

“Our main goal is to increase
the use and impact of digital
psychological interventions”

Annual report 2023

Research centre for digital mental health services

for
helse



Norwegian Centre
for Research-based
Innovation



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Inger Lise Dale Davidsen,
Førde

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A preface by the Centre Director

I want to start with thanking all our partners and collaborators for good work, interesting discussions, and shared challenges throughout 2023. In the post-covid era the use of digital interventions has decreased, and in most healthcare services, we are back to the pre-covid normal when it comes to the use of digital healthcare services. At the same time 2023 have provided us with national reports and strategies (NOU's) pointing towards a future with increased needs for healthcare services and reduced access to resources, especially qualified healthcare personnel: "Tid for handling", "Opptroppingsplanen for psykisk helse". These documents all point to digitalization as part of the solution.

In collaboration with public healthcare services, private businesses, researchers, and end-users we at Forhelse SFI explore what is needed for digital healthcare services to make a significant contribution in the future healthcare services.

First, it needs to be effective for the patients/users. In 2023 Bergen Municipality, Helse Bergen HF and Youwell have evaluated and documented the effectiveness of an app for adolescents with anxiety symptoms; Helse i Hardanger, Youwell and Helse Bergen HF have evaluated and documented the effectiveness of a digital follow-up app after concentrated rehabilitation treatment; Helse Bergen HF have explored the cognitive complaints and needs of adults recovering from cancer.

Second, what are the costs of different ways to organize digital healthcare services? St. Olavs Hospital HF have together with the eMeistring clinics explored costs related to different ways of organizing guided internet-delivered treatments; St. Olavs Hospital HF, Changetech and Centre for Child and Adolescent Mental health, Eastern and Southern Norway are currently evaluating the costs of guided or unguided prevention of depression among pregnant women (Mamma Mia).

Third, what knowledge do we need to decide to use digital healthcare services? Our partner at Oslo University Hospital has developed an early-stage decision support system for healthcare managers specially adapted to decision making in mental health. The methodology is based on Early Health Technology Assessment and will be further developed in the Forhelse SFI.

Finally, what are the effective ways of implementing digital healthcare services? The University of Bergen, along with the eMeistring clinics and Helse Bergen HF, has investigated the perspectives of leaders and therapists regarding the implementation of eMeistring in three of the four health regions. Additionally, Bergen Municipality and Helse Bergen HF have examined the attitudes of leaders and healthcare personnel towards digital healthcare services for youth with mild to moderate mental health complaints.

In sum, Forhelse SFI not only explores the isolated effect of health apps, but also obtain knowledge about organization and strategies to increase its value in private and public organizations. These perspectives are often ignored when talking about digital healthcare services and is one reason for doing extensive communication and dissemination activities. In 2023 our partners have contributed with 11 new publications in the media, 6 popular science publications and 61 dissemination activities for users (healthcare personnel, patients, and the general public). In addition, we have 10 scientific publications this year.

We expect 2024 to be our most productive year so far. We have our main staff on board and there is an increased sense of urgency for meeting the needs of a future and sustainable healthcare service.

I hope that you will enjoy our third annual report! Do you have any questions and comments? Do not hesitate to contact us at forhelse@helse-bergen.no

Tine Nordgreen, PhD
Centre Director

Research centre for digital mental health services, Helse Bergen HF



Reflections from the Chairman of the board

We have three years of good work behind us at the Research centre for digital mental health services (Forhelse SFI). The centre has strengthened its position as Norway's foremost competence centre in digital mental healthcare services. We see that this competence and knowledge will become even more important in the years ahead. We are still in an early phase in terms of being able to offer digital mental health services to the Norwegian people.

It is the centre's ambition to increase the number of users of digital healthcare services to 15% in 2025 and 20% in 2030. In 2023, we have taken some major steps to achieve this goal. One of the most important steps has been that the specialist healthcare service at all health institutions has decided to acquire a new digital platform to develop and use digital mental healthcare services. This rollout means that many new digital healthcare services will now be available throughout Norway. It also makes it easier for several specialist in the healthcare service to start work on developing digital healthcare services within mental health.

We are now closer than ever to achieving Forhelse SFI's goal of maximizing the utilization of digital mental healthcare services. However, there is still much important work to be done. It is critical that we manage to develop more user-friendly services in the years ahead. If the service is not perceived to have a good user experience, we run the risk that it will not be used to the extent that we would like. It is therefore gratifying that DigiHub - a multidisciplinary team developed in the Forhelse SFI context who

supports digitalisation of healthcare services, development, and user testing - has gained a strong position in this work and has built up unique expertise in developing digital mental healthcare services but also creating good user experience. It is crucial that healthcare personnel want to offer this to the users, but also that the users do not drop out of the treatment but maintain their motivation throughout the course.

The results delivered until now are a significant effort from a multidisciplinary team consisting of researchers, industry partners and user partners.



We look forward to continued engagement and collaboration in the coming year, as we strive to expand the knowledge of the effect, the cost vs. benefits and how to implement digital mental healthcare services.

Jonny Klemetsen
Chairman of the board
Youwell

User representative

In the past year, in my opinion the centre has kept focusing on user involvement. It is important for Forhelse SFI that relevant user groups, such as patients and therapists, contribute to the direction and results of the projects. The centre has several routines, methods and strategies for user involvement. I, as the centre's user representative, have participated in joint gathering meetings and board meetings. My role has been to promote the user perspective in general, raise relevant topics, participate in discussions and assessments, and to be a contact person for user involvement.



During the last year, I've continued to represent the centre in a collaborative network with Alrek health cluster. The participants were from across sectors within research, education, clinic, user organizations and business actors. Alrek health cluster facilitated a few lunch workshops about user involvement within research, health, and innovation. The aim was to highlight projects with success within user involvement and illuminate challenges. In addition to gain network and share experiences.

I received invitations to talk about user involvement within the centre. I held a lecture for nursing students about user involvement in research and developing digital health interventions, with focus on success criteria for real user involvement. During the yearly Digital Health Days Conference facilitated by Alrek health cluster, I gave a presentation about the user representative role in the centre, real user involvement and how to collaborate with user representatives.

For specific examples of how the user perspective is integrated into the research projects at the centre, please have a look at the section "user involvement" later on in the report.

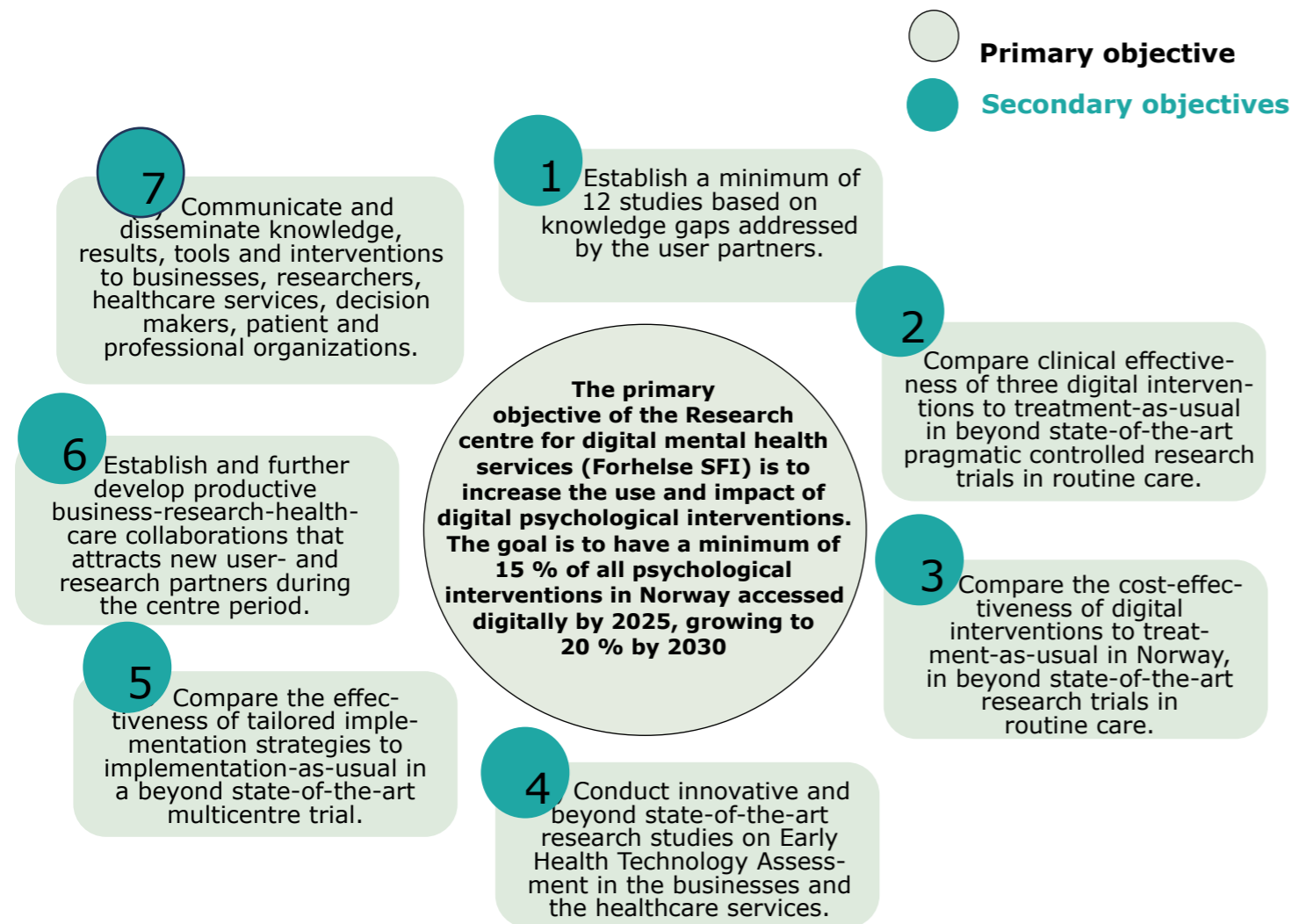
Stine Hope Spjeld
User representative
Forhelse SFI

Vision and objectives

The Research centre for digital mental health services (Forhelse SFI) is a centre for research-based innovation (SFI) supported by funding from the Norwegian Research Council under The Centres for Research-based Innovation scheme (forskningsradet.no). During the centre period we will work with the following primary and secondary objectives:

Primary objective

The primary objective of the Research centre for digital mental health services (Forhelse SFI) is to increase the use and impact of digital psychological interventions. The goal is to have a minimum of 15 % of all psychological interventions in Norway accessed digitally by 2025, growing to 20 % by 2030.



