine Nordgreen
- **Centre coordinator** Åsne Halskau
- **Section leader** Kjersti Skare

Board

Jonny Klemetsen	(Chairman of the Board) Youwell
Randi-Luise Møgster	Division of psychiatry, Helse Bergen HF (Project owner)
Heidi Aabel/Frode Næss	CheckWare AS
Elin Ulleberg	St. Olavs Hospital
Jørn Jacobsen	Vestfold Hospital Trust
Kari Kværner	Oslo University Hospital
Kjell Ø. Petersen	Changetech
Sissel Børve	Helse i Hardanger
Anton Åhrén	Innlandet Hospital Trust
Kristin Farestvedt	Helse Vest IKT
Erik Hellestøl	Lifekeys
Siri Bjørvig	Norwegian Centre for E-health Research
Filip Drozd/Silje Haga	Centre for Child and Adolescent Mental health (RBUP)
Reidun Kjome	University of Bergen
Maria Norheim	Bergen municipality
Christine Demmo-Bru	Fornix
Frederic Andre E. Larsen	Solli DPS District Psychiatric Center
Ragne Gjengedal	Adult Psychiatry Department Vinderen

Scientific Advisory Council

The Scientific Advisory Council (SAC) serves as a guiding and advisory unit to ensure high-quality activities and research at Forhelse SFI. In 2024, SAC-members provided valuable input on the midway evaluation process with the Research Council of Norway, reflecting on the centre`s work and future scientific direction. The SAC includes the following internationally renowned researchers:

- **Professor Nick Titov,** Macquarie University, Australia
- **Professor Lee Ritterband,** The University of Virgina, USA.
- **Professor Heleen Riper,** Vrije Universiteit, The Netherlands.

Work packages and partners

Each work package (WP) includes researchers, healthcare services, businesses, and end users (patients, healthcare personnel) and is managed by a WP leader. WP leaders and the centre management meets bi-weekly to increase mutual understanding and work towards common goals. Additionally, each WP leader holds regular meetings with their researchers (PhDs and post. docs), healthcare partners and business partners involved in the WP.

Our offices at Haukelandsbakken 2, Bergen

Our offices

The host institution, Helse Bergen, is based at Haukeland University Hospital within the Division of Psychiatry. Our main offices at Haukelandsbakken 2 in Bergen, serve as the primary workplace for most of the Helse Bergen team, including those working on projects like PIECES and UngMeistring. Two of our work packages are led from Oslo and Trondheim, while our partners are spread across Norway. We continue to facilitate both digital and in-person meetings with partners in healthcare, business, and research sectors. Being co-located with the management of the Division of Psychiatry at Haukeland University Hospital fosters valuable synergies between the research centre and the hospital.

Our meeting places

One of our main strategies for collaboration and achieving our goals is through our annual joint gatherings. In 2024, we held two in-person meetings—one hosted by the Trondheim team and one in Bergen—along with two virtual ones. The next joint meeting, scheduled for 2025, will be hosted by the Oslo team. These meetings bring together all researchers, healthcare professionals, and business partners involved with Forhelse SFI. The purpose is to collaboratively work towards increasing the use of digital healthcare services, with a focus on integrating the expertise of both healthcare and business partners alongside relevant research knowledge.

Kari Kværner from Oslo University Hospital leading a discussion at the joint gathering in Trondheim in May

Recruitment

Kjersti Skare began as section leader at Forhelse SFI in April 2024, after working as a research nurse at Forhelse SFI since June 2023. Previously, she was a section leader for eTreatment in Bergen, where she had been employed since 2014. She is a trained psychiatric nurse and holds a master's degree in health management from the University of Bergen (UiB).

