

Comprehensive Cancer Centre

Cancer Strategy 2022-2026

Oslo University Hospital

Comprehensive Cancer Centre (OUS CCC)







Cancer Strategy for Oslo University Hospital

The work on Oslo University Hospital's (OUS) cancer strategy began in 2015 and OUS' CEO approved the strategy in June 2016. This work was closely linked to receiving the formal status of a Comprehensive Cancer Centre (CCC) according to European standards. Cancer is a major disease area, the largest patient group in the hospital, and currently the most common cause of death in Norway. Most of the hospital's divisions and all of its four campuses are involved in cancer-related activities. The process of developing the cancer strategy was unique in the sense that it was the first time an overall strategic plan for development was formed within a central disease area, across organisational and geographical boundaries, and encompassing both research and clinical activities. Both ongoing operations and strategic development within this complex disease area require cross-cutting coordination and joint development plans, including coordination between diagnostics and treatment, different forms of treatment, clinical and research activities, activities that take place at different locations and in different units and the access to often scarce resources. To succeed in making progress in efficiency and quality and continue to improve patient services, we need to create a common understanding of the way to move forward. That was the core of the cancer strategy both in 2015 and in 2022.

The hospital's organisation is not constructed for creating platforms for complex cross-cutting coordination, neither operationally nor strategically. Thus, the introduction of the standardized patient pathways in 2015 was a clear challenge for OUS, manifested with initial overall low goal achievement. The preparation of the first strategy was organised as a project involving key line managers within oncology from various divisions and departments. Further, this organisation formed the basis for a new process organization within OUS that works as a matrix organisation: an internal cancer board, a professional council for cancer and a separate cancer research council. These forums have been the arena for developing of this strategy and will have a key responsibility to put the strategy into practice.

Vision: OUS – a leading European cancer centre

The CCC status is an important milestone in achieving this goal.

Mission statement:

We are a comprehensive cancer centre and the hub of cancer care in Norway. We are developing a hospital of the future in collaboration with our patients.





Special features of Oslo University Hospital as a cancer centre

- Complete diagnostics and treatment of all types of cancer performed by highly qualified health professionals
- Well established coordinating matrix structure linked to OUS Cancer Centre CCC
- Extensive cancer research environment in dedicated institutes and separate organisational units for clinical research, innovation, and commercialisation
- The Cancer Registry of Norway with national quality registries, epidemiological research, and screening programme
- Close cooperation with a broad spectrum of professional environments at the University of Oslo as well as with the primary health service in the Municipality of Oslo and innovative environments at Oslo Cancer Cluster
- User-participation and cooperation with user organisations
- All organized within one hospital with a leading role in a local, regional, and national collaboration

The uniqueness and the international comparative advantage of Oslo University Hospital as a cancer centre is <u>the interaction between these elements and their development potential</u>.

Oslo University Hospital Comprehensive Cancer Centre (OUS CCC) – what is it?

The term "OUS Cancer Centre" was increasingly used when we developed the previous cancer strategy. After the approval as a CCC, the three letters have been added to it. CCC is a commonly used international acronym that stands for Comprehensive Cancer Centre. OUS CCC is not a physical place or a formal unit in the organisational structure of Oslo University Hospital. This term encompasses all cancer-related activities in Oslo University Hospital within diagnostics, treatment, research, and education. These activities are coordinated and managed through the OUS CCC Board and the platforms that support and interact with the OUS CCC Board in specific areas, such as pathway management teams associated with specific diagnostic groups. This coordination model of a cancer centre in a large university hospital has been copied and adapted by multiple university hospitals in the Nordic countries and in Europe in connection with accreditation such as a CCC.

In the last five-year period, Comprehensive Cancer Centre has grown to become a key expression of high quality patient treatment, education and research within cancer care in the EU. Fundamental to the CCC concept is crosscutting coordination, expressed through standardized patient pathways and structured multi-disciplinary team meetings, amongst other things. Additionally, integration of translational and clinical research with treatment is key to endorse patient inclusion in clinical trials as well as fast implementation of new knowledge in patient treatment.