Secondary objectives

A central part of the centre's vision and objectives is to break down barriers between different sectors. The research partners in Forhelse SFI therefore come from all parts of the country, and from various sectors (both from university hospitals and from academia). Concerning the business partners, four out of five are IT companies, and one is a private non-profit healthcare facility. The public healthcare partners include psychiatry and somatic in both primary and specialist healthcare.

Business partners

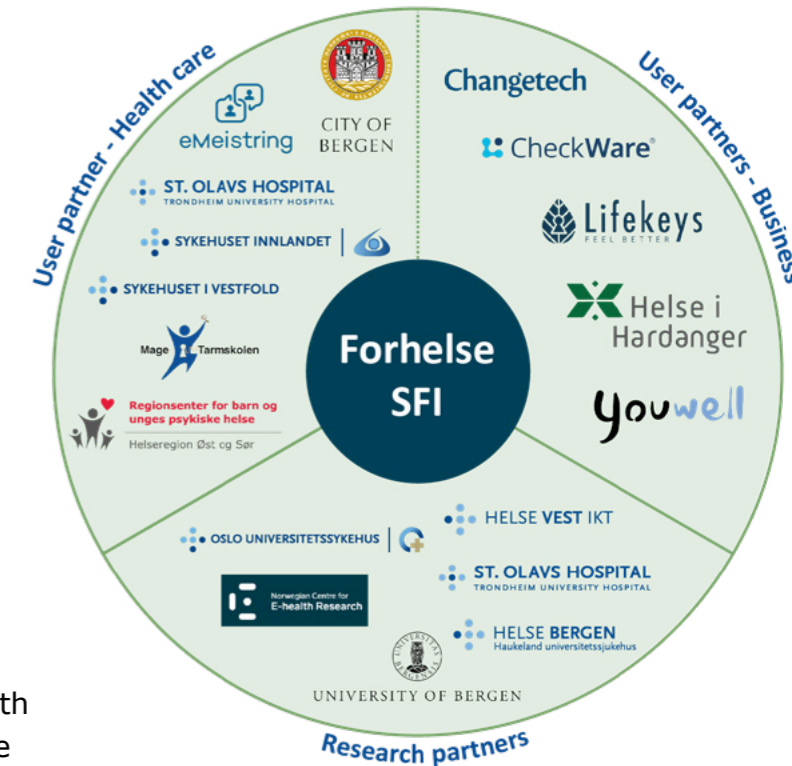
Changetech was founded in 2006 and has been a pioneer in the development of evidence-based behaviour change for a wide range of areas. In collaboration with Forhelse SFI, Changetech is involved in research on Mamma Mia, a program for depression prevention in pregnant women and their partners. The cost-effectiveness trials being conducted in Forhelse SFI are particularly pertinent to Changetech's knowledge needs.

CheckWare was established in 2007 and is a Norwegian international software company that has taken a leading position in digital patient involvement. The company is a reliable partner for hospitals, clinics and municipalities that want to offer sustainable digital health services. CheckWare is the platform for the eMeistring programs. In Forhelse SFI, CheckWare is involved in effectiveness and cost-effectiveness work packages.

Helse i Hardanger was founded in 2018 and is a private hospital that offers intensive four-day treatment for long covid, diabetes, chronic obstructive pulmonary disease (COPD), lower back pain, anxiety and depression. Helse i Hardanger combines intensive treatment with digital follow-up before, during and after the intensive treatment. In Forhelse SFI the effect of the digital follow-up at Helse i Hardanger is investigated.

Lifekeys is an online psychological service that offers video consultations and theme-based seminars with selected psychologists. Since its startup in 2017, the service has had high standards for innovative solutions that make it easier to connect with a psychologist when needed – regardless of who you are. The research questions in Forhelse SFI targeting Lifekeys' knowledge needs are to investigate methods to promote active use of preventive digital health services in a working life context.

Youwell was established in 2015 and provides a portal that is developed especially for healthcare providers, municipalities, clinics, research institutions and private practitioners. The aim of Youwell is to improve the quality and safety of healthcare and to increase internal efficiency as well as the delivery of their services. Youwell aims to make tools to increase health skills and knowledge in the community, contribute to improvement and good health. In Forhelse SFI, the research of particular relevance is on the effectiveness of digital treatment for adolescents with anxiety in Bergen Municipality.



Healthcare partners

Bergen Municipality offers a service called "Barne- og familiehjelpen" (Child and Family Services). Barne-og familiehjelpen aims to provide low-threshold interventions for children and adolescents who experience mild to moderate health complaints. In Forhelse SFI, Bergen Municipality collaborates with Youwell and Helse Bergen HF to develop, evaluate and implement digital interventions for adolescents. The research in Forhelse SFI which is particularly relevant to Bergen Municipality, focuses on effectiveness and implementation of these interventions.

eMeistring at Haukeland University Hospital has been treating anxiety disorders since 2013, and depression since 2015. In 2014, a separate eMeistring department was established at Solli DPS in Bergen, and at Sykehuset i Vestfold. In 2018, the service became available at Nidaros DPS, Helse Fonna and Helse Førde. For Helse Stavanger, the service was accessible in 2020. During the fall of 2021, eMeistring was also launched in the entire region of Helse Sør-Øst.

Innlandet hospital trust (Sykehuset Innlandet) is now also offering eMeistring for patients. eMeistring currently has treatment programs for panic disorder, social anxiety and depression. The services are accessible, flexible and of high quality. In 2019, therapist-guided internet treatment was approved as a method by The National System for Managed Introduction of New Health Technologies within the Specialist Health Service in Norway. The research at Forhelse SFI that is of special interest to eMeistring is investigating effectiveness, cost-effectiveness, and implementation, including service models.

Centre for Child and Adolescent Mental health, Eastern and Southern Norway

cooperate with Forhelse SFI with data collection from the ongoing multisite cluster-randomized trial of Mamma Mia. "Mamma Mia" is a universal preventative internet program aimed at all pregnant and new mothers, with the aim of supporting women in the transition to become a mother as well as providing support and help in the first months after childbirth. Mamma Mia follows the woman from mid-pregnancy and until the baby is six months old. The internet program is based on research and clinical experience regarding infant health and mental health. Mamma Mia offers quality-assured information that is scientifically based. Feedback from pregnant women and new mothers has had a high impact on the development of the program.

Mage-tarmskolen offered by Haukeland University Hospital/Helse Bergen HF is a digital treatment, and is considered as a continuation of the physical IBS school. The internet-delivered treatment can provide a significant reduction in the severity of IBS symptoms, as well as increased quality of life for those who invest time in the treatment offering. It is an interdisciplinary internet-guided treatment program for patients diagnosed with irritable bowel syndrome (IBS). The program consists of five modules based mainly on text and pictures, but also includes videos. The modules are developed by a gastroenterologist, physiotherapist, psychiatrist, and a trained dietitian. The research at Forhelse SFI that is of special interest for Mage-tarmskolen, is the research on implementation of the intervention.

Research partners

St. Olavs Hospital HF has been a central partner in eMeistring and contributes to the research regarding cost-efficiency and implementation. The research-group which handles cost-benefit assessments, is led from St. Olav's Hospital by Vidar Halsteinli.

The University of Bergen (UiB) is involved with Forhelse SFI through research on implementation and expertise in qualitative research. Department of Global Public Health and Primary Care (IGS) at UiB also provides PhD training for the PhD candidates in the western region of Norway.

The Norwegian Centre for E-health Research (NSE) actively participates in Forhelse SFI focusing on research projects centred around implementation, particularly leveraging expertise in qualitative research methodologies. Researcher Monika Knudsen Gullslett from NSE is closely involved in these initiatives.

Oslo University Hospital (OUS) is a research partner of the work package focusing on early health technology assessment in Forhelse SFI. In 2023, OUS replaced BI

as a partner in Forhelse SFI and ensures a continuity in the research and innovation activities from the Centre for connected care (C3).

Haukeland University Hospital serves as the host institution as well as being a healthcare partner in Forhelse SFI. In most cases, the host institution will be the largest supplier of the professional staff in the centres and is expected to assist with administrative support, the provision of premises and other infrastructure for the centre, and this is also the case for Helse Bergen HF. As the host institution, Helse Bergen HF also has the main responsibility for ensuring that the research investments that the SFI grant entails are taken care of and continued when the Research Council's funding ceases.

Helse Vest IKT is the ICT company in the western region owned by Helse Vest RHF. The ICT company provides all ICT services to the specialist health service in the western region of Norway. The aim of Helse Vest IKT is to facilitate innovative use of ICT solutions. Helse Vest IKT is a particularly relevant partner in Helse Vest due to their experience with privacy and security in addition to an increased focus on universal design.