Iris Brunner has been recruited as a senior researcher for WP4. She holds a PhD from the University of Bergen and in recent years has been affiliated with Aarhus University / Hammel Neurocenter in Denmark. Brunner has extensive experience in neurorehabilitation research following brain injury. She has been the project leader for several clinical studies and has experience in technology-assisted rehabilitation and implementation research. Brunner's areas of expertise include implementation research, clinical cohort and effectiveness studies, technology-assisted rehabilitation, and knowledge dissemination. She will be involved in implementation studies, such as the evaluation of therapists' patient-related time use when providing digital treatments for anxiety, social anxiety, depression, and ADHD, and a review on structures and organisational prerequisites needed to upscale the use of digital mental health interventions.

Attachments

A1 Personnel

Centre management		
Name	**Institution**	**Role**
Tine Nordgreen	Helse Bergen HF	Centre Director
Åsne Halskau	Helse Bergen HF	Centre Coordinator
Kjersti Skare	Helse Bergen HF	Section Leader

Key researchers		
Name	**Institution**	**Main research area**
Tine Nordgreen	Helse Bergen HF	WP1 Effectiveness
Aleksander Heltne	Helse Bergen HF	WP1 Effectiveness
Vidar Halsteinli	St.Olavs Hospital	WP2 Cost-effectiveness
Linn Støme	OUS	WP3 Early HTA
Robin Kenter	Helse Bergen HF W	WP4 Implementation
Filip Drozd	RBUP	WP2 Cost-effectiveness
Silje Marie Haga	RBUP	WP2 Cost-effectiveness
Monika Gullslett	NSE	WP3 Early HTA/WP4 Implementation
Kari J. Kværner	OUS	WP3 Early HTA
Birgitte Berentsen	Helse Bergen HF	WP4 Implementation
Christiaan Vis	Helse Bergen HF/AUMC	WP4 Implementation
Kristian Kidholm	St.Olavs/Odense University Hospital	WP2 Cost-effectiveness

Support staff		
Name	**Institution**	**Role**
Inger-Lise Dale Davidsen	Helse Bergen HF	Communication consultant
Robin Gulseth	Helse Bergen HF	Research consultant
Hanne Karoline Hinderaker	Helse Bergen HF	Research consultant
Malin Schrøen Johansen	Helse Bergen HF	Research consultant
Karine Gjerde Bevan	Helse Bergen HF	Research consultant

Postdoctoral researchers with financial support from Forhelse SFI				
Name	**Nationality**	**Period**	**Sex**	**Topic**
Jørn Heggelund	Norwegian	2021-2028	M	WP2
Smiti Kahlon	Norwegian	2022-2028	F	WP1
Sunniva Myklebost	Norwegian	2023-2025	F	WP1
Aleksander Heltne	Norwegian	2023-2027	M	WP1
Iris Brunner	German	2024-2027	F	WP4

PhD students with financial support from Forhelse SFI				
Name	**Nationality**	**Period**	**Sex**	**Topic**
Mari Skoge	Norwegian	2024-2026	F	WP3
Zareen Abbas Khan	Pakistani	2021-2025	F	WP2
Jill Kristin Bjarke	Norwegian	2022-2025	F	WP1
Reidar Nævdal	Norwegian	2023-2026	M	WP4
Camilla Thuen	Norwegian	2023-2026	F	WP4
Beate Standal	Norwegian	2021-2025	F	WP4

PhD students working on projects at the centre with financial support from other sources					
Name	**Funding**	**Nationality**	**Period**	**Sex**	**Topic**
Line Børtveit	Høgskolen i Østfold	Norwegian	2021-2024	F	WP1

Master's degrees		
Name	**Sex**	**Topic**
Oda Wulvik	F	Self-efficacy benefits of internet-delivered cognitive remediation: a randomized controlled trial.
Therese Baugerød Aase	F	Comparing the effects of Digital Guided Low FODMAP diet and traditional dietary management based on the NICE guidelines for managing IBS.
Emily Sophie Young	F	Service provider's perspective on the use of gamification in mental health work.
Øyvind Greve	M	Experiences with guided internet-based treatment.
Andreas Ugedahl	M	Parents' experiences with the use of video consultations with the child and adolescent psychiatric outpatient clinic during the COVID-19 pandemic.