Over five years of work and development in the OUS CCC Board, the Professional Cancer Council, and the Research Council for OUS CCC have contributed to making us more mature in terms of both problem solving and stimulating development through interaction in this type of cross-cutting organisation. This structure will therefore be one of the key tools for fulfilling the ambitions expressed in the new strategy. At the same time, further development of this structure is also part of the strategy. The following two strategic measures will be especially important. Firstly, further development of pathway management teams to what we will call centre management in connection with the co-location of diagnostics and treatment within a diagnostic group, enabled by the New Oslo University Hospital. Secondly, the establishment of regionally coordinated cancer management in the South-Eastern Norway Regional Health Authority. This is important because a large proportion of cancer patients are referred to Oslo University Hospital from other hospitals to which they will later return. Effective coordination of these regional patient pathways are required, and simultaneously provides a framework for strengthening the regional cooperation around, for example, development of quality registries and research.

Organisation of OUS Cancer Centre CCC

The purpose of the OUS CCC Board:

Coordinate daily management between divisions and strategic management and promote cancer-related topics within patient treatment, research and education / competence development in OUS.

Members of the OUS CCC Board:

The members of the OUS CCC Board are appointed ex officio, meaning by virtue of holding another office. The OUS CCC Board is thus connected to the line management at levels 2 and 3.

The members are Medical Director, heads of Division of Cancer Medicine (KRE), Division of Surgery, Inflammatory Medicine and Transplantation (KIT), Division of Radiology and Nuclear Medicine (KRN), Division of Laboratory Medicine (KLM), Head of Research at KRE (Head of the Research Committee in OUS CCC), Quality Manager at KRE, heads of Department of Oncology (AKB) and Department of Gastrointestinal and Children Surgery (AGK). Special Adviser to the clinic staff at KRE is the secretary of the board.

	Γ		KRE	Division of Cancer Medicine
	_		KIT	Division of Surgery, Inflammatory Diseases and Transplantation
			KLM	Division of Laboratory Medicine
CCC Board	_		KRN	Division of Radiology and Nuclear Medicine
Professional Cancer Council	_		BAR	Division of Paediatric and Adolescent Medicine
CCC Research Council	-		KRG	The Cancer Registry
management teams	_		HHA	Division of Head, Neck and Reconstructive Surgery
			ОРК	Division of Orthopaedic Surgery
CEO			KVI	Division of Gynaecology and Obstetrics
			MED	Division of Medicine
Medicine and Health Care	_		NVR	Division of Clinical Neuroscience
Patient safety, quality and interaction	_		HLK	Division of Cardiovascular and Pulmonary Diseases
Research, Innovation and Education	_		OSS	Oslo Hospital Services
Human Resources			AKU	Division of Emergencies and Critical Care
Finance, Legal Affairs and Data Protection	_		ТІК	Division of Technology and Innovation
Communication			PHA	Division of Mental Health and Addiction
New Oslo University Hospital			PRE	Division of Prehospital Services

What have we achieved in these five years?

Since the previous strategy was approved in 2016, there have been significant developments in many fields of oncology. These developments took place not necessarily due to the cancer strategy and the OUS CCC Board only. The OUS CCC Board, which coordinates the activities in the centre, has, however, been involved both as the initiator and the driving force of the development process. The development we have made over the past five years gave us an important platform for further strategic development, which is expressed in the strategy for the next five years. Some selected results of our activities over the last five years are:

- We are more active in cooperation with major European cancer centres. An example is our participation in Joint Actions under the EU4Health Programme.
- Several diagnostic areas have established internal quality registries.
- We are well on our way to developing a dashboard that compiles cancer data from various health registries (including DIPS, the distributed information and patient data system for Norwegian hospitals) and sorts it by diagnoses (ICD-10).
- The number and percentage of patients enrolled in clinical intervention studies have increased from less than 10 % to more than 10 % within the five-year period.
- There has been a national breakthrough in precision cancer medicine both through an infrastructure for advanced molecular diagnostics (InPreD) and a clinical study (IMPRESS) Where OUS CCC has played a key part.
- Institutional arenas that bring together cancer-related research groups in OUS CCC have been established.
- A common model for continuing education of nurses in the cancer field has been completed.
- Several groups of professionals within oncology are gathered in one place, and a model has been developed for co-location in centres for all diagnostics and treatment within some diagnoses.
- An overall description of the cancer field as a focus area in the New Oslo University Hospital is developed.
- A new building including a proton therapy centre at the Radium Hospital will open in 2024.
- Documented and standardised patient pathways are put in place in almost all cancer types.
- For most standardised pathways, the compliance with normative time frames has been raised considerably and is now in accordance with the approved norms.