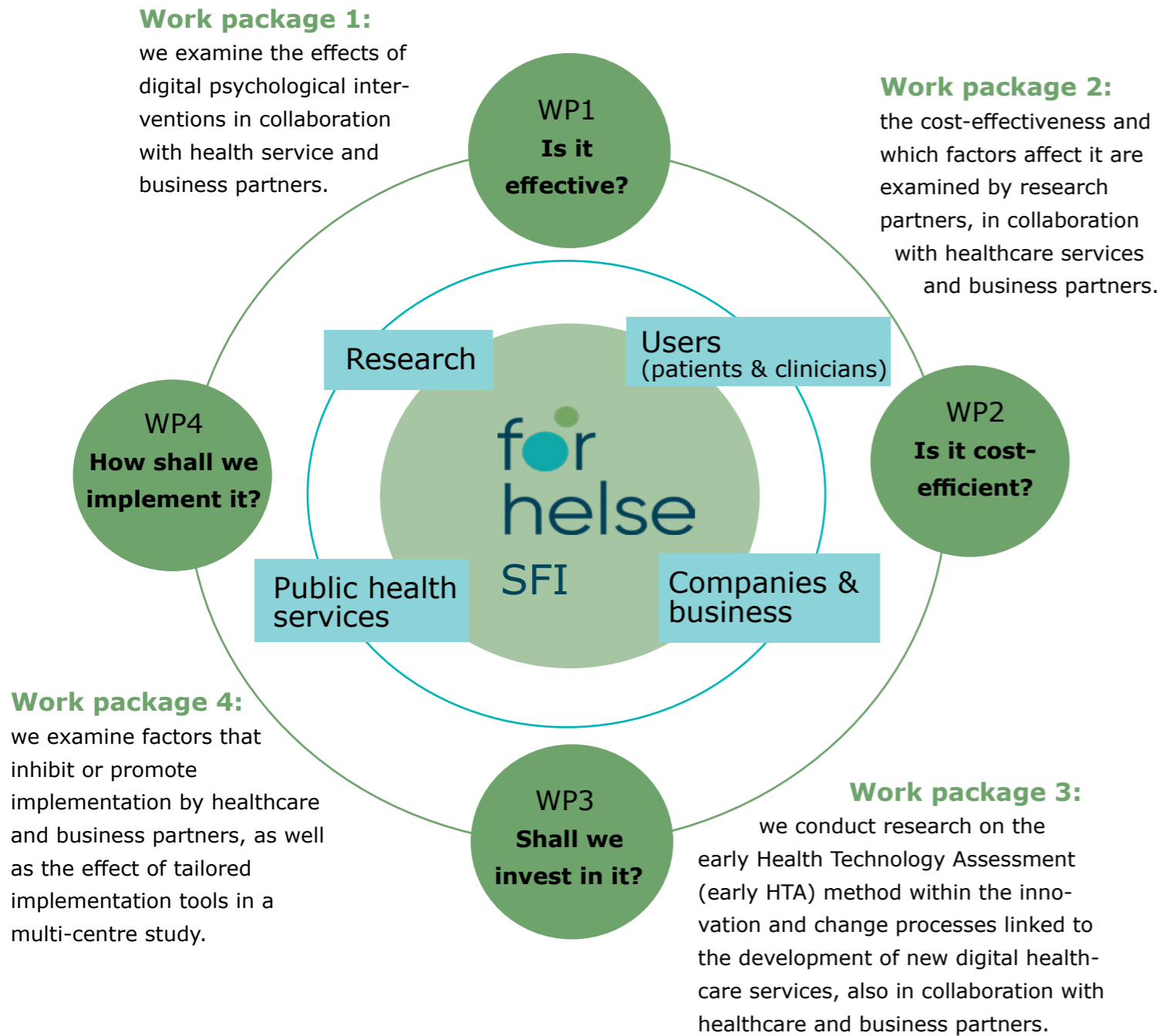
Photo credits:
Inger Lise Dote Davidsen

WP3 Manager Linn Nathalie Støme and PhD student Mari Skoge, OUS.

Strategy: Research and innovation

Research strategy

To ensure that the research is addressing the knowledge needs targeting innovation and value creation among our industry and healthcare partners within the field of digital health-care services, the work pages include both researchers, healthcare services, business, and end users (patients and healthcare personnel). The structure of the work packages ensures that the various needs and perspectives are included from start to finish in each sub-project:



Throughout 2023, significant progress has been made across all four work packages, with the establishment of robust collaboration between researchers, health service professionals, and business partners.

Work package partners

Work package 1



Work package 2



Work package 3



Work package 4



Innovation strategy

An important part of the centre's research strategy is to ensure innovation and value creation among our industry and healthcare partners. The work with commercialisation and value creation involves many participants and stakeholders and is regulated among other things in the consortium agreement. The agreement describes how project results from Forhelse SFI should be defined and notified. However, no model for a private-public partnership on how to commercialize digital content and digital technology and the interplay between them, has been established in Norway. As a contribution to this challenge the Centre management arranged a board seminar with externally invited participants entitled: **How do we ensure long-term funding and making online prevention, treatment and rehabilitation available to the population?** The theme was set against the background of the user partners' challenges regarding sustainable financing and maintenance of digital healthcare services.

The Centre manager Tine Nordgreen began the seminar by outlining the need to promote the reuse of technological solutions, maintenance of interventions so that they provide the longest possible benefit, as well as the need for predictability for providers and purchasers. Five presenters from the following five different stakeholder organizations shared their points of view on the topic: The Directorate of Health, Vaksdal Municipality, Helse Vest RHF and the Regional Centre for Children and Young People's Mental Health East and South (RBUP). This was followed by a joint discussion with the board and external guests from business, the specialist healthcare service, the primary healthcare service and researchers, which concluded the seminar.



As another example of innovation and value creation, one of our business partners reached a major achievement in 2023. The South-Eastern Norway Regional Health Authority (Helse Sør-Øst) issued a tender for an online treatment platform within the field of digital healthcare services, which was won by Youwell. The tender includes an option for other health enterprises to connect to the agreement. This means that the Youwell platform can be implemented in healthcare facilities throughout Norway, contributing to the overall goal of the Forhelse SFI – to increase the use and benefits of digital health services. Youwell provides software for guided internet treatment, allowing specialists, researchers, and healthcare professionals to develop their own treatment programs for their patients.

In addition to the tender on the Youwell platform - and the board seminar, we would like to highlight two other examples of innovation and value creation from Forhelse SFI in 2023: the mobile application Ungspotlight VR and the digital self-help program MinADHD.

UngSpotlight VR

Post. doc Smiti Kahlons doctoral degree "Virtual Reality Exposure Therapy for Adolescents with Public Speaking Anxiety", was made available to the general population in two different formats in 2023 so that the user can choose which technology platform they want to use to work with their fear of speaking in front of the class:

Mobile app: The mobile application UngSpotlight has been developed by Helse Bergen HF and Youwell. In 2023, the app

won a tender in the Norwegian Directorate of Health for digital self-help for young people and is now freely available on the government's online portal Ung.no.

VR-scenario: The self-help program UngSpotlight is also available as a VR game developed in a collaboration between Helse Bergen HF and Attensi AS. The game is available for free on the Oculus Store and has received good reviews on www.barnevakten.no.

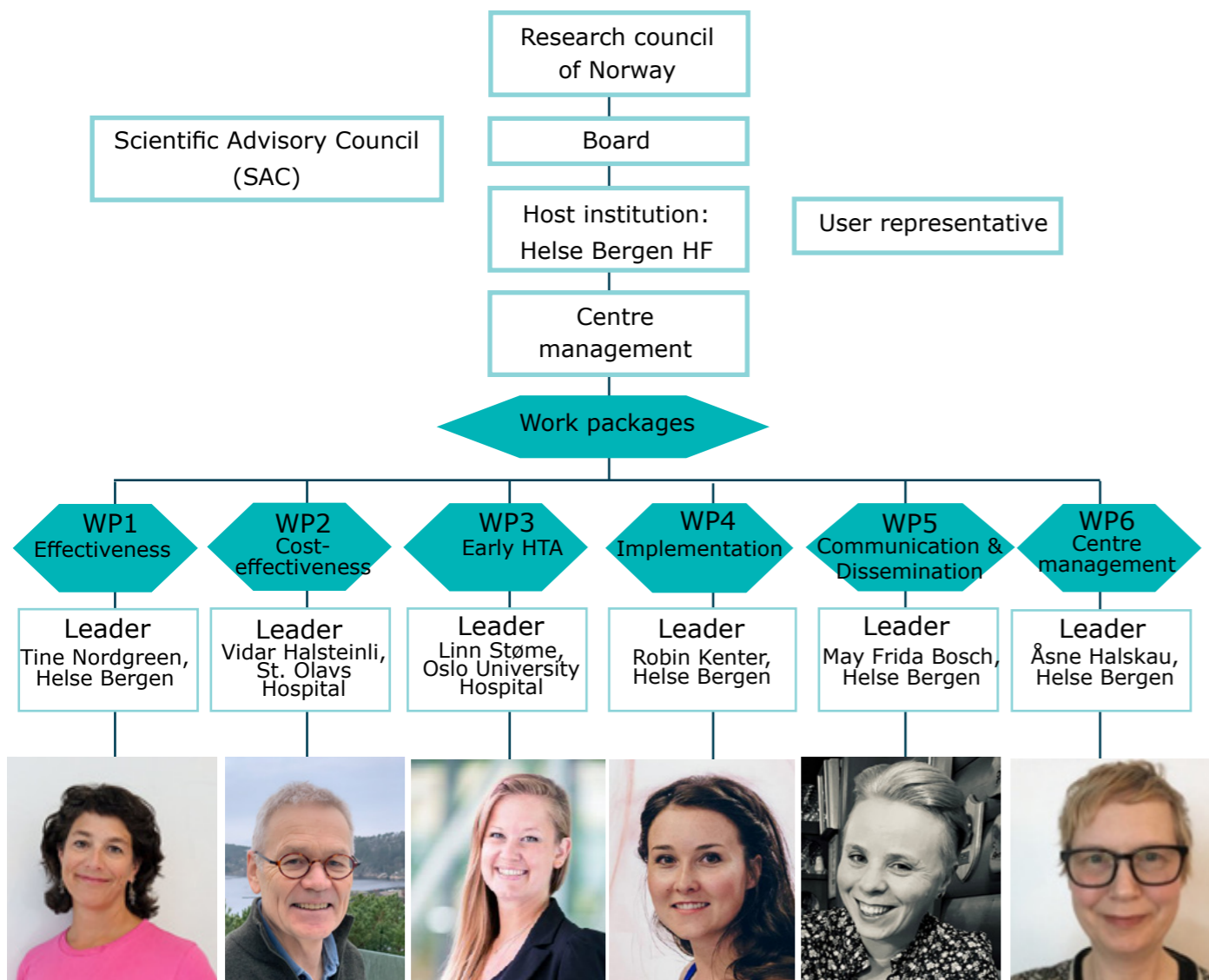
The last but not least innovation result we would like to present from 2023 is **MinADHD**. MinADHD was developed in collaboration between Helse Bergen and the University of Bergen as a self-help program for people with ADHD and has been tested in several studies, showing positive effects. Against the background of increasing numbers of patients with ADHD who need follow-up in the specialist healthcare service, MinADHD is now adapted for use in the specialist healthcare service as a guided internet treatment through a collaboration between Youwell, section for eMeistring and Forhelse SFI. A clinical study is planned to start in January 2024. The results of the study will contribute to increasing the knowledge base about guided internet treatment, which in turn may lead to increased use.