A2 Statement of Accounts (All figures in 1000 NOK)

Funding	
Partner or partner category	**Amount**
The Research Council	17 416
Helse Bergen HF - host institution	5 623
Research partners	3 947
User partners - health services	6 241
Total	**35 918**

Costs	
Partner or partner category	**Amount**
The Research Council	17 319
Helse Bergen HF - host institution	9 568
Research partners	6 340
User partners - health services	2 691
Total	**35 918**

Allocation per WP						
Partner or partner category	**WP1**	**WP2**	**WP3**	**WP4**	**WP5**	**WP6**
Helse Bergen HF - host institution	8 113	-	-	1 284	1 902	6 020
Research partners	-	2 841	3 408	3 319	-	-
User partners - health services	2 279	1 484	-	2 477	-	-
User partners - industry	1 021	1 236	68	366	-	-
Amount per WP	**11 513**	**5 561**	**3 476**	**7 446**	**1902**	**6 020**

Note: Two institutions have more than one partner type
Helse Bergen HF - host institution is also legal partner for user partners: IBS, HUH and eMeistring HUH. The table above lists the host institutions costs only for the research part of Helse bergen. For clarity we have included the numbers for Helse Bergen HF as one legal entity below.

Costs	
Partner type	**Amount**
Helse Bergen HF - host institution research partner	17 319
Helse Bergen HF - host institution user partner health services IBS HUH	1 970
Helse Bergen HF - host institution user partner health services eTreatment HUH	1 432
Total Helse Bergen	**20 720**

St. Olavs Hospital HF is also a legal partner for one user partner, eMeistring Nidaros. The table above contains numbers for St. Olav as a research partner in the re-search partner category, and eMeistring Nidaros as user partner in the user partner - health services category.

A3 Scientific publications

No	Publication	Partner
1	**Pacheco, André Pekkola; Munkhaugen, John; Hrubos-Strøm, Harald; Klungsøyr, Ole; Kværner, Kari Jorunn; Støme, Linn Nathalie; Papageorgiou, Constantinos; Dammen, Toril** (2024). Cognitive behavioural therapy for insomnia (CBT-I) in patients with coronary heart disease: a protocol for a randomized controlled trial with six months follow-up. *European Journal of Preventive Cardiology (EJPC)* 31(Supplement_1) https://doi.org/10.1093/eurjpc/zwae175.434	OUS
2	**Børtveit, Line; Nordgreen, Tine; Nordahl-Hansen, Anders Johan.** (2024). Exploring experiences with an internet-delivered ACT intervention among individuals with a personal history of depression: A thematic analysis. *Acta Physiologica*, 250. https://doi.org/10.1016/j.actpsy.2024.104510	UiB
3	**Khan, Zareen; Kidholm, Kristian; Pedersen, Sindre Andre; Haga, Silje Marie; Drozd, Filip; Sundrehagen, Thea; Olavesen, Ellen Solstad; Halsteinli, Vidar.** (2024). Developing a Program Costs Checklist of Digital Health Interventions: A Scoping Review and Empirical Case Study. *PharmacoEconomics,* 42, 663-678. https://doi.org/10.1007/s40273-024-01366-y	RBUP
4	**Myklebost, Sunniva Brurok; Heltne, Aleksander; Hammar, Åsa Karin; Nordgreen, Tine.** (2024). Efficacy of an internet-delivered cognitive enhancement intervention for subjective residual cognitive deficits in remitted major depressive disorder: A randomized crossover trial. *Journal of Affective Disorder,* 364, 87-95. https://doi.org/10.1016/j.jad.2024.08.035	HUH
5	**Jakobsen, P., Côté-Allard, U., Riegler, M. A., Stabell, L. A., Stautland, A., Nordgreen, T., Torresen, J., Fasmer, O. B., & Oedegaard, K. J.** (2024). Early warning signals observed in motor activity preceding mood state change in bipolar disorder. Bipolar disorders, 26(5), 468–478. https://doi.org/10.1111/bdi.13430	HUH

for helse

HELSE BERGEN
Haukeland University Hospital

Norwegian Centre for Research-based Innovation