Outline of the Cancer Strategy for 2022–2026

Oslo University Hospital's Cancer Strategy is an expression of our offensive leadership position in the development of our activities within the cancer field. If we are to achieve the vision of being a leading European cancer centre, we should aim for more than reducing unnecessary variation and avoiding deviations. We must operate on the premise that realising our strategic ambitions will have positive ripple effects on the cancer field both regionally, nationally, and in terms of development of international relations at the institutional level. This is in line with our business idea of being the hub of cancer care in Norway. Our strategic ambitions are centred around the idea of building on what we have achieved so far and the opportunities that open up through knowledge and technological development in the world around us.

Strategic development management must strike a balance between simple and precise communication of goals and direction and ensuring the understanding of all the practical elements that together create the opportunities and the preconditions for us to use them. Without concretisation, it is difficult to focus on specific tasks. Yet, a coherent story of where we are going and how we are getting there should run through all the specific points.

The overall perspective in this strategy is simple: **Living longer and better!** The figure that has been called "the spin" with the patient in the centre expresses the overall story in the strategy behind this perspective. It also shows the dynamics between the effects we want to achieve, our target areas for the upcoming years, and the more general means of action. The effects are expressed through measurable indicators. We do not have all the numbers today, but they will be part of the future development. We may add more indicators under way. Our developmental ambitions are grouped into four target areas, where the opportunities on which they are based are also expressed. Fulfilling the ambitions requires strategic measures in several of the more generic areas regarding means of actions. The strategic measures we want to take in these areas are identified and so are the challenges these measures will face. This construction of the strategy causes certain themes to be represented in both ambitions and under the means of action – in the first as an opportunity that should be utilized and in the second as a part of strategic measures to achieve these ambitions.

The narrative in this strategy centres around two dimensions. The first dimension focuses on creating greater accuracy in everything that is done throughout the entire cancer trajectory. This implies two lines of development. One line of development is related to biological and technological advances (including information and communications technology) and the tools for developing and using this new knowledge in tumour-targeted treatment. The second line of development towards accuracy is related to the patients' personal needs and wishes with development of technology and methodology for adapting communication, symptom-oriented treatment and follow-up. This is called patient-centred treatment.

The second dimension looks at the phases of the patient pathway in which the efforts must be particularly enhanced. Many initiatives and strategic measures that are launched aim to have an effect along the entire timeline, but with the overall perspective, living longer and better, the extremes of the timeline become particularly important. One of them is new knowledge and new methods aimed at prevention and early detection of cancer. The focus on the other end of the timeline is about using knowledge to improve the lives of people with advanced disease and short life expectancy or late effects after cancer treatment.



- Organisation
- Competence
- Research
- Infrastructure

Challenges - Strategic measures Means of action

Effects

How to specify the primary outcome?

We monitor the following indicators

Number of cancer patients in the OUS CCC annually

- Number of unique cancer patients
- Number of new cancer patients
- Number of newly diagnosed cancer patients
- Proportion of new cancer patients with localised, locally advanced, and metastatic disease
- Age distribution of newly referred patients

Implementation of pathways

- Proportion of patients that follows the described patient pathways
- Proportion of patients that complies with normative time lines
- Number of deviations
- Patient assessments of health and illness (PROMs) and the health service (PREMs)

Complications and late effects

- Proportion of unplanned readmissions
- Proportion of stays in intensive care units / under monitoring
- Number of cancer patients with organ dysfunction after previous cancer treatment
- Number of cases processed by the Norwegian System of Patient Injury Compensation (NPE) and cases referred to the supervisory authorities with approval/violation

Clinical trials

- Number and proportion of patients participating in clinical trials
- Number of clinical trials by type of trial