Further research and innovation results are described in the section "Scientific activities and results".

Organisation

Organisational structure

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



Centre management

The day-to-day running of the centre is handled by the centre management. The centre management has weekly operational meetings. The centre management further collaborates with the project managers of the PIECES and UngMeistring collaborative projects, which are co-located with Forhelse SFI. The centre management consists of Centre Director Tine Nordgreen, centre coordinator Åsne Halskau and advisor May Frida Bosch.

Board

Johnny Klementsén (Chairman of the Board)	Youwell
Hans Olav Instefjord	Division of psychiatry, Helse Bergen HF (Host Institution)
Heidi Aabel	CheckWare
Elin Ulleberg	eMestring Nidaros og St. Olavs Hospital
Jørn Jacobsen	eMestring Vestfold, Sykehuset i Vestfold
Thomas Hoholm	BI Norwegian Business School
Kjell Ø. Petersen	Changetech
Sissel Børve	Helse i Hardanger
Anton Åhrén	Sykehuset Innlandet
Kristin Farestvedt	Helse Vest IKT
Erik Hellestøl	Lifekeys AS
Siri Bjørvig	Norwegian Centre for E-health Research
Filip Drozd	Centre for Child and Adolescent Mentalhealth, Eastern and Southern Norway (RBUP)
Helge Ræder	University of Bergen
Nina Bolstad	Bergen Municipality
Kari Kværner	Oslo Universitetssykehus (ONS)

Work packages and partners

Each work package (WP) includes researchers, healthcare services, business and end users (patients, healthcare personnel) and a work package manager. WP managers and the centre management meets bi-weekly. The meetings between the centre management and the work package leaders help to increase mutual understanding and the ability to work towards common goals. In addition, each work package leader has regular meetings with their researchers (PhDs and post. docs) in addition to healthcare partners and business partners who are included in each work package.



Our offices

Forhelse SFI is located at Haukeland University Hospital and is part of the Division of Mental Health Care within the hospital. In June 2023, the entire research centre relocated from Glasblokkene at Haukelandsbakken 15 to the new address, "Haukelandsbakken 2". All staff members are now operating from this office, and we have several meeting rooms available. We continue to facilitate both digital and in-person meetings with our partners in the healthcare services, business, and research sectors. We are still co-located with the management of the Division of Psychiatry at Haukeland University Hospital which provides synergy effects across the research centre and the hospital.

Our new offices at Haukelandsbakken 2, Bergen.

Our meeting places

One of our primary mechanisms for collaboration and goal achievement is four annual joint meetings. During these gatherings, the centre management extends invitations to all researchers, healthcare and business partners associated with Forhelse SFI. The aim is to work together towards the goal of increased use of digital healthcare services. The key lies in effectively integrating the expertise of healthcare and business partners with the relevant research knowledge.



The theme of this joint gathering in November 2023 was relevant both for researchers, the health service and business partners: "From self-guided to therapist-guided digital treatment program".

Collaborating projects

UngMeistring

UngMeistring is a project financed by the Research Council of Norway's "PilotHelse" program for ambitious innovation runs that will contribute to sustainability in the health and care services and at the same time create value in the Norwegian healthcare industry. The project is managed by Helse Bergen HF and is part-financed through the DigiUng programme. UngMeistring is also participating in the Norwegian Directorate of Health's cross-sectoral programme.

The main goal of the project is to develop and evaluate eight digital online and game-based self-help and treatment programs for young people. These resources are intended for use by residents, as well as primary and specialist healthcare services. In 2023, the project participants from the health institutions in Bergen, Fonna and Stavanger in Helse Vest have been developing treatment content and technology together with users, researchers, and business partners. In 2024, the treatments for eating disorders, anxiety and ADHD will be tested in clinical treatment studies in the Child and Adolescent Psychiatric Out-patient Clinic (BUP).

UngMeistring and Forhelse SFI share numerous common challenges. In 2023, the synergy effects between the two projects have become clear in the form of challenges related to, among other things, logging in to digital health services for adolescents aged 15 and younger. The projects also interact by designing templates



and routines for work related to risk and vulnerability analyses (ROS) and Data Protection Impact Assessments (DPIA).

Meetings with decision makers are also relevant for both Forhelse SFI and UngMeistring. As part of the DigiUng project group, the project

manager Kristin Hogstad Bruvik and researcher Smiti Kahlon was invited to meet the Norwegian Minister of Health and Care Services, Ingvild Kjerkol, in Oslo February 10th, 2023. The meeting aimed at displaying the important work done by the project and the site ung.no. Smiti Kahlon was invited to give a brief talk on the importance of knowledge-based treatments, the need for equal value between physical and digital healthcare services, and about the barrier regarding lack of high-level security digital ID for adolescents 13-15 years old.



Chairman Jonny Klemetsen, Youwell /Forhelse SFI, The Minister of Health and Care Services Ingvild Kjerkol, postdoc Smiti Kahlon and Project Manager Kristin Hogstad Bruvik.

Kjerkol was also asked about eHealth, and adolescents internet intervention.

DigiFlex

In 2023, DigiFlex went from being a project to becoming part of the regular curriculum at the University of Bergen. DigiFlex is a further education study that is now offered as part of the regular study program at the Faculty of Medicine, University of Bergen. The study will give healthcare personnel the knowledge and competence to contribute to and lead digitization processes in the health sector. There are 20 credits divided into four subjects and students must have completed a bachelor's degree and worked for at least two years in the health sector. The further education offer has been developed by UiB in collaboration with Helse Bergen HF, Helse Vest IKT, Bergen municipality, Vaksdal municipality, Voss municipality, Alrek health cluster, Bergen industry council and Norwegian smart cluster.

PIECES

HORIZON-MISS-2022-CANCER-01-01/PIECES-project: Towards large-scale adaptation and tailored implementation of evidence-based primary cancer prevention programs in Europe and beyond
PIECES involves a consortium of 15 partners from ten different countries, with a budget of more than 7.7 million Euros. PhD Robin Kenter from work package 4 (implementation) at Forhelse SFI contribute with research on implementation strategies, evaluation of the effects of various strategies, and the development of the digital implementation tool.

Haukeland University Hospital is participating as a partner in this project, which commenced the first of June 2023. PIECES aims to provide a digital tool for identifying, selecting, and adapting cancer prevention programs, as well as considering the local

contexts (PCP-IT). Considering the increasing global burden of cancer, successful implementation of cancer prevention programs is crucial. Evidence-based programs can face challenges when implemented in real-world settings. The PIECES project seeks to overcome these challenges and contribute to successful cancer prevention programs on a global scale.

Researchers will conduct a multicenter case study. The project recently reached a milestone with a workshop testing the implementation tool's ability to streamline program selection and adaptation. The tool's potential applications include behaviour change in companies like Volkswagen and initiatives for smoking cessation and reducing second hand smoke. The PCP-IT is considered a transformative resource, helping customize and implement effective cancer prevention strategies globally. The cancer prevention programs will focus on six risk factors for cancer: tobacco, alcohol, UV radiation, HPV, diet and physical activity. You can find additional information about the project by following the link provided below:

[Pieces Project \(pieces-project.eu\)](https://pieces-project.eu)

Recruitment

Aleksander Heltne



Aleksander Heltne is a clinical psychologist and holds a PhD from the Institute of Clinical Medicine, Faculty of Medicine, University of Oslo. He was recruited as a researcher in work package 1, effectiveness, in September 2023. He is currently serving as the project leader for the project "MinADHD" (MyADHD). In this project, the focus is on evaluating the feasibility and efficacy of a therapist-guided internet intervention program for adult patients with ADHD. The program is adapted from a self-guided program developed and tested by PhD Robin Kenter. Aleksander is also involved in data analysis for GYNEA and RestDEP. In his work, Aleksander is collaborating with various SFI partners such as eMeistring, Youwell, Helse Bergen HF and Lifekeys.

Mari Skoge



Mari Skoge was recruited as a PhD candidate at the end of 2023. She is associated with work package 3, which deals with early health technology assessments and specifically the "Step Up" tool. Through her PhD project, Mari investigates the impact of digital tools on the delivery of mental healthcare services. The project focuses on the clinical integration of a mobile application and video consultations and explores the aspect of shared decision-making in digitalized courses of treatment. "iTandem" is the name of the app of the PhD project. Another part of Mari's project will explore experiences and views on clinical video consultations from the perspectives of mental health professionals employed in both public and private organizations.

Reidar Nævdal

Reidar Nævdal is a clinical psychologist and was recruited as a PhD candidate in work package 4, implementation. A part of Reidar's PhD is doing the multicenter implementation study (eMeistring clinics). In 2023, extensive preparations were undertaken for doing this study. The study is focused on investigating the impact of diverse implementation strategies on the adoption of Internet-based Cognitive Behavioral Therapy (ICBT) by end users. Work package 4 cooperate with the three following clinics that offer eMeistring for patients: Helse Bergen, Nidaros and Vestfold.



Camilla Thuen

Camilla Thuen is a trained dietitian and started as a PhD candidate in work package 4, implementation in October 2023. She is doing a randomised controlled trial and has so far included 120 participants in the study. The participants will receive digital treatment by "Mage-tarmskolen", which is Norway's first online education and treatment program for patients with irritable bowel syndrome (IBS).



Scientific activities and results

Work package 1: Effectiveness



Photo credits: Adobe Stock

Work package manager Tine Nordgreen, Helse Bergen HF

Partners	Research partners: Haukeland University Hospital, University of Bergen User partners: Bergen Municipality, Helse i Hardanger, eMeistring, Lifekeys, Youwell
Personnel	Academic: PhD Sunniva Myklebost, PhD Smiti Kahlon, PhD candidate Jill Bjarke; PhD Aleksander Heltne, PhD Tine Nordgreen. Healthcare partner: Helse i Hardanger: Sissel Børve, Gerd Kvale. Bergen Municipality: Maria Norheim. Lifekeys. eMeistring/HUH: Gunn Elise Sætre. eMeistring Nidaros (St. Olavs Hospital HF): Liv Sigrun Engvik. eMeistring Vestfold: Arne Repål, Elin Katrine Vestly. Industry partner: CheckWare: Stig Husby/Odd Ivar Abusland. Lifekeys. Youwell.