Quality of life and level of functioning

- Proportion of patients undergoing rehabilitation
- Proportion of patients returning to work

Research and innovation

- Number of publications
- Number of publications with IF>10
- Number of publications with OUS-based main authors
- Number of Ph.D. degrees
- Number of Disclosures of Invention (DOFIs)

Result of treatment

- Mortality from cancer
- Relative survival rate per admission area (Oslo University Hospital, the South-Eastern Norway Regional Health Authority, and Norway) and for patients with main treatment in Oslo University Hospital
- Relative survival rate for patients at different stages
- 3- and 5-year survival rates after relapse
- 100-day survival rate after treatment









Target areas over the next 5–10 years - What is it about?

Prevention, screening and early detection of cancer Reducing the incidence of cancer and detecting cancer at an earlier stage

Patient-centred treatment Treatment on the patient's terms and with an improved quality of life throughout the patient pathway

Precision medicine and new treatment methods Development, testing and application of more precise diagnostics and treatment for more effective cancer treatment, fewer side effects and less late effects

Technological development in diagnostics, radiation therapy, and surgery Testing and application of technology for higher quality and efficiency in diagnostics and treatment





Opportunities for the next 5–10 years

- Establish knowledge on effective screening programmes.
- Increased combined knowledge of (poly)genetic data and lifestyle data for the assessment of individual risk of cancer as part of screening programmes.
- Use new technology in screening programmes (for example, liquid biopsy).
- Real-time data feeding into the knowledge base for prevention.
- Better facilitation of targeted online patient information and knowledge building among general practitioners.

What are our ambitions?

Screening

- Implement a screening programme for colorectal cancer.
- Improve breast cancer screening by expanding the target audience and using AI.
- Decide whether the pilot lung cancer screening programme should be extended to Oslo University Hospital.
- Assess screening forms for several diagnoses (for example, prostate cancer) based on individual risk assessment (se above).
- Establish screening programmes for high-risk patients with hereditary cancer (for example, Li–Fraumeni syndrome).

Vaccines

• Increase the participation in HPV vaccination programmes.

Early detection

• Establish routines for the systematic use of liquid biopsies and more precise radiological descriptions (AI) to be able to use prognostic information.

Lifestyle-oriented prevention

- Establish a nutrition guidance programme as part of secondary prevention related to certain diagnoses
- Establish programme for secondary prevention for cancer patients.

Prevention of late effects

• Establish effective mapping programmes with a view to preventing or treating late effects.



Patient-centred treatment

What is it about? Treatment on the patient's terms and with an improved quality of life throughout the patient pathway

Opportunities for the next 5–10 years

- Better quality of life among cancer patients through patient-centred treatment based on interdisciplinary collaboration in preparation for, during, and following treatment.
- Infrastructure that facilitates flexible and appropriate treatment and follow-up care at home.
- Increased knowledge about reactions to the disease and treatment combined with clear expectations for information and patient involvement.
- Seamless collaboration and information exchange with the municipal health service regarding patients' needs for follow-up care.
- Information and communications technology offering better opportunities to combine instruments and to adapt the use to the needs of individual patients and their family members.

What are our ambitions?

Mapping

- Facilitate patient-centred treatment based on individual mapping and evidence-based knowledge integrated in all phases of the patient pathway curative, life-prolonging, symptom-oriented, rehabilitation, long-term survival, and in the end-of-life phase.
- Establish systematic mapping of the patient's symptoms and functions using e-PROMS.

Personalized prehabilitation

• Offer patient-centred treatment through personalised prehabilitation before the start of comprehensive cancer treatment.

Home treatment

• Extend the use of home treatment solutions (for example, drug cancer treatment at home and outpatient palliative care team).

Shared decision-making

• Actively involve patients and family members in making choices related to treatment and type of treatment based on standardised methodology both in curative and non-curative treatment.

Patient information

• Improve online information sources on cancer that are adapted to patient needs and make use of available information technology opportunities.

Patient pathways

- Further improve collaboration with the primary health service and the municipality by introducing standardised pathways for home treatment.
- Develop pathways that are better adapted to the needs of older cancer patients with complex disease and cancer patients transitioning from paediatric to adult care.



Precision medicine and new treatment methods

What is it about?

Development, testing and application of more precise diagnostics and treatment for more effective cancer treatment, fewer side effects and less late effects

Opportunities for the next 5–10 years

Research and diagnostics

- Developments in biological understanding of mechanisms that trigger and affect the development of cancer.
- Available technology that enables more differentiated and precise diagnostics.
- Increased use of predictive information in patient care, including biomarker profiles, drug screening, advanced image analysis, and nuclear medicine.
- Introduction of digital pathology and algorithms/AI in pathology, radiology, and radiation therapy.

Treatment

- Available knowledge that can be translated into practice to reduce overtreatment, both as part of adjuvant care and in the end-of-life phase.
- Novel cellular immunotherapy treatments available for patients.
- New knowledge and increased use of proton radiation therapy.
- Incremental introduction of new treatment related to continued knowledge acquisition and the use of synthetic control cohorts based on registered population data.

What are our ambitions?

Diagnostics

- Establish a prospective cancer biobank with both blood and tissue samples.
- Use large gene panels in standard assessment both at the time of diagnosis and in case of relapse.
- Develop the national molecular infrastructure in pathology (InPreD) with a broad portfolio of experimental diagnostics for clinical trials including liquid biopsy for response monitoring.
- Implement digital image databases in both radiology and pathology that are designed for testing and diagnostics based on big data analysis and artificial intelligence.
- Use on-site imaging as a tool for more precise surgery.
- Make Oslo University Hospital a preferred partner for technology companies in testing/implementation of new diagnostics.

Treatment

- Further develop the IMPRESS study by including more drugs, include new trials, further develop national and international cooperation, and support further testing with an aim to introducing promising treatments as standard treatments.
- Develop a "drug-screening" platform for predicting treatment effects, including in the early course of treatment and in combination therapy (drug, immune, radiation, surgery).
- Establish technological platforms and apply self-developed treatments through the Centre for Advanced Cell Therapy (ACT).
- Make Oslo University Hospital a preferred partner for testing new treatments, facilitated through the status of the NorTrial cancer centre.
- Adapt communication to and involve patients participating in precision medical diagnostics and treatment.



Opportunities for the next 5–10 years

- Greater opportunities for the capture of structured data directly from the technology that performs medical procedures.
- Research on particle therapy and the increased access to clinical trials for proton therapy through the establishment of the proton centre in Oslo University Hospital and extensive international cooperation.
- Developments in cancer surgery based on greater collaboration across surgical disciplines, computer-assisted navigation, and intraoperative adjuvant treatment.
- Development of metastatic surgery and liver transplantation for patients with pan-cancer liver metastases.

What are our ambitions?

Diagnostics

- Use AI in dose planning.
- Implement AI technology in the RECIST assessment in clinical trials.
- Introduce digital pathology in Oslo University Hospital and ensure efficient information exchange between pathology laboratories in Norway.
- Introduce visualisation of data to support decision-making at the MDT meetings.
- Introduce histotyping to improve adjuvant treatment of colorectal cancer.

Radiation therapy

- Establish the core facility for research within radiation biology and physics in the new proton centre.
- By 2030, 5% of radiation therapy patients in Norway and the majority of paediatric cancer patients in curative radiation treatment will receive proton treatment.

Surgical treatment

• Facilitate a greater use of research-based, experimental surgical cancer treatment.





Means of action

Organisation

Challenges

- The increased requirement for interdisciplinary research and treatment is not sufficiently supported by work processes and locations.
- Work distribution and interaction between the primary and specialist health services is not optimal.
- The New Oslo University Hospital Programme creates a need and an opportunity for integrating and comprehensive development within the cancer field.
- The new Radium Hospital creates the need and opportunity for better coordination and interaction within the cancer field and between the clinical and research components.
- Cancer treatment collaboration between the hospitals in the South-Eastern Norway Regional Health Authority (HSØ) is not sufficiently coordinated.
- The potential for synergy between different research groups working with the same cancer diagnoses is not realised.
- Organisational innovations related to the integrated development of precision medicine and patient-centred treatment must be taken care of and developed further.