Highlights from 2023:

- Started a clinical trial of an app named Modi, designed specifically for adolescents with anxiety symptoms. The app has been developed by Bergen Municipality, Youwell and Helse Bergen HF, and the first 15 of 30 adolescents were recruited in 2023. The next step in 2024 is to conduct a randomized clinical trial in Bergen Municipality.
- Gathered survey data from two distinct groups: survivors of cancer (N = 725) and healthcare personnel (N = 98). The focus was on identifying the requirements for an intervention tailored to adults experiencing cognitive issues following cancer treatment.
- Presented on national and international conferences.
- 10 scientific papers published in international peer-reviewed journals.
- Provided free access to the UngSpotlight app on the national public platform for youth, ung.no. Ungspotlight is a text-based app for adolescents developed by Helse Bergen HF and Youwell.
- Free access to the UngSpotlight VR app on the national public platform for youth, ung.no. The VR Ungspotlight app is for adolescents with fear of public speaking and is developed by Attensi, Helse Bergen HF and Stockholm University.
- Finalized a guided version of the program MinADHD. The guided version is now prepared for clinical trial within the eMeistring context.

Background

State-of-the-art research shows that both therapist- and self-guided digital psychological interventions are effective for a variety of mental disorders (e.g., depression and anxiety) and other health disorders (e.g., pain, irritable bowel syndrome and cancer). Effectiveness trials of digital psychological interventions show that positive treatment effects remain in routine mental healthcare, and that guided digital interventions for common mental disorders result in similar outcomes when directly compared to conventional face-to-face therapy. Patients find the treatment credible and suitable for their problems, and patients who otherwise do not seek treatment perceive digital interventions as less stigmatizing than traditional face-to-face therapy. Research also shows that digital interventions are three times more efficient concerning therapist time than face-to-face therapy.

However, the current knowledge from effectiveness research in real-world settings for digital psychological interventions is limited. Work package 1: effectiveness will progress beyond the state-of-the-art of the current effectiveness research of digital psychological interventions by systematically include end-users, and including a broader set of research questions relevant to the clinics and industry.

Research activities and results

In work package 1 "Effectiveness" we examine the needs and effects of digital mental health interventions in primary and secondary public healthcare services and in private healthcare services. Work package 1 includes the following subprojects:

Subproject 1: Effectiveness trial of a digital psychological intervention for adolescents with anxiety in primary care providing

the first-time documentation of a new software platform. Status and results: 15 of 30 adolescents are included in a feasibility trial. In addition, there is planning and preparing for conducting a RCT in the health services for children in Bergen commune.

Subproject 2: Effectiveness trial of a digital follow-up for adults with chronic diseases providing the first-time documentation of a new software platform. Status and results: Data on a digital follow-up after a concentrated rehabilitation program for adults with long COVID and lower back pain has been conducted, and publication prepared.

Subproject 3: Effectiveness trial of a digital psychological intervention for adults recovering from cancer providing the first-time documentation of a new software platform. Status and results: Survey-data has been collected and serves as a base for the intervention development. End-users are systematically involved.

Subproject 4: Effectiveness trial of guided internet-delivered treatment for adults with ADHD (new activity f.o.m. 2023). Status and results: MinADHD has been translated together with the eMeistring clinic. Clinical trial has been approved and prepared with inclusion starting in January 2024.

Subproject 5: The effects of guided internet-delivered treatment in routine care-comparing self-referred and GP referred patients (new activity 2023). Status: Data from the eMeistring/CheckWare platform is extracted and data analyses has started.

Impact of results:

Collaboration between industry-, health- and research partners provide new insights across the members. For example, there is a limited knowledge about clinical research in the municipalities. Collaboration between

the research partner Helse Bergen HF and the healthcare partner Bergen Municipality gives the research partners insights into the planning and organization of a clinical trial in the municipality when it comes to defining roles, workflow, routines for risk assessments and DPIA/GDPR. Furthermore, if proven effective there are plans on how to exploit the results by the industry partner Youwell. Routines in Forhelse SFI regarding the exploitation of results have been disseminated to new groups, where an application for adults with gaming problems now will be available at Helsenorge.no.

Collaborations internal and external

In Work package 1 there is a close collaboration between health care partners, industry partners and research partners. The following questions relevant to all partners have been discussed at international, national, regional and local settings: How can we increase the use and impact of digital interventions? How can private-public collaborations ensure sustainable models for maintaining digital interventions (technology and content)?

Work package 2: Cost-effectiveness



Work package manager Vidar Halsteinli, St.Olavs Hospital HF

Partners

Research partners: St. Olavs Hospital HF, University of Bergen, Haukeland University Hospital, Helse Bergen HF
User partners: RBUP Eastern and Southern Norway, St. Olavs Hospital HF (Nidaros DPS), Helse Bergen HF (Bjørgvin DPS), Sykehuset i Vestfold HF, Sykehuset Innlandet HF
Industry partners: CheckWare, Changetech.

Personnel

Academic: PhD candidate Zareen Abbas Khan, Post doc Jørn Heggelund, Kristian Kidholm, Project member Hanne Halseth Lund Gulbrandsen (20%)
Healthcare partner: RBUP: Philip Drozd, Silje Maria Haga. HUH: Tine Nordgreen. eMeistring/HUH: Gunn Elise Sætre. eMeistring Nidaros - St. Olavs Hospital HF: Liv Sigrun Engvik. eMeistring Vestfold: Andreas Petersen, Elin Katrine Vestly
Industry partner: Changetech: Harald Schjelderup Lund, Kjell Ø. Petersen. CheckWare: Stig Husby/Odd Ivar Abusland.

Highlights from 2023:

- PhD-candidate Zareen Abbas Khan submitted a research paper which establishes a checklist on what and how to calculate the program costs of a digital health intervention.
- The checklist has been presented at European scientific conferences as well as workshops/meetings in Norway.
- The checklist has been applied to calculate cost per patient for the Mamma Mia intervention illustrating e.g. the cost difference between self-help versus blended intervention; that is involvement by healthcare personnel.
- The checklist has in addition been applied to eMeistring as part of a comparative analysis of the implementation of the eMeistring program at the four hospital user partners in work package 2.

Background

Digital psychological interventions have the potential to reach a large number of people through digital technology. Documentation of cost-effectiveness is becoming increasingly important as the healthcare services have a high demand, and budgets as well as available personnel are limited. Strong evidence on the cost-effectiveness of digital psychological interventions in routine mental healthcare is lacking. In this work package, we explore costs and effects for digital interventions in five real-world healthcare settings, four eMeistring clinics in secondary mental healthcare and Mamma Mia (prevention of postnatal depression) in primary mental healthcare. Economic evaluations include different methodological techniques and allow for taking alternative treatment modalities, alternative service models and long-term perspectives into account.

Research activities and results

In work package 2 “Cost-effectiveness” we examine the costs and effects of digital mental health interventions considering both program costs, other costs and a range of patient outcomes, taking a societal perspective. The work package includes the following two main subprojects:

Subproject 1 – the case of Mamma Mia:

Perform a cost-effectiveness study of a digital psychological intervention preventing postpartum depression and enhancing quality of life (Mamma Mia). The main activities in 2023 have been:

- To continue data collection in the on-going multisite cluster-randomized trial of Mamma Mia, in close collaboration with RBUP Sør og Øst. This involves 44 well-baby clinics from 31 municipalities and data reported by healthcare personnel and next the participating mothers.
- To write and submit the first paper on a checklist for calculation and reporting of program costs for digital health intervention. Use data from the Mamma Mia trial to calculate cost per patient applying the checklist.
- Plan a simulation model for long-term cost-effectiveness assessment of Mamma Mia. Establish collaboration with University of Oslo to get access to data from the longitudinal observational TOPP-study.
- Finish main scientific courses as part of the PhD education.

Results:

The paper “Developing a Checklist of Program Costs of Digital Health Interventions: A Scoping Review and Empirical Case Study” was submitted to *Pharmacoeconomics*. From a scoping review, a checklist of five cost

categories was identified: Development, research, maintenance, implementation, and healthcare personnel involvement. The paper has been accepted for publication. The paper was presented at the sixth Workshop on Costs and Assessment in Psychiatry in Venice, Scuola Grande di San Giovanni Evangelista, in March 2023, and at the Nordic Health Economist Study Group meeting in Odense, August 2023. In addition, the paper has been presented at several meetings/workshops in Norway.

The impact of results:

The checklist seems to fill a gap in the methodological literature and has shown the potential to guide applied research and development of digital health interventions, both within and outside of Forhelse SFI.

Subproject 2 – the case of eMeistring:

Perform a comparative analysis of the implementation of the internet-based treatment program, eMeistring, in a real-world clinical setting in Norway, and next assess cost and effectiveness applying patient level data. The main activities in 2023 have been:

- To finalize the structured and detailed collection of administrative data for 2022 from the four participating eMeistring locations: Helse Bergen HF, Sykehuset i Vestfold HF, Sykehuset Innlandet HF and St. Olavs Hospital HF.
- Use the database for referrals, patient activity and personnel to calculate key performance indicators as part of the comparative assessment, in close collaboration with user partners.
- Estimation of eMeistring program cost per patient applying the checklist from subproject 1.
- Presentation of results at national conferences and workshops/meeting.
- Prepare patient-level outcome data for statistical analyses.

Results:

Through the comparative analysis key performance indicators show variations in organization and service delivery metrics such as referral pattern, capacity, productivity (therapist capacity compared to patients treated) and program cost per patient; serving as a background for discussing accessibility, efficiency and costs of digital health service provision. The results of the comparative analysis were presented at the “Nasjonal nettverkssamling for ledere om digitale helsetjenester” in Oslo, October 2023. Within 2023 a total of 463 patients from the four participating hospitals had approved participation in the clinical trial.

In close collaboration with the industry partner CheckWare and Helse Vest IKT, a pilot dataset of patient-level data was extracted. Preparation for further analyses in 2024 was started.

The impact of results:

Presentation of key performance indicators have been discussed among different stakeholders at national and local level. A spectrum of challenges facing implementation of digital mental health interventions have been identified.

Collaborations, internal and external

In work package 2 there is a close collaboration between health care partners, industry partners and research partners. In addition, a substantial collaboration between WP2, WP1 and WP4 is taking place. Collaboration with NTNU has been strengthened with respect to supervision but also in identifying relevance of work package 2-results for other research projects. Work package 2-researchers are active in national networks on health service research in Norway.

Work package 3: Early HTA

Work package manager Linn Nathalie Støme, Oslo University Hospital	
Partners	Research partners: Oslo University Hospital Healthcare partners: Vinderen DPS
Personnel	Academic: PhD candidate Mari Skoge, Kristin Lie Romm, Sofie Ragnhild Aminoff (Oslo University Hospital). TIPS HSØ. Healthcare partners: Vinderen DPS: Martin Skiaker.



Highlights from 2023:

- Mari Skoge was recruited as PhD candidate in work package 3.
- Research collaboration was established with Vinderen DPS.
- The work package attended the Forhelse SFI conference at Hotel Norge, Bergen.

Background

Based on experience from the Clinic of Innovation, SFI-C3 has developed an early assessment methodology with templates and tools that will be used for sequential piloting in this workpackage. The methodology is based on early engagement of stakeholders, systematic literature reviews, scenario analysis and estimates on potential value of the innovation. The aim is to develop an early-stage decision support system for health-

care managers specially adapted to decision making in mental health. The methodology is based on Early Health Technology Assessment. The focus of this WP is on early development phases, including conceptualizations and stepwise decisions, and will be further expanded to stakeholder analysis and technology transfer.

Research activities and results

Understanding the co-dependencies between the private and public sector early in the innovation process. To iterate and validate an early HTA tool. Describing the challenges in relation to service models and IT infrastructure in mental health.

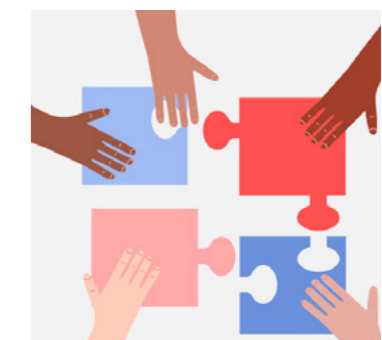
Activities:

In 2023, the work package has elaborated on the project description for Mari Skoge's PhD project. As part of Mari Skoge's PhD project, digitalization of health services will be explored from the perspective of private health providers and the public health sector. Through semi-structured interviews with Forhelse SFI partners we will describe digitalization practices in both sectors and assess how to improve digital consultation practice in public health. Further, we have started the design on a pilot of the digital shared decision tool, iTandem, at Vinderen DPS.

As for the development of our early HTA tool: C3 has, as one of the final deliverables, elaborated a toolset and a method book to support workshop activities. This groundwork will be important for next year's activities in the work package:

- Adjusting the early HTA framework and toolset to mental health projects and research
- Contributing with early decision support when needed among the partners in Forhelse SFI.

Work package 4: Implementation



Work package manager Robin Kenter, Helse Bergen

Partners

Research partners: Haukeland University Hospital, University of Bergen, Amsterdam University Medical Center, Norwegian Centre for E-health Research (NSE).
User partners: Youwell, CheckWare, eMeistring HUH/Vestfold/Nidaros, Bergen Municipality and Mage-tarmskolen.

Personnel

Academic: PhD candidates: Beate Standal (UiB), Reidar Nævdal (HUH), Camilla Thuen (UiB) **Researchers:** Christian Vis PhD (AUMC), Monika Gullslett PhD (NSE), Robin Kenter (HUH).

Healthcare partners: Bergen Municipality: Nina Bolstad, Ragnhild Thornam. Mage-tarmskolen: Birgitte Berentsen, Pål Fønstad. eMeistring: Gunn-Elise (eMeistring Helse Bergen HF), Liv Sigrun Engvik, Lise Tidemann Veium (eMeistring Nidaros) Elin Katrine Vestly (eMeistring Vestfold).

Industry partners: CheckWare: Stig Husby. Youwell: Øyvind Grimsgaard, Per Kåre Otteren.

Highlights from 2023

- Submitted a research paper to Social Science & Medicine.
- Mage-tarmskolen officially designated as the standardized primary care option for IBS patients within Western Norway Regional Health Authority's jurisdiction.
- Mage-tarmskolen achieved final ethical approval for the DIGIBS study and included 120 study participants.
- Camilla Thuen and Reidar Nævdal were recruited as PhD-students in work package 4.
- Several work package 4 participants presented insights and research findings at the national network for leaders in digital healthcare services.
- Several work package 4 participants presented at national (Digitale Helsedager) and international conferences, including the 7th European Society for Research on Internet Interventions conference and the European Implementation Event 2023.
- Finalized the pre-implementation study in Bergen municipality.

Background

Work package 4 focuses on meeting the requirements for efficient and effective implementation that promote the integration and uptake of evidence-based digital (psychological) healthcare services in routine care. **The objectives of the work package include:**

- 1) advancing and employing tailored implementation strategies,
- 2) examining implementation strategies for digital psychological interventions in routine practice,
- 3) investigating determinants of practice, i.e., any factors that facilitate or hinder implementation of digital interventions into routine care.

Digital psychological interventions face challenges in gaining acceptance in routine care, with implementation efforts often failing to meet expectations. The transition from efficacy studies to actual integration into routine care is not without challenges. The implementation of digital healthcare services in existing routine healthcare settings has proven to be low, slow, and costly, and difficult to sustainably integrate into routine practice. Consequently, only a small number of these interventions become part of routine care. While, digital (psychological) healthcare services are often well researched, evidence alone does not guarantee the effective use of an intervention in routine healthcare settings.

To overcome local barriers to implementation, suitable strategies need to be applied. In Norway, the national goal of widespread implementation of digital psychological interventions remains unachieved. There's a need for research on effective implementation strategies and understanding the determinants of practice for digital healthcare services. As every implementation setting is unique, implementation strategies that are tailored to local determinants, the context, and the setting in which the implementation takes place, might advance implementation outcomes. Work package 4 aims to evaluate the efficacy of various implementation strategies in integrating and embedding digital healthcare services in routine healthcare. Within a mixed-method, multi-center implementation trial, work package 4 will investigate determinants of practice and assess the impact of various implementation strategies for integrating and scaling up these services into routine care settings.

Research activities and results

Work package 4 include the following sub-projects in 2023:

Subproject 1: A qualitative evaluation of barriers to the use of Internet-delivered treatments for three eMeistring clinics

Activities and results

The primary activity for this subproject in 2023 involved the analysis of collected data. During 2023, all data analyses were successfully completed. The study encompassed a total of 31 participants at various organizational levels. Data collection was achieved through individual semi-structured interviews, focus groups, and five in-situ observations, resulting in the acquisition of high-quality data.

The impact of the results

The findings have been submitted to the scientific journal Social Science and Medicine for publication. Additionally, the results have been shared with consortium partners through the national network of leaders in digital mental healthcare and with representatives of the clinics.

Subproject 2: Pre-implementation study of digital anxiety treatment for youth in Bergen Municipality

Activities and results

The primary activities of this subproject in 2023 included the analysis of collected data. By the end of 2023, data analysis had been successfully completed. The study involved 21 healthcare personnel working at the clinic. Data was gathered to assess the degree of normalization, organizational readiness,

and determinants affecting the implementation of digital interventions for youth with anxiety. Qualitative data were transcribed verbatim and analyzed with a method called framework analysis, while quantitative data underwent appropriate statistical analyses. The results have been presented to the municipality. Additionally, a scientific paper based on the same data is currently under preparation.

Impact of the results

The outcomes were presented in a report that addressed organizational readiness, the implementation climate, identified barriers, and provided recommendations for the implementation of digital anxiety treatment for youth in the municipality. The report offers a set of recommendations, helping create more effective and efficient implementation of digital anxiety treatment programs in this setting. These recommendations are poised to guide future strategies and initiatives. Additionally, efforts are underway to communicate these findings to the scientific community through the forthcoming scientific paper.

Subproject 3: Multicenter implementation study (eMeistring clinics)

Activities and results

In 2023, preparations for the multicenter study have been made. The study aims to explore how different implementation strategies affect end users' adoption of ICBT. A repeated measures questionnaire has been specifically developed to suit the study's objective and demands. Potential study participants have been identified and various sites have been recruited to participate in the study.

Impact of the results

The development of the questionnaire is expected to facilitate a more comprehensive and nuanced analysis of the study's outcomes, enabling us to gather detailed insights into various implementation activities. The outcomes of the study will generate new knowledge regarding how the technology used to deliver ICBT affect implementation, how tailored implementation strategies improves implementation and how health care workers evaluate the utility of ICBT in a naturalistic setting.

Subproject 4: Mage-tarmskolen (DIGIBS)

Activities and results

The activities undertaken for this subproject involved the finalization of the study protocol and obtaining ethical approval. The study in question is a four-arm randomized controlled digital intervention study aimed at assessing the effectiveness of internet-delivered interventions - specifically, the low FODMAP diet, behavioral therapy, or a combination of both - in comparison to patient education as a sham control. The study targeted male and female patients aged 18 to 70, diagnosed with irritable bowel syndrome (IBS). The overarching objective was to determine whether the digital treatment program Mage-tarmskolen has a positive impact on patients with IBS. In 2023, a total of 120 participants were successfully enrolled in the study.

Impact of the results

Previous findings from a pilot study indicated that MTS online was as effective as physical IBS-school; however, this pilot study faced limitations such as dropout rates and nonadherence. Additionally, it was challenging to identify which intervention component had an impact on specific patients. The ongoing four-arm randomized controlled trial (RCT)

allows for a more in-depth exploration of what interventions work for whom, thus providing valuable insights for implementation.

Collaborations, internal and external

In collaboration with work package 2, we collected baseline measurements of the service organization in eMeistring clinics. Furthermore, work package 4 has established a close working relationship with Amsterdam University Medical Centers (Amsterdam UMC) and other researchers that are collaborating in the recently funded project "Towards Large-Scale Adaption And Tailored Implementation Of Evidence-Based Primary Cancer Prevention Programmes In Europe And Beyond" (PIECES) under the Horizon Europe program. This collaboration allows us to share knowledge, expertise, and insights, fostering a dynamic exchange of ideas and approaches in the realm of implementation of healthcare services. Additionally, we have initiated a collaboration with the University of South-Eastern Norway (USN), led by Dr. Cecilie Varsi, for supervision of PhD candidates. This collaboration aims to enhance the quality of research.