Strategic measures

The new Oslo University Hospital

- Further develop the overall concept and plan for the cancer activities within the new OUS.
- Further develop the the Radium Hospital Campus in collaboration with Oslo Cancer Cluster and Oslo municipality.
- Gather all regional oncology functions at the new Radium Hospital.
- Organise pathway activities in the centres in line with the centres for breast cancer and prostate cancer.
- Make plans to strengthen collaboration with the University of Oslo through the Life Science building and Innovation Park.

Patient pathway

- Strengthen the role of pathway manager and pathway management teams as well as centre management to improve coordination of quality and logistics, integration of care, research and education within Oslo University Hospital and on the regional level.
- Support the development of structured implementation of MDT meetings through the introduction of a new version for the electronic patient record (DIPS Arena).
- Prepare standardised patient pathways that allow for patient participation regardless of treatment goal.

Regional cooperation and cooperation with the primary health service

- Establish a managerial network within the South-Eastern Norway Regional Health Authority (HSØ) in the cancer field.
- Introduce standardised patient pathways for collaboration with other hospitals in HSØ based on common guidelines.
- Establish oncology collaboration channels with the City of Oslo linked to the introduction of standardised pathways for home treatment.
- Increase the use of home treatment and home hospitals.

National and international cooperation

- Actively contribute to the development of a national action programme and standardised patient pathways.
- Actively contribute to the development of the international CCC network through participation in the EU4Health (Joint Action project in EU Beating Cancer), Cancer Mission and in OECI.
- Participate in European Reference Network (ERN) for rare diseases in all relevant areas.

Organisation that supports research goals

- Develop an organisational model that facilitates new forms of collaboration and offensive initiatives in experimental treatment (for example, NorTrial).
- Continue developing collaboration model of connecting several types of involved institutions (Cancer Union, industries, public authorities, innovation cluster, Cancer Registry and hospitals), CONNECT, established in precision medicine.

Means of action

Competence

Challenges

- Our national strategic role in the development and dissemination of knowledge in oncology is not clearly recognised.
- It is not clear enough how we will secure future-oriented healthcare competence in oncology.
- There is room for improvement in terms of facilitation of research career paths for clinicians.
- The potential for collaboration on competence development with universities and university colleges is not fulfilled.
- There is a lack of skilled professionals in certain "new" areas of expertise (for example, bioinformatics scientists).
- There is a lack of clearly defined areas of expertise/subspecialties in oncology, with regard to current specialisations in surgery and internal medicine.
- Basic competence across patient groups/treatments is not defined.
- Culture and competence in clinical research must be strengthened.

Strategic measures

Competence for specific professional groups

- Implement proposed measures with defined learning goals and establish learning arenas for continuing education of nurses working in the cancer field across departments and divisions.
- Identify and establish a similar structure as for nurses for radiation therapists and bioengineers.
- Implement measures to stimulate postdoc research stays abroad.
- Strengthen communication skills of clinicians to improve patient-centred treatment.
- Facilitate clearer career paths for people who focus on clinical research.
- Link measures aimed at competence development (continuing education) to testing and introduction of new diagnostics and treatment.
- Identify challenges related to the demand and recruit and retain competence within "new" areas of expertise.

Educational coorperation

• Enter into agreements on strategic educational cooperation between Oslo University Hospital and universities / university colleges in several areas.

Transfer of competence

• Implement measures that promote expertise transfer between collaborating disciplines (for example, pathologists, bioinformatics scientists, and oncologists).





Research: translational research and laboratory research

Challenges

- Translational research is varying and not satisfactory within some tumour groups.
- The financing of the research biobank is not clarified.
- There is no satisfactory solution in place for the exchange of clinical data across institutions and countries.
- The potential for more biobank-based research linked to clinical registers is not fulfilled.
- There is a need for further development of the existing core facilities and the establishment of new ones.