User involvement

Our researchers are concerned that users in all relevant forms - such as healthcare personnel and patients - should be able to influence the various phases of the projects and thus make an important contribution to increase the quality of research and results. Below we have some examples of user involvement in various sub-projects in the centre during 2023:

The project "Digital psychological intervention for adults recovering from cancer", has successfully integrated the user perspective in an early phase. In the planning phase of the intervention, the experiences and needs of both cancer survivors and healthcare personnel related to cancer-related cognitive difficulties was mapped. The project then carried out a mixed-method survey in the autumn of 2023, which includes 725 cancer survivors and 98 healthcare professionals who work with cancer survivors. The results from the survey were used as a guide to create a prototype of the intervention in the winter of 2024. Now the prototype is being tested by a reference group that includes researchers and healthcare professionals in psychology, neuropsychology, cancer, in addition to users from the Young Cancer Society, Helse Bergen and the Breast Cancer Society. The feedback from the participants in the reference group will be used to make improvements to the intervention.

Another example of user involvement in our projects is the intervention "MinADHD". Min ADHD has been adapted from a self-help intervention tailored for adults dealing with ADHD to a therapist-guided program. The user perspective has been integrated here

as well. Adults with ADHD have been central to the development of MinADHD, through their involvement in writing scripts for film clips in the programme. Before the updated, therapist-guided intervention was put into use, therapists from eMeistring were also involved in reviewing the program content to ensure the best possible adaptation to the target group. In connection with the start of the program in clinical practice, in the context of the MinADHD study, an acceptance test was also conducted with input from clinicians at eMeistring, section for eHealth and Forhelse SFI. During the acceptance test, the participants had the opportunity to provide feedback and suggestions to refine both the program itself and its overall profile. Furthermore, clinician representatives were actively engaged in shaping the program profile within Youwell, guaranteeing practitioners seamless access to real-time updates on patient activity within the program, along with pertinent clinical questionnaires.



Photo credits: Adobe Stock

International cooperation

The Scientific Advisory Council's (SAC) role is to be a guiding and advisory unit to ensure high quality of activities and research in Forhelse SFI. SAC includes the following internationally renowned researchers:

Nick Titov,



a prominent researcher and innovator from Macquarie University, Australia, has conducted extensive research in internet-delivered mental healthcare services. Nick's research aligns closely with Forhelse SFI, focusing on three key areas:

- 1) understanding the mechanisms of change in psychological therapy,
- 2) developing and evaluating new psychological treatment models, and
- 3) ensuring safe and effective deployment of these protocols in routine clinical settings.

Lee Ritterband,

a pioneering Professor at the University of Virginia, is a key figure in internet-delivered treatments for mental and behavioural health, alongside Heleen and Nick. His research group has extensively studied unguided internet interventions, particularly focusing on the significance of user-interface in treatment. They are also experienced in public-private partnerships.



Heleen Riper



is a leading researcher in digital health from Vrije Universiteit Amsterdam, Netherlands. She focuses on developing and implementing innovative digital interventions for mental health disorders like depression, anxiety, and problem drinking. Heleen has led various large European research and innovation projects with cross-disciplinary and cross-sectoral collaborations.

Apart from the Scientific Advisory Council, Forhelse SFI has an ongoing international collaboration with Professor Kristian Kidholm and PhD Christiaan Vis.



Christiaan Vis works at Vrije Universiteit in Amsterdam and collaborates with Forhelse SFI in work package 4, implementation. The partnership is led by work package leader PhD Robin Kenter.

This collaboration involves research, participation in meetings, guidance of PhD students, and contributions with presentations. Christiaan Vis is included in the work of work package 4 through routine participation in work package meetings, supervision of PhD students as well as participation with contributions and comments at our joint meetings. In 2023, he has helped with analyses of data in the pre-implementation study in work package 4 which resulted in the report "Attitudes of employees and managers towards using digital health services for young people with anxiety - a pre-implementation study carried out with combined methods».

The collaboration also includes ImpleMentAll, which is available at <https://www.implementall.eu>. The project ImpleMentAll is funded by the European Union (EU) and aims to "get eHealth implementation right". ImplementAll is funded by the "European Union's Horizon 2020 research and innovation program" (grant agreement No 733025). Christiaan Vis is also involved in the EU project PIECES, in which PhD Robin Kenter from Forhelse SFI contributes with research activities.



Kristian Kidholm is a professor and head of research at the Centre for Innovative Medical Technology (CIMT) at Odense University Hospital. He is currently supervising researchers at the Regional Centre for Health Care Development (RSHU) at St. Olavs Hospital HF (Trondheim University Hospital). This cooperation started in 2021 and lasts to 2025. He will contribute to planning and developing research activities in work package 2 Cost-effectiveness and participate in general research meetings. Kidholm is involved in defining research questions, gives advice on analysis and he participates in publications.

In addition to this, Kidholm also participates in joint meetings in Forhelse SFI with lectures and gives input to other research projects, such as at our integrated joint meeting on 21-22. Nov. 2023 where he contributed the lecture "The Effects of Telemedicine on Clinician Time – A Blind Spot in Research".

Communication and dissemination activities

General public

Since the establishment of Forhelse SFI, the research centre and its associated health and business partners have been ensuring the dissemination of information through various channels. Examples of this include news articles on the internet and in newspapers, participation in conferences, and similar activities. Since the inception of the research centre, a total of 231 such diverse activities have been conducted.

Opinion piece workshop

In April 2023, Forhelse SFI organized a workshop led by Margrethe Geelmuyden from the communications agency Geelmuyden Kiese. The objective of the workshop was to increase the focus on dissemination and contribute to expressing knowledge. Attendees, including both researchers and partners, prepared drafts of opinion pieces. These drafts were thoroughly reviewed in a group setting, providing specific feedback. The workshop contributed to the publications of the following five opinion pieces:

- **Professor and Centre Director Tine Nordgreen:** [Det haster å digitalisere psykiske helsetjenester](#) (dagensmedisin.no)
- **PhD Smiti Kahlon:** [Ungdom får tvilsom helsehjelp fra Snapchat AI](#) (bt.no)
- **PdD Smiti Kahlon and PhD student Beate Standal:** [Alle må få tilgang til digital helsehjelp](#) (dagensmedisin.no)
- **PhD student Beate Standal:** [Digitaliseringa – og far min](#) (dtagensmedisin.no)
- **PhD student Jill Bjarke:** [Vi kan møtes ansikt til ansikt når det er nødvendig](#) (sykepleien.no)



Ungdom får tvilsom helsehjelp fra Snapchat AI
I verste fall kan robot-rådene gjøre vondt ver



TV appearance

In August, PhD Smiti Kahlon participated in the television program "God morgen Norge" to elucidate the virtual reality (VR) research undertaken at Haukeland University Hospital. Smiti Kahlon expounded upon the application of the VR program in aiding adolescents confronting difficulties associated with public speaking in front of their peers. Given the widespread recognition of this television program among the Norwegian populace, it serves as a pertinent platform for disseminating information regarding research initiatives and outcomes to the public.



Smiti Kahlon demonstrates VR-treatment on «God Morgen Norge». Photo credits: TV-channel TV2.

Website

During 2023, 29 news articles were published on our website: [forhelse.no](#). This marks an increase compared to the amount published in 2022. We actively utilize the website to communicate our research activities and the overall work of the research centre. In this way, the website serves as a crucial tool for disseminating information, and we take pride in the achievements of 2023.

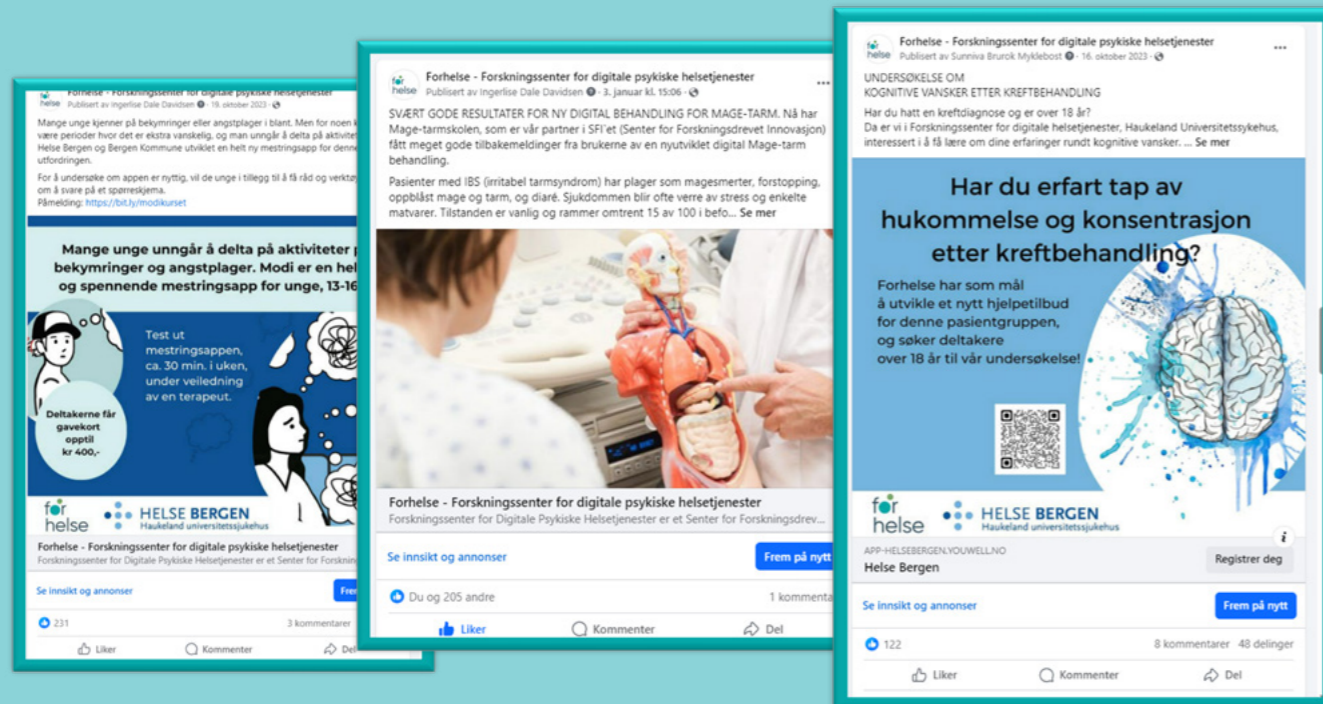
Moreover, the website functions as an informational nexus, offering details on how to establish contact with the staff at the research centre. Additionally, it provides an overview of partners, previous annual reports, and details about work packages, projects, leadership, and PhD students. [forhelse.no](#) is available in both Norwegian and English language.

Social media

The Forhelse SFI disseminates pertinent cases across diverse social media platforms, namely Facebook, LinkedIn and Instagram. Facebook is utilized for establishing connections with the broader public. In this channel, especially, we see that we are able to reach a large number of audiences, which means that we achieve good visibility for our news. LinkedIn holds significance as a medium for maintaining communication with business partners. Instagram serves as a channel to engage with adolescents and attract participants for research studies.

Through social media analysis tools, we monitor the extent to which Forhelse posts create engagement with the public. Especially short videos give good visibility, and we have experienced up to 6,200 engagements on a post, which means the number of times a post is seen for a minimum of 15 seconds. Our followers also greatly contribute to spreading our message by sharing our posts. This gives us the opportunity to reach out to an even wider audience.

Further on, our posts in social media also mention news from Forhelse SFI partners, and the posts links up to more information on our various websites. Social media is also used to advertise vacancies.



Scientific

Conference: "Digitale helsedager"

Forhelse SFI has a leading role in the conference "Digitale Helsedager 2023". The focus of this conference was on exploring the potential of digitization to enhance healthcare services, alleviate healthcare personnel burdens, and foster inclusion without any form of exclusion.

Professor and Centre Director Tine Nordgreen actively participated in the conference's program committee. Additionally, Nordgreen led the mini research conference within the "Digitale Helsedager 2023"- conference, which encompassed overseeing the scientific committee. She also moderated a panel discussion on the theme 'From Good Intentions to Actual Change – How do we achieve it?' Furthermore, numerous personnel from Forhelse SFI delivered presentations at the conference:



Participants at the ESRII conference 2023

Kristin Hogstad Bruvik, the Project Leader for UngMeistring, presented a session regarding how to involve adolescents in research and development.

Stine Hope Spjeld, the user representative of Forhelse SFI, contributed with a comprehensive summary of this topic.

PhD candidate **Beate Standal** presented the preliminary findings of her doctoral project. The title of the presentation was "How to increase the use of guided iCBT for anxiety and depression in specialized mental health services: A qualitative exploration among therapists and leaders."

Conference: ESRII

Most of the employees at Forhelse SFI attended the conference "European society for research on internet interventions" (ESRII) in Amsterdam. ESRII focuses on promoting evidence-based knowledge and research regarding Internet interventions focused on behaviour and mental health. The theme of the conference in 2023 was "United in Diversity".

Contributors from the Forhelse SFI included:

- Postdoc Smiti Kahlon presented the project describing the anxiety app Modi, "Feasibility and preliminary clinical effects of a novel mobile application targeting anxiety in adolescents."
- From Solli DPS, Henning Monsen participated with the poster "eMeistring Health and Works – A feasibility study of a transdiagnostic treatment for people on sick-leave caused by common mental disorders."
- PhD candidate Beate Standal presented the following: "Healthcare Workers' Construction of the Patient: A Qualitative Study of the Use of Digital Mental Health Interventions in Specialized Mental Health Care."
- Professor and Centre Director Tine Nordgreen participated among the keynote speakers with the following presentation "Never sell the bear's skin before one has killed the beast."

Attachment to the report:

- o Personnel
- o Accounts
- o Publications

Attachment

A1 Personnel

Key researchers		
Name	Institution	Main research area
Tine Nordgreen	Helse Bergen HF	WP 1 Effectiveness
Aleksander Heltne	Helse Bergen HF	WP 1 Effectiveness
Vidar Halsteinli	St. Olavs hospital	WP 2 Cost-effectiveness
Per Ingvar Olsen	BI	WP 3 Early HTA
Robin Kenter	UiB	WP 4 Implementation
Filip Drozd	RBUP	WP 2 Cost-effectiveness
Silje Marie Haga	RBUP	WP 2 Cost-effectiveness
Monika Gullslett	NSE	WP 3 Early HTA / WP 4 Implementation
Linn Støme	OUS/BI	WP 3 Early HTA
Christiaan Vis	Helse Bergen/VU Amsterdam	WP 4 Implementation
Kristian Kidholm	St. Olavs/Odense University Hospital	WP 2 Cost-effectiveness

Postdoctoral researchers with financial support from the Centre budget				
Name	Nationality	Period	Sex	Topic
Jørn Heggelund	Norwegian	2021-2028	M	WP 2
Smiti Kahlon	Norwegian	2022-2028	F	WP 1
Sunniva Myklebost	Norwegian	2023-2025	F	WP 1

PhD students with financial support from the Centre budget				
Name	Nationality	Period	Sex	Topic
Mari Skoge	Norwegian	2024-2026	F	WP 3
Zareen Abbas Khan	Pakistani	2021-2025	F	WP 2
Henriette Tyse Nygård	Norwegian	2022-2025	F	WP 1
Jill Kristin Bjarke	Norwegian	2022-2025	F	WP 1
Reidar Nævdal	Norwegian	2023-2026	M	WP 4
Camilla Thuen	Norwegian	2023-2026	F	WP 4

PhD students working on projects in the centre with financial support from other sources				
Name	Nationality	Period	Sex	Topic
Beate Standal	Norwegian	2021-2025	F	WP 4

Masters degrees		
Name	Sex	Topic
Pia Rygg Hauge	F	Youth and anxiety
Natalia Isabella Hansen	F	Youth and anxiety

A2 Statement of Account (All figures in 1000 NOK)

Funding	
Partner or partner category	Amount
The Research Council	11 373
Helse Bergen HF - host institution	4 332
Research partners	2 126
User partners - health services	3 344
User partners - industry	2 642
Total	23 818

Costs	
Partner or partner category	Amount
Helse Bergen HF - host institution	13 247
Research partners	4 460
User partners - health services	3 469
User partners - industry	2 642
Total	23 818

Allocation per WP						
Partner or partner category	WP1	WP2	WP3	WP4	WP5	WP6
Helse Bergen HF - host institution	5 979	145	145	2 536	1 648	2 794
Research partners	-	322	217	1 920	-	-
User partners - health services	292	305	-	1 872	-	-
User partners - industry	1 326	036	45	234	-	-
Amount per WP	7 597	808	408	6 562	1 648	2 794

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	4 332
Helse Bergen HF - host institution user partner health services IBS HUH	1 386
Helse Bergen HF - host institution user partner health services eMeistring HUH	212
Total Helse Bergen	5 931

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 research partner category, and eMeistring Nidaors as user partner in the user partner - health services category.

A3 Scientific publications

No	Publication	Partner
1	Breistig, Sigrund; Thorkildsen, Kari Marie; Werner, Henrica Maria Johanna; Nordgreen, Tine; Sekse, Ragnhild Johanne Tveit. Redefining sexual health after gynaecological cancer: Lived experiences from Gynea, a digital rehabilitation programme. Journal of Clinical Nursing (JCN) 2023 HAUKELAND VID UiB HVL	HUH
2	Børtveit, Line; Nordgreen, Tine; Nordahl-Hansen, Anders. Therapists' experiences with providing guided internet-delivered cognitive behavioral therapy for patients with mild to moderate depression: a thematic analysis. Frontiers in Psychology 2023; Volum 14. HAUKELAND OSLOMET UiB HIOF	HUH
3	Kahlon, Smiti; Gjestad, Rolf; Lindner, Philip; Nordgreen, Tine. Perfectionism as a predictor of change in digital self-guided interventions for public speaking anxiety in adolescents: A secondary analysis of a four-armed randomized controlled trial. Cognitive Behaviour Therapy 2023 UiB HAUKELAND	HUH
4	Kahlon, Smiti; Lindner, Philip; Nordgreen, Tine. Gamified virtual reality exposure therapy for adolescents with public speaking anxiety: a four-armed randomized controlled trial. Frontiers in Virtual Reality 2023; Volum 4. UiB HAUKELAND	UiB
5	Kenter, Robin Maria Francisca; Gjestad, Rolf; Lundervold, Astri Johansen; Nordgreen, Tine. A self-guided internet-delivered intervention for adults with ADHD: Results from a randomized controlled trial. Internet Interventions 2023; Volum 32. UiB HAUKELAND	UiB
6	Myklebost, Sunniva Brurok; Nordgreen, Tine; Klakegg, Oda Stakkestad; Hammar, Åsa Karin. Long-term outcomes of an internet-delivered cognitive enhancement intervention targeting residual cognitive deficits after major depressive disorder: a 2-year follow-up of an open trial. Frontiers in Psychology 2023; Volum 14. HAUKELAND UiB	HUH
7	Nordby, Emilie Sektnan; Guribye, Frode; Nordgreen, Tine; Lundervold, Astri J. Silver linings of ADHD: A thematic analysis of adults' positive experiences with living with ADHD. BMJ Open 2023; Volum 13.(10) s. - UiB HAUKELAND	UiB
8	The solvency capital requirement is calculated using the standard formula with a 99,5% probability that total loss during 12 months will not exceed the calculated capital requirement.	UiB
9	Sayar, Hanna; Vøllestad, Jon; Nordgreen, Tine. What I missed from my online therapist: A survey-based qualitative investigation of patient experiences of therapist contact in guided internet interventions. Frontiers in Psychology 2023; Volum 14. s. - OUS UiB HAUKELAND	OUS
10	Stautland, Andrea; Jakobsen, Petter; Fasmer, Ole Bernt; Osnes, Berge; Tørresen, Jim; Nordgreen, Tine; Ødegaard, Ketil Joachim. Reduced heart rate variability during mania in a repeated naturalistic observational study. Frontiers in Psychiatry 2023; Volum 14. HAUKELAND UiO UiB	HUH

for
helse

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