Strategic measures

- Economically stimulate translational research within different tumour types where there is currently a shortage.
- Prioritise funds for research biobank within the operating budget of the divisions, Oslo University Hospital, and the University of Oslo (UiO) and Southern and Eastern Norway Regional Health Authority (HSØ).
- Establish shared core facilities/infrastructure and operating environments in such priority areas as cellular therapy, biobank, and particle research together with the University of Oslo.
- Collaborate with the University of Oslo on basic research, competence development, and infrastructure for translational research and clinic-related research linked to the University of Oslo's life science initiative.



Means of action

Research: clinical research

Challenges

- Access to research support (clinical trial unit, research nurse, and radiology/pathology) in all areas of oncology is not satisfactory.
- Radiological analysis is not effectively integrated into clinical trials.
- The preconditions for and the scope of industry- and investigator-initiated clinical trials are unevenly distributed between professional environments and diagnostic areas (this applies to both oncology and surgery).
- Measures and developments in patient-centred care do not lead to sufficient knowledge creation or are not sufficiently built on research-based knowledge.

Strategic measures

Clinical studies

- Increase the scope of investigator-initiated trials that combine different modalities: surgery, radiation therapy and medical oncology treatment.
- Increase the scope of multidisciplinary clinical research within proton and radiation therapy.
- Due to small patient populations, initiate other types of studies than RCT intervention studies in precision oncology.
- Participate in more studies on the use of new technology related to patient communication and patient-centred care.
- Develop more projects based on collaboration between clinical research, laboratory research, and cancer epidemiology.
- Facilitate the use of patient data from the medical record system and other clinical registries as part of developing real world evidence (RWE).
- Facilitate sufficient access to research support for all departments in the new Oslo University Hospital and seek to streamline the work processes within this support.

Patient inclusion in clinical trials

- Increase the proportion of patients recruited for clinical trials to at least 20%, with studies in patient-centred treatment making up at least a quarter.
- Enrol more than 75% of proton therapy patients in clinical trials.
- Enrolment in clinical trials is a topic in all MDT meetings.



Means of action

Infrastruktur

Challenges

- Primary clinical records contain insufficiently structured data.
- Facilitation and support for data analysis and presentation are not of satisfactory quality.
- Electronic transfer of information between Oslo University Hospital, collaborating institutions, and patients is poorly facilitated.
- The use of AI potential linked to digitised radiology and pathology is not facilitated to a satisfactory degree.

Strategic measures

Data analysis for diagnosis, treatment, quality, and research

- Establish the transfer of data from diagnostic imaging and pathology, image archives and information systems and develop data-warehouse solutions, as a basis for treatment, studies, and quality assurance.
- Implement the use of AI technology in radiology and pathology.
- Establish institutional quality, and research registries with automatic retrieval of data from the primary registries (eg. DIPS Arena) for all forms of cancer.
- Implement simple transfer and presentation of all key data relevant for learning and improvement within the cancer field at the institutional and patient pathway levels.
- Integrate CMS with Metavision and ARIA Oncology Information System and Radiology Information System (RIS) with Imatis' solution for health logistics. Integrate data from these systems with Clinical Data Warehouse (KDVH).
- Provide access to suitable ICT structures and capacity for big data storage and analysis of sensitive personal data on the hospital side.

Electronic support for collaboration

- Create a simple solution for the development and use of regional standardised patient pathways.
- Strengthen digital collaboration with the primary health service.
- Implement solutions for electronic dialogue with patients on site (MyPath project).
- Establish common regional systems for the laboratory area, including pathology, and for radiology (information system and image storage).

Word list

AI	Artificial intelligence
CCC	Comprehensive cancer centre
CMS	Chemotherapy management system
DOFI	Disclosure of invention
e-PROMs	Electronic patient reported outcome measures
IF	Impact factor
HSØ	South-Eastern Norway Regional Health Authority
KDVH	Clinical Data Warehouse
MDT	Multidisiplinary team
OECI	Organisation of European Cancer Institutes
PREMs	Patient reported experience measure
PROMs	Patient reported outcome measure
RECIST	Response Evaluation Criteria in Solid Tumours
RIS	Radiology information system
RCT	Randomised controlled trial
RWE	Real world evidence









Comprehensive Cancer Centre

02770

E-mail: oushfkreftstyret@ous-hf.no

www.oslo-universitetssykehus.no/oslo-university-hospital